DRAWINGS FOR THE CONSTRUCTION
OF

HAYWARD FIRE STATION #6 &
FIRE TRAINING CENTER

PROJECT NOS. 07481 & 07482

VOLUME 5 OF 8
GENERAL, SITE AND COLLEGE-OWNED BUILDINGS
DSA INCREMENT #1

APRIL 2020

RossDrulisCusenbery
ARCHITECTURE

KITCHELL

TO DOWNLOAD PLANS AND SPECIFICATIONS
AND TO CHECK BID RESULTS
Contact Engineering & Transportation at (510) 583-4730

FOR INFORMATION REGARDING THIS PROJECT
Contact Dave Hung at (510) 583-4752

FOR CONTRACT COMPLIANCE
Contact Rita Perez at (510) 583-4801

CITY OF HAYWARD
HEART OF THE BAY

CONSTRUCTION DOCUMENTS

FOR THE CONSTRUCTION OF

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

VOLUME 5

OCTOBER 4, 2019

AT THE TIMES THIS CONTRACT IS AWARDED, THE CONTRACTOR SHALL POSSESS A CLASS 'B' LICENSE

PERMIT SUBMITTAL

DSA IR A-18
USE OF CONSTRUCTION DOCUMENTS PREPARED BY OTHER PROFESSIONALS

Statement of General Conformance

FOR ARCHITECTS/ENGINEERS WHO UTILIZE PLANS, INCLUDING BUT NOT LIMITED TO SHOP DRAWINGS, PREPARED BY OTHER LICENSED DESIGN PROFESSIONALS AND/OR CONSULTANTS

(Application No. 01-117774)

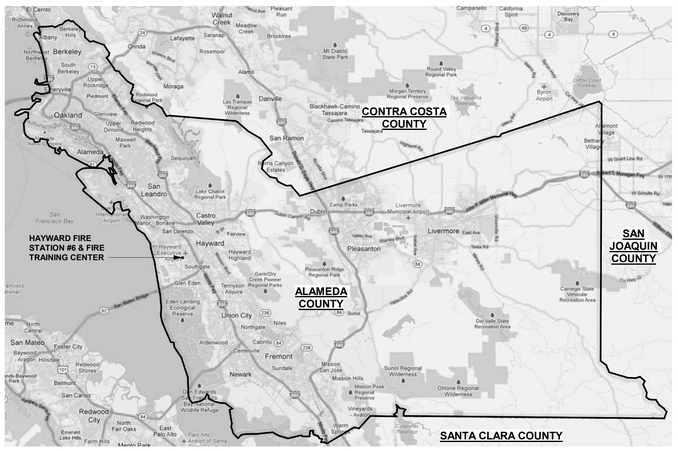
☑ The Increment #1 drawings or sheets listed on sheet G-A0.02
☐ This drawing, page of specifications/calculations

have been prepared by other design professionals or consultants who are licensed and/or authorized to prepare such drawings in this state. It has been examined by me for:

1) design intent and appears to meet the appropriate requirements of Title 24, California Code of Regulations and the project specifications prepared by me, and
2) coordination with my plans and specifications and is acceptable for incorporation into the construction of this project.

The Statement of General Conformance "shall not be construed as relieving me of my rights, duties, and responsibilities under Sections 17302 and 81138 of the Education Code and Sections 4-336, 4-341 and 4-344" of Title 24, Part 1. *(Title 24, Part 1, Section 4-317 [b])*.

M Ross — 10/22/19
Signature **Date**



ALAMEDA COUNTY MAP

Kathy Garcia

KATHY GARCIA — R.C.E. NO. 51984
DEP. DIRECTOR OF PUBLIC WORKS — EXPIRES: 09-30-2020

D. Bamiri

ALEX AMERI — R.C.E. NO. 40155
INTERIM DIRECTOR OF PUBLIC WORKS — EXPIRES: 09-30-2020

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION	
DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, DIR. OF PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3 - INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
8/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

TITLE SHEET

Drawn By: EW — Checked By: EW

Scale:

Date: **October 4, 2019**

Project No. 2016039

T-0.00
Drawing No.

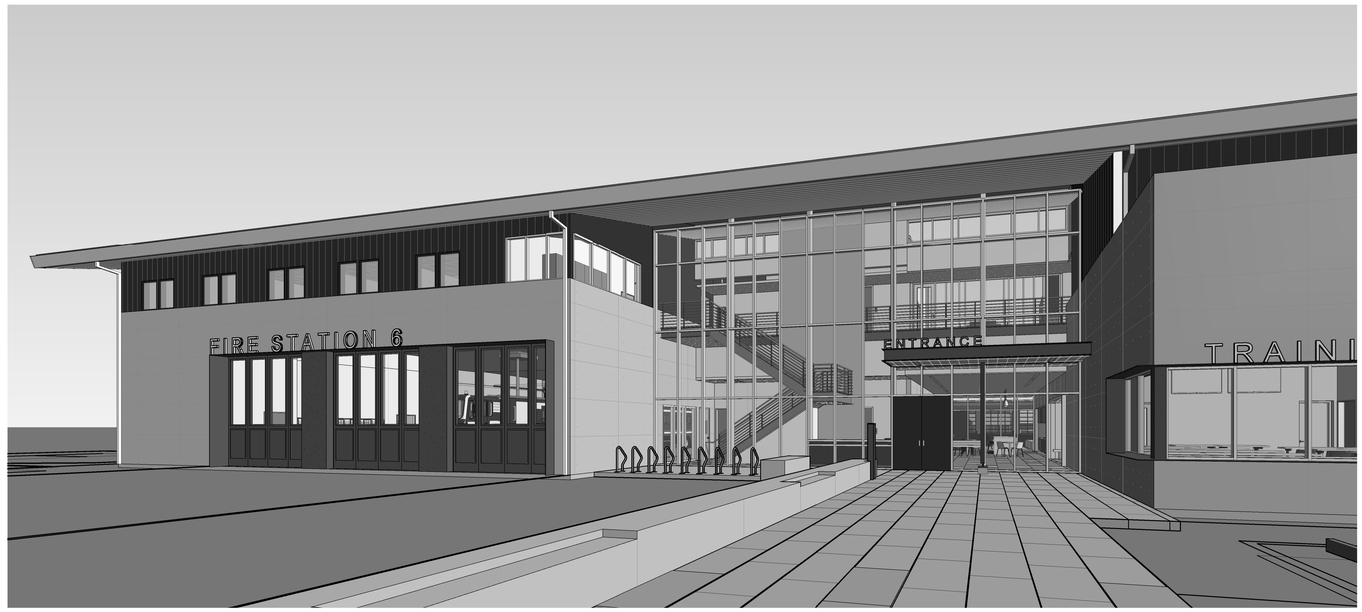
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HAYWARD FIRE STATION #6
& FIRE TRAINING CENTER

1401 WEST WINTON AVENUE, HAYWARD, CA. 94545

PERMIT SUBMITTAL - INCREMENT #1

NEW FIRE STATION #6 CONCEPT RENDERING

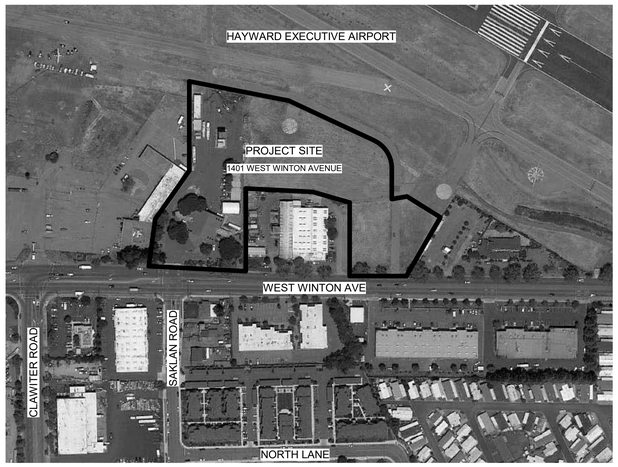


CONCEPT RENDERING - NOT FOR CONSTRUCTION

VICINITY MAP



PROJECT SITE LOCATION MAP



PROJECT DIRECTORY

Owner
City of Hayward
Public Works Department
777 B Street
Hayward, CA 94541
(510) 583 - 4752

Architect of Record
RossDrulisCusenbery Architecture
18294 Sonoma Highway
Sonoma, CA 95476
(707) 996 - 8448

Fire Training Consultant
Abercrombie Planning+Design
3508 Overton Park Drive West
Fort Worth, TX 76109
(817) 920 - 9198

Geotechnical Engineer
Rockridge Geotechnical
270 Grand Avenue
Oakland, CA 94610
(510) 420 - 5738

Phase 1 Site Assessment
Trans Tech Consultants
930 Shiloh Road, Bldg 44, Suite J
Windsor, CA 95492
(707) 837 - 8408

Hazardous Materials Consultant
Monte Deignan & Associates
Post Office Box 546
Larkspur, CA 94977
(415) 927 - 9308

Civil Engineer
BKF Engineering
200 Fourth Street, Suite 300
Santa Rosa, CA 95401
(707) 583 - 8500

Landscape Architect
MacNair Landscape Architecture
Post Office Box 251
Kenwood, CA 95452
(707) 833 - 2288

Fuel System Engineer
Stantec Consulting
5 Dartmouth Drive, Suite 101
Auburn, NH 03032
(603) 669 - 8672

Structural Engineer
ZFA Structural Engineers
1390 El Camino Real, Suite 100
San Carlos, CA 94070
(650) 394 - 8869

Mechanical Engineer
WSP
425 Market Street, 17th Floor
San Francisco, CA 94105
(415) 243 - 4600

Fire Sprinkler Engineer
Axiom Engineers
22 Lower Ragsdale Dr., Suite A
Monterey, CA 93940
(831) 649 - 8000

Electrical Engineer
WSP
425 Market Street, 17th Floor
San Francisco, CA 94105
(415) 243 - 4600

Fire Alarm Engineer
Convergint Technologies
5860 West Las Positas, Suite 7
Pleasanton, CA 94588
(510) 240 - 2796

LEED Consultant
WSP
425 Market Street, 17th Floor
San Francisco, CA 94105
(415) 243 - 4600

AV - IT - Security Engineer
WSP
425 Market Street, 17th Floor
San Francisco, CA 94105
(415) 243 - 4600

Signage Design
Square Peg Design
1631 Telegraph Avenue
Oakland, CA 94612
(510) 596 - 8810

Cost Estimator
Cumming
475 Sansome Street, Suite 520
San Francisco, CA 94111
(415) 748 - 3093

VOLUME DIRECTORY

VOLUME 1 **OWNER-SUPPLIED DOCUMENTS**
PROJECT SPECIFICATIONS (DIVISIONS 00 - 01)
(*Not included in this bound package*)

VOLUME 2 **PROJECT SPECIFICATIONS (DIVISIONS 02 - 21)**
DSA INCREMENT #1
(*Not included in this bound package*)

VOLUME 3 **PROJECT SPECIFICATIONS (DIVISIONS 22 - 33)**
DSA INCREMENT #1
(*Not included in this bound package*)

VOLUME 4 **PROJECT SPECIFICATIONS (PHOTOVOLTAIC)**
DSA INCREMENT #2
(*Not included in this bound package*)

VOLUME 5 **CONSTRUCTION DOCUMENT DRAWINGS**
(GENERAL, SITE AND COLLEGE-OWNED BUILDINGS)
DSA INCREMENT #1

VOLUME 6 **CONSTRUCTION DOCUMENT DRAWINGS**
(PHOTOVOLTAIC)
DSA INCREMENT #2
(*Not included in this bound package*)

VOLUME 7 **CONSTRUCTION DOCUMENT DRAWINGS**
(CITY-OWNED BUILDINGS)
(*Not included in this bound package*)

VOLUME 8 **CONSTRUCTION DOCUMENT DRAWINGS**
(SIGNAGE)
DSA INCREMENT #1
(*Not included in this bound package*)

RossDrulisCusenbery
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542
ARCHITECTURE

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: **KATHY GARCIA** DEP. DIR. PUBLIC WORKS	**ALEX AMERI** DIR. OF PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	INC 01_ADD_01_V1	12/06/2019

PERMIT SUBMITTAL V3 - INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
9/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

COVER SHEET - INCREMENT #1

Drawn By: EW Checked By: EW

Scale:

Date: **October 4, 2019**

Project No. 2016039

G-A0.01
Drawing No.

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SHEET INDEXES - GENERAL, SITE, AND COLLEGE-OWNED BUILDINGS

GENERAL INFO & SITE WORK - INCR. #1

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TITLE SHEET	
T-0.00	TITLE SHEET
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G-A0.02	SHEET INDEXES GENERAL, SITE, & COLLEGE-OWNED BUILDINGS
G-A0.03	SHEET INDEXES CITY-OWNED BUILDINGS
G-A0.04	ABBREVIATIONS, SYMBOLS, GENERAL NOTES, AND ACCESSIBLE MOUNTING HEIGHTS AND CLEARANCES
G-A0.05	GENERAL REQUIREMENTS
G-A0.11	SUSTAINABILITY SITE PLAN & LEED CHECKLIST
G-A0.12	CALGREEN CHECKLIST
G-A0.13	CALGREEN CHECKLIST
G-A0.20	CODE ANALYSIS & FIRE ACCESS SITE PLAN
G-A0.21	OVERALL SITE EGRESS / ACCESSIBILITY PLAN
G-A0.22	FAA HEIGHT LIMITATIONS
G-A0.23	FAA FINAL DETERMINATION FORMS
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0-C0.0	PROJECT INFORMATION
0-C1.0	DEMOLITION PLAN
0-C1.1	SIGNING & STRIPING PLAN
0-C1.1.2	OVERALL HORIZONTAL CONTROL PLAN
0-C1.2	HORIZONTAL CONTROL PLAN
0-C1.3	HORIZONTAL CONTROL PLAN
0-C1.4	HORIZONTAL CONTROL PLAN
0-C1.5	HORIZONTAL CONTROL PLAN
0-C2.0	OVERALL GRADING PLAN
0-C2.1	GRADING PLAN
0-C2.2	GRADING PLAN
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0-C2.4	GRADING PLAN
0-C3.0	OVERALL UTILITY PLAN
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0-C3.3	UTILITY PLAN
0-C3.4	UTILITY PLAN
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0-C4.1	STORM WATER MANAGEMENT PLAN
0-C5.0	SECTIONS
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0-C5.2	CITY OF HAYWARD STANDARD DETAILS
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FS.221	FUELING SYSTEM DISPENSER PLAN AND ELEVATIONS
FS.230	FUELING SYSTEM CONCRETE DETAILS
FS.310	FUELING SYSTEM PIPING PLAN
FS.320	FUELING SYSTEM AST PIPING PLAN AND ELEVATION
FS.330	FUELING SYSTEM PIPING DETAILS
FS.331	FUELING SYSTEM PIPING DETAILS
FS.410	FUELING SYSTEM CONDUIT PLAN
FS.411	FUELING SYSTEM HAZARD AREA LOCATION PLAN AND ELEVATIONS
FS.420	FUELING SYSTEM DISPENSER SUMP DETAILS
FS.421	FUELING SYSTEM ELECTRICAL DETAILS
FS.430	CONDUIT SCHEDULE AND PANEL SCHEDULE
FS.431	FUELING SYSTEM ELECTRICAL SINGLE LINE DIAGRAM
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FS.500	FUELING SYSTEM GENERAL SIGNAGE
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0-L1.2	IRRIGATION PLAN NORTHEAST QUADRANT
0-L1.3	IRRIGATION PLAN SOUTHEAST QUADRANT
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0-L2.1	PLANTING PLAN SOUTHWEST AND NORTHWEST QUADRANT
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0-A1.14	ARCHITECTURAL SITE PLAN - SOUTHEAST QUADRANT
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0-A1.30	ARCHITECTURE SITE DETAILS
0-A1.31	TRASH ENCLOSURE PLANS, ELEVATIONS, SECTION, & DETAILS
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0-FP1.10	SITE PLAN - FIRE PROTECTION
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0-E0.20	ELECTRICAL TITLE 24
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0-E2.00	ELECTRICAL OVERALL SITE PLAN
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0-E5.01	ELECTRICAL RISER DIAGRAM
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0-T6.01	TECHNOLOGY SITE OSP BACKBONE CABLING DISTRIBUTION DIAGRAM
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0-T7.01	TECHNOLOGY DETAILS
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0-T7.05	SECURITY DETAILS
0-T7.06	SECURITY DETAILS

Increment #1 Number of Sheets: 109

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NUMBER	NAME
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G-A0.01A	COVER SHEET - INCREMENT #2
G-A0.02A	SHEET INDEXES GENERAL, SITE, & COLLEGE-OWNED BUILDINGS
G-A0.04A	ABBREVIATIONS, SYMBOLS, AND GENERAL NOTES
G-A0.05A	GENERAL REQUIREMENTS

Increment #2 Number of Sheets: 4

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1-A0.11	BILDING 1 ACCESSIBLITY STANDARDS
1-A0.12	BUILDING 1 EXTERIOR AXONOMETRIC VIEW
1-A0.13	BUILDING 1 DESIGN ILLUSTRATION
1-A0.14	BUILDING 1 ACOUSTICAL SEPARATION DIAGRAM
1-A0.21	BUILDING 1 EGRESS PLAN - FIRST LEVEL
1-A0.22	BUILDING 1 EGRESS PLAN - SECOND LEVEL
1-A0.23	BUILDING 1 CODE ANALYSIS
1-A0.24	BUILDING 1 CODE ANALYSIS
1-A0.30	BUILDING 1 ENVELOPE TITLE-24 ENERGY COMPLIANCE
1-A0.31	BUILDING 1 ENVELOPE TITLE-24 ENERGY COMPLIANCE
1-A0.41	BUILDING 1 PLUMBING FIXTURE ANALYSIS
1-A2.10	BUILDING 1 FIRST LEVEL FLOOR PLAN
1-A2.11	BUILDING 1 FIRST LEVEL SLAB EDGE PLAN
1-A2.12	BUILDING 1 ENLARGED SCALE FIRST LEVEL FLOOR PLAN - WEST HALF
1-A2.13	BUILDING 1 ENLARGED SCALE FIRST LEVEL FLOOR FINISH PLAN - EAST HALF
1-A2.14	BUILDING 1 ENLARGED SCALE UTILITY YARD FLOOR PLAN
1-A2.20	BUILDING 1 SECOND LEVEL FLOOR PLAN
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1-A2.60	BUILDING 1 ROOF PLAN
1-A2.70	BUILDING 1 FINISH DOOR & EQUIPMENT SCHEDULES
1-A2.71	BUILDING 1 WINDOW SCHEDULE
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1-A2.82	BUILDING 1 ENLARGED SCALE SECOND LEVEL FLOOR FINISH PLAN - WEST HALF
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1-A3.40	BUILDING 1 BUILDING CROSS SECTIONS
1-A3.41	BUILDING 1 BUILDING CROSS SECTIONS
1-A3.50	BUILDING 1 WALL SECTIONS
1-A3.51	BUILDING 1 WALL SECTIONS
1-A3.52	BUILDING 1 WALL SECTIONS
1-A3.53	BUILDING 1 WALL SECTIONS
1-A3.54	BUILDING 1 WALL SECTIONS
1-A3.55	BUILDING 1 WALL SECTIONS
1-A5.10	BUILDING 1 ENLARGED RESTROOM PLANS & INTERIOR ELEVATIONS
1-A5.11	BUILDING 1 ENLARGED RESTROOM PLANS & INTERIOR ELEVATIONS
1-A5.12	BUILDING 1 INTERIOR ELEVATIONS
1-A5.13	BUILDING 1 INTERIOR ELEVATIONS
1-A5.14	BUILDING 1 INTERIOR ELEVATIONS
1-A5.15	BUILDING 1 INTERIOR ELEVATIONS
1-A5.16	BUILDING 1 INTERIOR ELEVATIONS
1-A5.17	BUILDING 1 INTERIOR ELEVATIONS
1-A5.18	ENLARGED RECEPTION DESK & INTERIOR ELELVATIONS
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1-A6.20	BUILDING 1 SECOND FLOOR REFLECTED CEILING PLAN
1-A7.10	BUILDING 1 STAIR SECTIONS & DETAILS
1-A7.11	BUILDING 1 STAIR SECTIONS & DETAILS
1-A7.12	BUILDING 1 STAIR DETAILS
1-A8.00	BUILDING 1 WALL TYPES
1-A8.01	BUILDING 1 EXTERIOR FENCE DETAILS
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1-A8.04	BUILDING 1 EXTERIOR DETAILS
1-A8.05	BUILDING 1 EXTERIOR DETAILS
1-A8.06	BUILDING 1 EXTERIOR DETAILS
1-A8.07	BUILDING 1 EXTERIOR DETAILS
1-A8.10	BUILDING 1 EXTERIOR WINDOW DETAIL
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1-A9.01	BUILDING 1 INTERIOR DETAILS
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1-A9.09	BUILDING 1 CASEWORK DETAILS
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1-A9.12	BUILDING 1 CASEWORK DETAILS
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1-S0.11	BUILDING 1 GENERAL NOTES AND KEY PLANS
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1-S1.11	BUILDING 1 TYPICAL CONCRETE WALL DETAILS
1-S1.20	BUILDING 1 STEEL FRAMING DETAILS
1-S1.21	BUILDING 1 STEEL FRAMING DETAILS
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1-S1.31	BUILDING 1 TYPICAL METAL STUD SOFFIT & MISCELLANEOUS DETAILS
1-S1.50	BUILDING 1 TYPICAL METAL DECKING DETAILS
1-S1.51	BUILDING 1 TYPICAL METAL DECKING DETAILS
1-S1.60	BUILDING 1 ELEVATOR ELEVATION AND DETAILS
1-S2.10	BUILDING 1 FOUNDATION PLAN
1-S2.20	BUILDING 1 SECOND FLOOR PLAN
1-S2.30	BUILDING 1 ROOF PLAN
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1-S3.20	BUILDING 1 SECTIONS
1-S3.21	BUILDING 1 SECTIONS
1-S3.22	BUILDING 1 SECTIONS
1-S4.10	BUILDING 1 FOUNDATION AND PODIUM DETAILS
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1-S4.21	BUILDING 1 SECOND FLOOR DETAILS
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1-S7.10	BUILDING 1 STAIR PLAN AND STAIR ELEVATION
1-S7.20	BUILDING 1 STAIR DETAILS
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1-P0.02	BUILDING 1 PLUMBING EQUIPMENT SCHEDULE
1-P0.03	BUILDING 1 PLUMBING TITLE 24
1-P2.00	BUILDING 1 PLUMBING FS#6- CLASSROOM UNDERSLAB PLAN
1-P2.01	BUILDING 1 PLUMBING FS#6 - CLASSROOM FIRST FLOOR PLAN
1-P2.02	BUILDING 1 PLUMBING FS#6 - CLASSROOM SECOND FLOOR PLAN
1-P2.03	BUILDING 1 PLUMBING FS#6 - CLASSROOM ROOF PLAN
1-P3.01	BUILDING 1 PLUMBING FS#6- CLASSROOM ENLARGED PLAN
1-P3.02	BUILDING 1 PLUMBING SITE ENLARGED PLAN- TANK & PUMP
1-P4.02	BUILDING 1 GAS RISER DIAGRAM
1-P5.01	BUILDING 1 PLUMBING DETAILS
1-P5.02	BUILDING 1 PLUMBING DETAILS
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1-FP2.10	BUILDING 1 FIRST LEVEL PIPING PLAN - FIRE PROTECTION
1-FP2.20	BUILDING 1 SECOND LEVEL PIPING PLAN - FIRE PROTECTION
1-FP2.30	BUILDING 1 FIRST LEVEL PIPING PLAN - FIRE PROTECTION
1-FP3.10	BUILDING 1 FIRST LEVEL CEILING PLAN - FIRE PROTECTION
1-FP3.20	BUILDING 1 SECOND LEVEL CEILING PLAN - FIRE PROTECTION
1-FP4.10	BUILDING 1 SECTIONS - FIRE PROTECTION
1-FP4.20	BUILDING 1 LONGITUDINAL SECTION - FIRE PROTECTION
1-FP6.10	BUILDING 1 DETAILS - FIRE PROTECTION
1-FP6.20	BUILDING 1 DETAILS - FIRE PROTECTION
1-FP6.30	BUILDING 1 SEISMIC BRACING CALCULATIONS
MECHANICAL	
1-M0.01	BUILDING 1 MECHANICAL LEGEND, ABBREVIATIONS AND DRAWING LIST
1-M0.02	BUILDING 1 MECHANICAL SCHEDULES
1-M0.03	BUILDING 1 MECHANICAL SCHEDULES
1-M0.04	BUILDING 1 MECHANICAL TITLE 24
1-M0.05	BUILDING 1 MECHANICAL TITLE 24
1-M0.06	BUILDING 1 MECHANICAL TITLE 24
1-M2.01	BUILDING 1 MECHANICAL FS#6-CLASSROOM FIRST FLOOR PLAN
1-M2.02	BUILDING 1 MECHANICAL FS#6-CLASSROOM SECOND FLOOR PLAN
1-M2.03	BUILDING 1 MECHANICAL FS#6-CLASSROOM ROOF PLAN
1-M3.01	BUILDING 1 MECHANICAL ENLARGED PLANS AND SECTIONS
1-M3.02	BUILDING 1 MECHANICAL ENLARGED PLANS
1-M4.01	BUILDING 1 MECHANICAL AIR RISER DIAGRAM
1-M4.02	BUILDING 1 MECHANICAL WATER RISER DIAGRAM
1-M4.03	BUILDING 1 MECHANICAL VRF DIAGRAM
1-M5.01	BUILDING 1 MECHANICAL DETAILS
1-M5.02	BUILDING 1 MECHANICAL DETAILS
1-M5.03	BUILDING 1 MECHANICAL DETAILS
1-M5.04	BUILDING 1 MECHANICAL DETAILS
1-M5.05	BUILDING 1 MECHANICAL DETAILS

BUILDING 1 - INCREMENT #1 (PART 2)

NUMBER	NAME
ELECTRICAL	
1-E0.01	BUILDING 1 ELECTRICAL LEGEND, ABBREVIATIONS AND DRAWING LIST
1-E0.02	BUILDING 1 ELECTRICAL SCHEDULES
1-E0.03	BUILDING 1 ELECTRICAL SCHEDULES
1-E0.04	BUILDING 1 ELECTRICAL SCHEDULES
1-E0.10	BUILDING 1 ELECTRICAL LIGHT FIXTURE SCHEDULE
1-E0.11	BUILDING 1 ELECTRICAL LIGHT FIXTURE SCHEDULE
1-E0.12	BUILDING 1 ELECTRICAL LIGHT FIXTURE SCHEDULE
1-E0.13	BUILDING 1 ELECTRICAL LIGHT FIXTURE SCHEDULE
1-E0.14	BUILDING 1 ELECTRICAL LIGHT FIXTURE SCHEDULE
1-E0.20	BUILDING 1 ELECTRICAL TITLE 24
1-E0.21	BUILDING 1 ELECTRICAL TITLE 24
1-E0.22	BUILDING 1 ELECTRICAL TITLE 24
1-E0.23	BUILDING 1 ELECTRICAL TITLE 24
1-E0.24	BUILDING 1 ELECTRICAL TITLE 24
1-E0.25	BUILDING 1 ELECTRICAL TITLE 24
1-E2.01	BUILDING 1 ELECTRICAL FS#6-CLASSROOM FIRST FLOOR PLAN
1-E2.02	BUILDING 1 ELECTRICAL FS#6-CLASSROOM SECOND FLOOR PLAN
1-E2.03	BUILDING 1 ELECTRICAL FS#6-CLASSROOM ROOF PLAN
1-E4.01	BUILDING 1 ELECTRICAL ENLARGED PLAN
1-E5.01	BUILDING 1 ELECTRICAL SINGLE LINE DIAGRAM
1-E5.02	BUILDING 1 ELECTRICAL GROUNDING DIAGRAM
1-E5.03	BUILDING 1 ELECTRICAL LIGHTING CONTROL SINGLE LINE DIAGRAM
1-E6.01	BUILDING 1 ELECTRICAL DETAILS
1-E6.02	BUILDING 1 ELECTRICAL DETAILS
1-E6.03	BUILDING 1 ELECTRICAL DETAILS
1-E6.04	BUILDING 1 ELECTRICAL DETAILS
1-E6.05	BUILDING 1 ELECTRICAL DETAILS
1-E6.06	BUILDING 1 ELECTRICAL DETAILS
1-E6.07	BUILDING 1 ELECTRICAL DETAILS
FIRE ALARM	
1-FA0.00	FIRE ALARM COVER SHEET
1-FA1.00	FIRE ALARM SITE PLAN
1-FA1.01	BUILDING 1 FIRST FLOOR FIRE ALARM PLAN
1-FA1.02	BUILDING 1 SECOND FLOOR FIRE ALARM PLAN
1-FA2.01	FIRE ALARM RISER DIAGRAM
1-FA3.01	FIRE ALARM CALCULATIONS
1-FA4.01	FIRE ALARM FACU AND ANNUNCIATOR DETAILS
1-FA4.02	FIRE ALARM FIELD DEVICE WIRING DETAILS
1-FA4.03	FIRE ALARM FIELD DEVICE WIRING DETAILS
TECHNOLOGY	
1-T0.01	BUILDING 1 TECHNOLOGY LEGEND, ABBREVIATIONS AND DRAWING LIST
1-T2.01	BUILDING 1 TECHNOLOGY FS#6-CLASSROOM FIRST FLOOR PLAN
1-T2.02	BUILDING 1 TECHNOLOGY FS#6-CLASSROOM SECOND FLOOR PLAN
1-T2.03	BUILDING 1 TECHNOLOGY FS#6-CLASSROOM ROOF PLAN
1-T4.01	BUILDING 1 TECHNOLOGY ENLARGED BDF PLAN
1-T4.02	BUILDING 1 TECHNOLOGY ENLARGED IDF PLAN
1-T5.01	BUILDING 1 TECHNOLOGY FUNCTIONAL DIAGRAMS
1-T7.01	BUILDING 1 TECHNOLOGY DETAILS
1-T7.02	BUILDING 1 TECHNOLOGY DETAILS
1-T7.03	BUILDING 1 TECHNOLOGY DETAILS
1-T7.04	BUILDING 1 TECHNOLOGY DETAILS
1-T7.05	BUILDING 1 TECHNOLOGY DETAILS
1-T7.06	BUILDING 1 SECURITY DETAILS

Increment #1 Number of Sheets: 199

BUILDING 1 - INCREMENT #2

NUMBER	NAME
PHOTOVOLTAIC	
1-H0.01	BUILDING 1 HYBRID POWER SYSTEM LEGEND, ABBREVIATIONS AND DRAWING LIST
1-H0.02	BUILDING 1 HYBRID POWER SYSTEM SCHEDULES AND LABELS
1-H1.01	BUILDING 1 HYBRID POWER SYSTEM SITE PLAN
1-H2.01	BUILDING 1 HYBRID POWER SYSTEM FS#6-CLASSROOM FIRST FLOOR PLAN
1-H2.03	BUILDING 1 HYBRID POWER SYSTEM FS#6-CLASSROOM ROOF PLAN
1-H5.01	BUILDING 1 HYBRID POWER SYSTEM SINGLE LINE DIAGRAM
1-H6.01	BUILDING 1 HYBRID POWER SYSTEM DETAILS AND DIAGRAMS
STRUCTURAL - SOLAR	
1-SS2.30	BUILDING 1 SOLAR ROOF PLANS, NOTES AND DETAILS
1-SS2.31	BUILDING 1 SOLAR NOTES AND DETAILS

Increment #2 Number of Sheets: 9

BUILDING 2 - INCREMENT #1

NUMBER	NAME
ARCHITECTURAL	
2-A0.10	BUILDING 2 SHEET INDEX, ACCESSIBILITY STANDARDS, PROJECT INFORMATION
2-A0.11	BUILDING 2 SCOPE OF WORK, EXTERIOR AXONOMETRIC VIEWS
2-A0.12	BUILDING 2 DESIGN INTENT ILLUSTRATION
2-A0.21	BUILDING 2 EGRESS PLAN
2-A0.22	BUILDING 2 CODE ANALYSIS
2-A0.30	BUILDING 2 ENVELOPE TITLE-24 ENERGY COMPLIANCE
2-A0.41	BUILDING 2 PLUMBING FIXTURE ANALYSIS
2-A2.10	BUILDING 2 SLAB EDGE PLAN, FLOOR PLAN
2-A2.11	BUILDING 2 ENLARGED SCALE FLOOR PLAN
2-A2.60	BUILDING 2 CLERESTORY FLOOR PLAN, ROOF PLAN
2-A2.70	BUILDING 2 ROOM FINISHES, DOOR WINDOWS AND EQUIPMENT SCHEDULES
2-A3.10	BUILDING 2 EXTERIOR ELEVATIONS
2-A3.40	BUILDING 2 BUILDING CROSS SECTIONS
2-A3.50	BUILDING 2 WALL SECTIONS
2-A4.10	BUILDING 2 ENLARGED RESTROOM PLANS, INTERIOR ELEVATIONS
2-A5.10	BUILDING 2 INTERIOR ELEVATIONS
2-A5.11	BUILDING 2 INTERIOR ELEVATIONS
2-A6.10	BUILDING 2 REFLECTED CEILING PLAN
2-A8.00	BUILDING 2 WALL TYPES
2-A8.01	BUILDING 2 EXTERIOR DETAILS
2-A8.02	BUILDING 2 EXTERIOR DETAILS
2-A8.03	BUILDING 2 EXTERIOR DETAILS
2-A8.04	BUILDING 2 EXTERIOR DETAILS
2-A8.05	BUILDING 2 EXTERIOR DETAILS
2-A9.01	BUILDING 2 INTERIOR DETAILS
2-A9.02	BUILDING 2 INTERIOR DETAILS
STRUCTURAL	
2-S0.10	BUILDING 2 GENERAL NOTES AND SPECIFICATIONS
2-S1.10	BUILDING 2 TYPICAL CONCRETE DETAILS
2-S1.20	BUILDING 2 STEEL FRAMING DETAILS
2-S1.21	BUILDING 2 STEEL FRAMING DETAILS
2-S1.30	BUILDING 2 TYPICAL METAL STUD ELEVATION AND CONNECTION DETAILS
2-S1.31	BUILDING 2 TYPICAL METAL STUD SOFFIT & MISCELLANEOUS DETAILS
2-S1.40	BUILDING 2 TYPICAL CMU DETAILS
2-S1.50	BUILDING 2 TYPICAL METAL DECKING DETAILS
2-S2.10	BUILDING 2 FLOOR PLAN
2-S2.11	BUILDING 2 ROOF PLAN
2-S3.10	BUILDING 2 ELEVATIONS
2-S3.20	BUILDING 2 ELEVATIONS
2-S4.10	BUILDING 2 DETAILS AND ELEVATIONS
2-S4.11	BUILDING 2 TYPICAL CMU DETAILS
2-S4.13	BUILDING 2 CONCRETE WALL DETAILS
PLUMBING	
2-P0-01	BUILDING 2 PLUMBING LEGEND AND ABBREVIATION, DRAWING LIST
2-P0-02	BUILDING 2 PLUMBING EQUIPMENT SCHEDULE
2-P0.03	BUILDING 2 PLUMBING TITLE 24
2-P2.00	BUILDING 2 PLUMBING APPARATUS BUILDING UNDERSLAB PLAN
2-P2.01	BUILDING 2 PLUMBING APPARATUS BUILDING FLOOR PLAN
2-P2.02	BUILDING 2 PLUMBING APPARATUS BUILDING PLAN
2-P6.01	BUILDING 2 PLUMBING DIAGRAM AND DETAILS
FIRE PROTECTION	
2-FP2.10	BUILDING 2 PIPING PLAN - FIRE PROTECTION
2-FP3.10	BUILDING 2 CEILING PLAN - FIRE PROTECTION
2-FP4.10	BUILDING 2 SECTIONS - FIRE PROTECTION
2-FP6.10	BUILDING 2 DETAILS - FIRE PROTECTION
MECHANICAL	
2-M0.01	BUILDING 2 MECHANICAL LEGEND, ABBREVIATIONS AND DRAWING LIST
2-M0.02	BUILDING 2 MECHANICAL SCHEDULES
2-M0.03	BUILDING 2 MECHANICAL TITLE 24 DOCUMENTATION
2-M0.04	BUILDING 2 MECHANICAL TITLE 24 DOCUMENTATION
2-M0.05	BUILDING 2 MECHANICAL TITLE 24 DOCUMENTATION
2-M2.01	BUILDING 2 MECHANICAL APPARATUS BUILDING FLOOR PLAN
2-M4.01	BUILDING 2 MECHANICAL VRF DIAGRAM
2-M5.01	BUILDING 2 MECHANICAL DETAILS
2-M5.02	BUILDING 2 MECHANICAL DETAILS
2-M5.03	BUILDING 2 MECHANICAL DETAILS
ELECTRICAL	
2-E0.01	BUILDING 2 ELECTRICAL LEGEND, ABBREVIATIONS AND DRAWING LIST
2-E0.02	BUILDING 2 ELECTRICAL SCHEDULES
2-E0.03	BUILDING 2 ELECTRICAL SCHEDULES
2-E0.10	BUILDING 2 ELECTRICAL LIGHT FIXTURE SCHEDULE
2-E0.11	BUILDING 2 ELECTRICAL LIGHT FIXTURE SCHEDULE
2-E0.20	BUILDING 2 ELECTRICAL TITLE 24
2-E0.21	BUILDING 2 ELECTRICAL TITLE 24
2-E0.22	BUILDING 2 ELECTRICAL TITLE 24
2-E0.23	BUILDING 2 ELECTRICAL TITLE 24
2-E2.01	BUILDING 2 ELECTRICAL APPARATUS BUILDING FLOOR PLAN
2-E5.01	BUILDING 2 ELECTRICAL SINGLE LINE DIAGRAM
2-E5.02	BUILDING 2 ELECTRICAL GROUNDING AND FIRE ALARM RISER DIAGRAMS
2-E5.03	BUILDING 2 LIGHTING CONTROL SINGLE LINE DIAGRAM
2-E6.01	BUILDING 2 ELECTRICAL DETAILS
2-E6.02	BUILDING 2 ELECTRICAL DETAILS
FIRE ALARM	
2-FA0.00	FIRE ALARM COVER SHEET
2-FA1.00	FIRE ALARM SITE PLAN
2-FA1.03	BUILDING 2 FIRE ALARM PLAN
2-FA2.01	FIRE ALARM RISER DIAGRAM
2-FA3.01	FIRE ALARM CALCULATIONS
2-FA4.01	FIRE ALARM FACU AND ANNUNCIATOR DETAILS
2-FA4.02	FIRE ALARM FIELD DEVICE WIRING DETAILS
2-FA4.03	FIRE ALARM FIELD DEVICE WIRING DETAILS
TECHNOLOGY	
2-T0.01	BUILDING 2 TECHNOLOGY LEGEND, ABBREVIATIONS AND DRAWING LIST
2-T2.01	BUILDING 2 TECHNOLOGY APPARATUS BUILDING FLOOR PLAN
2-T5.01	BUILDING 2 TECHNOLOGY FUNCTIONAL DIAGRAMS
2-T7.01	BUILDING 2 TECHNOLOGY DETAILS
2-T7.02	BUILDING 2 TECHNOLOGY DETAILS
2-T7.03	BUILDING 2 TECHNOLOGY DETAILS
2-T7.04	BUILDING 2 TECHNOLOGY DETAILS
2-T7.05	BUILDING 2 SECURITY

SHEET INDEXES - CITY-OWNED BUILDINGS

LPG SYSTEM

NUMBER	NAME
LPG SYSTEM	
0-LP1.0	LPG SYSTEM SITE PLAN
0-LP1.1	LPG SLAB PLAN & DETAILS
0-LP2.0	LPG SYSTEM PLAN
0-LP3.0	LPG SYSTEM ELEVATIONS
0-LP4.0	LPG SYSTEM ENLARGED DETAILS
0-LP5.0	LPG SYSTEM DETAILS
0-LP5.1	LPG SYSTEM DETAILS
0-LP 5.2	LPG SYSTEM DETAILS
0-LP 6.0	LPG SYSTEM DIAGRAM

BUILDING 4

NUMBER	NAME
ARCHITECTURAL	
4-A0.10	BUILDING 4 SHEET INDEX, PROJECT INFORMATION
4-A0.11	BUILDING 4 CODE ANALYSIS, AXONOMETRIC VIEWS
4-A2.10	BUILDING 4 FLOOR PLAN, ROOF PLAN, SCHEDULES
4-A3.10	BUILDING 4 EXTERIOR ELEVATIONS
4-A3.40	BUILDING 4 BUILDING CROSS SECTIONS, WALL SECTIONS
4-A6.10	BUILDING 4 REFLECTED CEILING PLAN
4-A8.30	BUILDING 4 ARCHITECTURAL DETAILS
STRUCTURAL	
4-S0.10	BUILDING 4 GENERAL NOTES AND SPECIFICATIONS
4-S1.10	BUILDING 4 TYPICAL CONCRETE DETAILS
4-S1.40	BUILDING 4 TYPICAL CMU DETAILS
4-S1.50	BUILDING 4 TYPICAL METAL DECKING DETAILS
4-S2.10	BUILDING 4 FLOOR AND ROOF PLANS
4-S3.10	BUILDING 4 ELEVATIONS AND SECTIONS
4-S4.10	BUILDING 4 DETAILS AND SECTIONS
PLUMBING	
4-P0.01	BUILDING 4 PLUMBING LEGEND AND ABBREVIATIONS, DRAWING LIST AND SCHEDULES
4-P2.01	BUILDING 4 PLUMBING STORAGE BUILDING FLOOR PLAN, DIAGRAM AND DETAIL
ELECTRICAL	
4-E0.01	BUILDING 4 ELECTRICAL LEGEND, ABBREVIATIONS AND DRAWING LIST
4-E0.02	BUILDING 4 ELECTRICAL SCHEDULES
4-E0.20	BUILDING 4 ELECRTICAL TITLE 24
4-E0.21	BUILDING 4 ELECTRICAL TITLE 24
4-E0.22	BUILDING 4 ELECRTICAL TITLE 24
4-E2.01	BUILDING 4 ELECTRICAL STORAGE BUILDING FLOOR PLAN
4-E5.01	BUILDING 4 ELECTRICAL SINGLE LINE DIAGRAM
4-E5.02	BUILDING 4 ELECTRICAL GROUNDING DIAGRAM
4-E6.01	BUILDING 4 ELECTRICAL DETAILS
TECHNOLOGY	
4-T0.01	BUILDING 4 TECHNOLOGY LEGEND, ABBREVIATIONS AND DRAWING LIST
4-T2.01	BUILDING 4 TECHNOLOGY STORAGE BUILDING FLOOR PLAN
4-T7.01	BUILDING 4 TECHNOLOGY DETAILS
4-T7.02	BUILDING 4 TECHNOLOGY DETAILS
4-T7.03	BUILDING 4 TECHNOLOGY DETAILS
4-T7.04	BUILDING 4 SECURITY DETAILS

BUILDING 5

NUMBER	NAME
ARCHITECTURAL	
5-A0.10	BUILDING 5 SHEET INDEX, PROJECT INFORMATION
5-A0.11	BUILDING 5 EXTERIOR AXOMETRIC VIEW
5-A2.00	BUILDING 5 BASEMENT LEVEL FLOOR PLAN
5-A2.01	BUILDING 5 BASEMENT LEVEL DRAINAGE PLAN
5-A2.10	BUILDING 5 FIRST LEVEL FLOOR PLAN
5-A2.11	BUILDING 5 FIRST LEVEL FLOOR DRAINAGE PLAN
5-A2.20	BUILDING 5 SECOND LEVEL FLOOR PLAN
5-A2.21	BUILDING 5 SECOND LEVEL FLOOR DRAINAGE PLAN
5-A2.30	BUILDING 5 ATTIC PLAN
5-A2.31	BUILDING 5 ATTIC DRAINAGE PLAN
5-A2.60	BUILDING 5 ROOF PLAN
5-A2.70	BUILDING 5 DOOR, WINDOW, & ROOM FINISH SCHEDULES
5-A3.10	BUILDING 5 EXTERIOR ELEVATIONS
5-A3.11	BUILDING 5 EXTERIOR ELEVATIONS
5-A3.40	BUILDING 5 BUILDING CROSS SECTIONS
5-A3.41	BUILDING 5 BUILDING CROSS SECTIONS
5-A3.42	BUILDING 5 WALL SECTIONS
5-A3.43	BUILDING 5 WALL SECTIONS
5-A5.10	BUILDING 5 INTERIOR ELEVATIONS
5-A5.11	BUILDING 5 INTERIOR ELEVATIONS
5-A6.00	BUILDING 5 BASEMENT REFLECTED CEILING PLAN
5-A6.10	BUILDING 5 FIRST LEVEL REFLECTED CEILING PLAN
5-A6.20	BUILDING 5 SECOND LEVEL REFLECTED CEILING PLAN
5-A7.10	BUILDING 5 STAIR PLANS AND DETAILS
5-A7.11	BUILDING 5 STAIR PLANS AND DETAILS
5-A8.30	BUILDING 5 ARCHITECTURAL DETAILS
5-A8.31	BUILDING 5 ARCHITECTURAL DETAILS
5-A8.32	BUILDING 5 ARCHITECTURAL DETAILS
5-A8.33	BUILDING 5 ARCHITECTURAL DETAILS
STRUCTURAL	
5-S0.10	BUILDING 5 GENERAL NOTES AND SPECIFICATIONS
5-S1.10	BUILDING 5 TYPICAL CONCRETE DETAILS
5-S1.40	BUILDING 5 TYPICAL CMU DETAILS
5-S1.41	BUILDING 5 TYPICAL CMU DETAILS
5-S1.50	BUILDING 5 TYPICAL METAL DECKING DETAILS
5-S2.10	BUILDING 5 FOUNDATION PLAN
5-S2.20	BUILDING 5 FIRST FLOOR FRAMING PLAN
5-S2.30	BUILDING 5 SECOND FLOOR FRAMING PLAN
5-S2.40	BUILDING 5 ATTIC FRAMING PLAN
5-S2.50	BUILDING 5 ROOF FRAMING PLAN
5-S3.10	BUILDING 5 ELEVATIONS
5-S3.20	BUILDING 5 ELEVATIONS
5-S4.10	BUILDING 5 FOUNDATION DETAILS
5-S4.11	BUILDING 5 CONCRETE WALL DETAILS
5-S4.12	BUILDING 5 CONCRETE COLUMN DETAILS
5-S4.13	BUILDING 5 CONCRETE BEAM DETAILS
5-S4.14	BUILDING 5 CONCRETE SLAB DETAILS
5-S4.15	BUILDING 5 CMU WALL DETAILS
5-S4.16	BUILDING 5 CMU WALL DETAILS
5-S4.17	BUILDING 5 TURRET FRAMING PLAN AND DETAILS

BUILDING 7

NUMBER	NAME
ARCHITECTURAL	
7-A0.10	BUILDING 7 SHEET INDEX, PROJECT INFORMATION
7-A0.11	BUILDING 7 EXTERIOR AXOMETRIC VIEWS
7-A2.10	BUILDING 7 FIRST LEVEL FLOOR SLAB DRAINAGE PLAN
7-A2.11	BUILDING 7 FIRST LEVEL FLOOR PLAN
7-A2.20	BUILDING 7 SECOND LEVEL FLOOR PLAN
7-A2.30	BUILDING 7 THIRD LEVEL FLOOR PLAN
7-A3.10	BUILDING 7 EXTERIOR ELEVATIONS
7-A3.11	BUILDING 7 EXTERIOR ELEVATIONS
7-A3.40	BUILDING 7 BUILDING CROSS SECTIONS
7-A3.41	BUILDING 7 BUILDING CROSS SECTIONS
7-A3.50	BUILDING 7 WALL SECTIONS
7-A4.10	BUILDING 7 ENLARGED PLANS AND ELEVATIONS
7-A5.11	BUILDING 7 INTERIOR ELEVATIONS
7-A8.10	BUILDING 7 ARCHITECTURAL DETAILS
7-A8.11	BUILDING 7 ARCHITECTURAL DETAILS
STRUCTURAL	
7-S0.10	BUILDING 7 GENERAL NOTES AND
7-S1.10	BUILDING 7 TYPICAL CONCRETE DETAILS
7-S1.40	BUILDING 7 TYPICAL CMU DETAILS
7-S1.41	BUILDING 7 TYPICAL CMU DETAILS
7-S2.10	BUILDING 7 FOUNDATION PLAN
7-S2.20	BUILDING 7 SECOND FLOOR PLAN
7-S2.30	BUILDING 7 THIRD LEVEL PLAN
7-S3.10	BUILDING 7 ELEVATIONS
7-S3.20	BUILDING 7 ELEVATIONS AND SECTIONS
7-S3.30	BUILDING 7 WALL ELEVATIONS
7-S4.10	BUILDING 7 DETAILS AND SECTIONS
7-S4.11	BUILDING 7 FOUNDATION DETAILS
7-S4.12	BUILDING 7 CONCRETE WALL DETAILS
7-S4.13	BUILDING 7 CONCRETE COLUMN DETAILS
7-S4.14	BUILDING 7 CONCRETE BEAM DETAILS
7-S4.15	BUILDING 7 CONCRETE SLAB DETAILS
PLUMBING	
7-P0.01	BUILDING 7 PLUMBING LEGEND AND ABBREVIATION, DRAWING LIST
7-P2.01	BUILDING 7 PLUMBING USAR-BART TRAINING STRUCTURE FIRST LEVEL FLOOR PLAN
ELECTRICAL	
7-E0.01	BUILDING 7 ELECTRICAL LEGEND, ABBREVIATIONS AND DRAWING LIST
7-E0.02	BUILDING 7 ELECTRICAL SCHEDULES
7-E2.01	BUILDING 7 ELECTRICAL USAR-BART TRAINING STRUCTURE FIRST LEVEL FLOOR PLAN
7-E2.02	BUILDING 7 ELECTRICAL USAR-BART TRAINING STRUCTURE SECOND LEVEL FLOOR PLAN
7-E5.01	BUILDING 7 ELECTRICAL RISER DIAGRAM
TECHNOLOGY	
7-T0.01	BUILDING 7 TECHNOLOGY LEGEND, ABBREVIATIONS AND DRAWING LIST
7-T2.01	BUILDING 7 TECHNOLOGY USAR-BART TRAINING STRUCTURE FIRST LEVEL FLOOR PLAN
7-T2.02	BUILDING 7 TECHNOLOGY USAR-BART TRAINING STRUCTURE SECOND LEVEL FLOOR PLAN
7-T7.01	BUILDING 7 TECHNOLOGY DETAILS
7-T7.02	BUILDING 7 TECHNOLOGY DETAILS

BUILDING 8

NUMBER	NAME
ARCHITECTURAL	
8-A0.10	BUILDING 8 SHEET INDEX, PROJECT INFORMATION
8-A0.11	BUILDING 8 EXTERIOR AXOMETRIC VIEWS
8-A2.10	BUILDING 8 FIRST LEVEL FLOOR PLAN
8-A2.11	BUILDING 8 FIRST LEVEL SLAB DRAINAGE PLAN
8-A2.20	BUILDING 8 SECOND LEVEL FLOOR PLAN
8-A2.21	BUILDING 8 SECOND LEVEL SLAB DRAINAGE PLAN
8-A2.30	BUILDING 8 THIRD LEVEL FLOOR PLAN
8-A2.31	BUILDING 8 THIRD LEVEL SLAB DRAINAGE PLAN
8-A2.40	BUILDING 8 FOURTH LEVEL FLOOR PLAN
8-A2.41	BUILDING 8 FOURTH LEVEL SLAB DRAINAGE PLAN
8-A2.60	BUILDING 8 ROOF PLAN
8-A2.70	BUILDING 8 DOOR, WINDOW & ROOM FINISH SCHEDULES
8-A3.10	BUILDING 8 EXTERIOR ELEVATIONS
8-A3.40	BUILDING 8 BUILDING CROSS SECTIONS
8-A3.50	BUILDING 8 WALL SECTIONS
8-A5.10	BUILDING 8 INTERIOR ELEVATIONS
8-A5.11	BUILDING 8 INTERIOR ELEVATIONS
8-A6.10	BUILDING 8 FIRST LEVEL REFLECTED CEILING PLAN
8-A6.20	BUILDING 8 SECOND LEVEL REFLECTED CEILING PLAN
8-A6.30	BUILDING 8 THIRD LEVEL REFLECTED CEILING PLAN
8-A8.30	BUILDING 8 ARCHITECTURAL DETAILS
8-A8.31	BUILDING 8 ARCHITECTURAL DETAILS
8-A8.32	BUILDING 8 ARCHITECTURAL DETAILS
8-A8.33	BUILDING 8 ARCHITECTURAL DETAILS
8-A8.34	BUILDING 8 ARCHITECTURAL DETAILS
8-A8.35	BUILDING 8 ARCHITECTURAL DETAILS
8-A8.36	BUILDING 8 ARCHITECTURAL DETAILS
STRUCTURAL	
8-S0.10	BUILDING 8 GENERAL NOTES AND SPECIFICATIONS
8-S1.10	BUILDING 8 TYPICAL CONCRETE DETAILS
8-S1.20	BUILDING 8 STEEL FRAMING DETAILS
8-S1.30	BUILDING 8 TYPICAL METAL STUD ELEVATION AND CONNECTION DETAILS
8-S1.40	BUILDING 8 TYPICAL CMU DETAILS
8-S1.41	BUILDING 8 TYPICAL CMU DETAILS
8-S1.50	BUILDING 8 TYPICAL METAL DECKING DETAILS
8-S2.10	BUILDING 8 FOUNDATION PLAN
8-S2.20	BUILDING 8 SECOND FLOOR PLAN
8-S2.30	BUILDING 8 THIRD FLOOR PLAN
8-S2.40	BUILDING 8 ROOF PLAN
8-S2.50	BUILDING 8 STAIR TOWER ROOF PLAN
8-S3.10	BUILDING 8 ELEVATIONS
8-S3.20	BUILDING 8 ELEVATIONS
8-S3.30	BUILDING 8 ELEVATIONS
8-S4.10	BUILDING 8 DETAILS AND SECTIONS
8-S4.11	BUILDING 8 FOUNDATION DETAILS
8-S4.12	BUILDING 8 TYPICAL CONCRETE WALL DETAILS
8-S4.13	BUILDING 8 CONCRETE WALL DETAILS
8-S4.14	BUILDING 8 CONCRETE COLUMN DETAILS
8-S4.15	BUILDING 8 CONCRETE BEAM DETAILS
8-S4.16	BUILDING 8 CONCRETE SLAB DETAILS
PLUMBING	
8-P0.01	BUILDING 8 PLUMBING AND FIRE PROTECTION LEGEND AND ABBREVATION, DRAWING LIST
8-P2.01	BUILDING 8 PLUMBING TRAINING TOWER BUILDING FIRST FLOOR PLAN
8-P2.02	BUILDING 8 PLUMBING TRAINING TOWER BUILDING SECOND FLOOR PLAN
8-P2.03	BUILDING 8 PLUMBING TRAINING TOWER BUILDING THIRD FLOOR PLAN
8-P2.04	BUILDING 8 PLUMBING TRAINING TOWER BUILDING ROOF PLAN
8-P3.01	BUILDING 8 PLUMBING BUILDING AND FIRE RISER DIAGRAM
8-P5.01	BUILDING 8 PLUMBING DETAILS
MECHANICAL	
8-M0.01	BUILDING 8 MECHANICAL LEGEND, ABBREVIATIONS, DRAWING LIST, AND SCHEDULES
8-M2.01	BUILDING 8 MECHANICAL TRAINING TOWER BUILDING FIRST, SECOND, THIRD, AND ROOF LEVEL FLOOR PLANS
ELECTRICAL	
8-E0.01	BUILDING 8 ELECTRICAL LEGEND, ABBREVIATIONS AND DRAWING LIST
8-E0.02	BUILDING 8 ELECTRICAL SCHEDULES
8-E2.01	BUILDING 8 ELECTRICAL TRAINING TOWER BUILDING FIRST LEVEL FLOOR PLANS
8-E2.02	BUILDING 8 ELECTRICAL TRAINING TOWER BUILDING FOURTH LEVEL PLANS
8-E2.03	BUILDING 8 ELECTRICAL TRANING TOWER BUILDING THIRD LEVEL FLOOR PLAN
8-E2.04	BUILDING 8 ELECTRICAL TRANING TOWER BUILDING FOURTH LEVEL FLOOR PLAN
8-E2.05	BUILDING 8 ELECTRICAL TRAINING TOWER BUILDING ROOF PLAN
8-E5.01	BUILDING 8 ELECTRICAL RISER DIAGRAM
TECHNOLOGY	
8-T0.01	BUILDING 8 TECHNOLOGY LEGEND, ABBREVATIONS, AND DRAWING LIST
8-T2.01	BUILDING 8 TECHNOLOGY TOWER BUILDING FIRST, SECOND AND THIRD LEVEL FLOOR PLANS
8-T2.02	BUILDING 8 TECHNOLOGY TRAINING TOWER BUILDING FOURTH LEVEL AND ROOF PLANS
8-T7.01	BUILDING 8 TECHNOLOGY DETAILS
8-T7.02	BUILDING 8 TECHNOLOGY DETAILS

BUILDING 9

NUMBER	NAME
ARCHITECTURAL	
9-A0.10	BUILDING 9 SHEET INDEX, PROJECT INFORMATION
9-A0.11	BUILDING 9 CODE ANALYSIS, EXTERIOR AXONOMETRIC VIEWS
9-A2.10	BUILDING 9 FLOOR PLAN, ROOF PLAN
9-A3.10	BUILDING 9 EXTERIOR ELEVATIONS
9-A3.40	BUILDING 9 BUILDING CROSS SECTION, ARCHITECTURAL DETAILS
9-A6.10	BUILDING 9 REFLECTED CEILING PLAN
9-A8.20	BUILDING 9 ARCHITECTURAL DETAILS
STRUCTURAL	
9-S0.10	BUILDING 9 GENERAL NOTES AND SPECIFICATIONS
9-S1.10	BUILDING 9 TYPICAL CONCRETE DETAILS
9-S1.20	BUILDING 9 STEEL FRAMING DETAILS
9-S1.50	BUILDING 9 TYPICAL METAL DECKING DETAILS
9-S2.10	BUILDING 9 FLOOR PLAN, ROOF PLAN
9-S3.10	BUILDING 9 ELEVATIONS
9-S4.10	BUILDING 9 DETAILS AND SECTIONS
9-SS2.30	BUILDING 9 SOLAR ROOF PLAN, NOTES & DETAILS
9-SS2.31	BUILDING 9 SOLAR NOTES AND DETAILS
ELECTRICAL	
9-E0.01	BUILDING 9 ELECTRICAL LEGEND, ABBREVIATIONS, AND DRAWING LIST
9-E0.02	BUILDING 9 ELECTRICAL SCHEDULES
9-E0.03	BUILDING 9 ELECTRICAL SCHEDULES
9-E0.10	BUILDING 9 ELECTRICAL LIGHT FIXTURE SCHEDULE
9-E0.20	BUILDING 9 ELECTRICAL TITLE 24
9-E0.21	BUILDING 9 ELECTRICAL TITLE 24
9-E2.01	BUILDING 9 ELECTRICAL ENTRY CANOPY PLAN AND LIGHTING
9-E5.01	BUILDING 9 ELECTRICAL RISER DIAGRAM
9-E5.02	BUILDING 9 ELECTRICAL GROUNDING DIAGRAM
9-E6.01	BUILDING 9 ELECTRICAL DETAILS
PHOTOVOLTAIC	
9-PV0.01	BUILDING 9 PHOTOVOLTAIC SYSTEM LEGEND, ABBREVIATIONS AND DRAWING LIST
9-PV0.02	BUILDING 9 PHOTOVOLTAIC SYSTEM SCHEDULES AND LABELS
9-PV1.01	BUILDING 9 PHOTOVOLTAIC SYSTEM SITE PLAN
9-PV2.01	BUILDING 9 PHOTOVOLTAIC SYSTEM ENTRY CANOPY PLAN
9-PV5.01	BUILDING 9 PHOTOVOLTAIC SINGLE LINE DIAGRAM
9-PV6.01	BUILDING 9 PHOTOVOLTAIC SYSTEM DETAILS AND DIAGRAMS

NOTE:
ALL SITE DEVELOPMENT AND BUILDING DRAWINGS LISTED ON THIS SHEET ARE SUBJECT TO REVIEW AND APPROVAL BY THE CITY OF HAYWARD BUILDING DIVISION.

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, DIR. OF PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	INC 01_ADD_01_V1	12/06/2019

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
12/31/19
RENEWAL DATE
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3 - INCREMENT #1

Sheet Title

SHEET INDEXES CITY-OWNED BUILDINGS

Drawn By: AV
Checked By: EW

Scale:

Date:
October 4, 2019

Project No. 2016039

G-A0.03
Drawing No.

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ABBREVIATIONS

&	AND
@	AT
℄	CENTERLINE
45°	DEGREES (45 DEGREES)
Æ	DIAMETER OR ROUND
9 ½"	INCHES (9 AND ½ INCHES)
#	POUND OR NUMBER
℗	PROPERTY LINE
<	LESS THAN
>	GREATER THAN
A/C	AIR CONDITIONING
AB	ANCHOR BOLT
ACONC	ASPHALTIC CONCRETE
ACOUS	ACOUSTICAL
ACT	ACOUSTICAL CEILING TILE
AD	AREA DRAIN
ADA	AMERICANS WITH DISABILITIES ACT
ADJ	ADJUSTABLE
AFF	ABOVE FINISH FLOOR
AGGR	AGGREGATE
AL	ALUMINUM
ALUM	ALUMINUM
APPROX	APPROXIMATE
APT.	APARTMENT
ARCH	ARCHITECTURAL
ASPH	ASPHALTIC
AUTO	AUTOMATIC
AVG	AVERAGE HB
AV	ACOUSTICAL VENT
BD	BOARD
BFI	BLACK-FACED INSULATION
BITUM	BITUMINOUS
BLDG	BUILDING
BLK	BLOCK
BLKG	BLOCKING
BM	BEAM
B.O.	BOTTOM OF
BOT	BOTTOM
BSMT	BASEMENT
BUR	BUILT-UP ROOF
BUWP	BUILT-UP WATERPROOFING
CAB	CABINET
CB	CATCH BASIN
CBC	CALIFORNIA BUILDING CODE
CC	CENTER TO CENTER
CEM	CEMENT
CER	CERAMIC
CG	CORNER GUARD
CI	CAST IRON
CIP	CAST IN PLACE
CJ	CONTROL JOINT
CLG	CEILING
CLKG	CAULKING
CLO	CLOSET
CLR	CLEAR
CNTR	COUNTER
CO	CLEAN OUT
COL	COLUMN
COMB	COMBUSTION
COMP	COMPOSITION
COORD	COORDINATE
CMU	CONCRETE MASONRY UNIT
CONC	CONCRETE
CONN	CONNECTION
CONSTR	CONSTRUCTION
CONT	CONTINUOUS
CORR	CORRIDOR
CPT	CARPET
CS	CASEMENT (WINDOW)
CT	CERAMIC TILE
CTR	CENTER
CTSK	COUNTERSUNK
CYL	CYLINDER
D	DEEP
DBL	DOUBLE
DEPT	DEPARTMENT
DET	DETAIL
DF	DRINKING FOUNTAIN
DFPT	DOUGLAS FIR PRESSURE TREATED
DH	DOUBLE HUNG (WINDOW)
DIA	DIAMETER
DICA	DRILLED IN CONCRETE ANCHOR
DIF	DIFFUSER
DIM	DIMENSION
DIMP	DIMENSION POINT
DISP	DISPOSAL
DN	DOWN
DO	DOOR OPENING
DR	DOOR
DS	DOWNSPOUT
DSP	DRY STANDPIPE
DW	DISHWASHER
DWG	DRAWING
DWR	DRAWER

(E)	EXISTING
E	EAST
EA	EACH
E.F.O.S.	EXTERIOR FACE OF STUD
EJ	EXPANSION JOINT
EL	ELEVATION
ELEC	ELECTRICAL
ELEV	ELEVATOR
EMER	EMERGENCY
ENCL	ENCLOSURE
E.O.	EDGE OF
EP	ELECTRICAL PANEL
EQ	EQUAL
EQPT	EQUIPMENT
EWC	ELECTRICAL WATER COOLER
EXH	EXHAUST
EXP	EXPANSION
EXPO	EXPOSED
EXT	EXTERIOR
F	FIXED POSITION (WINDOW)
FA	FIRE ALARM
FAU	FORCED AIR UNIT
FD	FLOOR DRAIN
FDN	FOUNDATION
FE	FIRE EXTINGUISHER
FEC	FIRE EXTINGUISHER CABINET
FF	FINISH FLOOR
FHC	FIRE HOSE CABINET
FHMS	FLAT HEAD MACHINE SCREW
FIN	FINISH
FIXT	FIXTURE
FL	FLOOR
FLASH	FLASHING
FLUOR	FLUORESCENT
F.O.	FACE OF
F.O.F.	FACE OF FINISH
F.O.S.	FACE OF STUD
F.O.T.	FACE OF TREAD
FPL	FIREPLACE
FPRF	FIREPROOF
FR	FIRE RESISTIVE
FRMG	FRAMING
FS	FULL SIZE
FSK	FLOOR SINK
FT	FEET OR FOOT
FTG	FOOTING
FURR	FURRING
GA	GAUGE
GALV	GALVANIZED
GB	GRAB BAR
GEN	GENERAL
GFRC	GLASS FIBER REINFORCED CONCRETE
GFI	GROUND FAULT INTERRUPTED
GI	GALVANIZED IRON
GL	GLASS OR GLAZING
GLU	GLUE
GND	GROUND
GR	GRADE
GRAN	GRANITE
GSM	GALVANIZED SHEET METAL
GYP	GYPSUM
H	HIGH
HB	HOSE BIB
HC	HOLLOW CORE
HCP	HANDICAPPED
HD	HEAD
HDRY	HAND DRYER
HDWD	HARDWOOD
HDWE	HARDWARE
HM	HOLLOW METAL
HO	HOPPER (WINDOW)
HORIZ	HORIZONTAL
H.P.	HIGH POINT
HR	HOUR
HT	HEIGHT
HVAC	HEATING VENTING & AIR CONDITIONING
HWH	HOT WATER HEATER
ID	INSIDE DIAMETER
INCAN	INCADESCENT
INSUL	INSULATION
INT	INTERIOR
JAN	JANITOR
JCT	JUNCTION
JST	JOIST
JT	JOINT
KIT	KITCHEN
KHB	KEYED HOSE BIB
LAM	LAMINATE
LAND	LANDING
LAV	LAVATORY
L.C.C.	LEAD COATED COPPER
LH	LEFT HAND
LIQ	LIQUID
LKR	LOCKER
LL	LIVE LOAD
L.L.V.	LONG LEG VERTICAL
L.P	LOW POINT
LSD	LINEAR SLOT DIFFUSER
LT	LIGHT
LWT	LIGHTWEIGHT

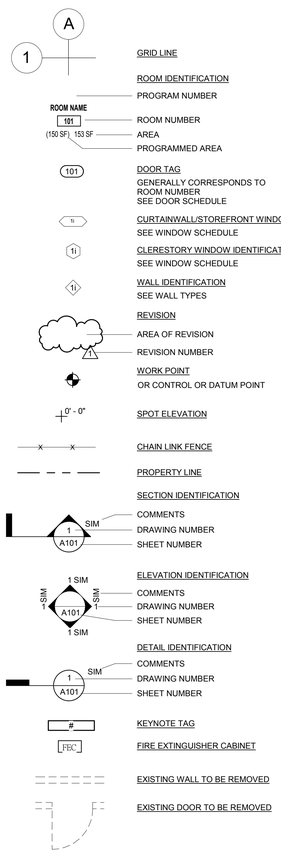
MAT	MATERIAL
MAX	MAXIMUM
MB	MACHINE BOLT
MBL	MARBLE
MBX	MAILBOX
MC	MEDICINE CABINET
MD	MEDIUM DENSITY
MECH	MECHANICAL
MED	MEDIUM
MEMB	MEMBRANE
MET, MTL	METAL OR METALLIC
MFR	MANUFACTURER
MH	MANHOLE
MIN	MINIMUM
MIR	MIRROR
MISC	MISCELLANEOUS
MO	MASONRY OPENING
MTD	MOUNTED
MUL	MULLION
MW	MICROWAVE
(N)	NEW
N	NORTH
NA	NOT APPLICABLE
NIC	NOT IN CONTRACT
NO.	NUMBER
NOM	NOMINAL
NR	NON RATED
NTS	NOT TO SCALE
O/	OVER
OA	OVERALL
OBS	OBSURE (GLASS)
OC	ON CENTER
OD	OUTSIDE DIAMETER
OFD	OVERFLOW DRAIN
OHS	OPPOSITE HAND SIMILAR
OP	OPENING
OL	OCCUPANT LOAD
OPER	OPERABLE
OPP	OPPOSITE
OZ	OUNCE
P+T	POWER AND TELEPHONE
PA	PUBLIC ADDRESS
PC	PIECE
P.C.	PRECAST
PERP	PERPENDICULAR
PKT	POCKET (DOOR)
PL	PLATE
PLAM	PLASTIC LAMINATE
PLAS	PLASTER
PLYWD	PLYWOOD
PNL	PANEL
POL	POLISH(ED)
POLY	POLYETHYLENE
PR	PAIR
PRCST	PRECAST
PREFAB	PREFABRICATED
PT	POINT
PTCL	PARTICLE
PTDIS	PAPER TOWEL DISPENSER
PTD	PAINTED
PTN	PARTITION
PVC	POLY VINYL CHLORIDE
QT	QUARRY TILE
QTY	QUANTITY
QUAL	QUALITY
(R)	REVISED
R	RISER
RAD	RADIUS
RD	ROOF DRAIN
REBAR	REINFORCING BAR
REF	REFERENCE
REFL	REFLECTED OR REFLECTIVE
REFR	REFRIGERATOR
REG	REGISTER
REINF	REINFORCED
REQ'D	REQUIRED
RET	RETAINING
REV	REVISION OR REVISED
REVER	REVERSED
RF	RESILENT FLOORING
RH	RIGHT HAND
RM	ROOM
RND	ROUND
RO	ROUGH OPENING
R.O.W.	RIGHT OF WAY
RWD	REDWOOD
RWL	RAIN WATER LEADER

S	SOUTH
S&P	SHELF AND CLOTHES POLE
SAD	SEE ARCHITECTURAL DRAWINGS
SAFF	SELF-ADHERING FLEXIBLE FLASHING
SAVD	SEE AUDIO/VISUAL DRAWINGS
SC	SOLID CORE
SCD	SEE CIVIL DRAWINGS
SCHED	SCHEDULE
SCP	SECURITY COMMUNICATION SYSTEM PANEL
SD	SOAP DISH OR DISPENSER
SECT	SECTION
SED	SEE ELECTRICAL DRAWINGS
SF	SQUARE FEET
SFPD	SEE FIRE PROTECTION DRAWINGS
SFRM	SPRAY-APPLIED FIRE-RESISTIVE MATERIAL
SGD	SLIDING GLASS DOOR
SLD	SEE LANDSCAPE DRAWINGS
SLTD	SEE LIGHTING DRAWINGS
SMD	SEE MECHANICAL DRAWINGS
SNHG	SINGLE HUNG (WINDOW)
SH	SHELF
SHR	SHOWER
SHT	SHEET
SHTG	SHEATHING
SIM	SIMILAR
SMW	SHEET METAL WATERPROOFING
SND	SANITARY NAPKIN DISPENSER
SNR	SANITARY NAPKIN RECEPTACLE
SP	STANDPIPE
SPD	SEE PLUMBING DRAWINGS
SPEC	SPECIFICATION
SPO	STANDPIPE OUTLET
SPRM	SINGLE PLY ROOF MEMBRANE
SQ	SQUARE
SS	STAINLESS STEEL
SSD	SEE STRUCTURAL DRAWINGS
SSED	SEE SECURITY ELECTRONICS DRAWINGS
SSL	STAINLESS STEEL
STA	STATION
STD	STANDARD
STL	STEEL
STLD	SEE TELECOMMUNICATIONS DRAWINGS
STN	STAINLESS
STOR	STORAGE
STRL	STRUCTURAL
SUSP	SUSPENDED
SV	SHEET VINYL
SYM	SYMETRICAL
T	TREAD
T&B	TOP AND BOTTOM
T&G	TONGUE AND GROOVE
TB	TOWEL BAR
TC	TRASH COMPACTOR
TDIS	TOWEL DISPENSER
TEL	TELEPHONE
TEMP	TEMPERED
TEMPOR	TEMPORARY
TER	TERRAZZO
TERM	TERMINATION
THK	THICK
THRSHD	THRESHOLD
T.O.	TOP OF
T.O.W.	TOP OF WALL
TPH	TOILET PAPER HOLDER
TV	TELEVISION OUTLET
TRASH	TRASH RECEPTACLE
TS	TUBE STEEL
TYP	TYPICAL
UL	UNDERWRITERS LABORATORIES INC.
UNF	UNFINISHED
UON	UNLESS OTHERWISE NOTED
UR	URINAL
VCT	VINYL COMPOSITE TILE
VERT	VERTICAL
VEST	VESTIBULE
VIF	VERIFY IN FIELD
W/	WITH
W/D	WASHER AND DRYER
W	WEST OR WIDE
W/O	WITHOUT
WC	WATER CLOSET
WD	WOOD
WH	WATER HEATER
WO	WHERE OCCURS
WP	WATERPROOF
WPM	WATERPROOFING MEMBRANE
WR	WATER RESISTANT
WS	WEATHERSTRIPPING
WSCT	WAINSCOT
WSP	WET STANDPIPE
WT	WEIGHT

MATERIAL DESIGNATIONS

- CONCRETE MASONRY UNIT
- EARTH
- GYPSUM BOARD
- CEMENT PLASTER
- STEEL
- ALUMINUM
- PLYWOOD
- GLASS
- WOOD: FINISH
- WOOD: ROUGH- CONTINUOUS
- WOOD: ROUGH- BLOCKING

ARCHITECTURAL SYMBOLS



GENERAL NOTES

1. DEFINITIONS

A. "TYPICAL" OR "TYP." MEANS IDENTICAL FOR ALL CONDITIONS, UNLESS OTHERWISE NOTED

B. "SIMILAR" OR "SIM" MEANS COMPARABLE CHARACTERISTICS FOR THE CONDITION NOTED. VERIFY DIMENSIONS AND ORIENTATIONS

C. "PROVIDE" MEANS TO FURNISH AND INSTALL

D. "FURNISH" MEANS TO FURNISH, AND OTHERS TO INSTALL

2. DIMENSIONING RULES

A. HORIZONTAL DIMENSIONS ARE SHOWN FROM FACE OF STRUCTURE or FRAMING UNLESS OTHERWISE NOTED

B. DIMENSIONS NOTED "HOLD", "CLEAR" OR "CLR" MUST BE PRECISELY MAINTAINED

C. DIMENSIONS ARE NOT ADJUSTABLE WITHOUT APPROVAL OF THE ARCHITECT OR UNLESS NOTED (+/-)

D. DIMENSIONS TO THE EXTERIOR WALL ARE TO THE OUTSIDE FINISHED FACE OF WALL UNLESS OTHERWISE NOTED

E. VERTICAL DIMENSIONS FOR CASEWORK, TOILET ACCESSORIES, HANDRAILS AND GUARDRAILS ARE FROM THE FINISHED FLOOR, UNLESS OTHERWISE NOTED

F. DO NOT SCALE DRAWINGS. IF CONTRACTOR IS UNABLE TO LOCATE DIMENSIONS FOR ANY ITEM OF WORK, CONSULT WITH THE ARCHITECT BEFORE PROCEEDING WITH CONSTRUCTION

G. DIMENSIONS MARKED V.I.F. SHALL BE "VERIFIED IN FIELD" BY THE CONTRACTOR AND COORDINATED WITH THE ARCHITECT PRIOR TO THE START OF CONSTRUCTION

3. THE ORIGINAL OF THESE DRAWINGS MEASURE 30" x 42". IF THE SHEETS IN USE ARE SMALLER THAN THE ORIGINAL SHEETS HAVE BEEN REDUCED IN SIZE AND THE SCALE MUST BE REDUCED ACCORDINGLY

4. REPETITIVE ITEMS NOTED IN ONE CONDITION ARE TO BE PROVIDED COMPLETE IN ALL SIMILAR CONDITIONS

5. DETAILS ARE KEYED TO REPRESENTATIVE LOCATIONS ONLY AND APPLY TO ALL SIMILAR CONDITIONS

6. CONTRACTOR SHALL VISIT SITE AND BE FULLY COGNIZANT OF ALL FIELD CONDITIONS PRIOR TO SUBMITTING BID. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND SITE CONDITIONS BEFORE SUBMITTING BID AND STARTING WORK. ANY CONFLICT OR DISCREPANCY BETWEEN THE DRAWINGS AND ACTUAL CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT IN WRITING, BEFORE PROCEEDING WITH ANY WORK OR PRESENTATION OF BID. ONLY WRITTEN DINENSIONS ON THE DRAWINGS SHALL BE USED. DO NOT SCALE THE DRAWINGS

7. ALL WORK SHALL CONFORM TO ALL GOVERNING CODES, AMENDMENTS, RULES, REGULATIONS, ORDINANCES, LAWS, ORDERS, APPROVALS, ETC., THAT ARE REQUIRED BY PUBLIC AUTHORITIES WITH JURISDICTION OVER THIS PROJECT. IN THE EVENT OF CONFLICT, THE MOST STRINGENT REQUIREMENT SHALL APPLY

8. QUESTIONS REGARDING DOCUMENTS, DISCREPANCIES, DOUBTS AS TO MEANING, OMISSIONS OR CONFLICTS IN THE VARIOUS PARTS OF THE CONTRACT DOCUMENTS SHALL BE REFERRED IMMEDIATELY TO THE ARCHITECT, IN WRITING, BEFORE PROCEEDING WITH THE WORK

9. THE CONTRACT DOCUMENTS INCLUDE THE DRAWINGS, THE SPECIFICATIONS, THE GENERAL CONDITIONS, SPECIAL CONDITIONS, THE PROJECT MANUAL, AND ALL ADDENDA ISSUED BY THE ARCHITECT. CONTRACTOR SHALL VISIT SITE AND BE FULLY COGNIZANT OF ALL FIELD CONDITIONS PRIOR TO SUBMITTING BID. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND SITE CONDITIONS BEFORE STARTING WORK

10. THE CONTRACTOR SHALL VERIFY DIMENSIONS AND COORDINATE WORK WITH INSTALLATION OF "NOT IN CONTRACT" (NIC) ITEMS. COORDINATE ARCHITECTURAL DETAILS WITH ALL OTHER DISCIPLINES BEFORE ORDERING OR INSTALLING ANY WORK

11. ANY SURFACES DAMAGED DURING CONSTRUCTION SHALL BE PATCHED AND REFINISHED OR REPLACED TO MATCH SIMILAR/SAME FINISHES EXISTING ON SITE

12. CONTRACTOR SHALL VERIFY THAT NO CONFLICTS EXIST BETWEEN THE LOCATION OF ANY NEW AND EXISTING MECHANICAL, TELEPHONE, ELECTRICAL, LIGHTING, PLUMBING, SPRINKLER EQUIPMENT (INCLUDING ALL PIPING, DUCTWORK AND CONDUIT); AND ENSURE THAT ALL REQUIRED CLEARANCES FOR INSTALLATION AND MAINTENANCE OF ABOVE EQUIPMENT ARE PROVIDED. ANY CONFLICT MUST BE RESOLVED IN WRITING BEFORE INSTALLATION OF WORK IN THE AREA OF CONFLICT. THE CONTRACTOR SHALL SUBMIT COORDINATION DRAWINGS PRIOR TO STARTING OF THE WORK

13. SHOP DRAWINGS FOR ALL MILLWORK AND CASEWORK TO BE SUBMITTED TO AND REVIEWED BY THE ARCHITECT PRIOR TO FABRICATION

14. PROVIDE STRUCTURAL BACKING FOR ALL NEW CABINETS, GRAB BARS, TOILET ROOM, EQUIPMENT, SHELVES, HARDWARE, LIGHTING FIXTURES, SERVER CABINETS/RACKS FLAT SCREEN VIDEO MONITORS AND OTHER BUILDING ELEMENTS REQUIRING SECURE ANCHORAGE. SEE TYPICAL STRUCTURAL LIGHT-GAUGE METAL FRAMING DETAILS ON STRUCTURAL DRAWINGS WITHIN EACH INDIVIDUAL BUILDING DRAWING SET.

15. CONTRACTOR SHALL MAINTAIN STRICT CONTROL OF CLEANLINESS AND PREVENT DUST FROM LEAVING CONSTRUCTION AREAS. CONSTRUCTION WORK SHALL NOT PREVENT OWNER FROM USING THE PREMISES IN AREAS NOT AFFECTED BY THE NEW WORK. CONSTRUCTION VEHICLES AND EQUIPMENT SHALL BE DEPLOYED IN A MANNER WHICH CAUSES AS LITTLE DISRUPTION AS POSSIBLE

16. SEALANT, CAULKING AND FLASHING LOCATIONS SHOWN ON DRAWINGS ARE NOT INTENDED TO BE INCLUSIVE. FOLLOW MANUFACTURERS' INSTALLATION RECOMMENDATIONS AND STANDARD INDUSTRY PRACTICES

17. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION. PROVIDING TRENCHING, CONDUIT AND CONNECTIONS TO AND BETWEEN THE BUILDINGS FOR ALL UTILITIES AND CONFORMING WITH ALL UTILITY COMPANY AND GOVERNMENT AGENCY REQUIREMENTS AS REQUIRED BY THE CONTRACT DOCUMENTS

18. AT ALL TIMES THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR THE CONDITIONS OF THE JOB SITE INCLUDING SAFETY OF PERSONS AND PROPERTY, AND FOR ALL NECESSARY INDEPENDENT ENGINEERING REVIEWS OF THESE CONDITIONS. THE ARCHITECT'S OR ENGINEER'S JOB SITE VISITS ARE NOT INTENDED TO INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES

19. THE DESIGN ADEQUACY AND SAFETY OF THE ERECTION BRACING, SHORING AND TEMPORARY SUPPORTS IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR, OBSERVATION VISITS TO THE JOB SITE BY PERSONNEL FROM THE ARCHITECT SHALL NOT INCLUDE INSPECTION OF APPROVAL OF THE ABOVE ITEMS

20. THESE PLANS ARE THE PROPERTY OF ROSSDRULISCUSENBERY ARCHITECTURE, INC. (RDC) AND ARE NOT TO BE USED IN WHOLE OR IN PART FOR ANY WORK OTHER THAN THE LOCATIONS SHOWN HEREIN

21. BUILDING INSPECTOR NOTE: ACCEPT NO INK OR PENCIL CORRECTIONS TO THESE DRAWINGS. ALL CHANGES SHALL BE MADE TO THE ORIGINALS BY ROSSDRULISCUSENBERY ARCHITECTURE, INC. (RDC). RDC SHALL BE HELD HARMLESS FOR ALL CHANGES NOT IN ACCORD WITH THIS REQUIREMENT. ALL USERS OF THESE DRAWINGS AGREE BY USING SAID DRAWINGS TO HOLD RDC HARMLESS FOR ANY AND ALL WORK THAT DOES NOT CONFORM TO REQUIREMENTS AND MINIMUM STANDARDS OF THE UNIFORM BUILDING CODE IN FORCE, APPLICABLE LOCAL ORDINANCE AND ACCEPTED STANDARDS OF GOOD CRAFTMANSHIP

22. HAZARDOUS MATERIALS DISCOVERY, TESTING AND ABATEMENT: ARCHITECT ASSUMES NO RESPONSIBILITY OR LIABILITY FOR THE DISCOVERY, TESTING OR ABATEMENT OF HAZARDOUS MATERIALS. OWNER SHALL BE RESPONSIBLE FOR THE DISCOVERY, TESTING AND ABATEMENT OF ANY HAZARDOUS MATERIALS SHOULD THEY OCCUR IN THE WORK AREA, PRIOR TO COMMENCEMENT OF WORK.

23. ALL PRODUCTS AND MATERIALS SHALL BE INSTALLED IN ACCORDANCE WITH INDUSTRY AND CODE STANDARDS AND MANUFACTURING RECOMMENDATIONS.

24. ALL WORK SHALL CONFORM TO THE 2016 EDITION OF TITLE 24, CALIFORNIA CODE OF REGULATIONS.

25. A DSA-CERTIFIED PROJECT INSPECTOR EMPLOYED BY THE DISTRICT (OWNER) IS REQUIRED FOR THIS PROJECT. THE DUTIES OF THE INSPECTOR ARE DEFINED IN SECTION 4-342, PART 1, TITLE 24, CCR. THE SCOPE OF THE PROJECT REQUIRES A CLASS 1 INSPECTOR.

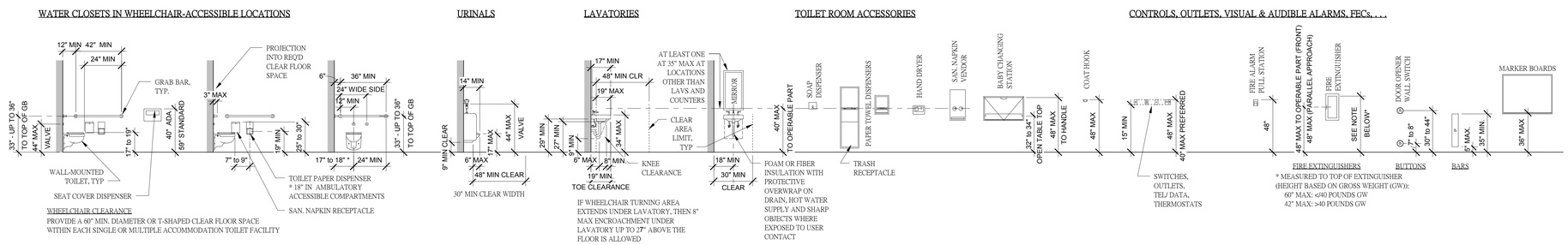
26. A DSA ACCEPTED TESTING LABORATORY EMPLOYED BY THE DISTRICT (OWNER) SHALL CONDUCT THE REQUIRED TESTS AND SPECIAL INSPECTIONS FOR THE PROJECT.

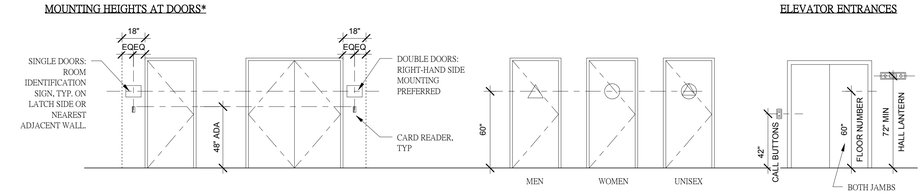
27. CHANGES TO THE APPROVED DRAWINGS AND SPECIFICATIONS SHALL BE MADE BY ADDENDA OR CONSTRUCTION CHANGE DOCUMENT (CCD) APPROVED BY DSA. AS REQUIRED BY SECTION 4-338, PART 1, TITLE 24, CCR.

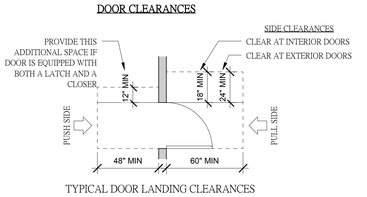
28. THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS IS THAT THE WORK OF THE ALTERATION, REHABILITATION, OR RECONSTRUCTION IS TO BE IN ACCORDANCE WITH TITLE 24, CCR. SHOULD ANY EXISTING CONDITIONS SUCH AS DETERIORATION OR NON-COMPLYING CONSTRUCTION BE DISCOVERED WHICH IS NOT COVERED BY THE CONTRACT DOCUMENTS WHEREIN THE FINISHED WORK WILL NOT COMPLY WITH TITLE 24, CCR, A CONSTRUCTION CHANGE DOCUMENT (CCD), OR A SEPARATE SET OF PLANS AND SPECIFICATIONS, DETAILING AND SPECIFYING THE REQUIRED WORK SHALL BE SUBMITTED TO AND APPROVED BY DSA BEFORE PROCEEDING WITH THE WORK. (SECTION 4-317(c), PART 1, TITLE 24, CCR)

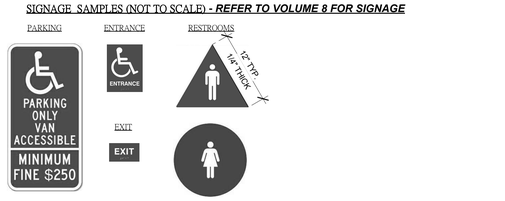
MOUNTING HEIGHTS AND CLEARANCES

NOTES: 1. DIMENSIONS FROM FLOOR ARE MEASURED FROM FLOOR FINISH









APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY:	
KATHY GARCIA	ALEX AMERI
DEP. DIR. PUBLIC WORKS	DIR. OF PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3 - INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
3/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

ABBREVIATIONS, SYMBOLS, GENERAL NOTES, AND ACCESSIBLE MOUNTING HEIGHTS AND CLEARANCES

Drawn By: EW Checked By: EW

Scale: **1/4" = 1'-0"**

Date: **October 4, 2019**

Project No. 2016039

G-A0.04
Drawing No.

If this drawing is not 30" x 42", it is a reduced print - scale accordingly. All rights reserved. Material may not be reproduced in any form without permission from RossDrulisCusenbery Architecture, Inc.

GENERAL REQUIREMENTS

1. THE CONTRACTOR SHALL VISIT THE SITE AND BE FULLY COGNIZANT OF ALL FIELD CONDITIONS PRIOR TO SUBMITTING BID. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND SITE CONDITIONS BEFORE SUBMITTING BID AND STARTING WORK. ANY CONFLICT OR DISCREPANCY BETWEEN THE DRAWINGS AND ACTUAL CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT IN WRITING, BEFORE PROCEEDING WITH ANY WORK OR PRESENTATION OF BID. ONLY WRITTEN DIMENSIONS ON THE DRAWINGS SHALL BE USED. DO NOT SCALE THE DRAWINGS

2. ALL WORK SHALL CONFORM TO ALL GOVERNING CODES, AMENDMENTS, RULES, REGULATIONS, ORDINANCES, LAWS, ORDERS, APPROVALS, ETC., THAT ARE REQUIRED BY PUBLIC AUTHORITIES WITH JURISDICTION OVER THIS PROJECT. IN THE EVENT OF CONFLICT, THE MOST STRINGENT REQUIREMENT SHALL APPLY

3. THE CONTRACT DOCUMENTS INCLUDE THE DRAWINGS, ALL SEPARATE DOCUMENTS LISTED ON SHEET A0.01 , THE GENERAL CONDITIONS, SPECIAL CONDITIONS AND ALL ADDENDA ISSUED BY THE ARCHITECT.

4. THE CONTRACTOR SHALL VERIFY DIMENSIONS AND COORDINATE WORK WITH INSTALLATION OF "NOT IN CONTRACT" (NIC) ITEMS, COORDINATE DESIGN DETAILS WITH ALL OTHER DISCIPLINES BEFORE ORDERING OR INSTALLING ANY WORK.

5. THE CONTRACTOR SHALL PATCH AND REFINISH ANY SURFACES DAMAGED DURING CONSTRUCTION OR REPLACED TO MATCH SIMILAR/SAME FINISHES EXISTING ON SITE.

6. CONTRACTOR SHALL VERIFY THAT NO CONFLICTS EXIST BETWEEN THE LOCATION OF ANY NEW AND EXISTING MECHANICAL, TELEPHONE, ELECTRICAL, LIGHTING, PLUMBING, SPRINKLER EQUIPMENT (INCLUDING ALL PIPING, DUCTWORK AND CONDUIT); AND ENSURE THAT ALL REQUIRED CLEARANCES FOR INSTALLATION AND MAINTENANCE OF ABOVE EQUIPMENT ARE PROVIDED. ANY CONFLICT MUST BE RESOLVED IN WRITING BEFORE INSTALLATION OF WORK IN THE AREA OF CONFLICT. THE CONTRACTOR SHALL SUBMIT COORDINATION DRAWINGS PRIOR TO STARTING OF THE WORK

7. SHOP DRAWINGS FOR ALL MILLWORK AND CASEWORK TO BE SUBMITTED TO AND REVIEWED BY THE ARCHITECT PRIOR TO FABRICATION

8. PROVIDE STRUCTURAL BACKING FOR ALL NEW CABINETS, GRAB BARS, TOILET ROOM, EQUIPMENT, SHELVES, HARDWARE, LIGHTING FIXTURES, SERVER CABINETS/RACKS FLAT SCREEN VIDEO MONITORS AND OTHER BUILDING ELEMENTS REQUIRING SECURE ANCHORAGE. SEE TYPICAL STRUCTURAL LIGHT-GAUGE METAL FRAMING DETAILS ON STRUCTURAL DRAWINGS WITHIN EACH INDIVIDUAL BUILDING DRAWING SET.

9. THE CONTRACTOR SHALL MAINTAIN STRICT CONTROL OF CLEANLINESS AND PREVENT DUST FROM LEAVING CONSTRUCTION AREAS . CONSTRUCTION WORK SHALL NOT PREVENT THE OWNER FROM USING THE PREMISES IN AREAS NOT AFFECTED BY THE NEW WORK. CONSTRUCTION VEHICLES AND EQUIPMENT SHALL BE DEPLOYED IN A MANNER WHICH CAUSES AS LITTLE DISRUPTION AS POSSIBLE

10. SEALANT, CAULKING AND FLASHING LOCATIONS SHOWN ON DRAWINGS ARE NOT INTENDED TO BE INCLUSIVE. FOLLOW MANUFACTURERS' INSTALLATION RECOMMENDATIONS AND STANDARD INDUSTRY PRACTICES

11. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION, PROVIDING TRENCHING, CONDUIT AND CONNECTIONS TO AND BETWEEN THE BUILDINGS FOR ALL UTILITIES AND CONFORMING WITH ALL UTILITY COMPANY AND GOVERNMENT AGENCY REQUIREMENTS AS REQUIRED BY THE CONTRACT DOCUMENTS

12. AT ALL TIMES THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR THE CONDITIONS OF THE JOB SITE INCLUDING SAFETY OF PERSONS AND PROPERTY, AND FOR ALL NECESSARY INDEPENDENT ENGINEERING REVIEWS OF THESE CONDITIONS. THE ARCHITECT'S OR ENGINEER'S JOB SITE VISITS ARE NOT INTENDED TO INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES

13. THE DESIGN ADEQUACY AND SAFETY OF THE ERECTION BRACING, SHORING AND TEMPORARY SUPPORTS IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR, OBSERVATION VISITS TO THE JOB SITE BY PERSONNEL FROM THE ARCHITECT SHALL NOT INCLUDE INSPECTION OF APPROVAL OF THE ABOVE ITEMS

14. THESE PLANS ARE THE PROPERTY OF ROSSDRULISCUSENBERY ARCHITECTURE, INC. (RDC) AND ARE NOT TO BE USED IN WHOLE OR IN PART FOR ANY WORK OTHER THAN THE LOCATIONS SHOWN HEREIN

15. BUILDING INSPECTOR NOTE: ACCEPT NO INK OR PENCIL CORRECTIONS TO THESE DRAWINGS. ALL CHANGES SHALL BE MADE TO THE ORIGINALS BY ROSSDRULISCUSENBERY ARCHITECTURE, INC. (RDC). RDC SHALL BE HELD HARMLESS FOR ALL CHANGES NOT IN ACCORD WITH THIS REQUIREMENT. ALL USERS OF THESE DRAWINGS AGREE BY USING SAID DRAWINGS TO HOLD RDC HARMLESS FOR ANY AND ALL WORK THAT DOES NOT CONFORM TO REQUIREMENTS AND MINIMUM STANDARDS OF THE UNIFORM BUILDING CODE IN FORCE, APPLICABLE LOCAL ORDINANCE AND ACCEPTED STANDARDS OF GOOD CRAFTSMANSHIP

16. HAZARDOUS MATERIALS DISCOVERY, TESTING AND ABATEMENT: ARCHITECT ASSUMES NO RESPONSIBILITY OR LIABILITY FOR THE DISCOVERY, TESTING OR ABATEMENT OF HAZARDOUS MATERIALS. THE OWNER SHALL BE RESPONSIBLE FOR THE DISCOVERY, TESTING AND ABATEMENT OF ANY HAZARDOUS MATERIALS SHOULD THEY OCCUR IN THE WORK AREA, PRIOR TO COMMENCEMENT OF WORK.

17. ALL PRODUCTS AND MATERIALS SHALL BE INSTALLED IN ACCORDANCE WITH INDUSTRY AND CODE STANDARDS AND MANUFACTURER'S RECOMMENDATIONS, GUIDELINES AND REQUIREMENTS.

18. THE CONTRACTOR SHALL MEET ALL REQUIRED 2016 CALGREEN BUILDING STANDARDS CODE REQUIREMENTS AS MARKED IN THE CALGREEN CHECKLIST DOCUMENT ATTACHED TO THE PERMIT DOCUMENTS

19. THE CONTRACTOR IS TO PROVIDE AN OPERATIONS, MAINTENANCE AND WARRANTY MANUAL FOR ALL BUILDING SYSTEMS TO THE OWNER UPON COMPLETION OF THE WORK.

20. ALL BUILDING MATERIALS MUST MEET THE VOC LIMITS AS OUTLINED IN THE 2016 CALIFORNIA GREEN BUILDING STANDARDS CODE.

21. THE CONTRACTOR IS TO RECEIVE APPROVAL FROM THE ARCHITECT FOR ANY PROPOSED SUBSTITUTIONS PRIOR TO PURCHASE, FABRICATION OR INSTALLATION.

22. THE CONTRACTOR IS TO PROVIDE FULL SCALE ROOM LAYOUTS FOR APPROVAL BY OWNER PRIOR TO CONSTRUCTION OF NEW PARTITIONS.

23. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING, SCHEDULING AND PAYING FOR ALL PERMITS, FEES, INSPECTIONS, AND APPROVALS.

24. SUPERVISION AND CONSTRUCTION PROCEDURES: THE CONTRACTOR SHALL SCHEDULE AND COORDINATE ALL SUBCONTRACTORS AND SUPERVISE AND DIRECT THE WORK USING THE CONTRACTOR'S BEST SKILL AND ATTENTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR AND HAVE CONTROL OVER, CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.

25. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ACTS AND OMISSIONS OF THE CONTRACTOR'S EMPLOYEES, SUBCONTRACTORS AND THEIR AGENTS AND EMPLOYEES, AND OTHER PERSONS OR ENTITIES PERFORMING PORTIONS OF THE WORK FOR OR ON BEHALF OF THE CONTRACTOR OR ANY OF ITS SUBCONTRACTORS.

26. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSPECTION OF WORK ALREADY PERFORMED TO DETERMINE THAT SUCH WORK IS IN PROPER CONDITION TO RECEIVE SUBSEQUENT WORK.

27. WARRANTY: THE CONTRACTOR WARRANTS TO THE OWNER AND ARCHITECT THAT MATERIALS AND EQUIPMENT FURNISHED UNDER THE CONTRACT WILL BE OF GOOD QUALITY AND NEW UNLESS THE CONTRACT DOCUMENTS REQUIRE OR PERMIT OTHERWISE. THE CONTRACTOR FURTHER WARRANTS THAT THE WORK WILL CONFORM TO THE REQUIREMENTS OF THE CONTRACT DOCUMENTS AND WILL BE FREE FROM DEFECTS. WORK, MATERIAL OR EQUIPMENT NOT CONFORMING TO THESE REQUIREMENTS MAY BE CONSIDERED DEFECTIVE. THE CONTRACTOR'S WARRANTY EXCLUDES REMEDY FOR DAMAGE OR DEFECT CAUSED BY ABUSE, ALTERATIONS TO THE WORK NOT EXECUTED BY THE CONTRACTOR, IMPROPER OR INSUFFICIENT MAINTENANCE, IMPROPER OPERATION, OR NORMAL WEAR AND TEAR AND NORMAL USAGE. THE CONTRACTOR SHALL FURNISH SATISFACTORY EVIDENCE AS TO THE KIND AND QUALITY OF MATERIALS AND EQUIPMENT.

33. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PREVENTING THE DISCHARGE OF POLLUTANTS OR WASTE FROM THE PROJECT SITE DURING AND AFTER CONSTRUCTION. THE CONTRACTOR SHALL EMPLOY BEST MANAGEMENT PRACTICES (BMP) FOR EFFECTIVENESS: SILT FENCING, STRAW WATTLES, EROSION BLANKETS, CHECK DAMS, RIP RAP CONSTRUCTION, CONSTRUCTION ENTRANCES TO CONTROL SOIL DISCHARGE, PRIMARY AND SECONDARY CONTAINMENT OF FOR PETROLEUM PRODUCTS, PAINTS, LIME AND OTHER MATERIALS OF CONCERN AND PERMANENT MEASURES SUCH AS INFILTRATION GALLERIES, RAIN GARDENS, AND STORM WATER TREATMENT SYSTEMS THAT ADDRESS POST CONSTRUCTION STORM WATER RUNOFF. THE CONTRACT DOES NOT DICTATE ONE BMP OVER ANOTHER, HOWEVER THE CONTRACTOR MUST PROVIDE AN EFFECTIVE COMBINATION OF BPM'S TO MEET THE INTENT OF PREVENTING OR MINIMIZING THE DISCHARGE OF POLLUTANTS FROM THE SITE.

34. THE ARCHITECT AND THE ARCHITECT'S CONSULTANTS SHALL BE DEEMED THE AUTHORS AND OWNERS OF THEIR RESPECTIVE INSTRUMENTS OF SERVICE, INCLUDING THE DRAWINGS AND SPECIFICATIONS, AND WILL RETAIN ALL COMMON LAW, STATUTORY AND OTHER RESERVED RIGHTS, INCLUDING COPYRIGHTS. THE CONTRACTOR, SUBCONTRACTORS, SUB-SUBCONTRACTORS, AND MATERIAL OR EQUIPMENT SUPPLIERS SHALL NOT OWN OR CLAIM A COPYRIGHT IN THE INSTRUMENTS OF SERVICE. SUBMITTTAL OR DISTRIBUTION TO MEET OFFICIAL REGULATORY REQUIREMENTS OR FOR OTHER PURPOSES IN CONNECTION WITH THIS PROJECT IS NOT TO BE CONSTRUED AS PUBLICATION IN DEROGATION OF THE ARCHITECT'S OR ARCHITECT'S CONSULTANTS' RESERVED RIGHTS.

35. THE CONTRACTOR, SUBCONTRACTORS, SUB-SUBCONTRACTORS AND MATERIAL OR EQUIPMENT SUPPLIERS ARE AUTHORIZED TO USE AND REPRODUCE THE INSTRUMENTS OF SERVICE PROVIDED TO THEM SOLELY AND EXCLUSIVELY FOR THE EXECUTION OF THE WORK. ALL COPIES MADE UNDER THIS AUTHORIZATION SHALL BEAR THE COPYRIGHT NOTICE, IF ANY, SHOWN ON THE INSTRUMENTS OF SERVICE. THE CONTRACTOR, SUBCONTRACTOR, SUB-SUBCONTRACTORS, AND MATERIAL OR EQUIPMENT SUPPLIERS MAY NOT USE THE INSTRUMENTS OF SERVICE ON OTHER PROJECTS OR FOR THE ADDITIONS TO THIS PROJECT OUTSIDE THE SCOPE OF THE WORK WITHOUT THE SPECIFIC WRITTEN CONSENT OF THE OWNER, ARCHITECT AND THE ARCHITECT'S CONSULTANTS.

36. THE CONTRACTOR SHALL COMPLY WITH AND GIVE NOTICES REQUIRED BY APPLICABLE LAWS, STATUTES, ORDINANCES, CODES, RULES AND REGULATIONS, AND LAWFUL ORDERS OF PUBLIC AUTHORITIES APPLICABLE TO PERFORMANCE OF THE WORK. IF THE CONTRACTOR PERFORMS WORK KNOWING IT TO BE CONTRARY TO APPLICABLE LAWS, STATUTES, ORDINANCES, CODES, RULES AND REGULATIONS, OR LAWFUL ORDERS OF PUBLIC AUTHORITIES, THE CONTRACTOR SHALL ASSUME APPROPRIATE RESPONSIBILITY FOR SUCH WORK AND SHALL BEAR THE COSTS ATTRIBUTABLE TO CORRECTION.

37. IF THE CONTRACTOR ENCOUNTERS CONDITIONS AT THE SITE THAT ARE (1) SUBSURFACE OR OTHERWISE CONCEALED PHYSICAL CONDITIONS THAT DIFFER MATERIALLY FROM THOSE INDICATED IN THE CONTRACT DOCUMENTS OR (2) UNKNOWN PHYSICAL CONDITIONS OF AN UNUSUAL NATURE, THAT DIFFER MATERIALLY FROM THOSE ORDINARILY FOUND TO EXIST AND GENERALLY RECOGNIZED AS INHERENT IN CONSTRUCTION ACTIVITIES OF THE CHARACTER PROVIDED FOR IN THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL PROMPTLY PROVIDE NOTICE TO THE OWNER AND THE ARCHITECT.

38. THE CONTRACTOR SHALL MAINTAIN AT THE SITE FOR THE OWNER ONE COPY OF THE DRAWINGS, SPECIFICATIONS, ADDENDA, CHANGE ORDERS AND OTHER MODIFICATIONS, IN GOOD ORDER AND MARKED CURRENTLY TO INDICATE FIELD CHANGES AND SELECTIONS MADE DURING CONSTRUCTION, AND ONE COPY OF APPROVED SHOP DRAWINGS, PRODUCT DATA, SAMPLES AND SIMILAR REQUIRED SUBMITTALS. THESE SHALL BE AVAILABLE TO THE ARCHITECT AND SHALL BE DELIVERED TO THE ARCHITECT FOR SUBMITTAL TO THE OWNER UPON COMPLETION OF THE WORK AS A RECORD OF THE WORK CONSTRUCTED.

39. THE CONTRACTOR SHALL CONFINE OPERATIONS AT THE SITE TO AREAS PERMITTED BY APPLICABLE LAWS, STATUTES. ORDINANCES, CODES, RULES AND REGULATIONS, AND LAWFUL ORDERS OF PUBLIC AUTHORITIES AND THE CONTRACT DOCUMENTS AND SHALL NOT UNREASONABLY ENCUMBER THE SITE WITH MATERIALS OR EQUIPMENT.

40. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CUTTING, FITTING OR PATCHING REQUIRED TO COMPLETE THE WORK OR TO MAKE ITS PARTS FIT TOGETHER PROPERLY. ALL AREAS REQUIRING CUTTING, FITTING AND PATCHING SHALL BE RESTORED TO THE CONDITION EXISTING PROIR TO THE CUTTING, FITTING AND PATCHING, UNLESS OTHERWIES REQUIRED BY THE CONTRACT DOCUMENTS.

41. THE CONTRACTOR SHALL NOT DAMAGE OR ENDANGER A PORTION OF THE WORK OR FULLY OR PARTIALLY COMPLETED CONSTRUCTION OF THE OWNER OR SEPARATE CONTRACTORS BY CUTTING, PATCHING OR OTHERWISE ALTERING SUCH CONSTRUCTION, OR BY EXCAVATION. THE CONTRACTOR SHALL NOT CUT OR OTHERWISE ALTER SUCH CONSTRUCTION BY THE OWNER OR A SEPARATE CONTRACTOR EXCEPT WITH WRITTEN CONSENT OF THE OWNER AND OF SUCH SEPARATE CONTRACTOR; SUCH CONSENT SHALL NOT BE UNREASONABLY WITHELD. THE CONTRACTOR SHALL NOT UNREASONABLY WITHOLD FROM THE OWNER OR A SEPARATE CONTRACTOR THE CONTRACTOR'S CONSENT TO CUTTING OR OTHERWISE ALTERING THE WORK.

42. THE CONTRACTOR SHALL KEEP THE PREMISES AND SURROUNDING AREA FREE FROM ACCUMULATION OF WASTE MATERIALS OR RUBBISH CAUSED BY OPERATIONS UNDER THE CONTRACT. AT COMPLETION OF THE WORK, THE CONTRACTOR SHALL REMOVE WASTE MATERILAS, RUBBISH, THE CONTRACTOR'S TOOLS, CONSTRUCTION EQUIPMENT, MACHINERY AND SURPLUS MATERIALS FROM AND ABOUT THE PROJECT.

43. CORRELATION AND INTENT OF THE CONTRACT DOCUMENTS:
THE INTENT OF THE CONTRACT DOCUMENTS IS TO INCLUDE ALL ITEMS NECESSARY FOR THE PROPER EXECUTION AND COMPLETION OF THE WORK BY THE CONTRACTOR. THE CONTRACT DOCUMENTS ARE COMPLEMENTARY, AND WHAT IS REQUIRED BY ONE SHALL BE AS BINDING AS IF REQUIRED BY ALL; PERFORMANCE BY THE CONTRACTOR SHALL BE REQUIRED ONLY TO THE EXTENT CONSISTENT WITH THE CONTRACT DOCUMENTS AND RESONABLY INFERABLE FROM THEM AS BEING NECESSARY TO PRODUCE THE INDICATED RESULTS.

44. ORGANIZATION OF THE SPECIFICATIONS INTO DIVISIONS, SECTIONS AND ARTICLES, AND ARRANGEMENT OF DRAWINGS SHALL NOT CONTROL THE CONTRACTOR IN DIVIDING THE WORK AMONG SUBCONTRACTORS OR IN ESTABLISHING THE EXTENT OF WORK TO BE PERFORMED BY ANY TRADE.

45. UNLESS OTHERWISE STATED IN THE CONTRACT DOCUMENTS, WORDS THAT HAVE WELL-KNOWN TECHNICAL OR CONSTRUCTION INDUSTRY MEANINGS ARE USED IN THE CONTRACT DOCUMENTS IN ACCORDANCE WITH SUCH RECOGNIZED MEANINGS.

46. PLANS AND SPECIFICATIONS (WHEN SPECIFICATIONS ARE INCLUDED IN THE CONTRACT DOCUMENTS):
IT IS THE INTENT OF THE PLANS AND SPECIFICATIONS TO DESCRIBE A FUNCTIONAL COMPLETE PROJECT (OR PART THEREOF) TO BE CONSTRUCTED IN ACCORDANCE WITH CONTRACT DOCUMENTS. FOR CONVENIENCE, THE SPECIFICATIONS ARE ARRANGED IN SEVERAL SECTIONS BUT SUCH SEPARATION SHALL NOT BE CONSIDERED AS THE LIMITS OF THE WORK REQUIRED BY ANY SEPARATE TRADE. THE TERMS AND CONDITIONS OF SUCH LIMITATIONS ARE WHOLLY BETWEEN THE CONTRACTOR AND HIS SUBCONTRACTORS. IN GENERAL, THE SPECIAL PROVISIONS, GENERAL PROVISIONS, AND OTHER SECTIONS OF THE SPECIFICATIONS INDICATE THE RESPONSIBILITIES OF THE CONTRACTOR AND THE QUALITY OF MATERIAL AND METHODS OF WORKMANSHIP. THE PLANS INDICATE DIMENSIONS, QUANTITIES, POSITIONS AND VARIOUS OTHER DETAILS OF CONSTRUCTION.

47. REFERENCES TO STANDARDS AND CODES:
REFERNECES TO STANDARD SPECIFICATIONS (WHEN INCLUDED IN THE CONTRACT DOCUMENTS) MANUALS OR CODES OF AND TECHNICAL SOCIETY, ORGANIZATION OR ASSOCIATION, OR TO THE LAWS OR REGULATIONS OF ANY GOVERNMENTAL AUTHORITY, WHETHER SUCH REFERENCES BE SPECIFIC OR BY IMPLICATION, SHALL MEAN THE LATEST STANDARD SPECIFICATION, MANUAL, CODE OR LAWS OR REGULATIONS IN EFFECT AT THE TIME OF THE OPENING BIDS (OR, ON THE EFFECTIVE DATE OF THE AGREEMENT IF THERE WERE NO BIDS), EXCEPT AS MAY BE OTHERWISE SPECIFICALLY STATED. HOWEVER, NO PROVISIONS OF ANY REFERENCED STANDARD SPECIFICATIONS, MANUAL OR CODE (WHETHER OR NOT SPECIFICALLY INCORPORATED BY REFERENCE INTO THE CONTRACT DOCUMENTS) SHALL BE EFFECTIVE TO CHANGE THE DUTIES AND RESPONSIBILITIES OF CITY, CONTRACTOR OR ENGINEER, OR ANY OF THEIR CONSULTANTS, AGENTS OR EMPLOYEES, FROM THOSE SET FORTH IN THE CONTRACT DOCUMENT, NOR SHALL IT BE EFFECTIVE TO ASSIGN TO THE ENGINEER, OR ANY OF THE ENGINEER'S CONSULTANTS, AGENTS OR EMPLOYEES, ANY DUTY OR AUTHORITY TO SUPERVISE OR DIRECT THE FURNISHING OR PERFORMANCE OF THE WORK OR ANY DUTY OR AUTHORITY TO UNDERTAKE RESPONSIBILITY FOR THE CONTRACTOR.

48. CONTRACT DOCUMENTS AND PRECEDENCE:
THE CONTRACT DOCUMENTS CONSIST OF THE DOCUMENTS LISTED BELOW, IN ORDER OF PRECEDENCE. IF THERE IS A CONFLICT BETWEEN COMPONENT PARTS OF THE CONTRACT DOCUMENTS, THE DOCUMENT HIGHEST IN PRECEDENCE CONTROLS.
A) CHANGE ORDERS, B) PROJECT DIRECTIVES, C) PERMITS ISSUED BY OTHER AGENCIES, D) PERMITS ISSUED BY CITY, E) AGREEMENT AND REQUIRED AGREEMENT FORMS- BID BOND, FAITHFUL PERFORMANCE AND LABOR AND MATERIAL BONDS, WARRANTY BONDS, INSURANCE ENDORSEMENTS, WORKERS COMPENSATION CERTIFICATION, F) PROJECT SPECIFICATIONS IN THE FOLLOWING ORDER- ADDENDA, BID PROPOSAL INCLUDING ALL BID PROPOSAL FORMS, NOTICE INVITING SEALED PROPODALS, SPECIAL PROVISIONS, TECHNICAL PROVISIONS, EXHIRITS TO THE PROPOSAL AND GENERAL PROVISIONS, G) PROJECT PLANS AND DRAWINGS, H) CITY STANDARD SOECIFICATIONS, I) CITY STANDARD PLANS, J) REFERENCE SPECIFICATIONS, IN THE FOLLOWING ORDER- STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION (CALTRANS)STATE STANDARD PLANS (2006 EDITION) STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION (2006 EDITION), K) REFERENCE PLANS, IN THE FOLLOWING ORDER - STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION (CALTRANS) STATE STANDARD PLANS (2006 EDITION) STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION(2006 EDITION)

49. ANYTHING SHOWN ON THE DRAWINGS AND NOT MENTIONED IN THE SPECIFICATIONS OR MENTIONED IN THE SPECIFICATIONS AND NOT SHOWN ON THE DRAWINGS SHALL HAVE THE SAME EFFECT AS IF SHOWN IN BOTH. TECHNICAL SPECIFICATIONS TAKE PRIORITY PRIOTITY OVER GENERAL DRAWINGS. ANY WORK SHOWN ON ONE DRAWING SHALL BE CONSTRUED TO BE SHOWN IN ALL DRAWINGS AND THE CONTRACTOR WILL COORDINATE THE WORK AND THE DRAWINGS.

APPLICABLE CODES

PARTIAL LIST OF APPLICABLE CODES AS OF January 1, 2017*

2016 California Administrative Code (CAC), Part 1, Title 24 CCR*

2016 California Building Code (CBC), Part 2, Title 24 CCR
(2015 International Building Code, Vol. 1 & 2, and 2016 California amendments)

2016 California Electrical Code (CEC), Part 3, Title 24 CCR
(2014 National Electrical Code and 2016 California Amendments)

2016 California Mechanical Code (CMC), Part 4, Title 24 CCR
(2015 IAPMO Uniform Mechanical Code and 2016 California amendments)

2016 California Plumbing Code (CPC), Part 5, Title 24 CCR
(2015 IAPMO Uniform Plumbing Code and 2016 California amendments)

2016 California Energy Code (CEC), Part 6, Title 24 CCR

2016 California Fire Code (CFC), Part 9, Title 24 CCR
(2015 International Fire Code and 2016 California Amendments)

2016 California Existing Building Code (CEBC), Part 10, Title 24 CCR
(2015 International Existing Building Code and 2016 California Amendments)

2016 California Green Building Standards Code (CALGreen), Part 11, Title 24 CCR

2016 California Referenced Standards Code, Part 12, Title 24 CCR

Title 19 CCR, Public Safety, State Fire Marshal Regulations

2013 ASME A17.1/CSA B44-13 Safety Code for Elevators and Escalators

PARTIAL LIST OF APPLICABLE STANDARDS

NFPA 13 Standard for the Installation of Sprinkler Systems (CA amended)	2016 Edition
NFPA 14 Standard for the Installation of Standpipe and Hose Systems	2013 Edition
NFPA 17 Standard for Dry Chemical Extinguishing Systems	2013 Edition
NFPA 17AStandard for Wet Chemical Extinguishing Systems	2013 Edition
NFPA 20 Standard for the Installation of Stationary Pumps for Fire Protection	2016 Edition
NFPA 22 Standard for Water Tanks for Private Fire Protection	2013 Edition
NFPA 24 Standard for the Installation of Private Fire Service Mains and Their Appurtenances 2016 Edition	
NFPA 72 National Fire Alarm and Signaling Code (CA amended);	2016 Edition
NFPA 80 Standard for Fire Doors and Other Opening Protectives	2016 Edition
NFPA 2001 Standard on Clean Agent Fire Extinguishing Systems	2015 Edition
UL 300 Standard for Fire Testing of Fire Extinguishing Systems for Protection of Commercial Cooking Equipment	2005 (R2010)

OVERALL PROJECT SCOPE OF WORK

A. Abbreviated Written Summary: Briefly and without force and effect upon the Contract Documents, the Work of the Contract can be summarized as follows

1. Fire Station #6/Classroom Building (Building 1): Two stories, 20,643 SF including:
   a. Essential Facility building under DSA jurisdiction
   b. 2-company fire station with 3.5 Apparatus Bays
   c. Classrooms
   d. Backup Emergency Operations Center
   e. Administrative offices
   f. Vertical circulation, storage, restrooms, and utility support spaces
   g. Roof-mounted photovoltaic system including inverter(s) **DSA Increment #2**
   h. Fire sprinklers throughout
   i. Emergency power generator and automatic transfer switch
2. Apparatus Building (Building 2): Singe story, 8,268 SF including:
   a. Non-essential services building under DSA jurisdiction
   b. Steel frame construction
   c. Vehicle training/storage area in 4 Apparatus Bays. Apparatus parked in this area are retired and no longer in service.
   d. "Dirty" classroom
   e. Central Lobby with steel section from the World Trade Center Towers
   f. Turn out locker rooms, multi-accommodation restrooms with showers
   g. Workshop
   h. Utility support spaces
   i. Fire sprinklers throughout.
   j. Roof-mounted photovoltaic system including inverter(s) **DSA Increment #2**
3. Hangar Building (Building 3): Single story, 1,512 SF including:
   a. Non-essential services building under DSA jurisdiction
   b. Steel frame construction
   c. Open-sided roof shade structure with 1 Apparatus Bay
   d. Underground fire truck pump test pit
   e. Apparatus wash-down/maintenance bay with drain(s)
   f. Non-sprinklered building
   g. Roof-mounted photovoltaic system including inverter(s) **DSA Increment #2**
4. Storage Building (Building 4): Single story, 1,160 SF including:
   a. Non-essential services building
   b. CMU walls with steel roof framing
   c. Residential-style storage building for Class A combustible materials
   d. Non-sprinklered building
5. Burn Building (Building 5): Three stories, 4,732 SF including:
   a. Non-essential services building
   b. CMU walls with concrete floor/roof systems
   c. Residential-style Class A burn building
   d. Multi-family space configuration with walk-out basement & accessible attic
   e. Roof-top training space with "cut-able" roof area
   f. Water drainage from each floor level
   g. Walls & floors to be lined with fire liner and fire brick at training scenario locations
   h. Non-sprinklered building
6. Covered Break Area (Building 6): Single story, 1,600 SF including:
   a. Non-essential services building under DSA jurisdiction.
   b. Concrete walls with steel roof framing
   c. Open-sided (3 sides) Covered Break Area.
   d. Single-occupancy restrooms
   e. Storage
   f. Non-sprinklered building
   g. Roof-mounted photovoltaic system including inverter(s) **DSA Increment #2**
7. USAR/BART Training Structure (Building 7): Three stories, 13,715 SF including:
   a. Non-essential services building
   b. Concrete columns, beams, and floor systems with CMU in-fill walls
   c. Confined space, shoring, breaching, and bracing training structure
   d. Elevated passenger platform with 3-sided glass enclosure and bench
   e. Elevated light-rail track with functional safety training components (BART train to be Owner-supplied)
   f. Non-sprinklered building
8. Training Tower (Building 8): Four stories, 11,513 SF including:
   a. Non-essential services building
   b. Concrete and CMU walls with concrete floor/roof systems
   c. Mixed use-style Class B burn building
   d. Open multi-tenant commercial training space
   e. Multi-family residential space configuration with enclosed garage and covered carport
   f. Double-sided central corridor accessing multiple training spaces with moveable partitions
   g. Roof-top training space with "cut-able" roof area
   h. Multi-story stair towers, exterior stairs, covered balconies, open balconies, and exterior rappelling platform
   i. Walls & ceilings to be lined with fire liner and fire brick at training scenario locations
   j. Water drainage from each floor level
   k. Specialized emergency exhaust system
   l. Server/data rooms with interconnected training control system
   m. LPG piped throughout building to training scenario locations
   n. Non-sprinklered building
9. Entry Canopy (Building 9): Single story, 1,333 SF including:
   a. Non-essential services building
   b. Steel frame construction
   c. Open-sided roof shade structure over entry gate
   d. Non-sprinklered building
   e. Roof-mounted photovoltaic system including inverter(s)

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, DIR. OF PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3 - INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
8/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

GENERAL REQUIREMENTS

Drawn By: EW Checked By: EW

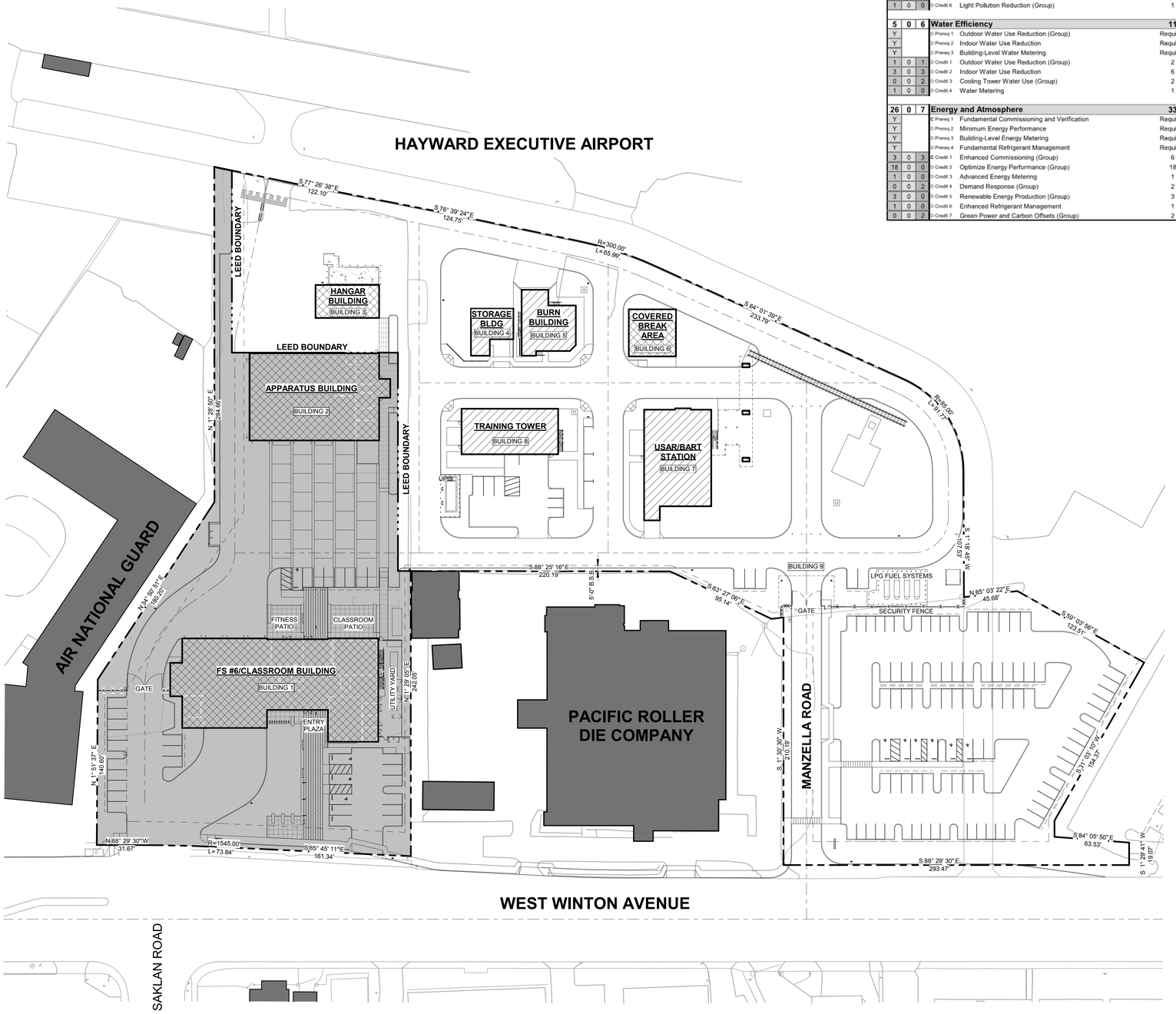
Scale: **1/4" = 1'-0"**

Date: **October 4, 2019**

Project No. 2016039

G-A0.05
Drawing No.

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1 CAMPUS SUSTAINABILITY SITE PLAN
1" = 40'-0"

LEED v4 for BD+C: New Construction and Major Renovation
Project Checklist

Project Name: Hayward Fire Training Center
Date: 07/16/19

Y	?	N			
1	0	0	D Credit	Integrative Process (Group)	1
4	2	10	**Location and Transportation**		16
0	0	16	D Credit 1	LEED for Neighborhood Development Location (Group)	16
1	0	0	D Credit 2	Sensitive Land Protection (Group)	1
0	2	0	D Credit 3	High Priority Site (Group)	2
2	0	3	D Credit 4	Surrounding Density and Diverse Uses (Group)	5
0	0	5	D Credit 5	Access to Quality Transit	5
0	0	1	D Credit 6	Bicycle Facilities (Group)	1
0	0	1	D Credit 7	Reduced Parking Footprint (Group)	1
1	0	0	D Credit 8	Green Vehicles (Group)	1
5	3	2	**Sustainable Sites**		10
Y			C Prereq 1	Construction Activity Pollution Prevention (Group)	Required
1	0	0	D Credit 1	Site Assessment (Group)	1
0	0	2	D Credit 2	Site Development - Protect or Restore Habitat (Group)	2
1	0	0	D Credit 3	Open Space (Group)	1
2	1	0	D Credit 4	Rainwater Management (Group)	3
0	2	0	C Credit 5	Heat Island Reduction (Group)	2
1	0	0	D Credit 6	Light Pollution Reduction (Group)	1
5	0	6	**Water Efficiency**		11
Y			D Prereq 1	Outdoor Water Use Reduction (Group)	Required
Y			D Prereq 2	Indoor Water Use Reduction	Required
Y			D Prereq 3	Building-Level Water Metering	Required
1	0	1	D Credit 1	Outdoor Water Use Reduction (Group)	2
3	0	3	D Credit 2	Indoor Water Use Reduction	6
0	0	2	D Credit 3	Cooling Tower Water Use (Group)	2
1	0	0	D Credit 4	Water Metering	1
26	0	7	**Energy and Atmosphere**		33
Y			C Prereq 1	Fundamental Commissioning and Verification	Required
Y			D Prereq 2	Minimum Energy Performance	Required
Y			D Prereq 3	Building-Level Energy Metering	Required
Y			D Prereq 4	Fundamental Refrigerant Management	Required
3	0	3	C Credit 1	Enhanced Commissioning (Group)	6
18	0	0	D Credit 2	Optimize Energy Performance (Group)	18
1	0	0	D Credit 3	Advanced Energy Metering	1
0	0	2	D Credit 4	Demand Response (Group)	2
3	0	0	D Credit 5	Renewable Energy Production (Group)	3
1	0	0	D Credit 6	Enhanced Refrigerant Management	1
0	0	2	D Credit 7	Green Power and Carbon Offsets (Group)	2

Y	?	N			
4	1	8	**Materials and Resources**		13
Y			D Prereq 1	Storage and Collection of Recyclables (Group)	Required
Y			C Prereq 2	Construction and Demolition Waste Management Planning (Group)	Required
0	0	5	D Credit 1	Building Life-Cycle Impact Reduction (Group)	5
1	0	1	C Credit 2	Building Product Disclosure and Optimization - Environmental Product Declarations (Group)	2
0	1	1	C Credit 3	Building Product Disclosure and Optimization - Sourcing of Raw Materials (Group)	2
1	0	1	C Credit 4	Building Product Disclosure and Optimization - Material Ingredients (Group)	2
2	0	0	C Credit 5	Construction and Demolition Waste Management (Group)	2
9	2	5	**Indoor Environmental Quality**		16
Y			D Prereq 1	Minimum Indoor Air Quality Performance	Required
Y			D Prereq 2	Environmental Tobacco Smoke Control (Group)	Required
2	0	0	D Credit 1	Enhanced Indoor Air Quality Strategies	2
3	0	0	D Credit 2	Low-Emitting Materials (Group)	3
1	0	0	C Credit 3	Construction Indoor Air Quality Management Plan (Group)	1
1	1	0	C Credit 4	Indoor Air Quality Assessment	2
0	0	1	D Credit 5	Thermal Comfort	1
1	0	1	D Credit 6	Interior Lighting (Group)	2
0	0	3	D Credit 7	Daylight	3
0	1	0	D Credit 8	Quality Views	1
1	0	0	D Credit 9	Acoustic Performance	1
6	0	0	**Innovation**		6
5	0	0	D Credit 1	Exem. Perf. EAc5; IEQc1; see Responsibility Matrix for other strategies	5
1	0	0	C Credit 2	LEED Accredited Professional	1
1	2	1	**Regional Priority**		4
0	1	0	D Credit 1	Regional Priority Credit: Rainwater Mgmt 3 points	1
1	0	0	D Credit 2	Regional Priority Credit: Optimize Energy Performance Required Point threshold 10 points	1
0	1	0	D Credit 3	Regional Priority Credit: MR 3, BPDO- Sourcing of Raw Materials Option 2	1
0	0	1	D Credit 4	Regional Priority Credit: Indoor Water Use Reduction 4 points	1
61	10	39	**TOTALS**	Possible Points:	110

Certified: 40 to 49 points, **Silver:** 50 to 59 points, **Gold:** 60 to 79 points, **Platinum:** 80 to 110

SITE PLAN LEGEND

- PROPERTY LINE (SEE CIVIL DRAWINGS FOR LIMITS OF WORK)
- OUTLINE OF EXISTING BUILDING, TO BE DEMOLISHED AND REMOVED
- PROJECT MATCH LINE
- LEED BOUNDARY LINE
- ZONING ORDINANCE BUILDING SETBACK LINE
- EXISTING BUILDING, TO REMAIN
- NEW BUILDING FOOTPRINT COLLEGE-OWNED BUILDING
- NEW BUILDING FOOTPRINT CITY-OWNED BUILDING
- FIRE ACCESS LANE, TYPICAL

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY
DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, DIR. OF PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3 - INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
9/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

SUSTAINABILITY SITE PLAN & LEED CHECKLIST

Drawn By: WSP
Checked By: EW

Scale:
As indicated

Date:
October 4, 2019

Project No. 2016039

G-A0.11
Drawing No.

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CalGreen Checklist – Non-Residential

HAYWARD
Development Services Department
777 B Street Hayward, CA 94541
510.583.4140

Created: 1-10-17
Revised:

Address: 1401 W. Winton Ave, Hayward CA 94545 **Permit Number:** _____

Check all measures that apply to your project in the "Required" column and indicate the page or sheet number of the plans in the "Plan Sheet Reference" to show compliance. Also, check mark in the "N/A" column for all measures that do not apply to your project. **These forms shall be incorporated into the set of plans in a similar fashion as an Energy Report.**

CHECKLIST

PLANNING AND DESIGN

Site Development

	Required	Plan Sheet Reference	N/A
5.106.1 Storm water pollution prevention. Newly constructed projects and additions which disturb less than one acre of land shall prevent the pollution of stormwater runoff from the construction activities through local ordinance in Section 5.106.1.1. or Best management practices (BMP) in Section 5.106.1.2.	X	0-C4.0	
5.106.4 Bicycle parking. For buildings within the authority of California Building Standards Commission as specified in Section 103, comply with Section 5.106.4.1. For buildings within the authority of the Division of the State Architect pursuant to Section 105, comply with Section 5.106.4.2. **5.106.4.1 Bicycle parking.** Comply with Sections 5.106.4.1.1 and 5.106.4.1.2; or meet the applicable local ordinance, whichever is stricter. **5.106.4.1.1 Short-term bicycle parking.** If the new project or addition or alteration is anticipated to generate visitor traffic, provide permanently anchored bicycle racks within 200 feet of the visitors' entrance, readily visible to passers-by, for 5 percent of new visitor motorized vehicle parking spaces being added, with a minimum of one two-bike capacity rack.	X	130 stalls = 7 short-term bike parking spaces 0-A1.10 0-A1.11	

Site Development - continued

	Required	Plan Sheet Reference	N/A
5.106.4.1.2 Long-term bicycle parking. For buildings with 10 or more tenant-occupants or for additions or alterations that add 10 or more tenant vehicular parking spaces, provide secure bicycle parking for 5 percent of tenant-occupied motorized vehicle parking spaces being added, with a minimum of one space. Acceptable parking facilities shall be convenient from the street and shall meet one of the following: **1.** Covered, lockable enclosures with permanently anchored racks for bicycles; **2.** Lockable, bicycle rooms with permanently anchored racks; or **3.** Lockable, permanently anchored bicycle lockers. ***Note:*** *Additional information on recommended bicycle accommodations may be obtained from Sacramento Area Bicycle Advocates.*	X	130 stalls = 7 long-term bike parking spaces in covered & lockable location 0-A1.10 0-A1.11	
5.106.5.2 Designated parking. In new projects or additions or alterations that add 10 or more vehicular parking spaces, provide designated parking for any combination of low-emitting, fuel-efficient and carpool/van pool vehicles as shown in Table 5.106.5.2. **5.106.5.2.1** Parking stall marking. In the paint used for stall striping, the following characters such that the lower edge of the last word aligns with the end of the stall striping and is visible beneath a parked vehicle: CLEAN AIR/ VANPOOL/EV ***Note:*** *Vehicles bearing Clean Air Vehicle stickers from expired HOV lane programs may be considered eligible for designated parking spaces.*	X	130 parking spaces = 11 fuel efficient parking spaces striped with language listed in 5.106.5.2.1 0-A1.10 0-A1.11	
5.106.5.3 Electric vehicle (EV) charging. [N] Construction shall comply with Section 5.106.5.3.1 or Section 5.106.5.3.2 to facilitate future installation of electric vehicle supply equipment (EVSE). • **5.106.5.3.1 Single charging space requirements. [N]** • **5.106.5.3.2 Multiple charging spaces requirements. [N]** • **5.106.5.3.3 EV charging space calculation. [N]** per Table 5.106.5.3.3 (approx. 6%) • **5.106.5.3.4 [N] Identification.** **5.106.5.3.5 [N]** EV spaces count as designated parking.	X	130 parking spaces = 7 EV future ready spaces 0-A1.10 0-A1.11	

Site Development - continued

	Required	Plan Sheet Reference	N/A
5.106.8 Light pollution reduction. [N] Outdoor lighting systems shall be designed and installed to comply with the following: 1. The minimum requirements in the *California Energy Code* for Lighting Zones 1-4 as defined in Chapter 10 of the *California Administrative Code*; and 2. Backlight, Uplight and Glare (BUG) ratings as defined in IESNA TM-15-11 3. Allowable BUG ratings not exceeding those shown in Table 5.106.8, or Comply with a local ordinance lawfully enacted pursuant to Section 101.7, whichever is more stringent. **Exceptions:** 1. Luminaries that qualify as exceptions in Section 140.7 of the *California Energy Code* 2. Emergency lighting 3. Building facade meeting the requirements in Table 140.7-B of the *California Energy Code*, Part 6, 4. Custom lighting features as allowed by the local enforcing agency, as permitted by Section 101.8 Alternate materials, designs and methods of construction ***Note:*** *See also California Building Code, Chapter 12, Section 1205.6 for college campus lighting requirements for parking facilities and walkways.*	X	0-E0.10	
5.106.10 Grading and paving. Construction plans shall indicate how site grading or a drainage system will manage all surface water flows to keep water from entering buildings. Examples of methods to manage surface water include those shown in Items 1-5. See exception for additions or alterations.	X	0-C4.0	

WATER EFFICIENCY AND CONSERVATION

Indoor Water Use

	Required	Plan Sheet Reference	N/A
5.303.1 Meters. Separate meters shall be installed for the uses described in Sections 5.303.1.1 and 5.303.1.2. **5.303.1.1 New buildings or additions in excess of 50,000 square feet.** Separate submeters shall be installed as follows: 1. For each individual leased, rented or other tenant space within the building projected to consume more than 100 gal/day, including, but not limited to, spaces used for laundry or cleaners, restaurant or food service, medical or dental office, laboratory, or beauty salon or barber shop.	X	0-C3.1	

Indoor Water Use - continued

	Required	Plan Sheet Reference	N/A
2. Where separate submeters for individual building tenants are unfeasible, for water supplied to the following subsystems: a. Makeup water for cooling towers where flow through is greater than 500 gpm (30 L/s) b. Makeup water for evaporative coolers greater than 6gpm (0.04 L/s) c. Steam and hot-water boilers with energy input more than 500,000 Btu/h (147 kW) **5.303.1.2 Excess consumption.** A separate submeter or metering device shall be provided for any tenant within a new building or an addition that is projected to consume more than 1,000 gal/day (3,800 L/day).			
5.303.3 Water conserving plumbing fixtures and fittings. Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with the following: **5.303.3.1 Water closets.** The effective flush volume of all water closets shall not exceed 1.28 gallons per flush. Tank-type water closets shall be certified to the performance criteria of the U.S. EPA WaterSense Specification for Tank-Type Toilets. **Note:** The effective flush volume for dual flush toilets is defined as the composite, average flush volume of two reduced flushes and one full flush.	X	Lav faucets </= 0.5 gpm; Kitchen faucets </= 1.8 gpm; metering faucet </= 0.20 gpm; metering faucet for wash fountain +/- 0.20 gpm	
5.303.3.2 Urinals. **5.303.3.2.1 Wall-mounted urinals.** The effective flush volume of wall-mounted urinals shall not exceed 0.125 gallons per flush. **5.303.3.2.2 Floor-mounted urinals.** The effective flush volume of floor-mounted urinals shall not exceed 0.5 gallons per flush.	X	Water Closets </= 1.28gpf; Urinals </= 0.5; single showerheads +/= 2.0; multiple showerheads +/= 2.0; wall-mounted urinals +/= 0.125 gpf; floor-mounted urinals +/= 0.5 gpf	
5.303.3.3 Showerheads. **5.303.3.3.1 Single showerhead.** Showerheads shall have a maximum flow rate of not more than 2.0 gallons per minute at 80 psi. Showerheads shall be certified to the performance criteria of the U.S. EPA WaterSense Specification for Showerheads. **5.303.3.3.2 Multiple showerheads serving one shower.** When a shower is served by more than one showerhead, the combined flow rate of all showerheads and/or other shower outlets controlled by a single valve shall not exceed 2.0 gallons per minute at 80 psi, or the shower shall be designed to allow only one shower outlet to be in operation at a time. ***Note:*** *A hand-held shower shall be considered a showerhead.*	X		

Indoor Water Use - continued

	Required	Plan Sheet Reference	N/A
5.303.3.4 Faucets and fountains **5.303.3.4.1 Nonresidential lavatory faucets.** Lavatory faucets shall have a maximum flow rate of not more than 0.5 gallons per minute at 60 psi.	X	</= 0.5 gpm	
5.303.3.4.2 Kitchen faucets. Kitchen faucets shall have a maximum flow rate of not more than 1.8 gallons per minute at 60 psi. Kitchen faucets may temporarily increase the flow above the maximum rate, but not to exceed 2.2 gallons per minute at 60 psi, and must default to a maximum flow rate of 1.8 gallons per minute at 60 psi.	X	</= 1.8 gpm	
5.303.3.4.3 Wash fountains. Wash fountains shall have a maximum flow rate of not more than 1.8 gallons per minute/20 [rim space (inches) at 60 psi].	X	</= 1.8 gpm	
5.303.3.4.4 Metering faucets. Metering faucets shall not deliver more than 0.20 gallons per cycle. **5.303.3.4.5 Metering faucets for wash fountains**. Metering faucets for wash fountains shall have a maximum flow rate of not more than 0.20 gallons per cycle/20 [rim space (inches) at 60 psi]. ***Note:*** *Where complying faucets are unavailable, aerators or other means may be used to achieve reduction.*	X	</= 0.20 gpc	
5.303.4 Commercial kitchen equipment. **5.303.4.1 Food waste disposers.** Disposers shall either modulate the use of water to no more than 1 gpm when the disposer is not in use (not actively grinding food waste/no-load) or shall automatically shut off after no more than 10 minutes of inactivity. Disposers shall use no more than 8 gpm of water. ***Note:*** *This code section does not affect local jurisdiction authority to prohibit or require disposer installation.*	X	Install disposer that modulates water to 1 gpm when not in use and does not use more than 8gpm of water	
5.303.5 Areas of addition or alteration. For those occupancies within the authority of the California Building Standards Commission as specified in Section 103, the provisions of Section 5.303.3 and 5.303.4 shall apply to new fixtures in additions or areas of alteration to the building.			
5.303.6 Standards for plumbing fixtures and fittings. Plumbing fixtures and fittings shall be installed in accordance with the *California Plumbing Code*, and shall meet the applicable standards referenced in Table 1701.1 of the *California Plumbing Code* and in Chapter 6 of this code.	X	Plumber signoff needed declaring all fixtures were installed per CA Plumbing Code	

Outdoor Water Use

	Required	Plan Sheet Reference	N/A
5.304.1 Scope. The provisions of Section 5.304 Outdoor Water Use reference the mandatory Model Water Efficiency Landscape Ordinance (MWELO) contained within Chapter 2.7, Division 2, Title 24, *California Code of Regulations*.	X	0-L1.4	
5.304.2 Outdoor water use in landscape areas equal to or greater than 500 square feet. When water is used for outdoor irrigation for new construction projects with an aggregate landscape area equal to or greater than 500 square feet requiring a building or landscape permit, plan check or design review, one of the following shall apply: 1. A local water efficient landscape ordinance that is, based on evidence in the record, at least as effective in conserving water as the updated model ordinance adopted by the Department of Water Resources (DWR) per Government Code Section 65595 (c). 2. The California Department of Water Resources Model Water Efficient Landscape Ordinance (MWELO) commencing with Section 490 of Chapter 2.7, Division 2, Title 23, *California Code of Regulations*.	X	0-L1.4	
5.304.3 Outdoor water use in rehabilitated landscape projects equal to or greater than 2,500 square feet. Rehabilitated landscape projects with an aggregate landscape area equal to or greater than 2,500 square feet requiring a building or landscape permit, plan check or design review shall comply with Section 5.304.2, item 1 or 2.	X	0-L1.4	
5.304.4 Outdoor water use in landscape areas of 2,500 square feet or less. Any project with an aggregate landscape area of 2,500 square feet or less may comply with the performance requirements of MWELO or conform to the prescriptive compliance measures contained in MWELO's Appendix D.			
5.304.5 Graywater or rainwater use in landscape areas. For projects using treated or untreated graywater or rainwater captured on site, any lot or parcel within the project that has less than 2,500 square feet of landscape and meets the lot or parcel's landscape water requirement (Estimated Total Water Use) entirely with treated or untreated graywater or through stored rainwater captured on site is subject only to Appendix D Section (5).			

MATERIAL CONSERVATION AND RESOURCE EFFICIENCY

Weather Resistance and Moisture Management

	Required	Plan Sheet Reference	N/A
5.407.1 Weather protection. Provide a weather-resistant exterior wall and foundation envelope as required by California Building Code, Section 1403.2 and California Energy Code, Section 150, manufacturer's installation instructions or local ordinance, whichever is more stringent.	X	4-A2.10	
5.407.2 Moisture control. Employ moisture control measures by the following methods; **5.407.2.1 Sprinklers.** Design and maintain landscape irrigation systems to prevent irrigation spray on structures.	X	0-L1.3	
5.407.2.2 Entries and openings. Design exterior entries and openings to prevent water intrusion into buildings as follows.	X	4-A8.30	
5.407.2.2.1 Exterior door protection. Primary exterior entries shall be covered to prevent water intrusion by using nonabsorbent floor and wall finishes within at least 2 feet around and perpendicular to such openings plus at least one of the following: 1. An installed awning at least 4 feet in depth. 2. The door is protected by a roof overhang at least 4 feet in depth. 3. The door is recessed at least 4 feet. **4.** Other methods which provide equivalent protection.	X	4-A8.30	
5.407.2.2.2 Flashing. Install flashings integrated with a drainage plane.	X	5-A3.43	

Construction Waste Reduction, Disposal and Recycling

	Required	Plan Sheet Reference	N/A
5.408.1 Recycle and/or salvage for reuse a minimum of 65% of the nonhazardous construction waste in accordance with Section 5.408.1.1, 5.408.1.2 or 5.408.1.3; or meet a local construction and demolition waste management ordinance, whichever is more stringent. **5.408.1.1 Construction waste management plan.** Where a local jurisdiction does not have a construction and demolition waste management ordinance that is more stringent, submit a construction waste management plan that complies with Items 1 through 4 of this section. **Exception to Sections 5.408.1.1 and 5.408.1.2:** 1. Excavated soil and land-clearing debris. 2. Alternate waste reduction methods developed by working with local agencies if diversion or recycle facilities capable of compliance with this item do not exist. 3. Demolition waste meeting local ordinance calculated in consideration of local recycling facilities and markets.	X	Documentation of any removed or cleared soil or land clearing debris required as well.	

Construction Waste Reduction, Disposal and Recycling - continued

	Required	Plan Sheet Reference	N/A
5.408.1.3 Waste stream reduction alternative. The combined weight of new construction disposal that does not exceed two pounds per square foot of building area may be deemed to meet the 50 percent minimum requirement as approved by the enforcing agency. **5.408.1.4 Documentation.** Provide documentation of the waste management plan that meets the requirements listed in Sections 5.408.1.1 through 5.408.1.3, and the plan is accessible to the enforcement authority. **5.408.2 Universal Waste.** [A] Additions and alterations to a building or tenant space that meet the scoping provisions in Section 301.3 for nonresidential additions and alterations, shall require verification that Universal Waste items such as fluorescent lamps and ballast and mercury containing thermostats as well as other California prohibited Universal Waste materials are disposed of properly and are diverted from landfills. A list of prohibited Universal Waste materials shall be included in the construction documents. **Note:** Refer to the Universal Waste Rule link at: http://www.dtsc.ca.gov/LawsRegsPolicies/Regs/upload/OEARA_REGS_UWR_FinalText.pdf **5.408.3 Excavated soil and land clearing debris.** 100 percent of trees, stumps, rocks and associated vegetation and soils resulting primarily from land clearing shall be reused or recycled. **Exception:** Reuse, either on-or off-site, of vegetation or soil contaminated by disease or pest infestation.	X	Documentation of any removed or cleared soil or land clearing debris required as well	

Building Maintenance and Operation

	Required	Plan Sheet Reference	N/A
5.410.1 Recycling by occupants. Provide readily accessible areas that serve the entire building and are identified for the depositing, storage and collection of nonhazardous materials including organic waste for recycling. **Exception:** Rural jurisdictions that meet and apply for the exemption in Public Resources Code 42649.82 (a) (2) (A) et seq. shall also be exempt from the organic waste portion of this section. **5.410.1.1 Additions.** All additions conducted within a 12-month period under single or multiple permits, resulting in an increase of 30 percent or more in floor area, shall provide recycling areas on site. **Exception:** Additions within a tenant space resulting in less than a 30-percent increase in the tenant space floor area.	X	1-A5.16	

Building Maintenance and Operation - continued

	Required	Plan Sheet Reference	N/A
5.410.2 Commissioning. For new buildings 10,000 square feet and over, building commissioning for all building systems covered by Title 24, Part 6, process systems and renewable energy systems shall be included in the design and construction processes of the building project. All occupancies other than I-occupancies and L-occupancies shall comply with the *California Energy Code* as prescribed in California Energy Code Section 120.8. for I-occupancies which are not regulated by OSHPD or for I-occupancies and L-occupancies which are not regulated by the *California Energy Code* Section 100.0 Scope; all requirements in Section 5.410.2 through 5.410.2.6 shall apply. Commissioning requirements shall include items listed in Section 5.410.2. **Exceptions:** 1. Unconditioned warehouses of any size 2. Areas less than 10,000 square feet used for offices or other conditioned accessory spaces within unconditioned warehouses. 3. Tenant improvements less than 10,000 square feet as described in Section 303.1.1. 4. Open parking garages of any size, or open parking garage areas of any size, within a structure.			
5.410.2.1 Owner's Project Requirements (OPR). Documented before the design phase of the project begins the OPR shall include items listed in Section 5.410.2.1.			
5.410.2.2 Basis of Design (BOD). [N] A written explanation of how the design of the building systems meets the OpR shall be completed at the design phase of the building project to cover the systems listed in Section 5.410.2.2.			
5.410.2.3 Commissioning plan. [N] A commissioning plan describing how the project will be commissioned shall include items listed in Section 5.410.2.3. **5.410.2.4 [N]** Functional performance testing shall demonstrate the correct installation and operation of each component, system and system-to-system interface in accordance with the approved plans and specifications.			

Building Maintenance and Operation - conditioned

	Required	Plan Sheet Reference	N/A
5.410.2.5 Documentation and training. [N] A Systems manual and systems operations training are required. **5.410.2.5.1 Systems manual. [N]** The systems manual shall be delivered to the building owner or representative and facilities operator and shall include the items listed in Section 5.410.2.5.1. **5.410.2.5.2 Systems operations training. [N]** A program for training of the appropriate maintenance staff for each equipment type and/or system shall be developed and shall include items listed in Sections 5.410.2.5.2.			
5.410.2.6 Commissioning report. [N] A report of commissioning process activities undertaken through the design and construction phases of the building project shall be completed and provided to the owner or representative.			
5.410.4 Testing and adjusting. Testing and adjusting of systems shall be required for buildings less than 10,000 square feet. Applies to new systems serving additions or alterations.	X	of new systems (lighting, HVAC, water heating, renewable	
5.410.4.2 Systems. Develop a written plan of procedures for testing and adjusting systems. Systems to be included for testing and adjusting shall include, as applicable to the project, the systems listed in Section 5.410.4.2.	X	energy, landscaping)	
5.410.4.3 Procedures. Perform testing and adjusting procedures in accordance with applicable standards on each system as determined by the enforcing agency. **5.410.4.3.1 HVAC balancing.** Before a new space-conditioning system serving a building or space is operated for normal use, balance in accordance with the procedures defined by national standards listed in Section 5.410.4.3.1 or as approved by the enforcing agency.	X		
5.410.4.4 Reporting. After completion of testing, adjusting and balancing, provide a final report of testing signed by the individual responsible for performing these services.	X		
5.410.4.5 Operation and maintenance manual. Provide the building owner with detailed operating and maintenance instructions and copies of guaranties/warranties for each system prior to final inspection.	X		
5.410.4.5.1 Inspections and reports. Include a copy of all inspection verifications and reports required by the enforcing agency.	X		

Environmental Quality

Fireplaces

	Required	Plan Sheet Reference	N/A
5.503.1 Fireplaces. Install only a direct-vent sealed-combustion gas or sealed wood-burning fireplace or a sealed woodstove and refer to residential requirements in the California Energy Code, Title 24, Part 6, Subchapter 7, Section 150. **5.503.1.1 Woodstoves.** Woodstoves shall comply with the US EPA new Source Performance Standards (NSPS) emission limits, where applicable, and shall have a permanent label indicating they are certified to meet the emission limits.			

Pollutant Control

	Required	Plan Sheet Reference	N/A
5.504.1 Temporary ventilation. If the HVAC system is used during construction, use return air filters with a MERV of 8, based on ASHRAE 52.2-1999, or an average efficiency of 30% based on ASHRAE 52.1 -1992. Replace all filters immediately prior to occupancy. Applies to additions or alterations.	X	If temporary ventilation is needed during construction, MERV 8 filters must be installed	
5.504.3 Covering of duct openings and protection of mechanical equipment during construction. At the time of rough installation and during storage on the construction site and until final startup of the heating, cooling and ventilating equipment, all duct and other related air distribution component openings shall be covered with tape, plastic, sheet metal or other methods acceptable to the enforcing agency to reduce the amount of dust, water and debris which may enter the system.	X	HVAC Installer to cover ducts at installation--can be removed at time of register installation	
5.504.4 Finish material pollutant control. Finish materials shall comply with Sections 5.504.4.1 through 5.504.4.6. **5.504.4.1 Adhesives, sealants, caulks.** Adhesives and sealants used on the project shall meet the requirements of the following standards. 1. Adhesives, adhesive bonding primers, adhesive primers, sealants, sealant primers and caulks shall comply with local or regional air pollution control or air quality management district rules where applicable or SCAQMD Rule 1168 VOC limits, as shown in Tables 5.504.4.1 and 5.504.4.2. 2. Aerosol adhesives and smaller unit sizes of adhesives and sealant or caulking compounds (in units of product, less packaging, which do not weight more than one pound and do not consist of more than 16 fluid ounces) shall comply with statewide VOC standards and other requirements,	X	Sub to provide documentation of compliance for products used or installed on project	

Pollutant Control - continued

	Required	Plan Sheet Reference	N/A
including prohibitions on use of certain toxic compounds, of *California Code of Regulations*, Title 17, commencing with Section 94507.			
5.504.4.3 Paints and coatings. Architectural paints and coatings shall comply with Table 5.504.4.3 unless more stringent local limits apply. **5.504.4.3.1 Aerosols paint and coatings.** Aerosols paints and coatings shall meet the Product-Weighted MIR Limits for ROC in Section 94522(a) (3) and other requirements, including prohibitions on use of certain toxic compounds and ozone depleting substances (CCR, Title 17, Section 94520, et seq.). **5.504.4.3.2 Verification.** Verification of compliance with this section shall be provided at the request of the enforcing agency.	X	Sub to provide documentation of compliance for products used or installed on project	
5.504.4.4 Carpet systems. All carpet installed in the building interior shall meet the testing and product requirements of one of the standards listed in Section 5.504.4.4. **5.504.4.4.1 Carpet cushion.** All carpet caulks shall be compliant with VOC and other toxic compound limits.	X	Sub to provide documentation of compliance for products used or installed on project	
5.504.4.5 Composite wood products. Hardwood plywood, particleboard and medium density fiberboard composite wood products used on the interior or exterior of the building shall meet the requirements for formaldehyde as specified in Table 5.504.4.5. **5.504.4.5.3 Documentation.** Verification of compliance with this section shall be provided as requested by the enforcing agency. Documentation shall include at least one of the following: 1. Product certifications and specifications. 2. Chain of custody certifications. 3. Product labeled and invoiced as meeting the Composite Wood Products regulation (see CCR, Title 17, Section 93120, et seq.). 4. Exterior grade products marked as meeting the PS-1 or PS-2 standards of the Engineered Wood. 5. Other methods acceptable to the enforcing agency.	X	Sub to provide documentation of compliance for products used or installed on project	

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RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY: **KATHY GARCIA** DEP. DIR. PUBLIC WORKS	**ALEX AMERI** DIR. OF PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3 - INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
5/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

CALGREEN CHECKLIST

Drawn By: Author Checked By: EW

Scale:

Date: October 4, 2019

Project No. 2016039

G-A0.12
Drawing No.

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Pollutant Control - continued	Required	Plan Sheet Reference	N/A
5.504.4.6 Resilient flooring systems. For 80 percent of floor area receiving resilient flooring, install resilient flooring which meets one of the following: 1. Certified under the Resilient Floor Covering Institute (RFCI) FloorScore program; 2. Compliant with the VOC emission limits and testing requirements specified in the California Department of Public Health's 2010 Standard Method for the Testing and Evaluation Chambers, Version 1.1 February 2010; 3. Compliant with the Collaborative for High Performance Schools California (CA-CHPS) Criteria Interpretation for EQ 7.0 and 7.1 (formerly EQ 2.2) dated July 2012 and listed in the CHPS High Performance Product Database; or 4. Products certified under UL GREENGUARD Gold (formerly the Greenguard Children's & Schools Program).	X	Sub to provide documentation of compliance for products used or installed on project	
5.504.5.3 Filters. In mechanically ventilated buildings, provide regularly occupied areas of the building with air filtration media for outside and return air that provides at least a MERV of 8. MERV 8 filters shall be installed prior to occupancy, and recommendations for maintenance with filters of the same value shall be included in the operation and maintenance manual. **Exceptions:** 1. An ASHRAE 10-percent to 15-percent efficiency filter shall be permitted for an HVAC unit meeting the 2013 *California Energy Code* having 60,000 Btu/h or less capacity per fan coil, if the energy use of the air delivery system is 0.4 W/cfm or less at design air flow. 2. Existing mechanical equipment. **5.504.5.3.1 Labeling.** Installed filters shall be clearly labeled by the manufacturer indicating the MERV rating.	X	MERV 8 filters or higher to be confirmed at inspection	
5.504.7 Environmental tobacco smoke (ETS) control. Prohibit smoking within 25 feet of building entries, outdoor air intakes and operable windows where outdoor areas are provided for smoking and within the building as already prohibited by other laws or regulations; or as enforced by ordinances, regulations or policies of any city, county, city and county, California Community College, campus of the California State University or campus of the University of California, whichever are more stringent.	X	If smoking areas provided, proper signage at doorway required	

Interior Moisture and Radon Control	Required	Plan Sheet Reference	N/A
5.505.1 Indoor moisture control. Buildings shall meet or exceed the provisions of *California Building Code*, CCR, Title 24, Part 2, Section 1203 and Chapter 14.1.	X	slab floor & durable wall exterior	
Air Quality and Exhaust	**Required**	**Plan Sheet Reference**	**N/A**
5.506.1 Outside air delivery. For mechanically or naturally ventilated spaces in buildings, meet the minimum requirements of Section 120.1 of the *California Energy Code* and Chapter 4 of CCR, Title 8 or the applicable local code, whichever is more stringent.	X	See Mechanical Plans for minimum cfm per space	
5.506.2 Carbon dioxide (CO2) monitoring. For buildings or additions equipped with demand control ventilation, CO2 sensors and ventilation controls, shall be specified and installed in accordance with the requirements of the *California Energy Code*, CCR, Section 120(c)(4).	X	If CO2 sensors are installed, they must be installed per CA Energy Code	
Environmental Comfort			
5.507.4 Acoustical control. Employ building assemblies and components with STC values determined in accordance with ASTM E90 and ASTM E413 or OITC determined in accordance with ASTM E1332, using either the prescriptive or performance method in Section 5.507.4.1 or 5.507.4.2. **5.507.4.1 Exterior noise transmission, prescriptive method.** Wall and floor-ceiling assemblies exposed to the noise source making up the building envelope shall have exterior wall and roof ceiling assemblies meeting a composite STC rating of at least 50 or a composite OITC rating of no less than 40 with exterior windows of a minimum STC of 40 or OITC of 30 in the locations described in Items 1 and 2. Also applies to addition envelope or altered envelope. **5.507.4.1.1 Noise exposure where noise contours are not readily available.** Buildings exposed to a noise level of 65 dB Leq-1Hr during any hour of operation shall have exterior wall and roof-ceiling assemblies exposed to the noise source meeting a composite STC rating of at least 45 (or OITC 35), with exterior windows of a minimum STC of 40 (or OITC 30). Also applies to addition or alteration exterior wall.			

Environmental Comfort – continued	Required	Plan Sheet Reference	N/A
5.507.4.2 Performance method. For buildings located as defined in Sections A5.507.4.1 or A5.507.4.1.1, wall and roof-ceiling assemblies making up the building envelope shall be constructed to provide an interior noise environment attributable to exterior sources that does not exceed an hourly equivalent noise level (Leq-1Hr) of 50 dBA in occupied areas during any hour of operation. Also applies to addition envelope or altered envelope. **5.507.4.2.1 Site features.** Exterior features such as sound walls or earth berms may be utilized as appropriate to the project to mitigate sound migration to the interior. Also applies to addition envelope or altered envelope. **5.507.4.2.1 Documentation of compliance.** An acoustical analysis documenting complying interior sound levels shall be prepared by personnel approved by the architect or engineer of record.			
5.507.4.3 Interior sound transmission. Wall and floor-ceiling assemblies separating tenant spaces and tenant spaces and public places shall have an STC of at least 40.			
Outdoor Air Quality	**Required**	**Plan Sheet Reference**	**N/A**
5.508.1 Ozone depletion and global warming reductions. Installations of HVAC, refrigeration and fire suppression equipment shall comply with Sections 5.508.1.1 and 5.508.1.2. **5.508.1.1 CFC's.** Install HVAC and refrigeration equipment that does not contain CFCs. **5.508.1.2 Halons.** Install fire suppression equipment that does not contain Halons.	X	New equipment to be verified as not containing CFCs or Halons	
5.508.2 Supermarket refrigerant leak reduction. New commercial refrigeration systems shall comply with the provisions of this section when installed in retail food stores 8,000 square feet or more conditioned area, and that utilize either refrigerated display cases, or walk-in coolers or freezers connected to remote compressor units or condensing units. The leak reduction measures apply to refrigeration systems containing high-global-warming potential (high-GWP) refrigerants with a GWP of 150 or greater. New refrigeration systems include both new facilities and the replacement of existing refrigeration systems in existing facilities.			

Outdoor Air Quality - continued	Required	Plan Sheet Reference	N/A
Exception: Refrigeration systems containing low-global-warming potential (low-GWP) refrigerant with a GWP value less than 150 are not subject to this section. Low-GWP refrigerants are nonozone-depleting refrigerants that include ammonia, carbon dioxide (CO_2), and potentially other refrigerants.			
5.508.2.1 Refrigerant piping. Piping compliant with the California Mechanical Code shall be installed to be accessible for leak protection and repairs. Piping runs using threaded pipe, copper tubing with an outside diameter (OD) less than ¼ inch, flared tubing connections and short radius elbows shall not be used in refrigerant systems except as noted below. **5.508.2.1.1 Threaded pipe.** Threaded connections are permitted at the compressor rack. **5.508.2.1.2 Copper pipe.** Copper tubing with an OD less than ¼ inch may be used in systems with a refrigerant charge of 5 pounds or less. **5.508.2.1.2.1 Anchorage.** ¼ inch OD tubing shall be securely clamped to a rigid base to keep vibration levels below 8 mils. **5.508.2.1.3 Flared tubing connections.** Double-flared tubing connections may be used for pressure controls, valve pilot lines and oil. **Exceptions:** Single-flared tubing connections may be used with a multiring seal coated with industrial sealant suitable for use with refrigerants and tightened in accordance with manufacturer's recommendations. **5.5508.2.1.4 Elbows.** Short radius elbows are only permitted where space limitations prohibit use of long radius elbows.			
5.508.2.2 Valves. Valves and fittings shall comply with the *California Mechanical Code* and as follows. **5.508.2.2.1 Pressure relief valves.** For vessels containing high-GWP refrigerant, a rupture disc shall be installed between the outlet of the vessel and the inlet of the pressure relief valve.			

Outdoor Air Quality - continued	Required	Plan Sheet Reference	N/A
5.508.2.2.1.1 Pressure detection. A pressure gauge, pressure transducer or other device shall be installed in the space between the rupture disc and the relief valve inlet to indicate a disc rupture or discharge of the relief valve.			
5.508.2.2.2 Access valves. Only Schrader access valves with a brass or steel body are permitted for use. **5.508.2.2.2.1 Valve caps.** For systems with a refrigerant charge of 5 pounds or more, valve caps shall be brass or steel and not plastic. **5.508.2.2.2.2 Seal caps.** If designed for it, the cap shall have a neoprene O-ring in place. **5.508.2.2.2.1 Chain tethers.** Chain tethers to fit over the stem are required for valves designed to have seal caps. **Exceptions:** Valves with seal caps that are not removed from the valve during stem operation.			
5.508.2.3 Refrigerated service cases. Refrigerated service cases holding food products containing vinegar and salt shall have evaporator coils of corrosion-resistant material, such as stainless steel; or be coated to prevent corrosion from these substances. **5.508.2.3.1 Coil coating.** Consideration shall be given the heat transfer-efficiency of coil coating to maximize energy efficiency.			
5.508.2.4 Refrigerant receivers. Refrigerant receivers with capacities greater than 200 pounds shall be fitted with a device that indicates the level of refrigerant in the receiver.			
5.508.2.5 Pressure testing. The system shall be pressure tested during installation prior to evacuation and charging.			

Outdoor Air Quality - continued	Required	Plan Sheet Reference	N/A
5.508.2.5.1 Minimum pressure. The system shall be charged with regulated dry nitrogen and appropriate tracer gas to bring system pressure up to 300 psig minimum.			
5.508.2.5.2 Leaks. Check the system for leaks, repair any leaks, and retest for pressure using the same gauge.			
5.508.2.5.3 Allowable pressure change. The system shall stand, unaltered, for 24 hours with no more than a +/- one pound pressure change from 300 psig, measured with the same gauge.			
5.508.2.6 Evacuation. The system shall be evacuated after pressure testing and prior to charging. **5.508.2.6.1 First vacuum.** Pull a system vacuum down to at least 1000 microns (+/-50 microns), and hold for 30 minutes. **5.508.2.6.2 Second vacuum.** Pull a second system to a minimum of 500 microns and hold for 30 minutes. **5.508.2.6.3 Third vacuum.** Pull a third vacuum down to a minimum of 300 microns, and hold for 24 hours with a maximum drift of 100 microns over a 24-hour period.			

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RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY: **KATHY GARCIA** DEP. DIR. PUBLIC WORKS	**ALEX AMERI** DIR. OF PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3 - INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
9/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

CALGREEN CHECKLIST

Drawn By: Author Checked By: EW

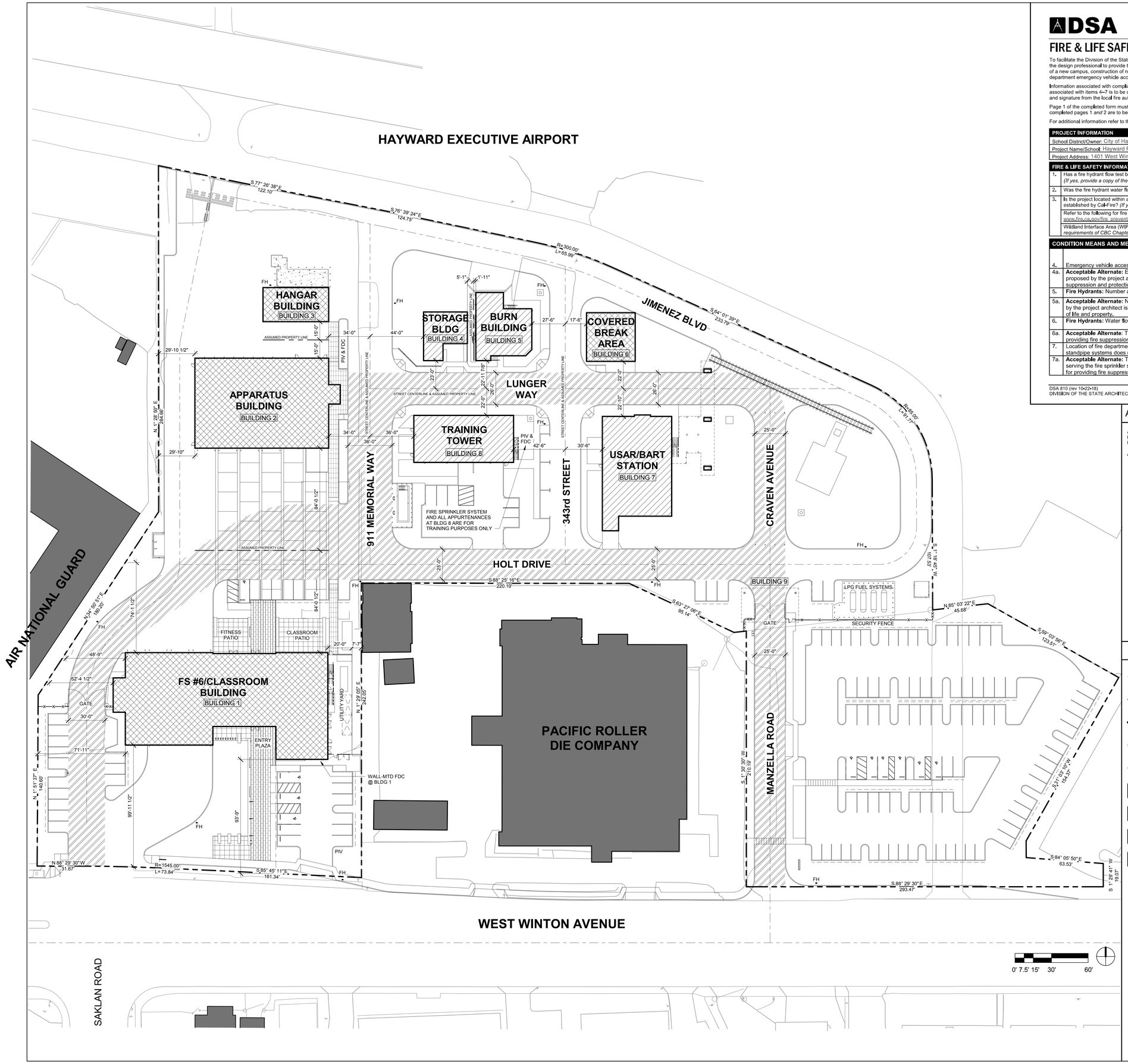
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October 4, 2019

Project No. 2016039

G-A0.13
Drawing No.

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DSA 810

FIRE & LIFE SAFETY SITE CONDITIONS SUBMITTAL

To facilitate the Division of the State Architect's (DSA) fire and life safety plan review of project site conditions, DSA requires the design professional to provide the following information at time of project submittal for projects consisting of construction of a new campus, construction of new building(s), additions to existing buildings, and for site alternate design means for fire department emergency vehicle access, and fire suppression water supply.

Information associated with compliance items 1–3 below is to be provided for all project types indicated above. Information associated with items 4–7 is to be completed when an alternate means is utilized. Acknowledgement by the school district and signature from the local fire authority (LFA) is only required when an alternate design means is being requested.

Page 1 of the completed form must be imaged onto the fire access site plan. When an alternate design/means is proposed, completed pages 1 *and* 2 are to be imaged on the fire access site plan.

For additional information refer to the instructions at the end of this form and DSA Policy 09-01.

PROJECT INFORMATION
School District/Owner: City of Hayward & Chabot-Las Positas Community College District
Project Name/School: Hayward Fire Station #6/Fire Training Center
Project Address: 1401 West Winton Avenue, Hayward, CA 94545

FIRE & LIFE SAFETY INFORMATION					
1.	Has a fire hydrant flow test been performed within the past 12 months? *(If yes, provide a copy of the test data.)*	Yes ☒		No ☐	
2.	Was the fire hydrant water flow test performed as part of this LFA review?	Yes ☒		No ☐	
3.	Is the project located within a designated fire hazard severity zone as established by Cal-Fire? *(If yes, indicate fire hazard zone classification below)*	Yes ☐		No ☒	
	Refer to the following for fire hazard zone locations: www.fire.ca.gov/fire_prevention/fire_prevention_wildland_zones_maps	Moderate ☐	High ☐	Very High ☐	
	Wildland Interface Area (WIFA) *(If any designations are checked, project design must meet the requirements of CBC Chapter 7A.)*			WIFA ☐	

CONDITION MEANS AND METHODS RESOLUTION		ALTERNATE ACCEPTED			
		Yes	No	N/A	N/R
4.	Emergency vehicle access roadways do not meet CFC requirements.				
4a.	**Acceptable Alternate:** Emergency vehicle and personnel access as proposed by the project architect is acceptable for providing fire suppression and protection of life and property.				
5.	**Fire Hydrants:** Number and spacing does not meet CFC requirements.				
5a.	**Acceptable Alternate:** Number of fire hydrants and spacing as proposed by the project architect is acceptable for fire suppression and protection of life and property.				
6.	**Fire Hydrants:** Water flow and pressure are less than CFC minimum.				
6a.	**Acceptable Alternate**: The available flow and pressure is acceptable for providing fire suppression and protection of life and property.				
7.	Location of fire department connection(s) serving fire sprinkler systems or standpipe systems does not meet CFC requirements.				
7a.	**Acceptable Alternate:** The location of fire department connection serving the fire sprinkler system and/or standpipe system is acceptable for providing fire suppression and protection of life and property.				

DSA 810 (rev 10-22-18) DIVISION OF THE STATE ARCHITECT — DEPARTMENT OF GENERAL SERVICES — Page 1 of 4 STATE OF CALIFORNIA

ALLOWABLE BUILDING AREA CALCULATIONS

Allowable area increase per CBC Sec. 506. See Code Analysis sheets for a summary of each building's calculations. Listed below are dimensions and Frontage/Perimeter values for each building.

Area increase not required for any structure.

SITE PLAN LEGEND

- PROPERTY LINE (SEE CIVIL DRAWINGS FOR LIMITS OF WORK)
- OUTLINE OF EXISTING BUILDING, TO BE DEMOLISHED AND REMOVED
- PROJECT MATCH LINE
- LEED BOUNDARY LINE
- ZONING ORDINANCE BUILDING SETBACK LINE
- EXISTING BUILDING, TO REMAIN
- NEW BUILDING FOOTPRINT COLLEGE-OWNED BUILDING
- NEW BUILDING FOOTPRINT CITY-OWNED BUILDING
- FIRE ACCESS LANE, TYPICAL

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ARCHITECTURE
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Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

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DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION	
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PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

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STATE OF CALIFORNIA

Sheet Title

CODE ANALYSIS & FIRE ACCESS SITE PLAN

Drawn By: EW — Checked By: EW

Scale: **As indicated**

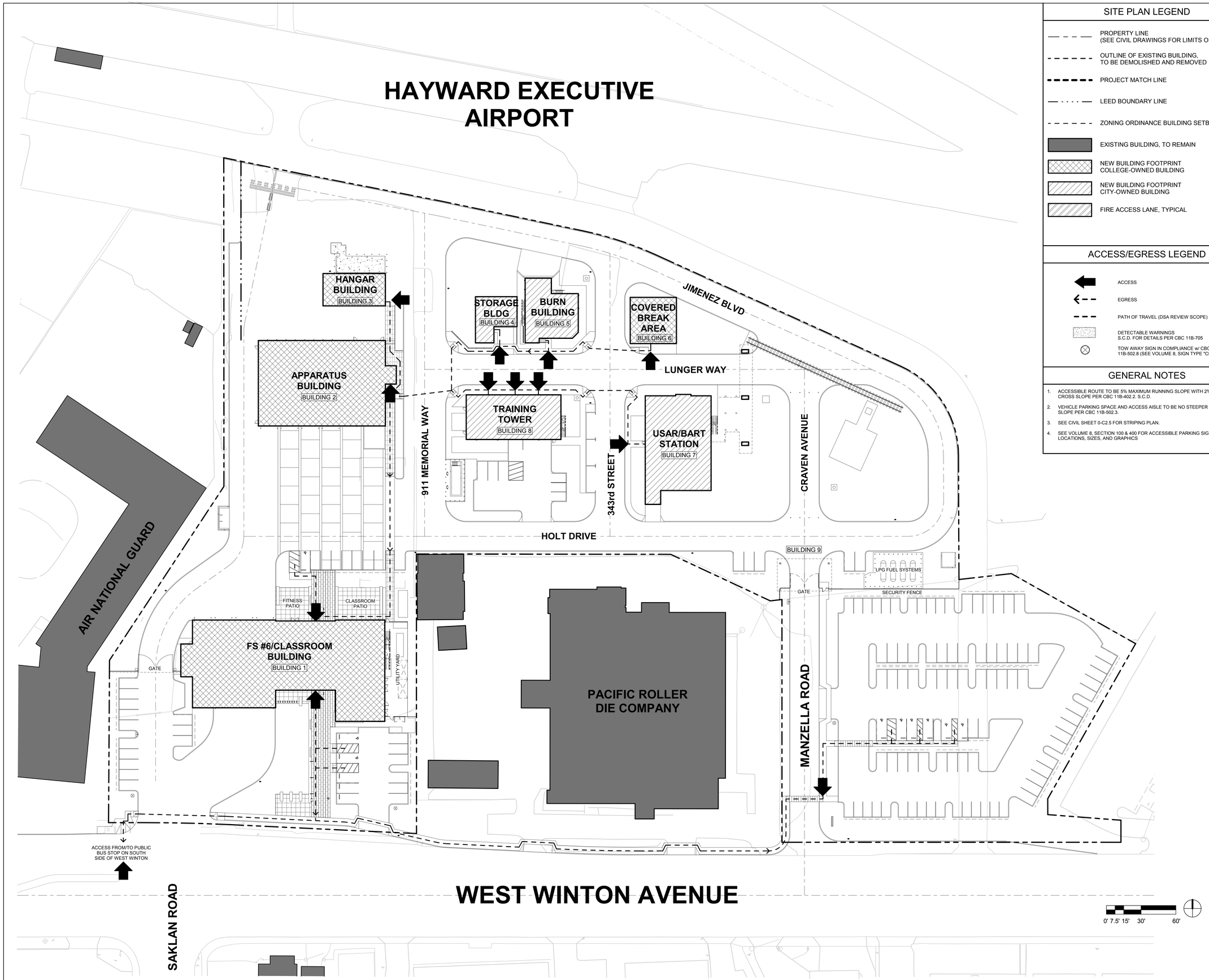
Date: **October 4, 2019**

Project No. 2016039

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HAYWARD EXECUTIVE AIRPORT



SITE PLAN LEGEND

- PROPERTY LINE (SEE CIVIL DRAWINGS FOR LIMITS OF WORK)
- OUTLINE OF EXISTING BUILDING, TO BE DEMOLISHED AND REMOVED
- PROJECT MATCH LINE
- LEED BOUNDARY LINE
- ZONING ORDINANCE BUILDING SETBACK LINE
- EXISTING BUILDING, TO REMAIN
- NEW BUILDING FOOTPRINT COLLEGE-OWNED BUILDING
- NEW BUILDING FOOTPRINT CITY-OWNED BUILDING
- FIRE ACCESS LANE, TYPICAL

ACCESS/EGRESS LEGEND

- ACCESS
- EGRESS
- PATH OF TRAVEL (DSA REVIEW SCOPE)
- DETECTABLE WARNINGS S.C.D. FOR DETAILS PER CBC 11B-705
- TOW AWAY SIGN IN COMPLIANCE w/ CBC SECTION 11B-502.8 (SEE VOLUME 8, SIGN TYPE "CE2")

GENERAL NOTES

1. ACCESSIBLE ROUTE TO BE 5% MAXIMUM RUNNING SLOPE WITH 2% MAXIMUM CROSS SLOPE PER CBC 11B-402.2. S.C.D.
2. VEHICLE PARKING SPACE AND ACCESS AISLE TO BE NO STEEPER THAN 1:48 SLOPE PER CBC 11B-502.3.
3. SEE CIVIL SHEET 0-C2.5 FOR STRIPING PLAN.
4. SEE VOLUME 8, SECTION 100 & 400 FOR ACCESSIBLE PARKING SIGNAGE LOCATIONS, SIZES, AND GRAPHICS

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Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, DIR. OF PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3 - INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
6655
5/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

OVERALL SITE EGRESS / ACCESSIBILITY PLAN

Drawn By: AA
Checked By: EW

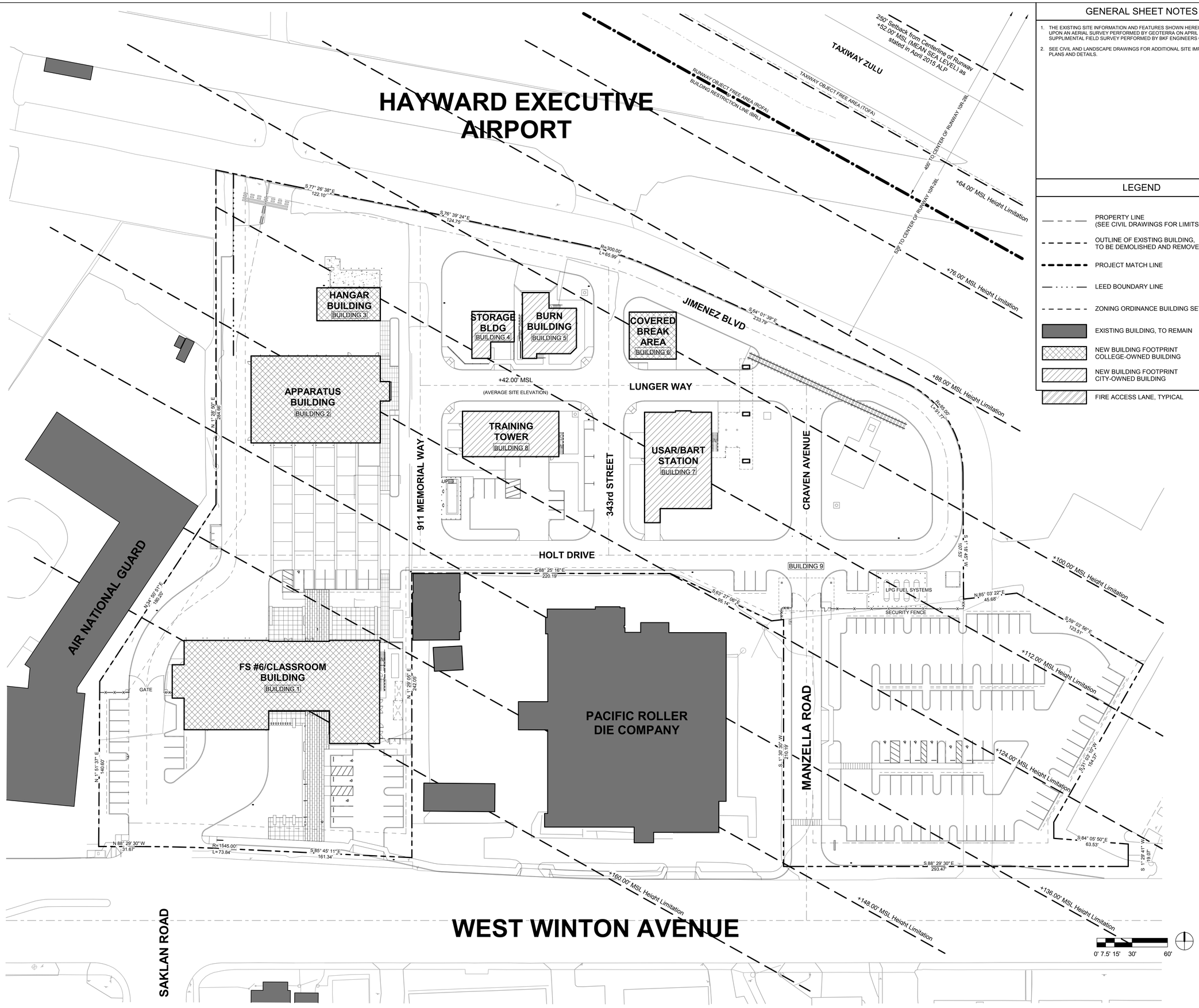
Scale:
As indicated

Date:
October 4, 2019

Project No. 2016039

G-A0.21
Drawing No.

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GENERAL SHEET NOTES

1. THE EXISTING SITE INFORMATION AND FEATURES SHOWN HEREIN ARE BASED UPON AN AERIAL SURVEY PERFORMED BY GEOTERRA ON APRIL 4, 2016 AND SUPPLIMENTAL FIELD SURVEY PERFORMED BY BKF ENGINEERS ON APRIL 27, 2016.
2. SEE CIVIL AND LANDSCAPE DRAWINGS FOR ADDITIONAL SITE IMPROVEMENT PLANS AND DETAILS.

LEGEND

- PROPERTY LINE (SEE CIVIL DRAWINGS FOR LIMITS OF WORK)
- OUTLINE OF EXISTING BUILDING, TO BE DEMOLISHED AND REMOVED
- PROJECT MATCH LINE
- LEED BOUNDARY LINE
- ZONING ORDINANCE BUILDING SETBACK LINE
- EXISTING BUILDING, TO REMAIN
- NEW BUILDING FOOTPRINT COLLEGE-OWNED BUILDING
- NEW BUILDING FOOTPRINT CITY-OWNED BUILDING
- FIRE ACCESS LANE, TYPICAL

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, DIR. OF PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

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REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3 - INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
9/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

FAA HEIGHT LIMITATIONS

Drawn By: EW Checked By: EW

Scale: As indicated

Date: October 4, 2019

Project No. 2016039

G-A0.22
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Federal Aviation Administration

March 04, 2020

TO:
Hayward Executive Airport
Attn: Douglas McNeeley
20301 Skywest Drive
Hayward, CA 94541
douglas.mcneeley@hayward-ca.gov

CC:
CITY OF HAYWARD
777 B ST
HAYWARD, CA 94541
douglas.mcneeley@hayward-ca.gov

CC:
Hayward Executive Airport
Attn: Todd Strojny
20301 Skywest Drive
Hayward, CA 94541
todd.strojny@hayward-ca.gov

RE: *(See attached Table 1 for referenced case(s))*
FINAL DETERMINATION

Table 1 - Letter Referenced Case(s)

ASN	Prior ASN	Location	Latitude (NAD83)	Longitude (NAD83)	AGL (Feet)	AMSL (Feet)
2019-AWP-5391-NRA		HAYWARD,CA	37-39-15.25N	122-07-03.11W	47	91
2019-AWP-5392-NRA		HAYWARD,CA	37-39-15.36N	122-07-04.09W	52	96
2019-AWP-5393-NRA		HAYWARD,CA	37-39-15.39N	122-07-03.09W	40	84
2019-AWP-5394-NRA		HAYWARD,CA	37-39-15.45N	122-07-03.08W	19	63
2019-AWP-5395-NRA		HAYWARD,CA	37-39-15.07N	122-07-03.08W	36	80
2019-AWP-5396-NRA		HAYWARD,CA	37-39-14.88N	122-07-03.34W	12	56
2019-AWP-5397-NRA		HAYWARD,CA	37-39-14.89N	122-07-03.65W	12	56
2019-AWP-5398-NRA		HAYWARD,CA	37-39-15.08N	122-07-04.10W	36	80
2019-AWP-5399-NRA		HAYWARD,CA	37-39-15.46N	122-07-04.09W	19	63
2019-AWP-5400-NRA		HAYWARD,CA	37-39-13.54N	122-07-05.00W	21	64
2019-AWP-5401-NRA		HAYWARD,CA	37-39-13.43N	122-07-04.95W	36	79
2019-AWP-5402-NRA		HAYWARD,CA	37-39-13.10N	122-07-04.96W	36	79
2019-AWP-5403-NRA		HAYWARD,CA	37-39-12.76N	122-07-05.00W	21	64
2019-AWP-5404-NRA		HAYWARD,CA	37-39-12.67N	122-07-05.00W	13	56
2019-AWP-5405-NRA		HAYWARD,CA	37-39-12.67N	122-07-05.53W	13	56
2019-AWP-5406-NRA		HAYWARD,CA	37-39-13.66N	122-07-05.78W	13	56
2019-AWP-5407-NRA		HAYWARD,CA	37-39-13.66N	122-07-05.53W	13	56

2019-AWP-5408-NRA		HAYWARD,CA	37-39-15.95N	122-07-06.32W	25	68
2019-AWP-5409-NRA		HAYWARD,CA	37-39-15.94N	122-07-04.95W	25	68
2019-AWP-5410-NRA		HAYWARD,CA	37-39-15.22N	122-07-06.33W	18	61
2019-AWP-5411-NRA		HAYWARD,CA	37-39-15.20N	122-07-04.96W	18	61
2019-AWP-5412-NRA		HAYWARD,CA	37-39-15.55N	122-07-04.86W	15	58
2019-AWP-5413-NRA		HAYWARD,CA	37-39-15.71N	122-07-04.86W	15	58
2019-AWP-5418-NRA		HAYWARD,CA	37-39-15.04N	122-07-01.87W	23	68
2019-AWP-5419-NRA		HAYWARD,CA	37-39-15.43N	122-07-02.16W	13	58
2019-AWP-5421-NRA		HAYWARD,CA	37-39-15.42N	122-07-01.45W	23	68
2019-AWP-5423-NRA		HAYWARD,CA	37-39-14.61N	122-07-01.46W	17	62
2019-AWP-5425-NRA		HAYWARD,CA	37-39-14.51N	122-07-02.01W	1	45
2019-AWP-5428-NRA		HAYWARD,CA	37-39-14.51N	122-07-02.18W	1	45
2019-AWP-5449-NRA		HAYWARD,CA	37-39-14.02N	122-07-00.19W	25	70
2019-AWP-5450-NRA		HAYWARD,CA	37-39-13.77N	122-07-00.20W	18	63
2019-AWP-5451-NRA		HAYWARD,CA	37-39-14.02N	122-07-00.75W	25	70
2019-AWP-5452-NRA		HAYWARD,CA	37-39-13.77N	122-07-00.75W	18	63
2019-AWP-5453-NRA		HAYWARD,CA	37-39-13.56N	122-07-07.07W	21	64
2019-AWP-5454-NRA		HAYWARD,CA	37-39-13.36N	122-07-07.20W	36	79
2019-AWP-5455-NRA		HAYWARD,CA	37-39-13.08N	122-07-07.20W	36	79
2019-AWP-5456-NRA		HAYWARD,CA	37-39-12.80N	122-07-07.07W	20	63

Description: This is a resubmission of the Hayw-406729505-19 Project that was terminated because the corners of each structure was not identified. Construction of new Fire Station No. 6 and Fire Training Center buildings and structures at 1401 West Winton Ave to replace existing Fire Station No. 6 and Fire Training Center. Construction of 9 buildings/structures consists of Fire Station 6/Classroom Building, Apparatus Building, Hanger Building, Residential Burn Structure, Supply Storage Building, Urban Search & Rescue/BART Structure, Outdoor Classroom Building, & Entry Canopy Structure. HWD has received final determination from FAA for said New Construction: 2017 AWP 3662-NRA thru 2017 AWP 3692-NRA & 2018 AWP 1-NRA thru 2018 AWP 4-NRA. Due to changes & the expiration date of 7/20/19, the City of Hayward is re-submitting this notice.

We do not object with conditions to the construction described in this proposal provided:

You comply with the requirements set forth in FAA Advisory Circular 150/5370-2, "Operational Safety on Airports During Construction."

The proponent is required to coordinate all associated activities with the Airport Manager/Airport Traffic Control Tower (ATCT) 5 business days prior to the beginning of the project.

This determination is subject to review if disruption to FAA Operations should occur.

The new development must be coordinated with the airport sponsor and included in the next update to the Airport Layout Plan.

Your proposal impacts the following National Airspace System (NAS) equipment:
Building B obstructs the Fresnel Zone 1 to Airplane Loc2 (FresnelZone_BuildingB.pdf), but obstructs less than half of the cross sectional area of the Fresnel Zone. 2019-AWP-5391-NRA, 2019-AWP-5392-NRA, 2019-AWP-5393-NRA, 2019-AWP-5394-NRA, 2019-AWP-5395-NRA, 2019-AWP-5396-NRA, 2019-AWP-5397-NRA, 2019-AWP-5398-NRA, 2019-AWP-5399-NRA

Performed Fresnel Zone analysis (FresnelZone_Analysis.pdf) and found that Building C does not obstruct Fresnel Zone 1 with Airplane Loc1 and Loc2. 2019-AWP-5401-NRA, 2019-AWP-5401-NRA, 2019-AWP-5402-NRA, 2019-AWP-5403-NRA, 2019-AWP-5404-NRA, 2019-AWP-5405-NRA, 2019-AWP-5406-NRA, 2019-AWP-5407-NRA
Building D obstructs the Fresnel Zone 1 to Airplane Loc2 (Fresnel Zone Building D.pdf), but obstructs less than half of the cross sectional area of the Fresnel Zone. 2019-AWP-5409-NRA, 2019-AWP-5409-NRA, 2019-AWP-5410-NRA, 2019-AWP-5411-NRA, 2019-AWP-5412-NRA, 2019-AWP-5413-NRA

Building F obstructs the Fresnel Zone 1 to Airplane Loc1 and Loc2 (FresnelZone_BuildingF.pdf). By itself, F obstructs less than half the cross sectional area of the Fresnel Zones, but when built alongside with Buildings B, D, and G, the cross-sectional area of the four buildings is obstructing a large section of the Fresnel Zone. No objection with Provision because Building F does not obstruct the RF Line of Sight to Airplane Loc1 and Loc2. 2019-AWP-5418-NRA, 2019-AWP-5419-NRA, 2019-AWP-5421-NRA, 2019-AWP-5423-NRA, 2019-AWP-5425-NRA, 2019-AWP-5428-NRA

Performed Fresnel Zone analysis (FresnelZone_Analysis.pdf) and found that Building J does not obstruct Fresnel Zone 1 with Airplane Loc1 and Loc2. 2019-AWP-5449-NRA, 2019-AWP-5450-NRA, 2019-AWP-5451-NRA, 2019-AWP-5452-NRA

Performed Fresnel Zone analysis (FresnelZone_Analysis.pdf) and found that Building K does not obstruct Fresnel Zone 1 with Airplane Loc1 and Loc2. 2019-AWP-5453-NRA, 2019-AWP-5454-NRA, 2019-AWP-5455-NRA, 2019-AWP-5456-NRA

The Airport sponsor shall notify the FAA's Air Traffic Organization (ATO) Planning and Requirements (P&R) Service Area office a minimum of 45 days prior to the "physical construction start date" for this project. Submit FAA Form entitled Airport Sponsor Strategic Event Submission Form, including all date, time and/or duration changes via email to 9-AJV-SEC- WSA@faa.gov.

A separate notice to the FAA is required for any construction equipment, such as temporary cranes, whose working limits would exceed the height and lateral dimensions of your proposal.

This determination does not constitute FAA approval or disapproval of the physical development involved in the proposal. It is a determination with respect to the safe and efficient use of navigable airspace by aircraft and with respect to the safety of persons and property on the ground.

In making this determination, the FAA has considered matters such as the effects the proposal would have on existing or planned traffic patterns of neighboring airports, the effects it would have on the existing airspace structure and projected programs of the FAA, the effects it would have on the safety of persons and property on the ground, and the effects that existing or proposed manmade objects (on file with the FAA), and known natural objects within the affected area would have on the airport proposal.

This determination expires on September 4, 2021 unless:
(a) extended, revised or terminated by the issuing office.
(b) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for the completion of construction, or the date the FCC denies the application.

NOTE: Request for extension of the effective period of this determination must be obtained at least 15 days prior to expiration date specified in this letter.

If you have any questions concerning this determination contact Lloyd E. Lewis (424) 405-7316 lloyd.e.lewis@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2019-AWP-5391-NRA.

Lloyd E. Lewis
DivUser
Signature Control No: 421155188-432606180

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
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APPROVED BY: **KATHY GARCIA** DEP. DIR. PUBLIC WORKS	**ALEX AMERI** DIR. OF PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	INC 01_ADD_01_V1	12/06/2019

PERMIT SUBMITTAL V3 - INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
9/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

FAA FINAL DETERMINATION FORMS

Drawn By: EW
Checked By: EW

Scale:

Date:
October 4, 2019

Project No. 2016039

G-A0.23
Drawing No.

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CITY OF HAYWARD GENERAL NOTES:

DESIGN INTENT: THESE DRAWINGS REPRESENT THE GENERAL DESIGN INTENT TO BE IMPLEMENTED ON THE SITE. CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING CITY OF HAYWARD FOR ANY ADDITIONAL CLARIFICATION OR DETAILS NECESSARY TO ACCOMMODATE SITE CONDITIONS OR DETAILS.

CONTRACTOR COORDINATION: EACH CONTRACTOR SHALL COORDINATE AND OTHERWISE INTEGRATE WORK WITH THAT OF OTHERS IN AN EFFICIENT AND TIMELY MANNER SO AS TO PROVIDE THE CITY WITH A WELL-CONSTRUCTED EASILY MAINTAINABLE PROJECT. EACH CONTRACTOR SHALL NOTIFY OTHERS AT LEAST TWO WORKING DAYS IN ADVANCE OF COVERING, COMPLETING, OR EXPOSING WORK TO BE INSTALLED BY OTHERS.

UTILITIES: PRIOR TO CONSTRUCTION, THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE UTILITY COMPANIES INVOLVED AND REQUESTING A VISUAL VERIFICATION OF THE LOCATIONS OF THEIR UNDERGROUND FACILITIES. THE UTILITY COMPANIES ARE MEMBERS OF THE UNDERGROUND SERVICE ALERT (U.S.A.) ON-CALL PROGRAM. THE CONTRACTOR OR ANY SUBCONTRACTOR FOR THIS CONTRACT SHALL NOTIFY MEMBERS OF THE U.S.A. 48 HOURS IN ADVANCE OF PERFORMING EXCAVATION WORK BY CALLING THE TOLL-FREE NUMBER (800) 642-2444. EXCAVATION IS DEFINED AS ANY PENETRATION OF THE EXISTING SURFACE.

A REASONABLE EFFORT HAS BEEN MADE TO LOCATE AND DELINEATE ALL KNOWN UNDERGROUND UTILITIES. THE CONTRACTOR IS CAUTIONED THAT ONLY EXCAVATION WILL REVEAL THE TYPES, EXTENT, SIZE, LOCATION, AND DEPTHS OF SUCH UNDERGROUND UTILITIES. HOWEVER, THE CITY OF HAYWARD CAN ASSUME NO RESPONSIBILITY FOR THE COMPLETENESS OR ACCURACY OF ITS DELINEATION OF SUCH UNDERGROUND UTILITIES, NOR FOR THE EXISTENCE OF OTHER BURIED OBJECTS OR UTILITIES THAT ARE NOT SHOWN ON THESE DRAWINGS.

TREE PROTECTION AND MAINTENANCE REQUIREMENTS: ALL TRENCHING INSIDE OF A LINE 5 FEET OUTSIDE OF THE DRIP LINE OF EXISTING TREES TO REMAIN SHALL BE BY HAND, WITH CARE TAKEN NOT TO CUT OR DAMAGE ROOTS OVER 1-INCH DIAMETER. TREES TO REMAIN SHALL BE FENCED WITH TEMPORARY FENCING, SUCH AS STEEL STAKES (MAX. 5 FEET) WITH WIRE MESH FABRIC (6'x6') OPEN, CHAIN LINK OR SIMILAR, HEIGHT TO BE 5 FEET MINIMUM.

ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CITY OF HAYWARD MUNICIPAL CODE - CHAPTER 10, ARTICLE 3, CITY STANDARD DETAILS AND SPECIAL PROVISIONS, CALTRANS STANDARD SPECIFICATIONS AND PLANS, AND THE LATEST EDITION OF THE CALIFORNIA BUILDING CODE.

CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH THE GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTOR SHALL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF THE CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND CONSTRUCTION CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD THE CIVIL ENGINEER AND THE CITY OF HAYWARD HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE CIVIL ENGINEER.

THE CONTRACTOR SHALL COMPLY WITH THE RULES AND REGULATIONS OF THE STATE CONSTRUCTION SAFETY ORDER.

THE CONTRACTOR SHALL NOT DISTURB OR DESTROY ANY PERMANENT SURVEY POINTS WITHOUT THE CONSENT OF THE CITY ENGINEER. ANY PERMANENT MONUMENTS OR POINTS DISTURBED OR DESTROYED SHALL BE REPLACED BY A REGISTERED CIVIL ENGINEER OR LICENSED SURVEYOR AT THE CONTRACTOR'S EXPENSE.

PRIOR TO COMMENCEMENT OF ANY WORK ON ADJACENT PROPERTY, THE OWNER WILL OBTAIN WRITTEN PERMISSION FROM AFFECTED PROPERTY OWNERS.

THE CONTRACTOR SHALL PROVIDE ALL LIGHTS, SIGNS, BARRICADES, FLAG MEN OR OTHER DEVICES NECESSARY TO PROVIDE FOR PUBLIC SAFETY.

ALL EXISTING STREETS SHALL REMAIN OPEN TO TRAFFIC AT ALL TIMES EXCEPT AS SHOWN IN THE CONSTRUCTION STAGING PLANS OR AS PERMITTED BY THE CITY ENGINEER.

THE CONTRACTOR SHALL POSSESS A CLASS "A" LICENSE AT THE TIME OF CONTRACT AWARD.

NO CHANGES SHALL BE MADE IN THE FIELD PRIOR TO RESUBMITTAL AND APPROVAL BY CITY ENGINEER OF REVISED PLANS.

THE CONTRACTOR IS RESPONSIBLE FOR ANY OFF-SITE OR ON-SITE SIGNS REQUIRED BY THE CITY, COUNTY, STATE OR ENGINEER.

THE CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE ADEQUATE COVER FOR THE PROTECTION OF ALL INSTALLED UTILITIES DURING THE CONSTRUCTION OF THIS PROJECT.

IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE ALL NECESSARY UTILITY RELOCATIONS.

CONSTRUCTION ACTIVITIES SHALL BE LIMITED TO THE HOURS BETWEEN 7:30 AM TO 4:30 PM ON WEEKDAYS. THERE SHALL BE NO GRADING OR CONSTRUCTION ACTIVITIES ON THE WEEKENDS OR NATIONAL HOLIDAYS, UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.

THE CONTRACTOR IS RESPONSIBLE FOR MATCHING EXISTING STREETS, SURROUNDING LANDSCAPING AND OTHER IMPROVEMENTS WITH SMOOTH TRANSITIONS IN PAVING, CURBS, GUTTERS, SIDEWALKS, GRADING, ETC. AND TO AVOID THE CREATION OF ANY LOW SPOTS OR HAZARDOUS CONDITIONS OR ANY ABRUPT OR APPARENT CHANGES IN APPEARANCE, GRADES, OR CROSS-SLOPES.

THE ENGINEER ASSUMES NO RESPONSIBILITY FOR FINAL GRADE OF CONCRETE.

ALL UNDERGROUND FACILITIES SHALL BE INSTALLED PRIOR TO THE CONSTRUCTION OF CURBS, FINAL PREPARATION OF SUBGRADE, AND PLACEMENT OF BASE MATERIALS. MANHOLE FRAMES AND UTILITY BOXES SHALL BE SET TO FINAL GRADE PRIOR TO PLACEMENT OF SIDEWALK, ASPHALT, CONCRETE CURB AND GUTTER.

EXISTING CURB AND GUTTER THAT ARE DAMAGED OR DISPLACED BY THE CONTRACTOR, EVEN THOUGH THEY WERE NOT TO BE REMOVED, SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AT HIS EXPENSE.

GENERAL CONTRACTOR SHALL PROVIDE BARRICADES TO PROTECT THE GENERAL PUBLIC AND TO PREVENT UNCONTROLLED ACCESS TO THE SITE AT ALL TIMES.

NO WORK SHALL BE DONE ON THIS PROJECT PRIOR TO PRE-CONSTRUCTION CONFERENCE TO BE HELD IN THE ENGINEERING DIVISION.

ALL TRENCHES IN EXISTING CITY STREETS SHALL BE BACKFILLED AND PAVED OR COVERED WITH STEEL PLATES BEFORE THE END OF THE WORKDAY.

SOIL SAMPLING AND TESTING FREQUENCY SHALL CONFORM TO CHAPTER 6 OF THE CALTRANS CONSTRUCTION MANUAL AS SAID ITEMS ARE APPLICABLE TO THE CITY OF HAYWARD'S SPECIFICATIONS.

ALL STRIPING REQUIRED ON CITY STREETS SHALL BE DONE BY THE CONTRACTOR.

ASPHALT CONCRETE SHALL BE COMPACTED TO RELATIVE COMPACTION OF NOT LESS THAN 95 PERCENT. RELATIVE COMPACTION WILL BE DETERMINED BY CALIFORNIA TEST 375. LABORATORY SPECIMENS WILL BE COMPACTED IN CONFORMANCE WITH CALIFORNIA TEST 304. THE ASPHALT CONCRETE WILL BE TESTED BY LOTS, AS SPECIFIED IN CALIFORNIA TEST 375. ANY LOT OF ASPHALT CONCRETE THAT HAS A RELATIVE COMPACTION OF LESS THAN 95 PERCENT SHALL BE REMOVED AND REPLACED.

THE CONTRACTOR SHALL RESTORE ALL DAMAGED, REMOVED OR OTHERWISE DISTURBED WALLS, FENCES, SERVICES, UTILITIES, IMPROVEMENTS OR FEATURES OF WHATEVER NATURE, DUE TO CONTRACTOR'S WORK.

ALL STREET MONUMENTS AND OTHER PERMANENT MONUMENTS, DISTURBED DURING THE PROCESS OF CONSTRUCTION, SHALL BE REPLACED PRIOR TO ACCEPTANCE OF THE IMPROVEMENTS BY THE CITY ENGINEER.

THE CONTRACTOR SHALL GIVE THE CITY ENGINEER TWO DAYS ADVANCE NOTICE FOR EARTHWORK INSPECTION.

PEDESTRIAN AND WHEELCHAIR TRAVEL PATH ACCESSES SHALL BE MAINTAINED.

THE CONTRACTOR SHALL CONTROL DUST AT ALL TIMES AND SWEEP STREETS AS OFTEN AS NECESSARY DURING CONSTRUCTION AND AS REQUIRED BY THE CITY ENGINEER.

ALL ASPHALT CONCRETE AND PORTLAND CEMENT CONCRETE TO BE REMOVED SHALL FIRST BE FULL DEPTH SAW-CUT. ALL SIDEWALKS SHALL BE REMOVED TO THE NEAREST JOINT OR SCORE MARK BEYOND THE POINT INDICATED IN THE PLAN.

ALL EXISTING OR NEW IMPROVEMENTS, INCLUDING CURB AND GUTTERS, SIDEWALKS, ASPHALT CONCRETE OR P.C.C. PAVING, WHICH ARE BEING JOINED OR MATCHED IN CONNECTION WITH THIS PROJECT SHALL BE JOINED OR MATCHED IN A MANNER SATISFACTORY TO THE CITY ENGINEER, INCLUDING NECESSARY SAWCUTTING, REMOVAL, REPLACEMENT, PAVEMENT GRINDING AND CAPPING.

WHERE NEW CONCRETE IS TO BE PLACED AGAINST EXISTING CONCRETE AND AT CONSTRUCTION OR COLD JOINTS, THE TWO SHALL BE JOINED BY DOWELING WITH NO. 3X12" BARS AT 3'-0" O.C. MAXIMUM OR AS DIRECTED BY THE ENGINEER. A MINIMUM OF 2 DOWELS WILL BE REQUIRED AT TRANSVERSE JOINTS IN SIDEWALK.

ALL CONNECTIONS TO EXISTING ASPHALT SHALL BE ACCOMPLISHED BY FIRST SAWCUTTING THE EXISTING EDGE TO FULL DEPTH AND REMOVING WASTE. NEW ASPHALT SHALL BE INSTALLED AFTER CLEANING AND APPLICATION OF TACK COAT TO SAWCUT EDGE.

STREET NAME SIGNS AND TRAFFIC CONTROL SIGNS, TYPE AND LOCATION SHALL BE APPROVED BY THE CITY ENGINEER.

ALL CONSTRUCTION AREAS SHALL BE PROPERLY POSTED AND LIGHTED IN CONFORMANCE WITH THE STATE MANUAL OF WARNING SIGNS, LIGHTS, AND OTHER DEVICES IN ORDER TO ELIMINATE ANY HAZARDS.

AT NO TIME SHALL PRIVATE PROPERTY BE USED IN CONJUNCTION WITH THE PROJECT UNLESS PROPERTY-OWNER APPROVAL IS OBTAINED IN WRITING AND APPROVED BY THE CITY.

GENERAL NOTES

ALL MATERIALS, WORKMANSHIP AND CONSTRUCTION SHALL CONFORM TO THE CURRENT CITY OF HAYWARD DESIGN AND CONSTRUCTION STANDARDS AND CONSTRUCTION SPECIFICATIONS FOR PUBLIC IMPROVEMENTS.

CONTRACTOR SHALL OBTAIN ALL CONSTRUCTION PERMITS REQUIRED BY THE CITY OF HAYWARD (SUCH AS ENCROACHMENT, GRADING, BUILDING, DEMOLITION ETC.) PRIOR TO COMMENCEMENT OF WORK.

AN ENCROACHMENT PERMIT MUST BE OBTAINED FROM THE DEPARTMENT OF PUBLIC WORKS PRIOR TO BEGINNING ANY WORK WITHIN THE PUBLIC RIGHT-OF-WAY. A TRAFFIC CONTROL PLAN MUST BE SUBMITTED FOR APPROVAL PRIOR TO BEGINNING ANY WORK WITHIN THE PUBLIC RIGHT-OF-WAY.

THE CONTRACTOR SHALL OBTAIN A DE-WATERING PERMIT FROM THE SAN FRANCISCO REGIONAL WATER QUALITY CONTROL BOARD FOR DE-WATERING OPERATIONS THAT ARE USED TO MANAGE THE REMOVAL OF GROUND WATER FROM EXCAVATIONS AND THEIR DISCHARGE TO THE WATERS OF THE STATE OR THE STORM DRAIN SYSTEM. APPROVAL MUST BE OBTAINED FROM THE CITY OF HAYWARD ENVIRONMENTAL COMPLIANCE DIVISION PRIOR TO DISCHARGING GROUNDWATER TO THE SEWER.

TEMPORARY STOCKPILES SHALL NOT BE LOCATED WITHIN CREEK SETBACK AREAS, PROTECTED VEGETATION/TREE AREAS OR WITHIN 10 FEET OF AN ADJACENT RESIDENTIAL PROPERTY LINE. STOCKPILES TALLER THAN 2.5 FEET SHALL NOT BE WITHIN 50 FEET OF AN ADJACENT RESIDENTIAL PROPERTY LINE.

TEMPORARY STOCKPILES MUST BE REMOVED BEFORE COMPLETION OF GRADING ACTIVITIES UNLESS A SEPARATE TEMPORARY USE PERMIT AND GRADING PERMIT IS OBTAINED FOR THE STOCKPILE.

CONTRACTOR SHALL SECURE A TRENCH PERMIT FROM THE CALIFORNIA DIVISION OF INDUSTRIAL SAFETY PRIOR TO EXCAVATION OF ANY TRENCH OVER FIVE FEET IN DEPTH.

IF CONTAMINATED MATERIAL IS ENCOUNTERED DURING CONSTRUCTION, WORK MUST STOP UNTIL A WORK PLAN HAS BEEN APPROVED IN WRITING BY THE CITY FIRE DEPARTMENT AND THE SAN FRANCISCO REGIONAL WATER QUALITY CONTROL BOARD (SFRWQCB). HAZARDOUS MATERIAL SHALL BE REMOVED AND DISPOSED OF ACCORDING TO THE REQUIREMENTS OF THE CITY'S FIRE DEPARTMENT. THE APPLICANT IS REQUIRED TO DEMONSTRATE COMPLIANCE WITH STATE AND LOCAL CODES FOR REMOVAL OF ASBESTOS CONTAINING MATERIALS DURING DEMOLITION OF THE STRUCTURES ON THE PROJECT SITE.

ALL TRENCH SPOILS SHALL BE REMOVED AS THEY ARE GENERATED OR DISPOSED OF ON SITE AS REQUIRED BY THE GRADING PERMIT. EXCESS/UNSUITABLE MATERIAL DISPOSED OF OFFSITE AT A LOCATION APPROVED BY THE ENGINEER. CONTAIN AND SECURELY PROTECT STOCKPILED TRENCH BACKFILL AND WASTE MATERIAL FROM WIND AND RUN AT ALL TIMES UNLESS ACTIVELY BEING USED. DO NOT BLOCK STORM WATER FLOWS.

ALL UNDERGROUND IMPROVEMENTS INCLUDING SEWER LINES, WATER LINES, STORM DRAINS, PUBLIC UTILITY FACILITIES, AND SERVICES SHALL BE INSTALLED, TESTED, AND ACCEPTED BY THE UTILITIES AND PUBLIC WORKS DEPARTMENTS PRIOR TO PAVING. TRENCH PAVING FOR ALL UTILITIES SHALL BE COORDINATED AND INSTALLED AT THE SAME TIME.

THE CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONSTRUCTION CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. THE CONSTRUCTION CONTRACTOR FURTHER AGREES TO HOLD HARMLESS, INDEMNIFY AND DEFEND THE DESIGN PROFESSIONAL, THE OWNER AND THEIR CONSULTANTS, AND THE CITY OF HAYWARD, AND EACH OF THEIR OFFICERS, EMPLOYEES, AND AGENTS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE DESIGN PROFESSIONAL.

THE LOCATIONS OF UNDERGROUND OBSTRUCTIONS SHOWN ON THE DRAWINGS ARE APPROXIMATE ONLY AND SHOULD NOT BE TAKEN AS FINAL OR ALL INCLUSIVE. THE CONTRACTOR IS CAUTIONED THAT THE DRAWINGS MAY NOT INCLUDE ALL EXISTING UTILITIES INCLUDING SEWERS AND STORM DRAINS PRIOR TO ANY TRENCHING TO ALLOW THE ENGINEER TO VERIFY THE GRADE AND ALIGNMENT OF THE UTILITIES, AND VERIFY DESIGN ASSUMPTIONS AND EXACT FIELD LOCATION. EXISTING UTILITIES MAY REQUIRE RELOCATION AND/OR PROPOSED IMPROVEMENTS MAY REQUIRE GRADE OR ALIGNMENT REVISION DUE TO FIELD CONDITIONS.

THE CONTRACTOR SHALL EXPOSE ALL EXISTING UTILITIES INCLUDING SEWERS PRIOR TO ANY TRENCHING TO ALLOW THE ENGINEER TO VERIFY THE GRADE AND ALIGNMENT OF THE UTILITIES, AND TO VERIFY DESIGN ASSUMPTIONS AND EXACT FIELD LOCATION. EXISTING UTILITIES MAY REQUIRE RELOCATION AND/OR PROPOSED IMPROVEMENTS MAY REQUIRE GRADE OR ALIGNMENT REVISION DUE TO FIELD CONDITIONS.

UNDERGROUND FACILITIES NOT SHOWN ON THESE DRAWINGS SUCH AS PG&E, TELEPHONE, TV, IRRIGATION, ETC. SHALL BE COORDINATED AND CONSTRUCTED PRIOR TO PLACEMENT OF BASE ROCK AND PAVING.

CONTRACTOR IS RESPONSIBLE FOR PRESERVATION AND/OR PERPETUATION OF ALL EXISTING SURVEY MONUMENTS (CURB TAGS, IRON PIPES, CENTERLINE WELL DISKS, ETC). IF THE CONTRACTOR SUSPECTS THAT WORK WILL BE CONDUCTED IN AN AREA WHICH MAY RESULT IN THE DISTURBANCE OF SURVEY MONUMENTS, THE CONTRACTOR SHALL RETAIN THE SERVICES OF A LICENSED PROFESSIONAL AUTHORIZED TO PRACTICE LAND SURVEYING TO LOCATE SAID MONUMENTS PRIOR TO DISTURBANCE, RE-ESTABLISH MONUMENTS WHICH HAVE BEEN DISTURBED AS A RESULT OF CONSTRUCTION AND FILE THE APPROPRIATE DOCUMENTATION WITH THE COUNTY ONCE THE MONUMENTS ARE RESET. CONTRACTOR SHALL PROVIDE A MINIMUM OF 10 (TEN) WORKING DAYS NOTICE TO THE ENGINEER/SURVEYOR PRIOR TO DISTURBANCE OR REMOVAL OF EXISTING MONUMENTS. CONTRACTOR SHALL PROVIDE THE CITY WITH A MONUMENT CERTIFICATION LETTER FROM THE ENGINEER/SURVEYOR STATING THAT THE EXISTING MONUMENTS HAVE BEEN IDENTIFIED AND LOCATED PRIOR TO REMOVAL.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING DAMAGE OR DETERIORATION OCCURRING TO EXISTING PUBLIC IMPROVEMENTS AS A RESULT OF CONSTRUCTION ACTIVITY (GRADING, ROAD CONSTRUCTION, UTILITY INSTALLATION, ETC.). REPAIR MAY REQUIRE PATCHING, SEALING OR OVERLAYING AFFECTED AREAS AS APPROPRIATE TO RETURN THE ROADS TO AT LEAST AS GOOD A CONDITION AS THEY WERE PRIOR TO CONSTRUCTION. IF THE CONTRACTOR DOES NOT ACT IN A TIMELY MANNER, THE CITY MAY, AT ITS DISCRETION PERFORM THE CORRECTION AND CHARGE THE CONTRACTOR FOR ALL COSTS AND OVERHEAD INCURRED.

THE CONTRACTOR SHALL KEEP THE WORK SITE, STAGING AREAS AND OTHER AREAS USED BY IT IN A NEAT AND CLEAN CONDITION, AND FREE FROM ANY ACCUMULATION OF TRASH. THE CONTRACTOR SHALL DISPOSE OF ALL TRASH, RUBBISH AND WASTE MATERIALS OF ANY KIND GENERATED BY THE CONTRACTOR, SUBCONTRACTOR OR ANY COMPANY HIRED BY THE CONTRACTOR ON A DAILY BASIS. THE CONTRACTOR SHALL ALSO KEEP HAUL ROADS FREE FROM DIRT, RUBBISH, AND UNNECESSARY OBSTRUCTIONS RESULTING FROM SITE OPERATION. DISPOSAL OF ALL TRASH, RUBBISH AND DEBRIS MATERIALS SHALL BE IN A COVERED WASTE RECEPTACLE OR HAULED OFF SITE, IN ACCORDANCE WITH LOCAL CODES AND ORDINANCES GOVERNING LOCATIONS AND METHODS OF DISPOSAL, AND IN CONFORMANCE WITH ALL APPLICABLE LAWS AND REGULATIONS. WASTE RECEPTACLES SHALL BE COVERED AT THE END OF EVERY DAY AND DURING RAIN EVENTS.

ENSURE THE CONTAINMENT OF SANITATION FACILITIES (E.G., PORTABLE TOILETS) TO PREVENT DISCHARGES OF POLLUTANTS TO THE STORM WATER DRAINAGE SYSTEM, ROADS OR RECEIVING WATERS. SANITATION FACILITIES MUST BE MAINTAINED PERIODICALLY BY A LICENSED SERVICE COMPANY TO KEEP THEM IN GOOD WORKING ORDER AND PREVENT OVERFLOWS. PORTABLE TOILETS ARE REQUIRED TO HAVE SECONDARY CONTAINMENT.

EQUIPMENT AND MATERIALS NECESSARY FOR CONTROL OF SPILLS SHALL BE AVAILABLE ON SITE AT ALL TIMES. SPILLS AND LEAKS SHALL BE STOPPED AND THE MATERIAL CLEANED UP IMMEDIATELY AND DISPOSED OF PROPERLY. USE PROPER BEST MANAGEMENT PRACTICES (BMPS) TO PREVENT OIL, GREASE, OR FUEL FROM LEAKING ON THE GROUND, INTO THE STORM DRAINS OR SURFACE WATERS.

CONTAIN CONCRETE WASHOUT AREAS AND SIMILAR AREAS THAT MAY CONTAIN POLLUTANTS TO PREVENT DISCHARGE INTO THE UNDERLYING SOIL OR ONTO THE SURROUNDING AREAS.

ESTABLISH AND MAINTAIN EFFECTIVE SITE PERIMETER CONTROLS AND STABILIZE ALL CONSTRUCTION ENTRANCES AND EXITS TO SUFFICIENTLY CONTROL EROSION AND SEDIMENT DISCHARGES AND TRACKED MATERIALS FROM LEAVING THE SITE. AT A MINIMUM DAILY AND PRIOR TO ANY RAIN EVENT, THE CONTRACTOR SHALL REMOVE ANY SEDIMENT OR OTHER CONSTRUCTION ACTIVITY RELATED MATERIALS THAT ARE DEPOSITED ON THE ROADS (BY VACUUMING OR SWEEPING).

PLACE EQUIPMENT OR VEHICLES, WHICH ARE BEING FUELED, MAINTAINED AND STORED, IN A DESIGNATED AREA FITTED WITH APPROPRIATE BMPS.

AT A MINIMUM, ALL BMPS WILL BE INSPECTED EACH WORKING DAY AND BEFORE ALL RAIN EVENTS. BMPS THAT REQUIRE MAINTENANCE OR REPLACEMENT TO FUNCTION PROPERLY SHALL BE COMPLETED BEFORE THE NEXT FORECASTED RAIN, OR WITHIN THE NEXT 3 WORKING DAYS IF NO RAIN IS PREDICTED. MAINTENANCE INCLUDES REMOVAL OF ACCUMULATED SEDIMENT AND TRASH.

ADA COMPLIANCE: CONSTRUCTION CONTRACTOR MUST COMPLY WITH THE REQUIREMENTS OF THE AMERICAN WITH DISABILITIES ACT (ADA) WHILE WORKING IN THE PUBLIC RIGHT-OF-WAY. IF CONSTRUCTION CONTRACTOR'S WORK IN THE PUBLIC RIGHT-OF-WAY WILL AFFECT PEDESTRIAN ACCESS, THE CONSTRUCTION CONTRACTOR IS REQUIRED TO PROVIDE A PROPERLY SIGNED ACCESSIBLE ROUTE OF TRAVEL. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS.

THE CONTRACTOR SHALL COORDINATE WITH THE ENGINEER TO RESET MONUMENTS OR PROVIDE PERMANENT WITNESS MONUMENTS AND FILE THE REQUIRED DOCUMENTATION WITH THE COUNTY SURVEYOR, PURSUANT TO BUSINESS AND PROFESSIONS CODE SECTION 8771.

IN THE EVENT THAT ANY REMAINS OF PREHISTORIC OR HISTORIC HUMAN ACTIVITIES ARE ENCOUNTERED DURING PROJECT-RELATED ACTIVITIES, WORK IN THE IMMEDIATE VICINITY OF THE FINDS SHALL HALT AND THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE PROJECT SUPERINTENDENT AND THE CITY OF HAYWARD INSPECTOR. WORK SHALL NOT RESUME UNTIL A QUALIFIED ARCHAEOLOGIST OR HISTORIC ARCHAEOLOGIST, AS APPROPRIATE, APPROVED BY THE CITY OF HAYWARD, HAS EVALUATED THE SITUATION AND MADE RECOMMENDATIONS FOR TREATMENT OF THE RESOURCE, AND WHOSE RECOMMENDATIONS ARE CARRIED OUT. IF HUMAN BURIAL REMAINS ARE ENCOUNTERED, THE CONTRACTOR MUST ALSO CONTACT THE COUNTY CORONER.

THE DESIGN PROFESSIONAL WHO PREPARED THESE DRAWINGS IS NOT RESPONSIBLE FOR THE MISUSE OF, OR UNAUTHORIZED CHANGES MADE TO THESE DRAWINGS. OBTAIN WRITTEN PERMISSION FROM THE DESIGN PROFESSIONAL WHO PREPARED THESE DRAWINGS PRIOR TO MAKING CHANGES.

EARTHWORK QUANTITIES ARE APPROXIMATE AND HAVE BEEN SUMMARIZED ON THESE DRAWINGS TO PROVIDE THE REVIEWING AGENCY WITH AN OPINION OF HOW MUCH MATERIAL MAY BE MOVED TO FACILITATE THE PROPOSED IMPROVEMENTS. ACTUAL VOLUMES ARE VARIABLE BASED ON THE SOILS ENGINEER'S ASSESSMENT OF THE SOIL ENCOUNTERED, THE CONTRACTOR'S METHODS OF STRIPPING, COMPACTION AND TRENCHING.

OPINION OF PROBABLE EARTHWORK QUANTITIES

MATERIAL MOVED ON SITE*	3,300 CY
EXPORT	4,700 CY

*MATERIAL MOVED ON SITE IS SOIL EXCAVATED (CUT) AS A RESULT OF STRIPPING OR GRADING ACTIVITIES AND REUSED ON THE PROJECT SITE AS FILL.

THE CONTRACTOR IS CAUTIONED NOT TO ORDER ITEMS OR INSTALL IMPROVEMENTS UNTIL CONFLICTS ARE RESOLVED. IMPROVEMENTS INSTALLED OR ORDERED PRIOR TO CONFLICT RESOLUTION SHALL BE DONE SOLELY AT THE CONTRACTOR'S RISK AND AT NO EXPENSE TO THE OWNER, THE DESIGN PROFESSIONAL, OR THE CITY OF HAYWARD.

DEMOLITION NOTES:

ALL UTILITIES WITHIN LIMIT OF DEMOLITION TO BE REMOVED UNLESS NOTED OTHERWISE.

THE PRESENCE OF ANY ADDITIONAL UTILITY LINES NOT SHOWN ON THIS PLAN TO BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO CONSTRUCTION. ENGINEER AND/OR UTILITY PROVIDER TO BE NOTIFIED OF DISCREPANCIES.

CONTRACTOR TO VERIFY EXISTING UTILITY MAINS OR LATERALS ARE NOT ACTIVE PRIOR TO REMOVAL.

THE CONTRACTOR SHALL PROVIDE DUST CONTROL FOR THE ENTIRE PROJECT SITE AT ALL TIMES. THE SITE SHALL BE SPRINKLED AS NECESSARY TO PREVENT DUST NUISANCE.

CONTRACTOR IS RESPONSIBLE FOR OFF-HAULING OF ALL DEMOLISHED MATERIAL.

EXISTING ELECTRICAL AND GAS UTILITY LINES WITHIN LIMIT OF WORK. CONTRACTOR TO COORDINATE WITH OWNER/OCCUPANT AND RESPECTIVE UTILITY COMPANIES.

THE DEMOLITION PLAN PROVIDED HEREIN IS COMPLEMENTARY TO THE DEMOLITION PLAN PROVIDED IN THE ARCHITECTURAL DRAWINGS.

GRADING NOTES

SLOPE ARROWS ARE PROVIDED ON THE CONSTRUCTION DRAWINGS TO ILLUSTRATE DESIGN INTENT AND SHALL NOT BE RELIED UPON TO ESTABLISH INTERMEDIATE ELEVATIONS. CONSTRUCTION INFORMATION SHALL BE OBTAINED FROM THE LINES AND ELEVATIONS SHOWN ON THE CONSTRUCTION DRAWINGS.

PERFORM GRADING TO WITHIN 0.1-FEET OF THE LINES AND ELEVATIONS SHOWN ON THE CONSTRUCTION DRAWINGS.

NO GRADING, CLEARING OR GRUBBING SHALL BE PERFORMED PRIOR TO ISSUANCE OF A GRADING PERMIT BY THE CITY OF HAYWARD.

DUST CONTROL SHALL BE PROVIDED BY CONTRACTOR DURING ALL PHASES OF CONSTRUCTION.

EXCESS AND UNSUITABLE MATERIAL SHALL BE REMOVED FROM THE SITE TO AN AREA APPROVED BY THE ENGINEER. APPROVALS MUST BE IN WRITING PRIOR TO REMOVAL OF MATERIAL.

DRAINAGE FROM UPSTREAM PROPERTIES SHALL NOT BE BLOCKED BY GRADING OR CONSTRUCTION OF IMPROVEMENTS.

THE CONTRACTOR SHALL PROTECT EXISTING DRAINAGE FACILITIES FROM SEDIMENTATION DURING ALL PHASES OF CONSTRUCTION.

HAZARDOUS MATERIAL SHALL BE REMOVED AND DISPOSED OF ACCORDING TO THE REQUIREMENTS OF THE CITY'S FIRE DEPARTMENT. THE APPLICANT IS REQUIRED TO DEMONSTRATE COMPLIANCE WITH STATE AND LOCAL CODES FOR REMOVAL OF ASBESTOS CONTAINING MATERIALS DURING DEMOLITION OF ANY STRUCTURES ON THE PROJECT SITE.

PRIOR TO ANY GRADING OPERATION, THE CONTRACTOR SHALL INSTALL PROTECTIVE FENCING AROUND THE DRIP LINE OF TREES TO BE SAVED IN COMPLIANCE WITH THE CITY TREE ORDINANCE. THE CUTTING, FILLING, PAVING OR TRENCHING WITHIN ROOT ZONES OF TREES TO BE SAVED MUST BE REVIEWED AND APPROVED BY A CITY APPROVED ARBORIST AND PERFORMED UNDER THEIR OWN SITE SUPERVISION.

DRIP-LINES OF TREES OVERHANGING THE PROPERTY LINE SHALL BE AFFORDED THE SAME LEVEL OF PROTECTION AS TREES ON SITE THAT ARE TO REMAIN.

PROJECT MUST CONFORM TO 40 CFR (CODE OF FEDERAL REGULATIONS) PARTS 122, 123 AND 124 NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT APPLICATIONS FOR STORM WATER DISCHARGE. PROJECT MUST ALSO CONFORM WITH ANY DESIGN AND CONSTRUCTION POLICIES ADOPTED BY THE CITY TO CONFORM WITH THESE REGULATIONS.

UNDER 40 CFR, CONSTRUCTION ACTIVITY INCLUDES CLEARING, GRADING AND EXCAVATION ACTIVITIES. THESE ACTIVITIES REQUIRE OBTAINING AN NPDES PERMIT FROM THE STATE WATER RESOURCES CONTROL BOARD FOR PROJECTS WHICH QUALIFY, PRIOR TO THE COMMENCEMENT OF CONSTRUCTION ACTIVITY.

BLASTING (IF REQUIRED) REQUIRES A PERMIT FROM THE CITY OF HAYWARD FIRE DEPARTMENT.

PRIOR TO ANY GRADING OPERATION, THE GRADING CONTRACTOR SHALL SEARCH THE SITE FOR EXISTING WELLS AND SEPTIC SYSTEMS. PROJECT SHALL NOTIFY THE CITY OF FINDINGS.

REMOVAL OF ANY PERMANENT STRUCTURE 10' X 12' OR LARGER REQUIRES A DEMOLITION PERMIT FROM THE CITY BUILDING DIVISION.

ALL STREET TRENCHING REPAIR IN PUBLIC R/W REQUIRES USE OF A.C. HOTMIX, UNDER DIRECTION OF CITY INSPECTOR AND IN ACCORDANCE WITH CITY OF HAYWARD STANDARDS.

STRIPING AND SIGNING NOTE

PAVEMENT STRIPING AND MARKINGS SHALL BE IN THERMOPLASTIC WITH GLASS BEADS.

TRAFFIC AND DIRECTIONAL SIGNS SHALL BE HIGHLY REFLECTIVE.

UTILITY NOTES

IMPROVEMENTS RELATED TO THE WATER SERVICE REPLACEMENT FROM THE WATER METER TO THE CONNECTION AT THE MUNICIPAL WATER MAIN TO BE PERFORMED BY CITY OF HAYWARD FORCES.

THE USE OF CONTROLLED DENSITY BACKFILL (CDF) WITHIN ANY PUBLIC SEWER OR WATER TRENCH IS NOT ALLOWED UNLESS SPECIFICALLY APPROVED BY THE DIRECTOR OF UTILITIES, MR

KEYNOTES:

1. REMOVE EXISTING MATERIAL OR FEATURE TO FACILITATE THE PROPOSED IMPROVEMENTS AND DISPOSE OF UNUSED MATERIAL IN ACCORDANCE WITH LOCAL REGULATIONS.
2. SAWCUT AND CLEANLY REMOVE EXISTING MATERIAL OR REMOVE EXISTING MATERIAL TO THE NEAREST CONTROL JOINT, WHERE APPLICABLE, TO FACILITATE THE PROPOSED IMPROVEMENTS AND DISPOSE OF UNUSED MATERIAL IN ACCORDANCE WITH LOCAL REGULATIONS.
3. REMOVE EXISTING UTILITY TO FACILITATE THE PROPOSED IMPROVEMENTS AND DISPOSE OF UNUSED MATERIAL IN ACCORDANCE WITH LOCAL REGULATIONS.
4. STREET TREES, INCLUDING STUMPS AND ROOTS, SHALL BE REMOVED BY THE CONTRACTOR. CONTRACTOR TO COORDINATE THE TREE, ROOT AND STUMP REMOVAL WITH PG&E. REFER TO THE LANDSCAPE DRAWINGS FOR ADDITIONAL TREE REMOVAL INFORMATION.
5. REMOVE EXISTING STRIPING BY SAND BLASTING OR AN EQUIVALENT METHOD WHICH PERMANENTLY REMOVES THE STRIPING WITHOUT JEOPARDIZING THE INTEGRITY OF THE EXISTING PAVEMENT. IF THE EXISTING STRIPING IS IN GOOD CONDITION FOLLOWING CONSTRUCTION, IN LIEU OF REMOVING THE STRIPING, THE CONTRACTOR, WITH THE APPROVAL OF THE CITY ENGINEER, MAY RETAIN STRIPING AS-IS.
6. RELOCATE EXISTING TRAFFIC SIGNAL. COORDINATE WITH CITY OF HAYWARD.
18. COORDINATE WITH THE OWNER OF THIS UTILITY TO RELOCATE THE EXISTING UTILITY AS SHOWN HEREON.
75. EDGE GRIND EXISTING ASPHALT CONCRETE A MINIMUM WIDTH OF 5-FEET IN ACCORDANCE WITH CITY OF HAYWARD STANDARD SD-113 AS REQUIRED TO PROVIDE AN ASPHALT OVERLAY HAVING A MINIMUM DEPTH OF 2-INCHES, WHICH UNIFORMLY CONFORMS TO THE EXISTING SURFACE ELEVATION AND DOES NOT IMPEDE DRAINAGE. SEE SHEET 0-C5.2.
78. PROVIDE TEMPORARY CONSTRUCTION FENCING 6-FEET HIGH WITH PRIVACY AND WIND SCREEN AND GATE OPENINGS.
79. EXISTING GATE AND GATE CONTROLLER EQUIPMENT TO BE RELINQUISHED TO THE CITY FOLLOWING REMOVAL.

30 0 30 60
scale 1" = 30' feet

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, DIR. OF PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	INC 01_ADD_01_VI	12/06/2019

PERMIT SUBMITTAL V3 - INCREMENT #1

REGISTERED PROFESSIONAL ENGINEER
JACOB KIRCHMANN
C 78079
CIVIL
STATE OF CALIFORNIA
03/09/2020

Sheet Title

DEMOLITION PLAN

BkF 100+ YEARS
ENGINEERS . SURVEYORS . PLANNERS
255 SHORLINE DR, STE 200
REDWOOD CITY, CA 94065
PHONE: (415) 936-7960
FAX: (650) 482-6399

Drawn By: TRL Checked By: BD

Scale: AS SHOWN

Date: October 4, 2019

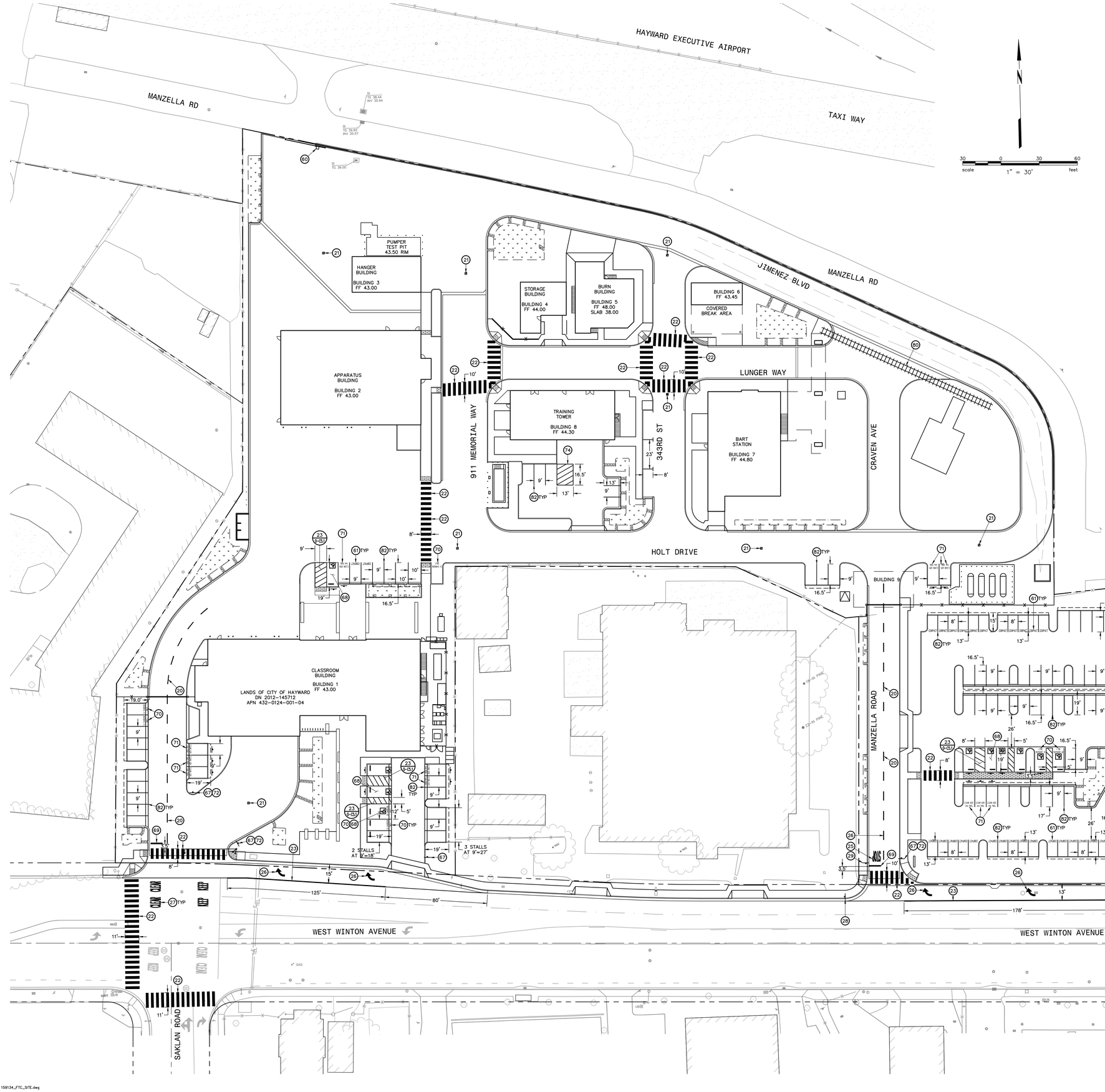
Project No. 20159134

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Drawing No.

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Plot File: 07, 2020 at 10:32am

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KEYNOTES:

(20) CENTERLINE STRIPING IN ACCORDANCE WITH 2015 CALTRANS REVISED STANDARD PLAN RSP A20A, DETAIL 2. SEE SHEET 0-C5.4.

(21) BLUE RAISED PAVEMENT MARKER TO INDICATE LOCATION OF FIRE HYDRANT IN ACCORDANCE WITH SECTION 3B.11 OF THE LATEST CALIFORNIA MUTCD.

(22) CONTINENTAL CROSSWALK IN ACCORDANCE WITH 2015 CALTRANS STANDARD PLAN A24F. SEE SHEET 0-C5.5.

(23) CHANNELIZING LINE IN ACCORDANCE WITH DETAIL 38A OF 2015 CALTRANS REVISED STANDARD PLAN RSP A20D. SEE SHEET 0-C5.4.

(25) THERMOPLASTIC 'STOP' LEGEND IN ACCORDANCE WITH 2015 CALTRANS STANDARD PLAN A24D. SEE SHEET 0-C5.4.

(26) TYPE IV (R) ARROW IN ACCORDANCE WITH 2015 CALTRANS STANDARD PLAN A24A. SEE SHEET 0-C5.4.

(27) THERMOPLASTIC 'KEEP CLEAR' PAVEMENT MARKINGS IN ACCORDANCE WITH 2015 CALTRANS STANDARD PLAN A24E. SEE SHEET 0-C5.5.

(28) W11-8 (30-INCH x 36-INCH) EMERGENCY VEHICLE SIGN IN ACCORDANCE WITH MUTCD AND HAYWARD TRAFFIC STANDARDS.

(29) R1-1 STOP SIGN IN ACCORDANCE WITH FIGURE 2B-1 AND SECTIONS 2B.05.02 OF THE LATEST CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

(60) GATE OPERATOR. REFER TO ARCHITECTURAL AND MECHANICAL DRAWINGS.

(61) COMPACT PARKING STALL PAVEMENT MARKING IN ACCORDANCE WITH 2015 CALTRANS STANDARD PLAN A24D. SEE SHEET 0-C5.4.

(67) R28E "NO PUBLIC PARKING" SIGN IN ACCORDANCE WITH FIGURE 2B-24 AND SECTION 2B.46 OF THE LATEST CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES .

(68) VAN ACCESSIBLE STALL WITH R99C AND R7-8B SIGN ON POST IN ACCORDANCE WITH SECTION 2B.46.65 OF THE LATEST CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

(69) LIMIT LINE PAVEMENT MARKING IN ACCORDANCE WITH 2015 CALTRANS STANDARD PLAN A24E. SEE SHEET 0-C5.5.

(70) EV CHARGING ONLY STALL PAVEMENT MARKING IN ACCORDANCE WITH SECTION 3B.20.39 OF THE LATEST CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

(71) CLEAN AIR/VAN POOL STALL PAVEMENT MARKINGS IN ACCORDANCE WITH SECTION 5.106.5.2 OF THE CALIFORNIA GREEN BUILDING CODE.

(72) R100B "UNAUTHORIZED VEHICLES" SIGN IN ACCORDANCE WITH FIGURE 2B-24 AND SECTION 2B.46 OF THE LATEST CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

(80) RAILROAD TRACKS FOR TRAINING PURPOSES ONLY. REFER TO ARCHITECTURAL DRAWINGS.

(82) THERMOPLASTIC 4-INCH WIDE SOLID WHITE STRIPING WHERE SHOWN ON PLAN.

LEGEND

---------- ANTICIPATED VEHICLE OVERHANG OF OCCUPIED STALL

STRIPING NOTE

PARKING STALL SIZE DIMENSIONS ILLUSTRATED HEREIN ARE IN ACCORDANCE WITH THE CITY OF HAYWARD STANDARD ON-STREET PARKING DETAIL DRAWING. WHERE VEHICLE OVERHANG LINE IS INDICATED, TOTAL PARKING STALL LENGTH IS INCLUSIVE OF BOTH THE STRIPED DIMENSION AS WELL AS THE VEHICLE OVERHANG DIMENSION.

SIGNAGE NOTE

REGULATORY SIGN LOCATIONS SHOWN HEREON ARE DIAGRAMMATIC AND ARE INTENDED TO ILLUSTRATE REQUIRED POSITIONING ONLY WHEN LOCATED ALONG AN ACCESSIBLE ROUTE. REFER TO VOLUME 8 DRAWINGS FOR OTHER SIGNAGE INFORMATION.

RossDrulisCusenbery
18294 Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542
ARCHITECTURE

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, DIR. OF PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

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REVISIONS

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1	INC 01_ADD_01_VI	12/06/2019

PERMIT SUBMITTAL V3 - INCREMENT #1

REGISTERED PROFESSIONAL ENGINEER JASON KITCHEN C 78079 CIVIL STATE OF CALIFORNIA

03/09/2020

Sheet Title

SIGNING & STRIPING PLAN

BKF 100+ YEARS
ENGINEERS . SURVEYORS . PLANNERS
255 SHORLINE DR, STE 200
REDWOOD CITY, CA 94065
PHONE: (415) 936-7960
FAX: (650) 482-6399

Drawn By: TRL Checked By: BD

Scale: AS SHOWN

Date: October 4, 2019

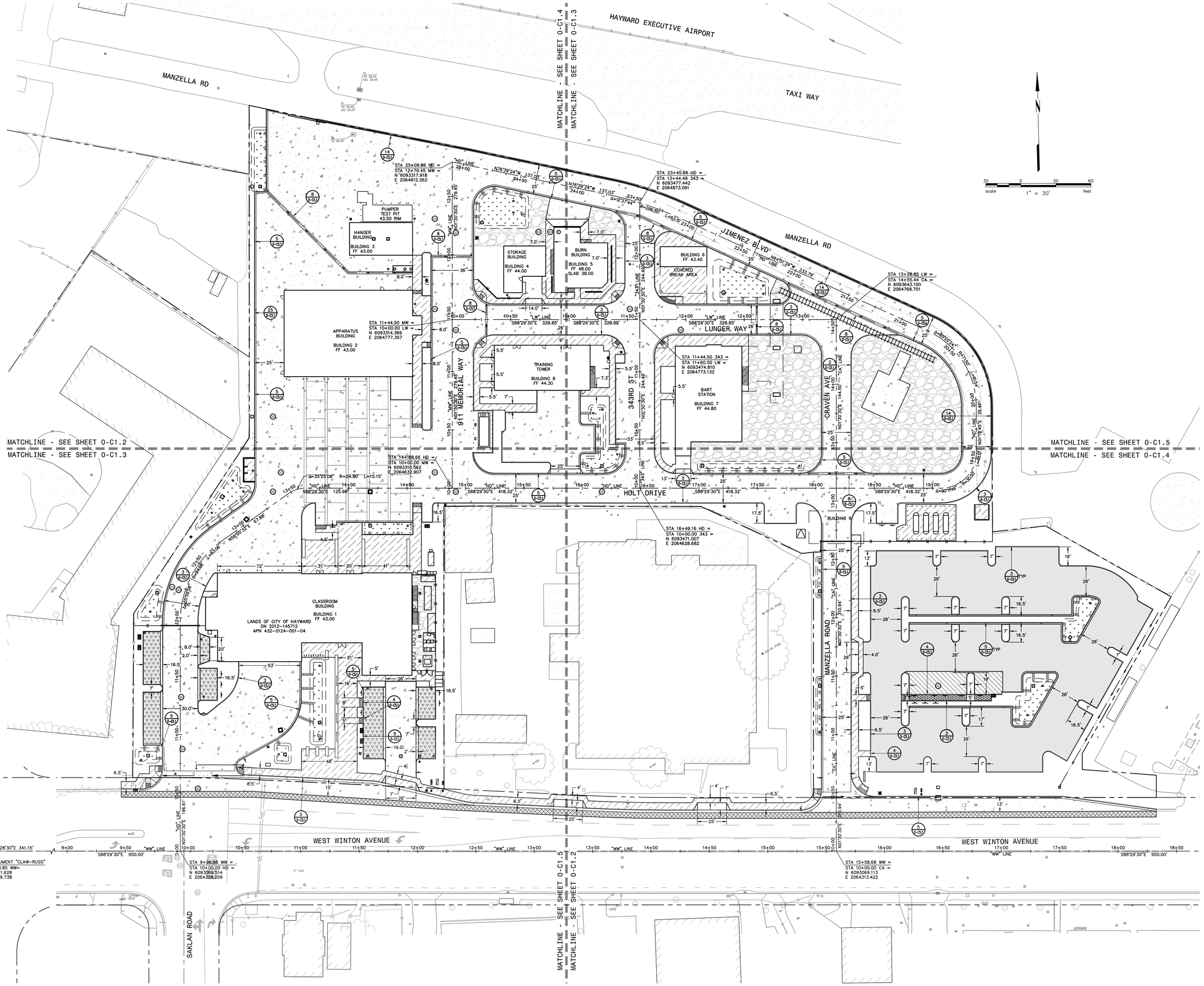
Project No. 20159134

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Drawing No.

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RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

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HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	INC 01_ADD_01_VI	12/06/2019

PERMIT SUBMITTAL V3 - INCREMENT #1

REGISTERED PROFESSIONAL ENGINEER
JASON KITCHENS
C 78079
CIVIL
STATE OF CALIFORNIA
03/09/2020

Sheet Title

OVERALL HORIZONTAL CONTROL PLAN

BKF 100+ YEARS
ENGINEERS . SURVEYORS . PLANNERS
255 SHORLINE DR, STE 200
REDWOOD CITY, CA 94065
PHONE: (415) 936-7960
FAX: (650) 482-6399

Drawn By: TRL Checked By: BD

Scale: **AS SHOWN**

Date: **October 4, 2019**

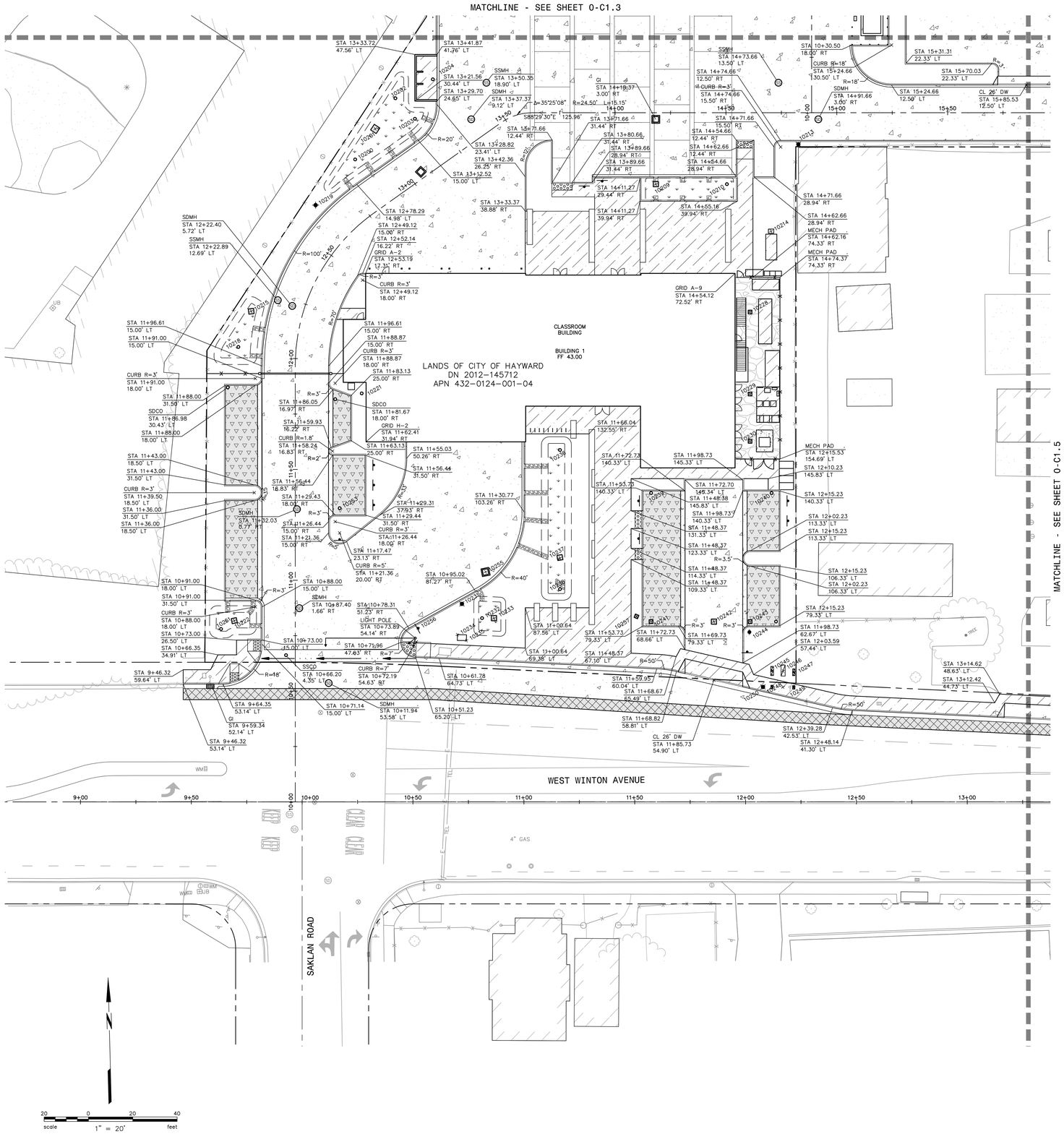
Project No. 20159134

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Drawing No.

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Plot: Mar 24, 2020 at 5:16pm
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HORIZONTAL CONTROL			
POINT #	NORTHING	EASTING	DESCRIPTION
10200	2064617.227	6093104.131	SDCO
10201	2064630.768	6093113.559	GI
10202	2064644.309	6093122.987	SDCO
10203	2064634.829	6093131.554	SDCO
10204	2064652.444	6093140.134	SSCO
10209	2064602.518	6093239.436	GI
10210	2064601.669	6093271.472	SDCO
10213	2064618.819	6093304.189	FH
10214	2064579.956	6093290.839	GAS SUMP
10215	2064550.011	6093055.472	GI
10218	2064534.030	6093049.245	SDCO
10219	2064597.103	6093085.777	FH
10221	2064511.620	6093104.299	SSCO
10222	2064410.654	6093044.176	GI
10228	2064543.745	6093280.398	GI
10229	2064506.758	6093279.425	GI
10230	2064485.439	6093278.863	GI
10231	2064415.534	6093147.009	FH
10232	2064408.872	6093155.916	SDCO
10233	2064408.673	6093161.290	GI
10234	2064401.693	6093144.621	VLT
10235	2064398.935	6093148.617	VLT
10236	2064483.754	6093193.028	SDCO
10237	2064435.027	6093191.745	GI
10238	2064421.042	6093191.377	SDCO

HORIZONTAL CONTROL			
POINT #	NORTHING	EASTING	DESCRIPTION
10239	2064463.266	6093233.606	SDCO
10240	2064461.830	6093287.953	SDCO
10241	2064405.291	6093232.081	DI
10242	2064404.539	6093260.429	GI
10243	2064404.110	6093276.722	DI
10244	2064399.387	6093276.306	PIV
10245	2064381.809	6093286.070	BFP
10246	2064381.423	6093291.050	DDC
10247	2064380.750	6093295.848	DDC
10248	2064374.167	6093290.834	WM
10249	2064373.931	6093295.652	WM
10250	2064374.475	6093281.789	FH
10251	2064407.064	6093038.079	SDCO
10253	2064460.121	6093092.998	SDCO
10255	2064429.633	6093158.037	DI
10256	2064405.080	6093126.984	SIGN
10257	2064407.827	6093225.578	GI

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18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542
ARCHITECTURE

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA (DEP. DIR. PUBLIC WORKS)	ALEX AMERI (DIR. OF PUBLIC WORKS)
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

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PERMIT SUBMITTAL V3 - INCREMENT #1

REGISTERED PROFESSIONAL ENGINEER JASON KITRONGRAT C 78079 CIVIL STATE OF CALIFORNIA

03/09/2020

Sheet Title

HORIZONTAL CONTROL PLAN

BkF 100+ YEARS
ENGINEERS . SURVEYORS . PLANNERS
255 SHORLINE DR, STE 200
REDWOOD CITY, CA 94065
PHONE: (415) 936-7960
FAX: (650) 482-6399

Drawn By: TRL Checked By: BD

Scale: **AS SHOWN**

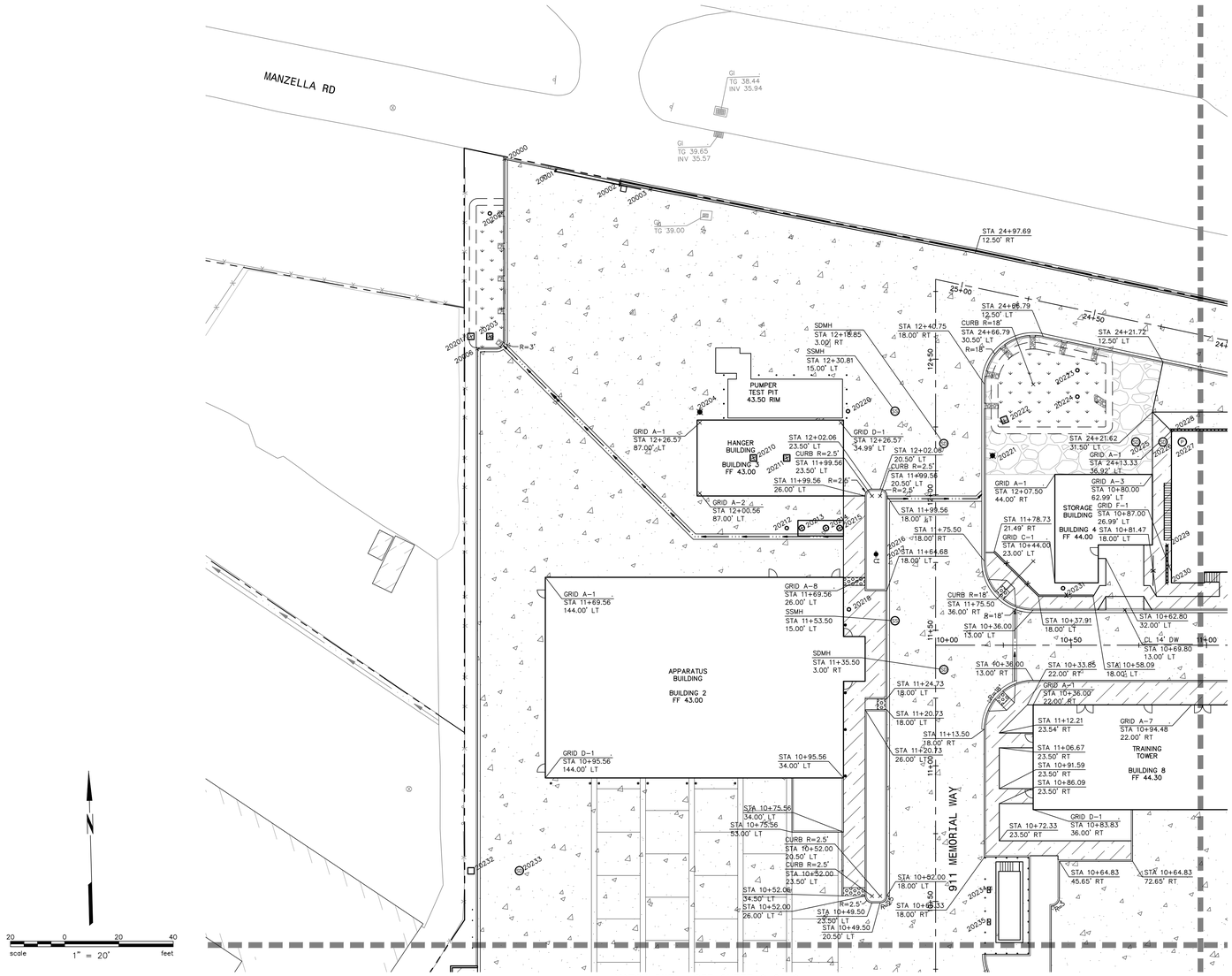
Date: **October 4, 2019**

Project No. 20159134

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Drawing No.

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Post: Feb 21, 2020 at 11:18am
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HORIZONTAL CONTROL			
POINT #	NORTHING	EASTING	DESCRIPTION
20000	2064960.718	6093160.138	TC
20001	2064956.284	6093178.966	TC
20002	2064950.783	6093202.327	RTWL
20003	2064948.133	6093213.579	RTWL
20006	2064891.006	6093148.300	TC
20201	2064895.740	6093145.965	DI
20202	2064940.868	6093154.104	SDCO
20203	2064895.553	6093152.918	GI
20204	2064865.628	6093229.660	FH
20210	2064848.182	6093248.977	SS GI
20211	2064847.859	6093261.265	SS GI
20212	2064821.973	6093260.584	SSCO
20213	2064821.831	6093266.106	SS RIM
20214	2064821.597	6093274.988	SS RIM
20215	2064821.463	6093280.074	SS RIM
20216	2064811.482	6093293.257	PIV
20217	2064808.982	6093293.191	FDC
20218	2064791.418	6093282.725	SSCO
20220	2064864.488	6093284.315	SSCO
20221	2064846.756	6093337.215	FH
20222	2064859.326	6093341.944	GI
20223	2064877.350	6093369.299	SDCO
20224	2064867.596	6093369.043	SDCO
20225	2064850.349	6093390.131	SDMH
20226	2064850.086	6093400.127	SDMH

HORIZONTAL CONTROL			
POINT #	NORTHING	EASTING	DESCRIPTION
20227	2064849.908	6093407.307	SUMP
20228	2064854.406	6093403.413	TD
20229	2064812.069	6093400.643	TD
20230	2064798.074	6093400.274	TD
20231	2064797.112	6093361.902	SSCO
20232	2064698.689	6093140.825	DI
20233	2064698.225	6093158.481	DI
20234	2064686.662	6093331.651	GAS PUMP
20234	2064686.662	6093331.651	GAS PUMP
20235	2064674.833	6093331.340	GAS PUMP
20235	2064674.833	6093331.340	GAS PUMP

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ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, DIR. OF PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

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PERMIT SUBMITTAL V3 - INCREMENT #1

REGISTERED PROFESSIONAL ENGINEER
JASON KIRCHGASSER
C 78079
CIVIL
STATE OF CALIFORNIA

03/09/2020

Sheet Title

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BKF 100+ YEARS
ENGINEERS . SURVEYORS . PLANNERS
255 SHORLINE DR, STE 200
REDWOOD CITY, CA 94065
PHONE: (415) 936-7960
FAX: (650) 482-6399

Drawn By: TRL Checked By: BD

Scale:
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Date:
October 4, 2019

Project No. 20159134

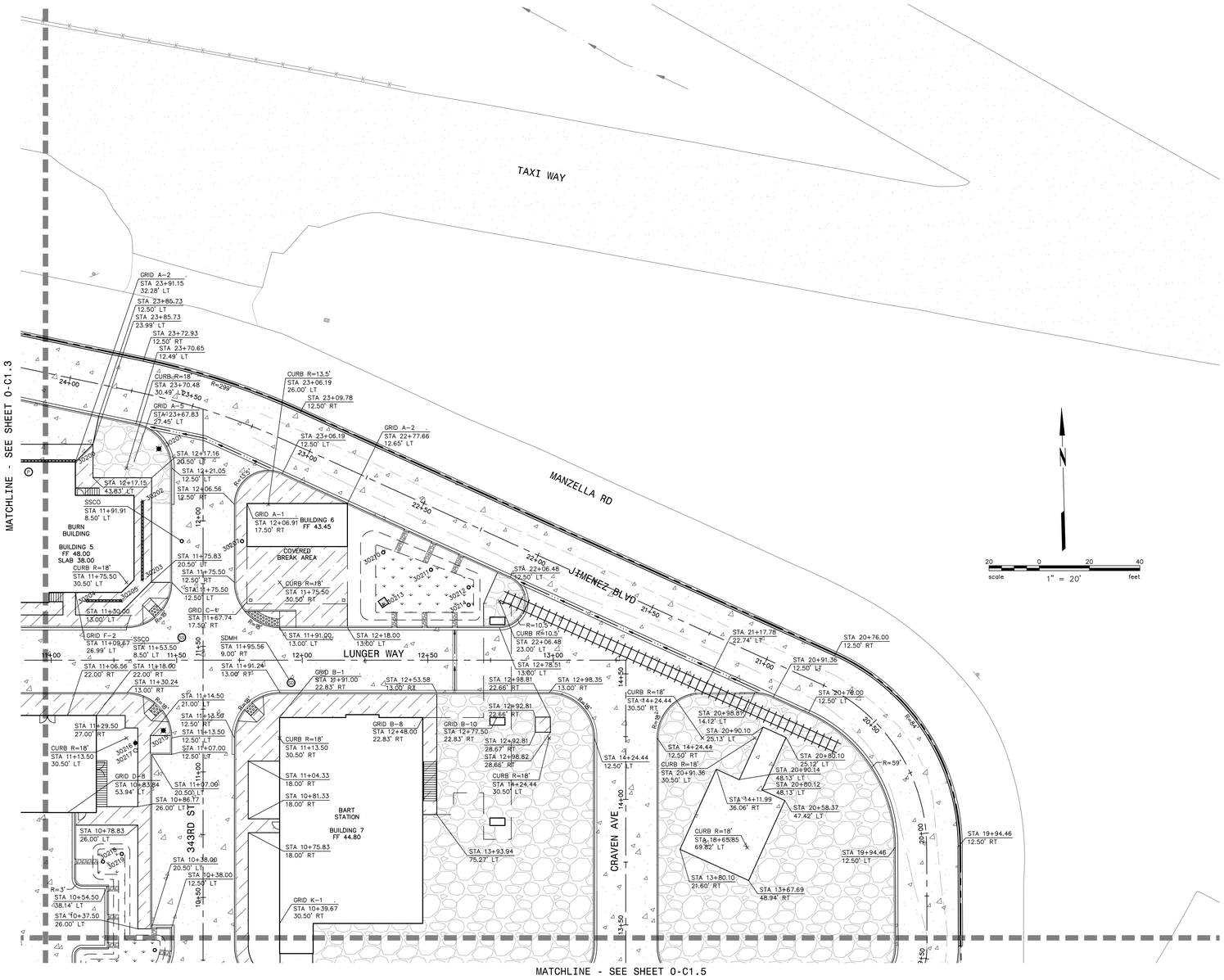
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HORIZONTAL CONTROL			
POINT #	NORTHING	EASTING	DESCRIPTION
30200	2064853.809	6093426.095	TD
30201	2064857.759	6093459.438	FH
30202	2064837.039	6093452.318	TD
30203	2064805.749	6093451.494	TD
30204	2064798.006	6093428.949	TD
30205	2064797.637	6093442.944	TD
30207	2064820.113	6093491.553	SSCO
30210	2064814.126	6093547.659	SDCO
30211	2064806.721	6093566.452	SDCO
30212	2064799.328	6093581.281	SDCO
30213	2064793.225	6093547.109	GI
30214	2064792.330	6093581.097	SDCO
30215	2064745.558	6093458.275	FH
30216	2064740.854	6093446.951	PIV
30217	2064737.855	6093446.872	FDC
30218	2064693.975	6093432.817	SDCO
30219	2064696.845	6093440.405	SDCO

20 0 20 40
scale 1" = 20' feet

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ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA (DEP. DIR. PUBLIC WORKS)	ALEX AMERI (DIR. OF PUBLIC WORKS)
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	INC 01_ADD_01_VI	12/06/2019

PERMIT SUBMITTAL V3 - INCREMENT #1

REGISTERED PROFESSIONAL ENGINEER
JASON KIRCHDOERFER
C 78079
CIVIL
STATE OF CALIFORNIA
03/09/2020

Sheet Title

HORIZONTAL CONTROL PLAN

BKF 100+ YEARS
ENGINEERS . SURVEYORS . PLANNERS
255 SHORLINE DR, STE 200
REDWOOD CITY, CA 94065
PHONE: (415) 936-7960
FAX: (650) 482-6399

Drawn By: TRL Checked By: BD

Scale:
AS SHOWN

Date:
October 4, 2019

Project No. 20159134

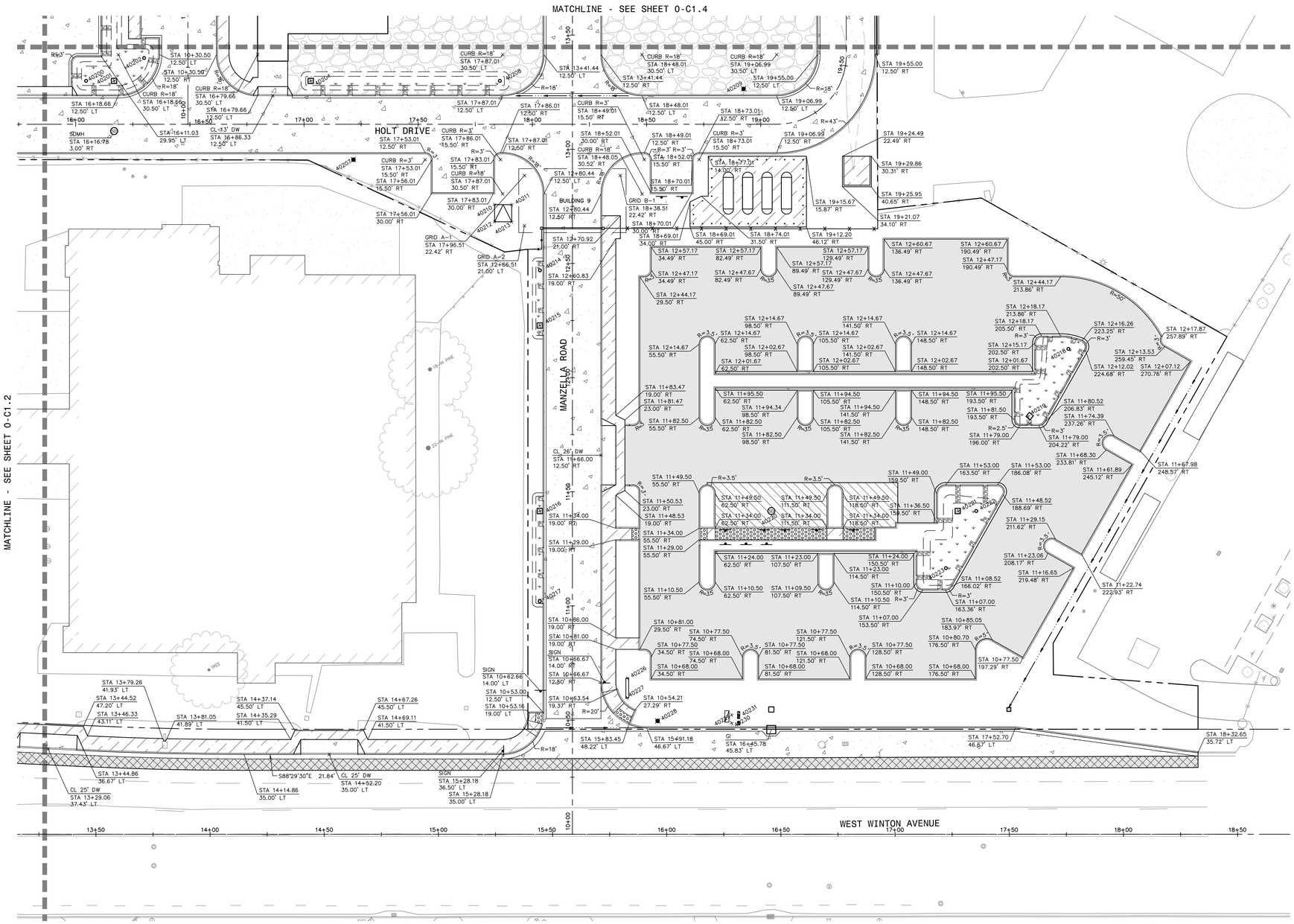
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Plot Fle: 20, 2020 at 12:57pm

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HORIZONTAL CONTROL			
POINT #	NORTHING	EASTING	DESCRIPTION
40200	2064648.850	6093426.887	SDCO
40201	2064648.528	6093439.133	GI
40202	2064658.178	6093452.543	SDCO
40204	2064646.261	6093525.233	GI
40207	2064611.281	6093543.028	FH
40208	2064644.081	6093608.038	SDCO
40209	2064637.772	6093714.656	FH
40210	2064589.956	6093604.295	TF PAD
40211	2064589.758	6093611.792	TF PAD
40212	2064582.458	6093604.097	TF PAD
40213	2064582.261	6093611.595	TF PAD
40214	2064560.648	6093623.390	SDCO
40215	2064536.540	6093622.733	GI
40216	2064455.329	6093620.595	GI
40217	2064415.843	6093619.544	SDCO
40218	2064520.194	6093853.822	SDCO
40219	2064491.108	6093835.361	GI
40220	2064452.662	6093721.912	SDMH
40221	2064450.506	6093803.781	GI
40222	2064450.412	6093811.610	SDCO
40223	2064425.616	6093797.654	SDCO
40226	2064381.134	6093656.925	SIGN
40227	2064372.471	6093656.697	SIGN
40228	2064362.089	6093669.734	FH
40229	2064363.781	6093702.236	DDC

HORIZONTAL CONTROL			
POINT #	NORTHING	EASTING	DESCRIPTION
40230	2064360.259	6093702.126	WM
40231	2064363.090	6093705.198	BFP

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ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
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CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, DIR. OF PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

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HAYWARD, CA 94545

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JASON KIRCHDOERFER
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CIVIL
STATE OF CALIFORNIA

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Date: **October 4, 2019**

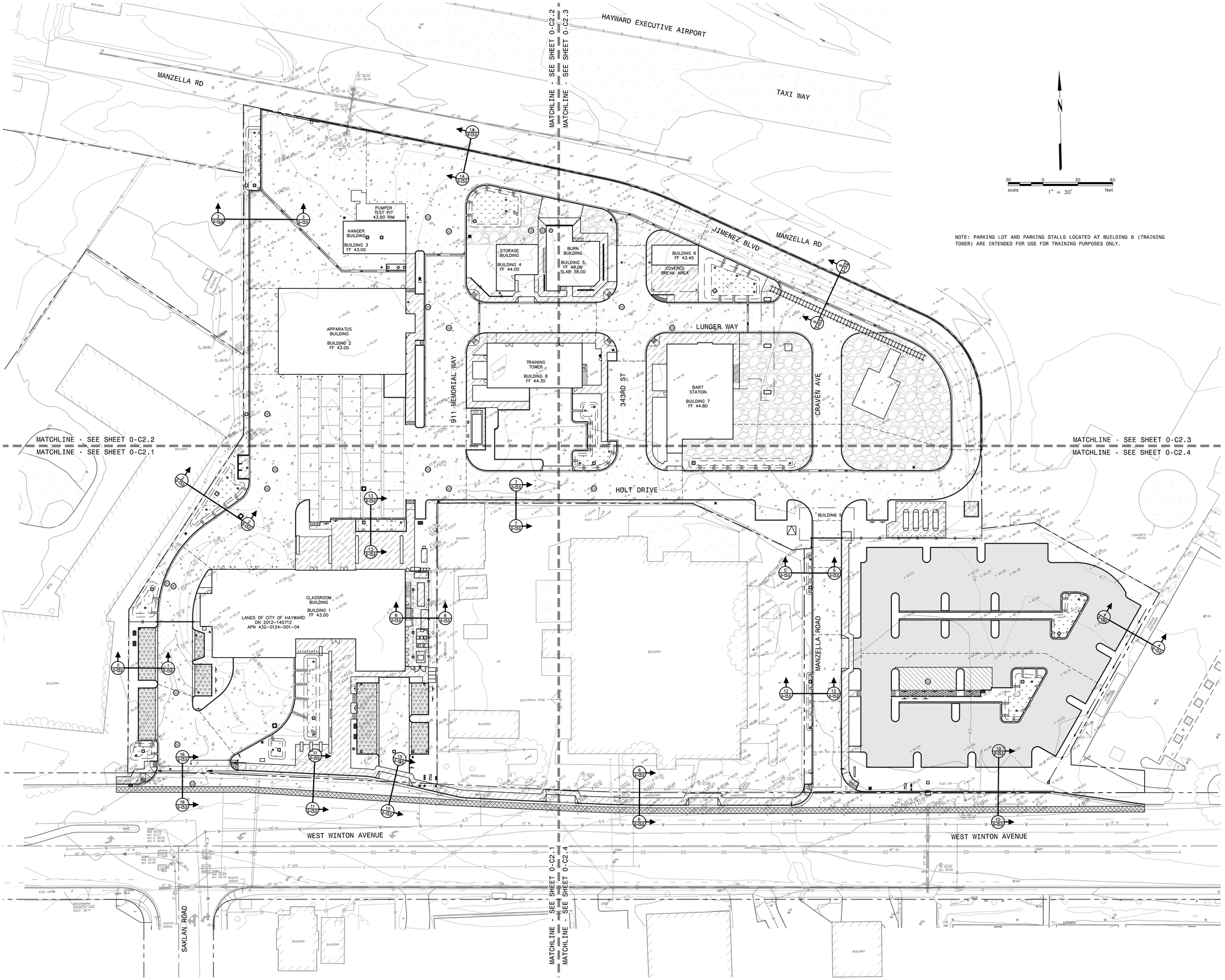
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Plot: Mar 04, 2020 at 5:32pm
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NOTE: PARKING LOT AND PARKING STALLS LOCATED AT BUILDING 8 (TRAINING TOWER) ARE INTENDED FOR USE FOR TRAINING PURPOSES ONLY.

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ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, DIR. OF PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

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REGISTERED PROFESSIONAL ENGINEER JASON KITCHMAN C 78079 CIVIL STATE OF CALIFORNIA

03/09/2020

Sheet Title

OVERALL GRADING PLAN

BKF 100+ YEARS
ENGINEERS . SURVEYORS . PLANNERS
255 SHORLINE DR, STE 200
REDWOOD CITY, CA 94065
PHONE: (415) 936-7960
FAX: (650) 482-6399

Drawn By: TRL Checked By: BD

Scale: **AS SHOWN**

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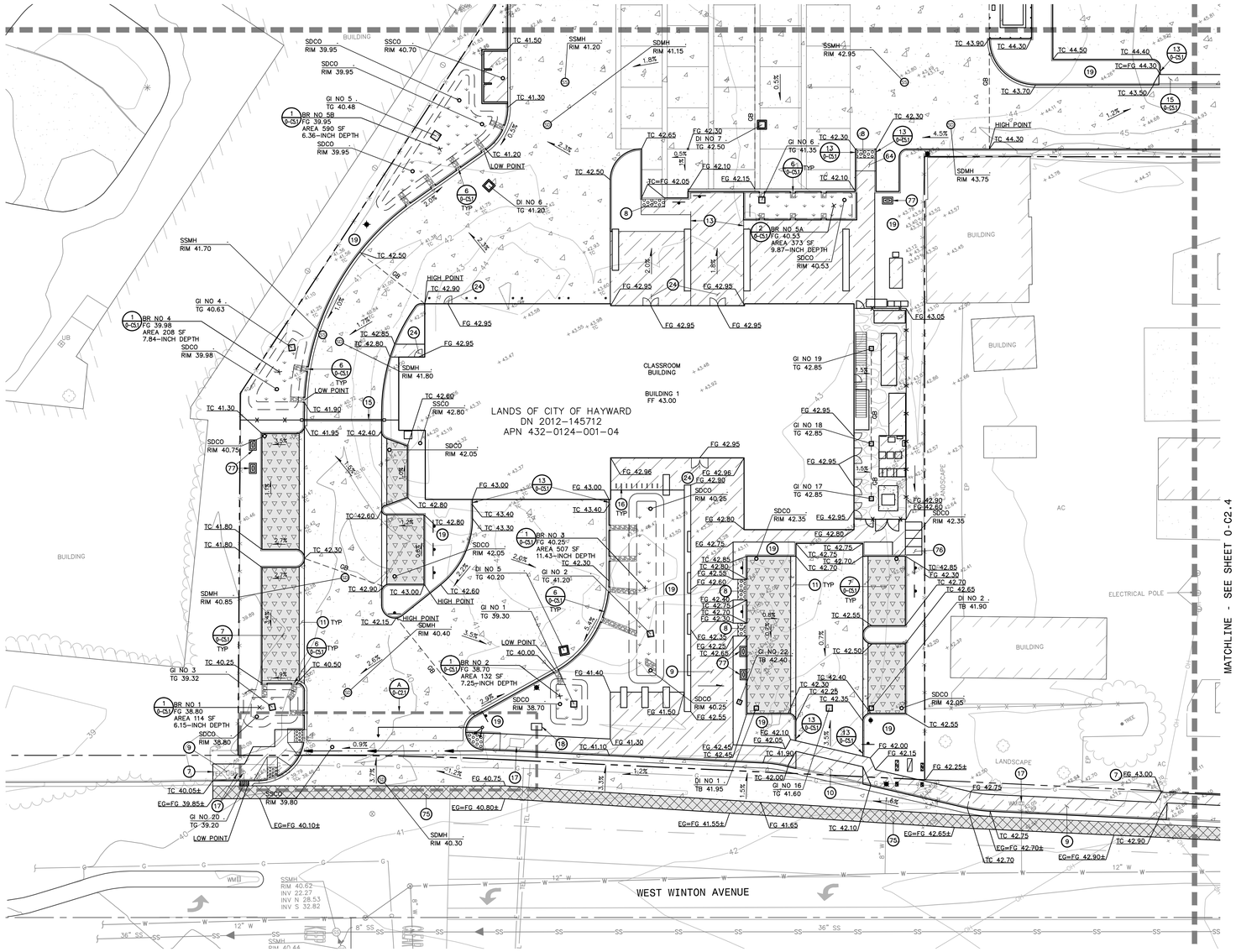
Project No. 20159134

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Plot: Mar 04, 2020 at 5:20pm

150134_FTC_SITE.dwg



CURB RAMP GRADING

A — 1" = 5'

KEYNOTES:

(6) RELOCATE EXISTING TRAFFIC SIGNAL. COORDINATE WITH CITY OF HAYWARD.

(7) CONFORM TO EXISTING SURFACE ELEVATION IN A MANNER WHICH GENERATES A UNIFORM TRANSITION BETWEEN SURFACES AND DOES NOT IMPEDE DRAINAGE.

(8) DETECTABLE WARNING SURFACE IN ACCORDANCE WITH SECTION 11B-705.1 OF THE 2016 CALIFORNIA BUILDING CODE. REFER TO ARCHITECTURAL DRAWINGS.

(9) SIDEWALK WITHOUT PLANTER STRIP IN ACCORDANCE WITH CITY OF HAYWARD STANDARD DETAIL SD-108. SEE SHEET 0-C5.2.

(10) DRIVEWAY IN ACCORDANCE WITH CITY OF HAYWARD STANDARD DETAIL SD-108A. SEE SHEET 0-C5.2.

(11) CONCRETE CONTAINMENT BAND. REFER TO LANDSCAPE DRAWINGS.

(13) BUILDING OVERHANG. REFER TO ARCHITECTURAL DRAWINGS.

(14) BUILDING COLUMN. REFER TO ARCHITECTURAL DRAWINGS.

(15) GATE. REFER TO ARCHITECTURAL DRAWINGS.

(16) BIKE RACK. REFER TO LANDSCAPE DRAWINGS.

(17) COORDINATE WITH THE OWNER OF THIS UTILITY TO ADJUST EXISTING UTILITY TO FINISHED GROUND SURFACE ELEVATION.

(18) COORDINATE WITH THE OWNER OF THIS UTILITY TO RELOCATE THE EXISTING UTILITY AS SHOWN HEREON.

(19) BACKFILL NEW IMPROVEMENTS TO THE LINES AND ELEVATIONS SHOWN WITH SOIL SUITABLE FOR PLANTING IN A MANNER WHICH GENERATES A UNIFORM TRANSITION BETWEEN SURFACES AND DOES NOT IMPEDE DRAINAGE. REFER TO LANDSCAPE DRAWINGS FOR SOIL INFORMATION.

(24) SLOPE SURFACE AT A GRADIENT NOT EXCEEDING 2-PERCENT TO PROVIDE AN ACCESSIBLE PATH OF TRAVEL IN ACCORDANCE WITH SECTION 11B-403.3 OF THE 2016 CALIFORNIA BUILDING CODE (CBC) WHILE PROVIDING DRAINAGE AWAY FROM THE BUILDING IN ACCORDANCE WITH SECTION 1804A.4 OF THE CBC.

(62) CASE A CURB RAMP IN ACCORDANCE WITH CITY OF HAYWARD STANDARD DRAWING SD-108. SEE SHEET 0-C5.2.

(64) CASE F CURB RAMP IN ACCORDANCE WITH CITY OF HAYWARD STANDARD DRAWING SD-108. SEE SHEET 0-C5.2.

(65) CASE G CURB RAMP IN ACCORDANCE WITH CITY OF HAYWARD STANDARD DRAWING SD-108. SEE SHEET 0-C5.2.

(66) CASE CM CURB RAMP IN ACCORDANCE WITH CITY OF HAYWARD STANDARD DRAWING SD-108. SEE SHEET 0-C5.2.

(75) EDGE GRIND EXISTING ASPHALT CONCRETE A MINIMUM WIDTH OF 5-FEET IN ACCORDANCE WITH CITY OF HAYWARD STANDARD SD-113 AS REQUIRED TO PROVIDE AN ASPHALT OVERLAY HAVING A MINIMUM DEPTH OF 2-INCHES, WHICH UNIFORMLY CONFORMS TO THE EXISTING SURFACE ELEVATION AND DOES NOT IMPEDE DRAINAGE. SEE SHEET 0-C5.2.

(76) BICYCLE LOCKERS. REFER TO THE ARCHITECTURAL DRAWINGS.

(77) ELECTRIC VEHICLE CHARGER WITH SIGN MOUNTED ON POST IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS. REFER TO THE ELECTRICAL DRAWINGS.

(83) VALLEY GUTTER IN ACCORDANCE WITH CITY OF HAYWARD STANDARD DETAIL SD-110A. SEE SHEET 0-C5.2.

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
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REGISTERED PROFESSIONAL ENGINEER
JASON KTRONIAN
C 78079
CIVIL
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Sheet Title

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BKF 100+ YEARS
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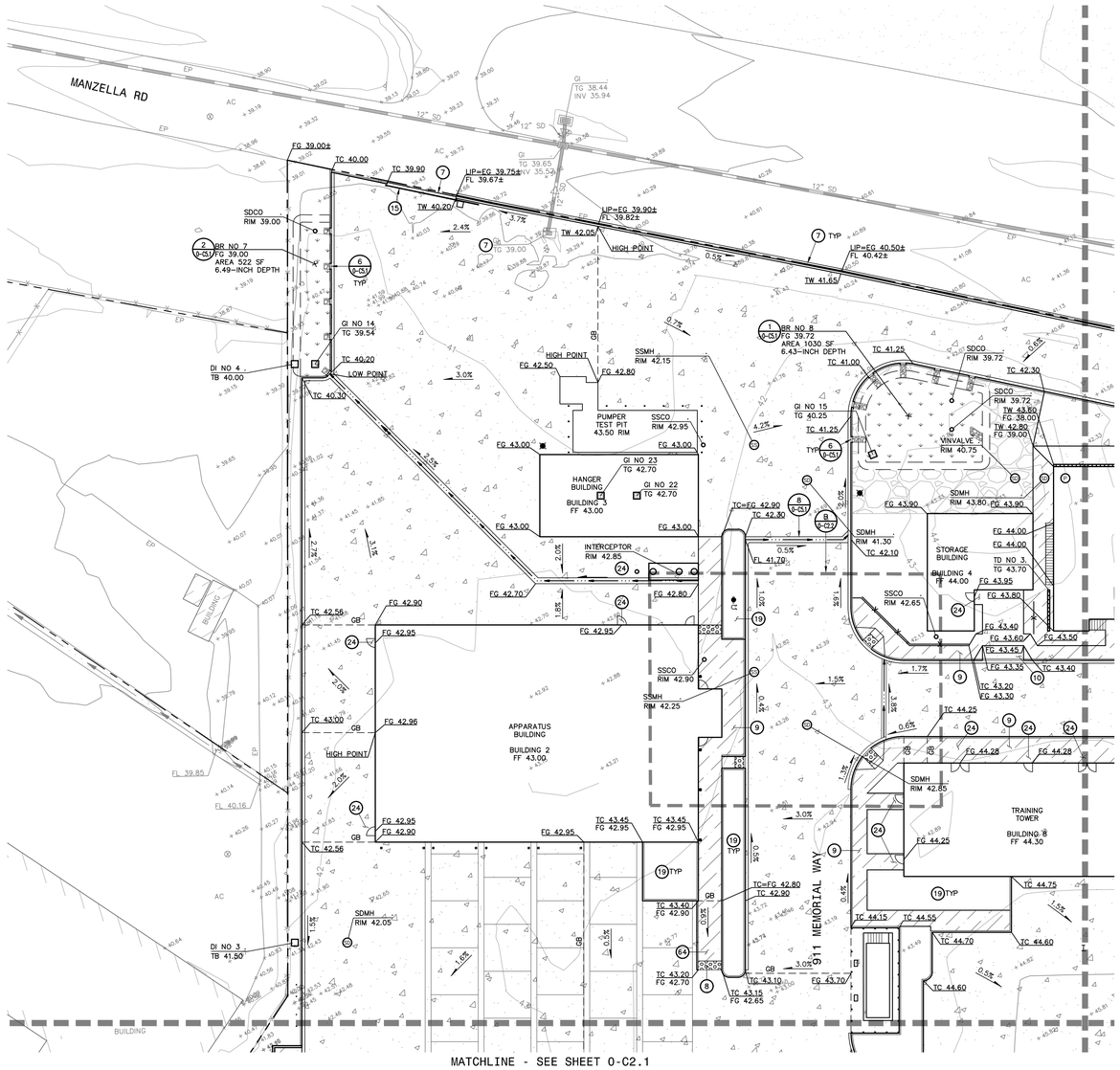
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KEYNOTES:

(7) CONFORM TO EXISTING SURFACE ELEVATION IN A MANNER WHICH GENERATES A UNIFORM TRANSITION BETWEEN SURFACES AND DOES NOT IMPEDE DRAINAGE.

(8) DETECTABLE WARNING SURFACE IN ACCORDANCE WITH SECTION 11B-705.1 OF THE 2016 CALIFORNIA BUILDING CODE. REFER TO ARCHITECTURAL DRAWINGS.

(9) SIDEWALK WITHOUT PLANTER STRIP IN ACCORDANCE WITH CITY OF HAYWARD STANDARD DETAIL SD-108. SEE SHEET 0-C5.2.

(10) DRIVEWAY IN ACCORDANCE WITH CITY OF HAYWARD STANDARD DETAIL SD-108A. SEE SHEET 0-C5.2.

(15) GATE. REFER TO ARCHITECTURAL DRAWINGS.

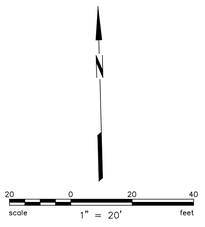
(19) BACKFILL NEW IMPROVEMENTS TO THE LINES AND ELEVATIONS SHOWN WITH SOIL SUITABLE FOR PLANTING IN A MANNER WHICH GENERATES A UNIFORM TRANSITION BETWEEN SURFACES AND DOES NOT IMPEDE DRAINAGE. REFER TO LANDSCAPE DRAWINGS FOR SOIL INFORMATION.

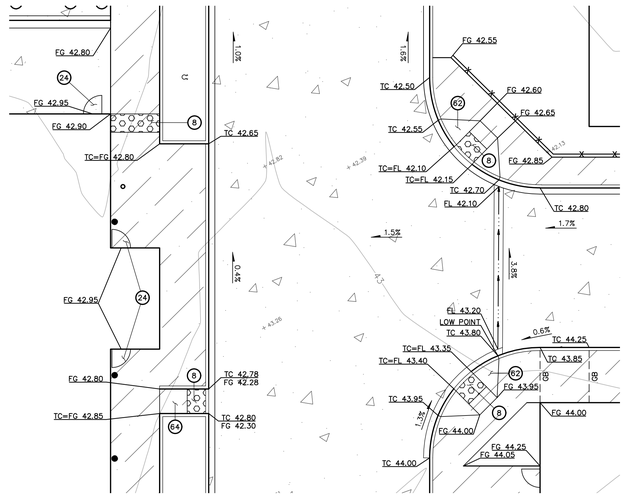
(24) SLOPE SURFACE AT A GRADIENT NOT EXCEEDING 2-PERCENT TO PROVIDE AN ACCESSIBLE PATH OF TRAVEL IN ACCORDANCE WITH SECTION 11B-403.3 OF THE 2016 CALIFORNIA BUILDING CODE (CBC) WHILE PROVIDING DRAINAGE AWAY FROM THE BUILDING IN ACCORDANCE WITH SECTION 1804A.4 OF THE CBC.

(62) CASE A CURB RAMP IN ACCORDANCE WITH CITY OF HAYWARD STANDARD DRAWING SD-108. SEE SHEET 0-C5.2.

(64) CASE F CURB RAMP IN ACCORDANCE WITH CITY OF HAYWARD STANDARD DRAWING SD-108. SEE SHEET 0-C5.2.

(65) CASE G CURB RAMP IN ACCORDANCE WITH CITY OF HAYWARD STANDARD DRAWING SD-108. SEE SHEET 0-C5.2.





B CURB RAMP GRADING
1" = 10'

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, DIR. OF PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	INC 01_ADD_01_VI	12/06/2019

PERMIT SUBMITTAL V3 - INCREMENT #1

REGISTERED PROFESSIONAL ENGINEER
JASON KIRCHMANN
C 78079
CIVIL
STATE OF CALIFORNIA
03/09/2020

Sheet Title

GRADING PLAN

BKF 100+ YEARS
ENGINEERS . SURVEYORS . PLANNERS
255 SHORLINE DR, STE 200
REDWOOD CITY, CA 94065
PHONE: (415) 936-7960
FAX: (650) 482-6399

Drawn By: TRL Checked By: BD

Scale: AS SHOWN

Date: October 4, 2019

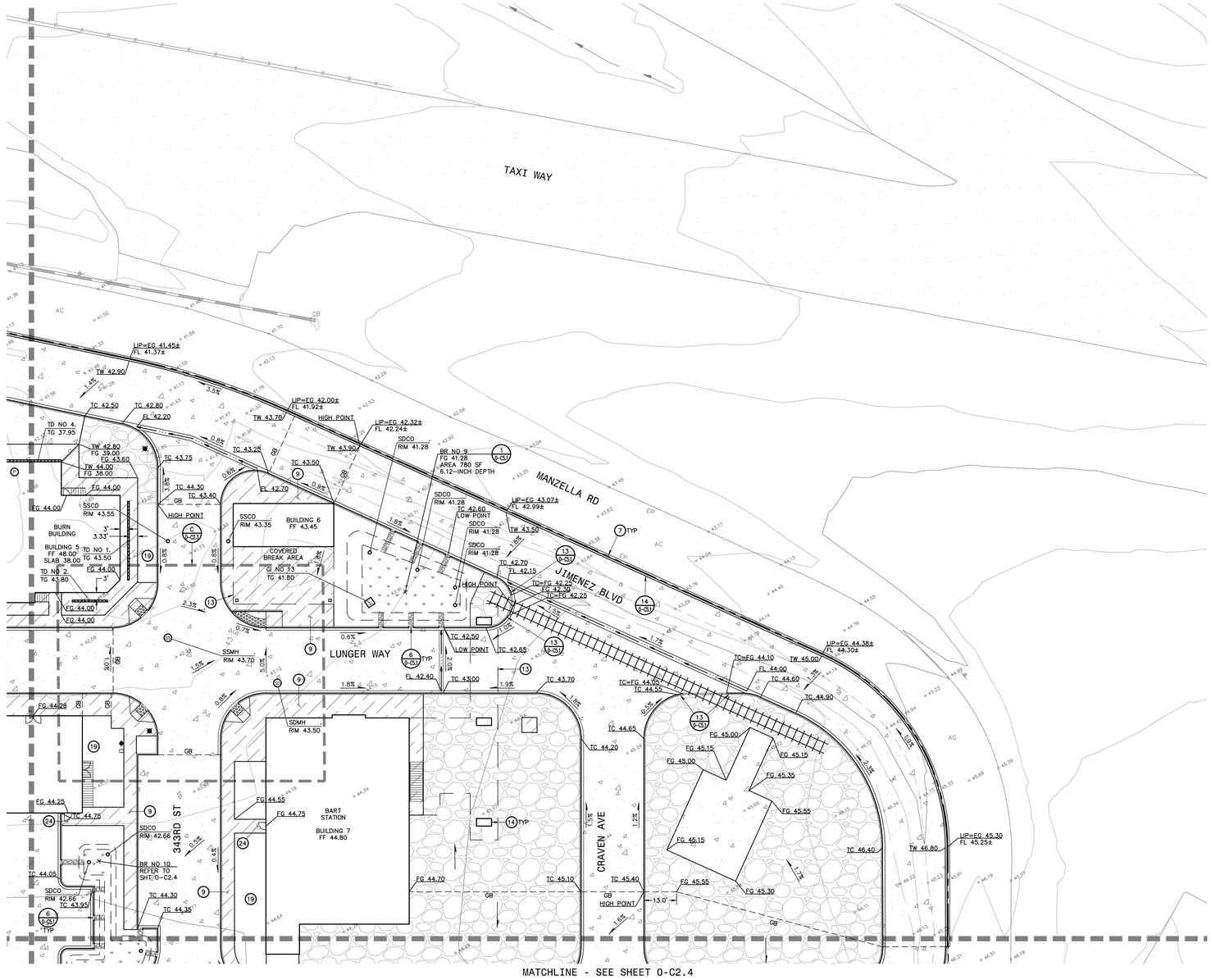
Project No. 20159134

0-C2.2

Drawing No.

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Plot: Feb 14, 2020 at 4:31pm
159134_JFTC_SITE.dwg



MATCHLINE - SEE SHEET 0-C2.4

KEYNOTES:

(7) CONFORM TO EXISTING SURFACE ELEVATION IN A MANNER WHICH GENERATES A UNIFORM TRANSITION BETWEEN SURFACES AND DOES NOT IMPEDE DRAINAGE.

(8) DETECTABLE WARNING SURFACE IN ACCORDANCE WITH SECTION 11B-705.1 OF THE 2016 CALIFORNIA BUILDING CODE. REFER TO ARCHITECTURAL DRAWINGS.

(9) SIDEWALK WITHOUT PLANTER STRIP IN ACCORDANCE WITH CITY OF HAYWARD STANDARD DETAIL SD-108. SEE SHEET 0-C5.2.

(10) DRIVEWAY IN ACCORDANCE WITH CITY OF HAYWARD STANDARD DETAIL SD-108A. SEE SHEET 0-C5.2.

(13) BUILDING OVERHANG. REFER TO ARCHITECTURAL DRAWINGS.

(14) BUILDING COLUMN. REFER TO ARCHITECTURAL DRAWINGS.

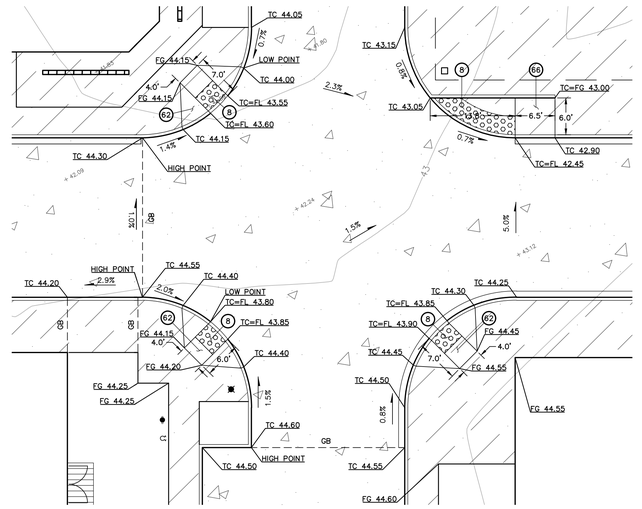
(19) BACKFILL NEW IMPROVEMENTS TO THE LINES AND ELEVATIONS SHOWN WITH SOIL SUITABLE FOR PLANTING IN A MANNER WHICH GENERATES A UNIFORM TRANSITION BETWEEN SURFACES AND DOES NOT IMPEDE DRAINAGE. REFER TO LANDSCAPE DRAWINGS FOR SOIL INFORMATION.

(24) SLOPE SURFACE AT A GRADIENT NOT EXCEEDING 2-PERCENT TO PROVIDE AN ACCESSIBLE PATH OF TRAVEL IN ACCORDANCE WITH SECTION 11B-403.3 OF THE 2016 CALIFORNIA BUILDING CODE (CBC) WHILE PROVIDING DRAINAGE AWAY FROM THE BUILDING IN ACCORDANCE WITH SECTION 1804A.4 OF THE CBC.

(62) CASE A CURB RAMP IN ACCORDANCE WITH CITY OF HAYWARD STANDARD DRAWING SD-108. SEE SHEET 0-C5.2.

(66) CASE CM CURB RAMP IN ACCORDANCE WITH CITY OF HAYWARD STANDARD DRAWING SD-108. SEE SHEET 0-C5.2.

20 0 20 40
scale 1" = 20' feet



C CURB RAMP GRADING
1" = 10'

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, DIR. OF PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

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PERMIT SUBMITTAL V3 - INCREMENT #1

REGISTERED PROFESSIONAL ENGINEER
JASON KIRCHMANN
C 78079
CIVIL
STATE OF CALIFORNIA
03/09/2020

Sheet Title

GRADING PLAN

BKF 100+ YEARS
ENGINEERS . SURVEYORS . PLANNERS
255 SHORLINE DR, STE 200
REDWOOD CITY, CA 94065
PHONE: (415) 936-7960
FAX: (650) 482-6399

Drawn By: TRL Checked By: BD

Scale: AS SHOWN

Date: October 4, 2019

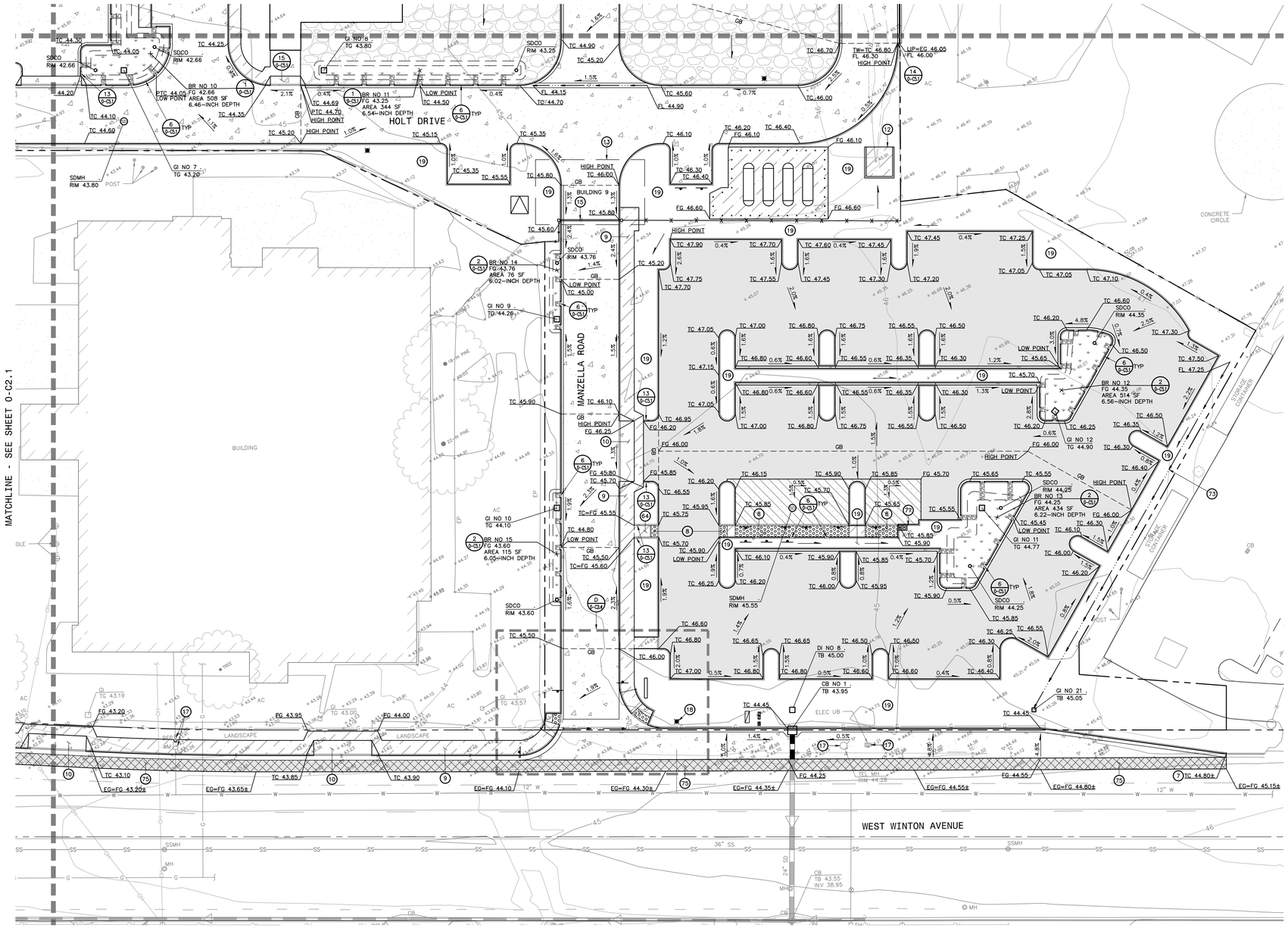
Project No. 20159134

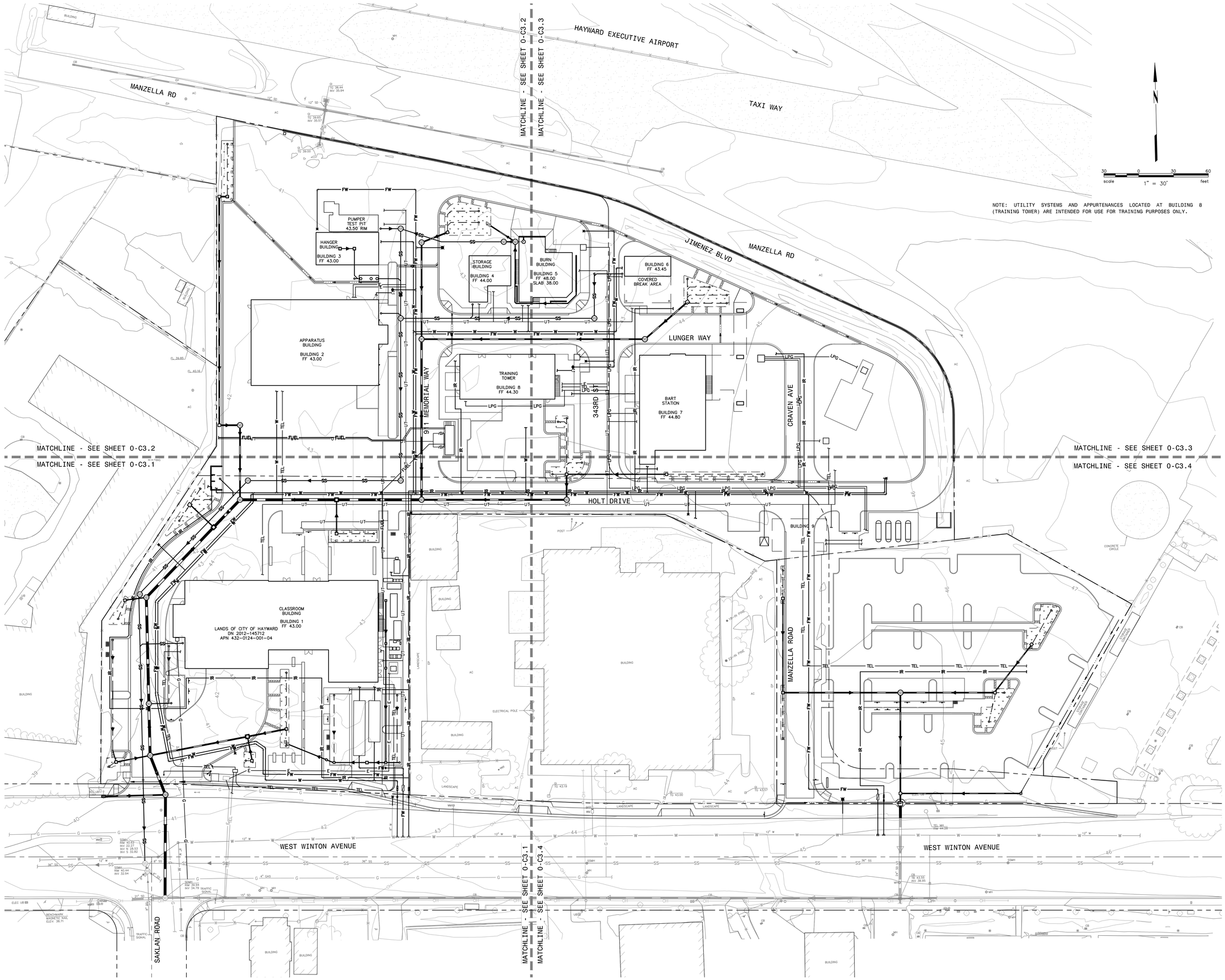
0-C2.3

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Plot: Feb 14, 2020 at 4:32pm
159134_JTC_SITE.dwg


MATCHLINE - SEE SHEET 0-C2.3
MATCHLINE - SEE SHEET 0-C2.1
HOLT DRIVE
MANZELLA ROAD
WEST WINTON AVENUE
BUILDING 9
BUILDING
CONCRETE CIRCLE
STORAGE CONTAINERS
LANDSCAPE
SDMH RIM 43.80
SDCO RIM 42.66
SDCO RIM 43.25
SDCO RIM 43.76
SDCO RIM 43.60
SDCO RIM 44.25
GI NO 7 TG 43.20
GI NO 9 TG 44.28
GI NO 10 TG 44.10
GI NO 11 TG 44.77
GI NO 12 TG 44.90
GI NO 21 TB 45.05
CB NO 1 TB 43.95
DI NO 8 TB 45.00
CB TB 43.55 INV 38.95
TEL MH RIM 44.28
SSMH
BR NO 10 FG 42.66 LOW POINT AREA 508 SF 6.46-INCH DEPTH
BR NO 11 FG 43.25 AREA 344 SF 6.54-INCH DEPTH
BR NO 12 FG 44.35 AREA 514 SF 6.56-INCH DEPTH
BR NO 13 FG 44.25 AREA 434 SF 6.22-INCH DEPTH
BR NO 14 FG 43.76 AREA 76 SF 6.02-INCH DEPTH
BR NO 15 FG 43.60 AREA 115 SF 6.05-INCH DEPTH
TW=TC 46.80 FL 46.30 HIGH POINT
LIP=FG 46.05 FL 46.00
FL 44.90
FL 44.70
FL 44.15
FL 47.25
FG 46.10
FG 46.60
FG 44.25
FG 43.95
FG 44.00
FG 43.20
EG=FG 43.65±
EG=FG 44.10
EG=FG 44.30±
EG=FG 44.35±
EG=FG 44.55±
EG=FG 44.80±
EG=FG 45.15±
TC 43.85
TC 43.90
TC 44.45
TC 44.80±
TC=FG 45.55
TC=FG 45.60
TC=FG 44.75
TC=FG 46.10
FG 45.50
TC=FG 45.35
FG 46.00
FG 45.80
FG 45.85
FG 45.70
FG 46.25
FG 44.30
FG 44.45
FG 44.55
FG 46.60
PTC 44.95 FG 44.45
PTC 45.00 FG 44.50
HIGH POINT
LOW POINT
SLOPE
SLOPE
SLOPE



RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, DIR. OF PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

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HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	INC 01_ADD_01_VI	12/06/2019

PERMIT SUBMITTAL V3 - INCREMENT #1

REGISTERED PROFESSIONAL ENGINEER
JASON K. KICHUEN
C 78079
CIVIL
STATE OF CALIFORNIA
03/09/2020

Sheet Title

OVERALL UTILITY PLAN

BKF 100+ YEARS
ENGINEERS . SURVEYORS . PLANNERS
255 SHORLINE DR, STE 200
REDWOOD CITY, CA 94065
PHONE: (415) 936-7960
FAX: (650) 482-6399

Drawn By: TRL Checked By: BD

Scale: **AS SHOWN**

Date: **October 4, 2019**

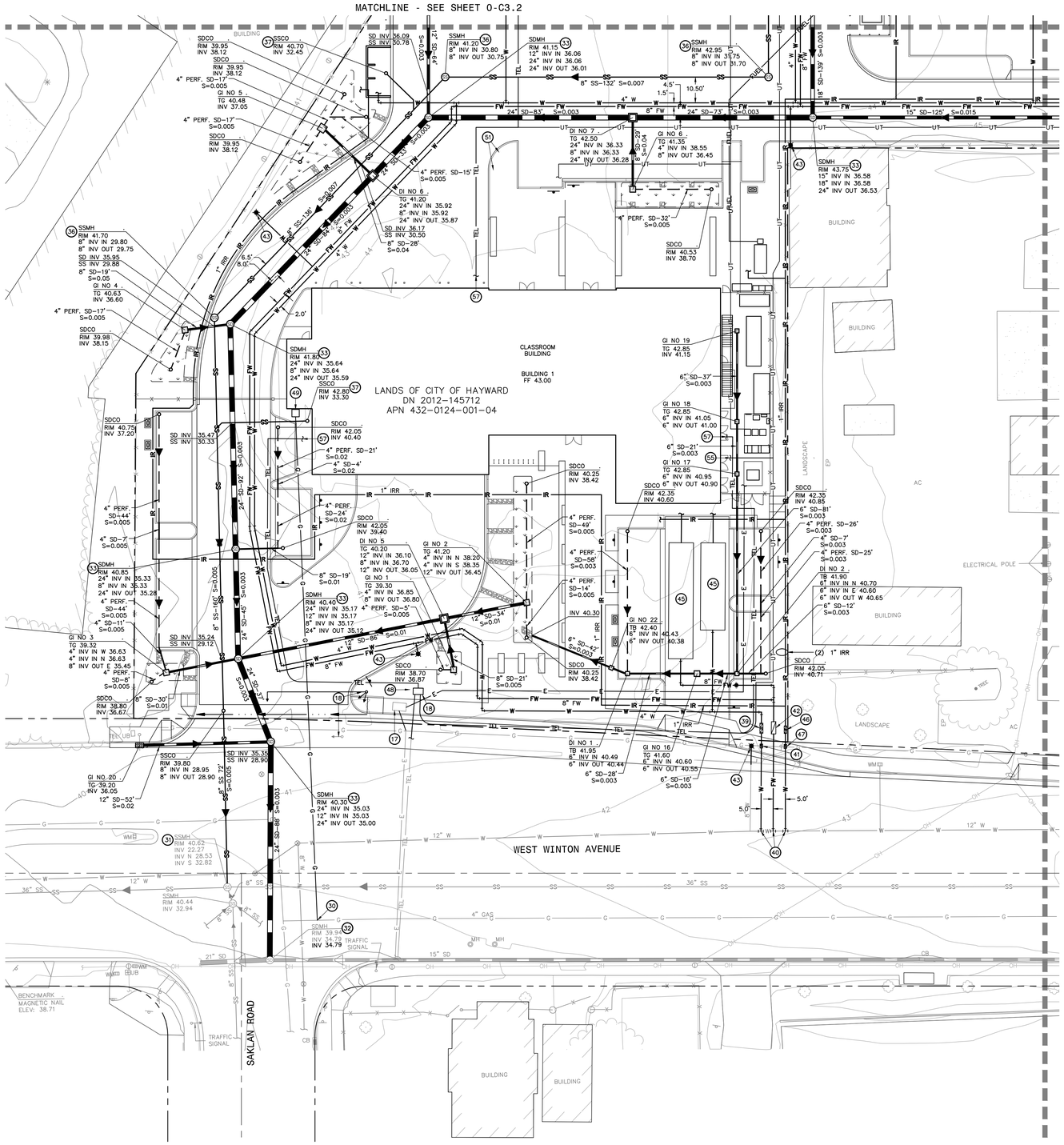
Project No. 20159134

0-C3.0
Drawing No.

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Plot: Mar 04, 2020 at 5:24pm
159134_FTC_SITE.dwg

NOTE: ALL UTILITY CROSSINGS SHALL BE POTHOLED A MINIMUM OF FIVE DAYS IN ADVANCE OF THE NEW UTILITY CONSTRUCTION.



KEYNOTES:

(17) COORDINATE WITH THE OWNER OF THIS UTILITY TO ADJUST EXISTING UTILITY TO FINISHED GROUND SURFACE ELEVATION.

(18) COORDINATE WITH THE OWNER OF THIS UTILITY TO RELOCATE THE EXISTING UTILITY AS SHOWN HEREON.

(30) POTHOLE TO DETERMINE THE ACTUAL LOCATION, SIZE AND CONFIGURATION OF THE EXISTING UTILITY PRIOR TO ORDERING MATERIAL. IF THE EXPOSED UTILITY IS DETERMINED TO BE OF A SIZE OR IN A LOCATION WHICH IS NOT REFLECTED ON, OR IN CONFLICT WITH THESE DRAWINGS, NOTIFY THE ENGINEER IN WRITING SO THAT APPROPRIATE ADJUSTMENTS CAN BE MADE.

(31) CONNECT PROPOSED UTILITY TO EXISTING STRUCTURE IN A MANNER WHICH PROVIDES A PERMANENT WATER TIGHT SEAL.

(32) CONNECT PROPOSED STROM DRAIN (RUBBER-GASKETED REINFORCED CONCRETE PIPE) TO EXISTING STRUCTURE IN ACCORDANCE WITH ALAMEDA COUNTY PUBLIC WORKS DETAIL LDS-2.

(33) STORM DRAIN MANHOLE IN ACCORDANCE WITH THE CITY OF HAYWARD STANDARD DRAWING SD-410. SEE SHEET 0-C5.3.

(36) SANITARY SEWER MANHOLE IN ACCORDANCE WITH CITY OF HAYWARD STANDARD DRAWINGS SD-304 & SD-307. SEE SHEET 0-C5.3.

(37) SANITARY SEWER CLEANOUT IN ACCORDANCE WITH CITY OF HAYWARD STANDARD DRAWING SD-313. SEE SHEET 0-C5.3.

(39) 4-INCH DOMESTIC WATER SERVICE AND 4-INCH ZURN WILKINS MODEL 975XL REDUCED PRESSURE BACKFLOW PREVENTION DEVICE FOR THE DOMESTIC WATER SERVICE IN ACCORDANCE WITH CITY OF HAYWARD STANDARD DRAWING SD-202. SEE SHEET 0-C5.2.

(40) WATER CONNECTION TO EXISTING MAIN TO BE INSTALLED BY CITY FORCES AT APPLICANT'S EXPENSE.

(41) 4-INCH RADIO READABLE WATER METERS FOR PROPOSED WATER SERVICE IN ACCORDANCE WITH CITY OF HAYWARD STANDARDS, TO BE INSTALLED BY CITY FORCES AT APPLICANT'S EXPENSE. CONTRACTOR TO VERIFY GAS LINE WILL NOT BE IMPACTED BY PROPOSED WATER METER PRIOR TO INSTALLATION. IF CONFLICT IS APPARENT, CONTRACTOR WILL COORDINATE NEW METER LOCATION WITH CITY OF HAYWARD AND ENGINEER OF RECORD.

(42) 8-INCH WILKINS MODEL 350DA DOUBLE DETECTOR CHECK OR EQUIVALENT IN ACCORDANCE WITH CITY OF HAYWARD STANDARD DRAWINGS SD-201 & SD-204. SEE SHEET 0-C5.2.

(43) DOUBLE STEAMER FIRE HYDRANT WITH ELECTRONIC VALVING CONTROL AND (2) 4.5-INCH OUTLETS AND (1) 2.5-INCH OUTLET IN ACCORDANCE WITH CITY OF HAYWARD STANDARD DRAWINGS SD-204 & SD-206. SEE SHEET 0-C5.2.

(45) UNDERGROUND WATER STORAGE TANKS. REFER TO MEP DRAWINGS.

(46) 1-INCH IRRIGATION WATER SERVICE AND 1-INCH REDUCED PRESSURE BACKFLOW PREVENTION DEVICE FOR THE IRRIGATION WATER SERVICE IN ACCORDANCE WITH CITY OF HAYWARD STANDARD DRAWING SD-202. SEE SHEET 0-C5.2.

(47) 1-INCH RADIO READABLE IRRIGATION WATER METER TO BE INSTALLED BY CITY FORCES AT APPLICANT'S EXPENSE. SUBMETER(S) TO BE INSTALLED BY THE CONTRACTOR. CONTRACTOR TO VERIFY GAS LINE WILL NOT BE IMPACTED BY PROPOSED WATER METER PRIOR TO INSTALLATION. IF CONFLICT IS APPARENT, CONTRACTOR WILL COORDINATE NEW METER LOCATION WITH CITY OF HAYWARD AND ENGINEER OF RECORD.

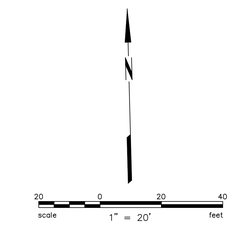
(48) MAINTAIN A MINIMUM SEPARATION OF 12-INCHES BETWEEN GAS LINE AND PRIMARY ELECTRIC AND/OR 6-INCHES FROM SECONDARY ELECTRIC IN ACCORDANCWE WITH SECTION 2.3.4 OF PG&E GREENBOOK.

(49) GAS METER. REFER TO MEP DRAWINGS.

(51) FUEL DISPENSER. REFER TO FUEL SYSTEM DRAWINGS.

(55) ELECTRICAL POINT OF CONNECTION. REFER TO MEP DRAWINGS.

(57) TELECOMMUNICATION POINT OF CONNECTION. REFER TO MEP DRAWINGS.



DRAINAGE STRUCTURE TABLE

STRUCTURE	NO.	MODEL / CITY STANDARD	SIZE	DETAIL
GRATE INLET	5, 13	OLDCASTLE PRECAST MODEL CK OR EQUIVALENT	24"x24"	10 / 0-C5.1
GRATE INLET	1-4, 6-12, 14-16	OLDCASTLE PRECAST MODEL CK OR EQUIVALENT	18"x18"	10 / 0-C5.1
GRATE INLET	17-19, 21-22	OLDCASTLE PRECAST MODEL EK OR EQUIVALENT	12"x12"	10 / 0-C5.1
GRATE INLET	20	TYPE 'E' STORMWATER INLET IN ACCORDANCE WITH CITY OF HAYWARD STD, SD-405	—	SEE SHEET 0-C5.3
DROP INLET	1, 2	OLDCASTLE PRECAST MODEL EK OR EQUIVALENT	12"x12"	11 / 0-C5.1
DROP INLET	3-4, 8	OLDCASTLE PRECAST MODEL CK OR EQUIVALENT	18"x18"	11 / 0-C5.1
TRENCH DRAIN	1-4	ACO KLASSIK 8" K200 WITH 6" OUTLETS AND 1/4" GRATE	8"	—
CATCH BASIN	1	TYPE 'GO' STORMWATER INLET IN ACCORDANCE WITH CALTRANS 2018 STD, D72E	36"x32"	—
DROP INLET	5-7	OLDCASTLE PRECAST MODEL JB-3030 OR EQUIVALENT	30"x30"	11 / 0-C5.1
SD MANHOLE	ALL	TYPE 'B' STORM DRAIN MANHOLE IN ACCORDANCE WITH CITY OF HAYWARD STD, SD-410	—	SEE SHEET 0-C5.3

RossDrulisCusenbery
18294 Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542
ARCHITECTURE

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, DIR. OF PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	INC 01_ADD_01_VI	12/06/2019

PERMIT SUBMITTAL V3 - INCREMENT #1

REGISTERED PROFESSIONAL ENGINEER — JASON K. RICHARDS — C 78078 — CIVIL — STATE OF CALIFORNIA
03/09/2020

Sheet Title

UTILITY PLAN

BKF 100+ YEARS
ENGINEERS . SURVEYORS . PLANNERS
255 SHORLINE DR, STE 200
REDWOOD CITY, CA 94065
PHONE: (415) 936-7960
FAX: (650) 482-6399

Drawn By: TRL Checked By: BD

Scale: AS SHOWN

Date: October 4, 2019

Project No. 20159134

0-C3.1

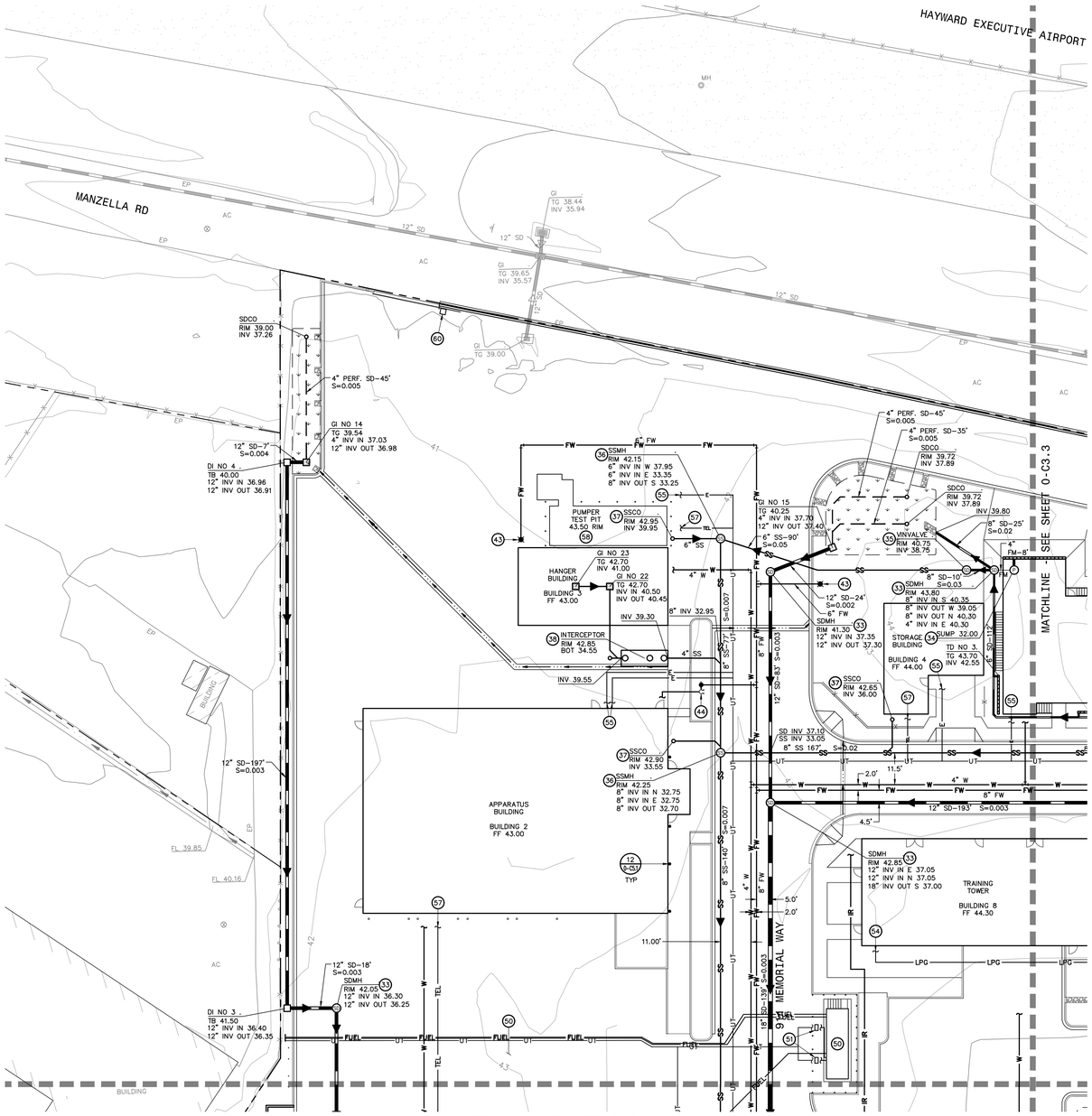
Drawing No.

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Plot Mar 04, 2020 at 5:38pm

159134_FTC_SITE.dwg

NOTE: ALL UTILITY CROSSINGS SHALL BE POTHOLED A MINIMUM OF FIVE DAYS IN ADVANCE OF THE NEW UTILITY CONSTRUCTION.



KEYNOTES:

(53) STORM DRAIN MANHOLE IN ACCORDANCE WITH THE CITY OF HAYWARD STANDARD DRAWING SD-410. SEE SHEET 0-C5.3.

(34) ZOELLER 611 NON-CLOG PUMP WITH 3-INCH DISCHARGE.

(35) VINVALVE AUTOMATIC DIVERSION VALVE FOR 6-INCH SYSTEMS. STORMWATER WILL BE DIRECTED INTO STORM DRAIN SYSTEM DURING RAIN EVENTS. DURING NON-RAIN EVENTS BURN BUILDING RUNOFF IS DIRECTED INTO SANITARY SEWER.

(36) SANITARY SEWER MANHOLE IN ACCORDANCE WITH CITY OF HAYWARD STANDARD DRAWINGS SD-304 & SD-307. SEE SHEET 0-C5.3.

(37) SANITARY SEWER CLEANOUT IN ACCORDANCE WITH CITY OF HAYWARD STANDARD DRAWING SD-313. SEE SHEET 0-C5.3.

(38) JENSEN PRECAST 2500 GALLON SAND-OIL INTERCEPTOR, MODEL JZ2500EPE-SO.

(43) DOUBLE STEAMER FIRE HYDRANT WITH ELECTRONIC VALVING CONTROL AND (2) 4.5-INCH OUTLETS AND (1) 2.5-INCH OUTLET IN ACCORDANCE WITH CITY OF HAYWARD STANDARD DRAWINGS SD-204 & SD-206. SEE SHEET 0-C5.2.

(44) 4-INCH ARGCO SIAMESE FIRE DEPARTMENT CONNECTION (FDC) WITH (2) 2.5-INCH INLETS AND POST INDICATOR VALVE (PIV) CONNECTIONS. SEE DETAIL 24 ON SHEET 0-C5.1.

(50) ABOVEGROUND FUEL STORAGE TANK. REFER TO FUEL SYSTEM DRAWINGS.

(51) FUEL DISPENSER. REFER TO FUEL SYSTEM DRAWINGS.

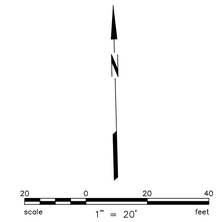
(54) LPG POINT OF CONNECTION. REFER TO LPG DRAWINGS.

(55) ELECTRICAL POINT OF CONNECTION. REFER TO MEP DRAWINGS.

(57) TELECOMMUNICATION POINT OF CONNECTION. REFER TO MEP DRAWINGS.

(58) PUMPER TEST PIT. REFER TO ARCHITECTURAL AND MEP DRAWINGS.

(60) GATE OPERATOR. REFER TO ARCHITECTURAL AND MECHANICAL DRAWINGS.



DRAINAGE STRUCTURE TABLE				
STRUCTURE	NO.	MODEL / CITY STANDARD	SIZE	DETAIL
GRATE INLET	5, 13	OLDCASTLE PRECAST MODEL CK OR EQUIVALENT	24"x24"	10 / 0-C5.1
GRATE INLET	1–4, 6–12, 14–16	OLDCASTLE PRECAST MODEL CK OR EQUIVALENT	18"x18"	10 / 0-C5.1
GRATE INLET	17–19, 21–22	OLDCASTLE PRECAST MODEL EK OR EQUIVALENT	12"x12"	10 / 0-C5.1
GRATE INLET	20	TYPE 'E' STORMWATER INLET IN ACCORDANCE WITH CITY OF HAYWARD STD, SD-405	—	SEE SHEET 0-C5.3
DROP INLET	1, 2	OLDCASTLE PRECAST MODEL EK OR EQUIVALENT	12"x12"	11 / 0-C5.1
DROP INLET	3–4, 8	OLDCASTLE PRECAST MODEL CK OR EQUIVALENT	18"x18"	11 / 0-C5.1
TRENCH DRAIN	1–4	ACO KLASSIK 8" K200 WITH 6" OUTLETS AND 1/4" GRATE	8"	—
CATCH BASIN	1	TYPE 'CO' STORMWATER INLET IN ACCORDANCE WITH CALTRANS 2018 STD, D72E	36"x32"	—
DROP INLET	5–7	OLDCASTLE PRECAST MODEL JB-3030 OR EQUIVALENT	30"x30"	11 / 0-C5.1
SD MANHOLE	ALL	TYPE 'B' STORM DRAIN MANHOLE IN ACCORDANCE WITH CITY OF HAYWARD STD, SD-410	—	SEE SHEET 0-C5.3

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
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CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

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APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, DIR. OF PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

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STATE OF CALIFORNIA
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BKF 100+ YEARS
ENGINEERS . SURVEYORS . PLANNERS
255 SHORLINE DR, STE 200
REDWOOD CITY, CA 94065
PHONE: (415) 936-7960
FAX: (650) 482-6399

Drawn By: TRL Checked By: BD

Scale: **AS SHOWN**

Date: **October 4, 2019**

Project No. 20159134

0-C3.2

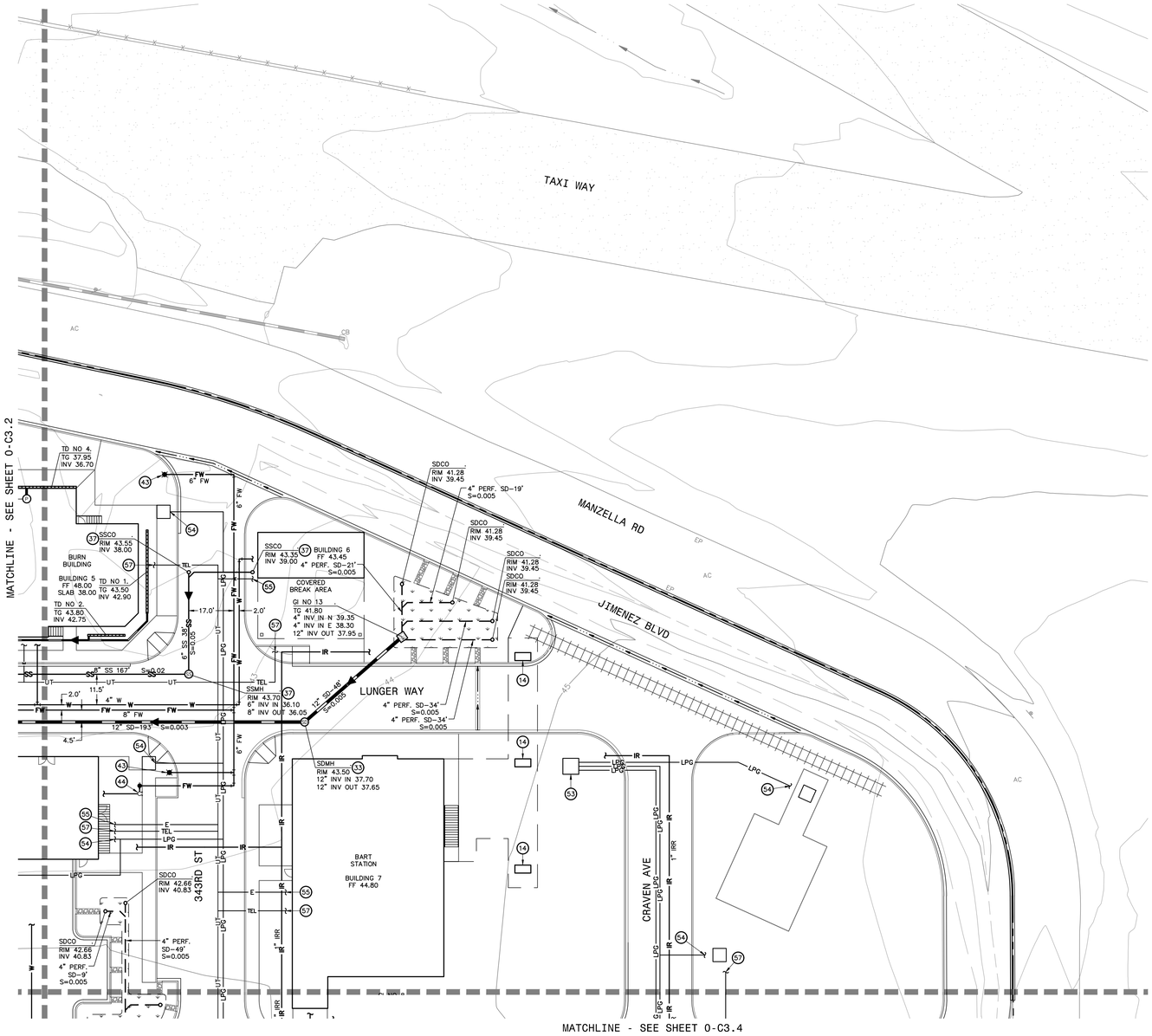
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Plot Feb 21, 2020 at 11:28am

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NOTE: ALL UTILITY CROSSINGS SHALL BE POTHOLED A MINIMUM OF FIVE DAYS IN ADVANCE OF THE NEW UTILITY CONSTRUCTION.



KEYNOTES:

(14) BUILDING COLUMN. REFER TO ARCHITECTURAL DRAWINGS.

(33) STORM DRAIN MANHOLE IN ACCORDANCE WITH THE CITY OF HAYWARD STANDARD DRAWING SD-410. SEE SHEET O-C5.3.

(37) SANITARY SEWER CLEANOUT IN ACCORDANCE WITH CITY OF HAYWARD STANDARD DRAWING SD-313. SEE SHEET O-C5.3.

(43) DOUBLE STEAMER FIRE HYDRANT WITH ELECTRONIC VALVING CONTROL AND (2) 4.5-INCH OUTLETS AND (1) 2.5-INCH OUTLET IN ACCORDANCE WITH CITY OF HAYWARD STANDARD DRAWINGS SD-204 & SD-206. SEE SHEET O-C5.2.

(44) 4-INCH ARGCO SIAMESE FIRE DEPARTMENT CONNECTION (FDC) WITH (2) 2.5-INCH INLETS AND POST INDICATOR VALVE (PIV) CONNECTIONS. SEE DETAIL 24 ON SHEET O-C5.1.

(53) LPG CONTROL STATION. REFER TO LPG DRAWINGS.

(54) LPG POINT OF CONNECTION. REFER TO LPG DRAWINGS.

(55) ELECTRICAL POINT OF CONNECTION. REFER TO MEP DRAWINGS.

(57) TELECOMMUNICATION POINT OF CONNECTION. REFER TO MEP DRAWINGS.

N

20 0 20 40
scale 1" = 20' feet

DRAINAGE STRUCTURE TABLE				
STRUCTURE	NO.	MODEL / CITY STANDARD	SIZE	DETAIL
GRATE INLET	5, 13	OLDCASTLE PRECAST MODEL CK OR EQUIVALENT	24"x24"	10 O-C5.1
GRATE INLET	1–4, 6–12, 14–16	OLDCASTLE PRECAST MODEL CK OR EQUIVALENT	18"x18"	10 O-C5.1
GRATE INLET	17–19, 21–22	OLDCASTLE PRECAST MODEL EK OR EQUIVALENT	12"x12"	10 O-C5.1
GRATE INLET	20	TYPE 'E' STORMWATER INLET IN ACCORDANCE WITH CITY OF HAYWARD STD, SD-405	—	SEE SHEET O-C5.3
DROP INLET	1, 2	OLDCASTLE PRECAST MODEL EK OR EQUIVALENT	12"x12"	11 O-C5.1
DROP INLET	3–4, 8	OLDCASTLE PRECAST MODEL CK OR EQUIVALENT	18"x18"	11 O-C5.1
TRENCH DRAIN	1–4	ACO KLASSIK 8" K200 WITH 6" OUTLETS AND 1/4" GRATE	8"	—
CATCH BASIN	1	TYPE 'GO' STORMWATER INLET IN ACCORDANCE WITH CALTRANS 2018 STD, D72E	36"x32"	—
DROP INLET	5–7	OLDCASTLE PRECAST MODEL JB–3030 OR EQUIVALENT	30"x30"	11 O-C5.1
SD MANHOLE	ALL	TYPE 'B' STORM DRAIN MANHOLE IN ACCORDANCE WITH CITY OF HAYWARD STD, SD–410	—	SEE SHEET O-C5.3

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, DIR. OF PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	INC 01_ADD_01_VI	12/06/2019

PERMIT SUBMITTAL V3 - INCREMENT #1

REGISTERED PROFESSIONAL ENGINEER JASON KTRONDEN C 78079 CIVIL STATE OF CALIFORNIA
03/09/2020

Sheet Title

UTILITY PLAN

BKF 100+ YEARS
ENGINEERS . SURVEYORS . PLANNERS
255 SHORLINE DR, STE 200
REDWOOD CITY, CA 94065
PHONE: (415) 936–7960
FAX: (650) 482–6399

Drawn By: TRL Checked By: BD

Scale: **AS SHOWN**

Date: **October 4, 2019**

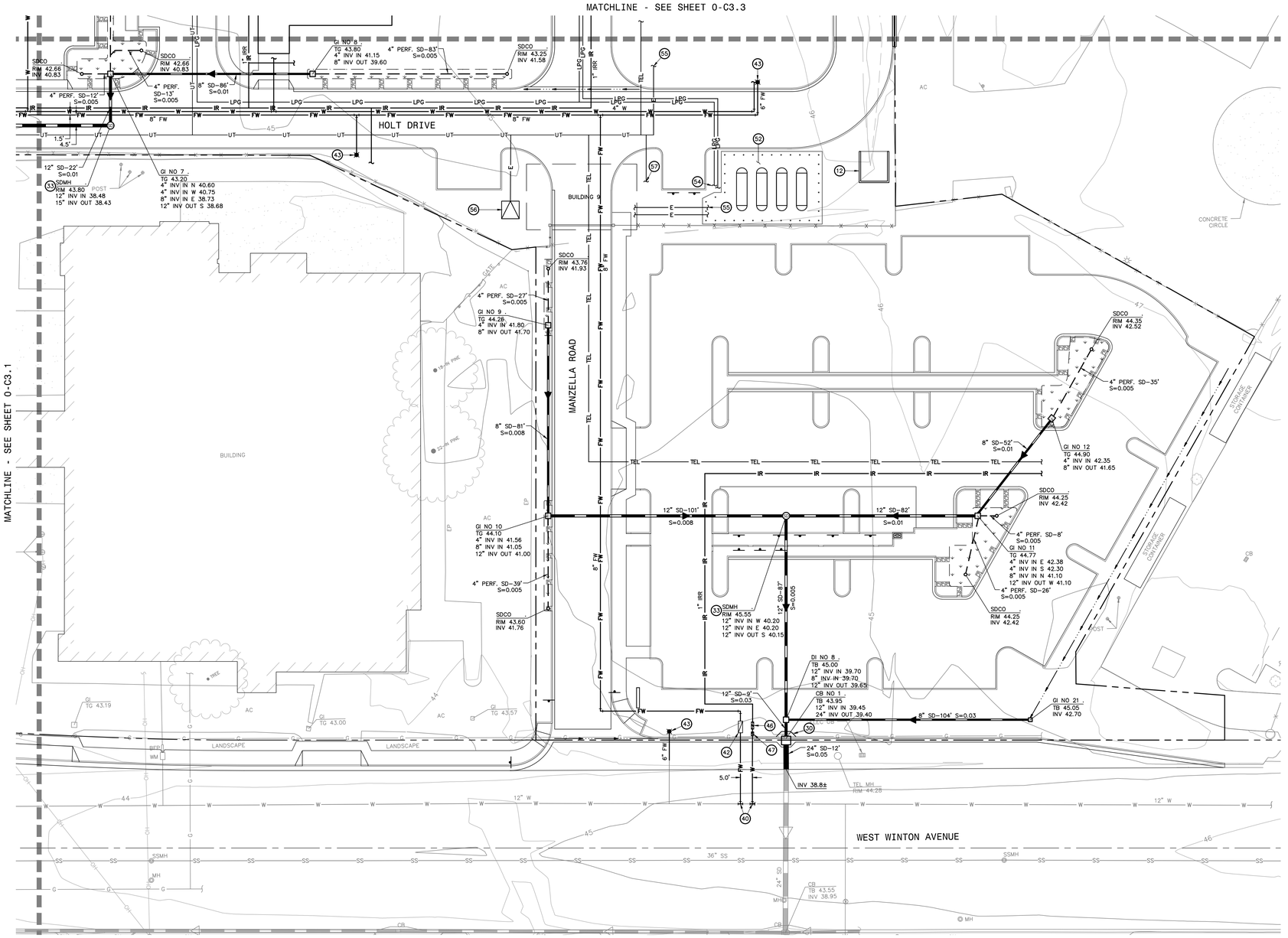
Project No. 20159134

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Drawing No.

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Plot: Feb 21, 2020 at 11:33am
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NOTE: ALL UTILITY CROSSINGS SHALL BE POTHOLED A MINIMUM OF FIVE DAYS IN ADVANCE OF THE NEW UTILITY CONSTRUCTION.



KEYNOTES:

(12) CONCRETE EQUIPMENT PAD AND SCREEN WALL. REFER TO ARCHITECTURAL DRAWINGS.

(30) POTHOLE TO DETERMINE THE ACTUAL LOCATION, SIZE AND CONFIGURATION OF THE EXISTING UTILITY PRIOR TO ORDERING MATERIAL. IF THE EXPOSED UTILITY IS DETERMINED TO BE OF A SIZE OR IN A LOCATION WHICH IS NOT REFLECTED ON, OR IN CONFLICT WITH THESE DRAWINGS, NOTIFY THE ENGINEER IN WRITING SO THAT APPROPRIATE ADJUSTMENTS CAN BE MADE.

(33) STORM DRAIN MANHOLE IN ACCORDANCE WITH THE CITY OF HAYWARD STANDARD DRAWING SD-410. SEE SHEET 0-C5.3.

(40) WATER CONNECTION TO EXISTING MAIN TO BE INSTALLED BY CITY FORCES AT APPLICANT'S EXPENSE.

(42) 8-INCH WILKINS MODEL 350DA DOUBLE DETECTOR CHECK OR EQUIVALENT IN ACCORDANCE WITH CITY OF HAYWARD STANDARD DRAWINGS SD-201 & SD-204. SEE SHEET 0-C5.2.

(43) DOUBLE STEAMER FIRE HYDRANT WITH ELECTRONIC VALVING CONTROL AND (2) 4.5-INCH OUTLETS AND (1) 2.5-INCH OUTLET IN ACCORDANCE WITH CITY OF HAYWARD STANDARD DRAWINGS SD-204 & SD-206. SEE SHEET 0-C5.2.

(46) 1-INCH IRRIGATION WATER SERVICE AND 1-INCH REDUCED PRESSURE BACKFLOW PREVENTION DEVICE FOR THE IRRIGATION WATER SERVICE IN ACCORDANCE WITH CITY OF HAYWARD STANDARD DRAWING SD-202. SEE SHEET 0-C5.2.

(47) 1-INCH RADIO READABLE IRRIGATION WATER METER TO BE INSTALLED BY CITY FORCES AT APPLICANT'S EXPENSE. SUBMETER(S) TO BE INSTALLED BY THE CONTRACTOR. CONTRACTOR TO VERIFY GAS LINE WILL NOT BE IMPACTED BY PROPOSED WATER METER PRIOR TO INSTALLATION. IF CONFLICT IS APPARENT, CONTRACTOR WILL COORDINATE NEW METER LOCATION WITH CITY OF HAYWARD AND ENGINEER OF RECORD.

(52) LPG STORAGE TANKS ON CONCRETE PAD. REFER TO LPG DRAWINGS.

(54) LPG POINT OF CONNECTION. REFER TO LPG DRAWINGS.

(55) ELECTRICAL POINT OF CONNECTION. REFER TO MEP DRAWINGS.

(56) TRANSFORMER. REFER TO MEP DRAWINGS.

(57) TELECOMMUNICATION POINT OF CONNECTION. REFER TO MEP DRAWINGS.

DRAINAGE STRUCTURE TABLE

STRUCTURE	NO.	MODEL / CITY STANDARD	SIZE	DETAIL
GRATE INLET	5, 13	OLDCASTLE PRECAST MODEL CK OR EQUIVALENT	24"x24"	10 0-C5.1
GRATE INLET	1-4, 6-12, 14-16	OLDCASTLE PRECAST MODEL CK OR EQUIVALENT	18"x18"	10 0-C5.1
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GRATE INLET	20	TYPE 'E' STORMWATER INLET IN ACCORDANCE WITH CITY OF HAYWARD STD, SD-405	—	SEE SHEET 0-C5.3
DROP INLET	1, 2	OLDCASTLE PRECAST MODEL EK OR EQUIVALENT	12"x12"	11 0-C5.1
DROP INLET	3-4, 8	OLDCASTLE PRECAST MODEL CK OR EQUIVALENT	18"x18"	11 0-C5.1
TRENCH DRAIN	1-4	ACO KLASSIK 8" K200 WITH 6" OUTLETS AND 1/4" GRATE	8"	—
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DROP INLET	5-7	OLDCASTLE PRECAST MODEL JB-3030 OR EQUIVALENT	30"x30"	11 0-C5.1
SD MANHOLE	ALL	TYPE 'B' STORM DRAIN MANHOLE IN ACCORDANCE WITH CITY OF HAYWARD STD, SD-410	—	SEE SHEET 0-C5.3

RossDrulisCusenbery
ARCHITECTURE
18294 Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, DIR. OF PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	INC 01_ADD_01_VI	12/06/2019

PERMIT SUBMITTAL V3 - INCREMENT #1

REGISTERED PROFESSIONAL ENGINEER
JASON KIRCHMANN
C 78079
CIVIL
STATE OF CALIFORNIA
03/09/2020

Sheet Title

UTILITY PLAN

BKF 100+ YEARS
ENGINEERS . SURVEYORS . PLANNERS
255 SHORLINE DR, STE 200
REDWOOD CITY, CA 94065
PHONE: (415) 936-7960
FAX: (650) 482-6399

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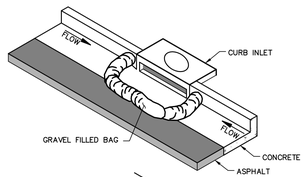
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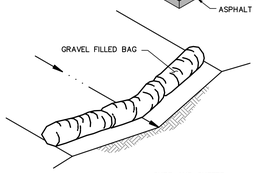
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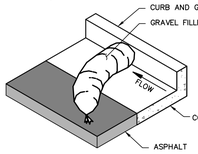
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Plot: MAY 04, 2020 at 2:39pm

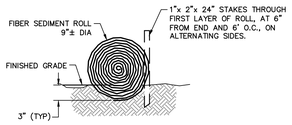
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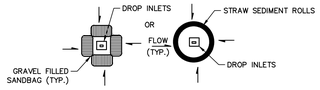




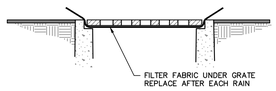
26 GRAVEL BAG
NO SCALE



27 FIBER ROLL
NO SCALE



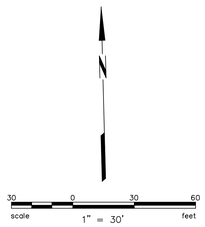
29 TYPICAL SEDIMENT DEVICES
NO SCALE



28 FILTER FABRIC
NO SCALE

KEYNOTES:

59 STABILIZED CONSTRUCTION ENTRANCE/EXIT IN ACCORDANCE WITH CALTRANS STORM WATER QUALITY HANDBOOKS CONSTRUCTION SITE BEST MANAGEMENT PRACTICES MANUAL WORKING DETAIL TC-1.



RossDrulisCusenbery
18294 Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542
ARCHITECTURE

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, DIR. OF PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

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REVISIONS

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1	INC 01_ADD_01_VI	12/06/2019

PERMIT SUBMITTAL V3 - INCREMENT #1

REGISTERED PROFESSIONAL ENGINEER
JASON K. KINCHEN
C 78079
CIVIL
STATE OF CALIFORNIA
03/09/2020

Sheet Title

EROSION & SEDIMENT CONTROL PLAN

BKF 100+ YEARS
ENGINEERS . SURVEYORS . PLANNERS
255 SHORLINE DR, STE 200
REDWOOD CITY, CA 94065
PHONE: (415) 936-7960
FAX: (650) 482-6399

Drawn By: TRL Checked By: BD

Scale: AS SHOWN

Date: October 4, 2019

Project No. 20159134

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EROSION CONTROL NOTES

PROJECT SHALL HAVE A CITY APPROVED EROSION AND SEDIMENT CONTROL PLAN OR A SFRCB STORM WATER POLLUTION PREVENTION PLAN (SWPPP) SPECIFIC FOR THE PROJECT. A COPY SHALL BE KEPT ON SITE AT ALL TIMES DURING CONSTRUCTION. THE EROSION AND SEDIMENT CONTROL PLAN OR SWPPP SHALL BE UPDATED AND KEPT CURRENT AS WORK PROGRESSES AND CONDITIONS CHANGE AND SHALL BE MADE AVAILABLE TO CITY AND SFRCB INSPECTORS WHEN REQUESTED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PLACEMENT, INSPECTION AND MAINTENANCE OF ALL EROSION CONTROL MEASURES/DEVICES SPECIFIED IN THE EROSION AND SEDIMENT CONTROL PLAN UNTIL SUCH TIME THAT THE PROJECT IS ACCEPTED AS COMPLETE OR UNTIL THE NOTICE OF TERMINATION IS FILED FOR THE CONSTRUCTION GENERAL PERMIT.

EROSION AND SEDIMENT CONTROL MEASURES SHOWN ON THESE DRAWINGS ARE GENERAL IN NATURE AND MAY NOT BE APPLICABLE DURING CERTAIN PHASES OF CONSTRUCTION. THE STABILIZED CONSTRUCTION ENTRANCE/EXIT SHOWN ON THESE DRAWINGS REFLECTS A CONDITION PRIOR TO ROADS BEING CONSTRUCTED WHEREAS FILTERS AT STORM WATER INLETS REFLECTS A CONDITION AFTER THE STORM DRAIN SYSTEM HAS BEEN INSTALLED.

THE CONTRACTOR SHALL USE WATER OR DUST PALLIATIVE TO MINIMIZE WIND EROSION. THE CONTRACTOR SHALL DESIGNATE AN AREA ON SITE TO STOCKPILE MATERIAL. THE STOCKPILED MATERIAL SHALL BE COVERED AT ALL TIMES TO PREVENT EROSION FROM WIND, RAIN AND STORM WATER RUNOFF.

EROSION AND SEDIMENT CONTROL MEASURES SHALL BE USED TO ENSURE THAT WATER ENTERING THE STORM DRAIN SYSTEM BELOW THE CONSTRUCTION SITE IS OF EQUIVALENT QUALITY AND CHARACTER AS THE WATER ABOVE THE SITE.

EROSION AND SEDIMENT CONTROL MEASURES SHALL BE PLACED IN FRONT OF INCOMPLETE STORM DRAIN SYSTEMS TO PREVENT DEBRIS AND SEDIMENT-LADEN WATER FROM ENTERING INTO THE PUBLIC STORM DRAIN SYSTEM. BEST MANAGEMENT PRACTICES SHALL BE USED WHEN DESIGNING AND INSTALLING SUCH DEVICES.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONSTANT MAINTENANCE OF EROSION AND SEDIMENT CONTROL MEASURES AT ALL TIMES TO THE SATISFACTION OF THE OWNER, QSD, QSP AND CITY OF SAN RAFAEL. EROSION AND SEDIMENT CONTROL MEASURES AND THEIR INSTALLATION SHALL BE ACCOMPLISHED USING BEST MANAGEMENT PRACTICES.

IF THE STORM DRAIN SYSTEM IS NOT INSTALLED PRIOR TO A PRECIPITATION EVENT, ADDITIONAL MEASURES SHALL BE TAKEN SUCH AS TEMPORARY SETTLING BASINS WHICH MEET THE SATISFACTION OF THE OWNER, QSD, QSP AND THE CITY OF SAN RAFAEL. SILT AND/OR CATCH BASINS MUST BE CLEANED OUT ON A REGULAR BASIS AFTER STORMS TO MAINTAIN DESIGN CAPACITY.

STORM WATER RUNOFF FROM THE CONSTRUCTION SITE SHALL BE DIRECTED TOWARD AN INLET WITH A SEDIMENT OR FILTRATION INTERCEPTOR PRIOR TO ENTERING THE STORM DRAIN SYSTEM.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANING WATER THAT HAS BECOME POLLUTED DUE TO NOT TAKING NECESSARY EROSION AND SEDIMENT CONTROL ACTIONS.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANUP OF MUD AND DEBRIS CARRIED ONTO SURROUNDING STREETS AND ROADS AS A RESULT OF CONSTRUCTION ACTIVITY ON THE SITE TO THE SATISFACTION OF THE CITY OF SAN RAFAEL.

DENUDED OR DISTURBED SOILS SHALL BE PROTECTED USING BEST MANAGEMENT PRACTICES.

PRIOR TO AND DURING A PRECIPITATION EVENT, PAVED AREAS SHALL BE KEPT CLEAR OF EARTH MATERIAL AND DEBRIS. THE SITE IS TO BE MAINTAINED BY THE CONTRACTOR SO THAT A MINIMUM OF SEDIMENT-LADEN RUNOFF LEAVES THE SITE.

THE CONTRACTOR IS TO INFORM ALL CONSTRUCTION SITE WORKERS ABOUT THE MAJOR PROVISIONS OF THE EROSION AND SEDIMENT CONTROL PLAN AND SEEK THEIR COOPERATION IN AVOIDING THE DISTURBANCE OF THESE CONTROL MEASURES.

BEST MANAGEMENT PRACTICES SHALL BE VISUALLY MONITORED ON A DAILY BASIS. RAIN EVENT VISUAL MONITORING SHALL BE PERFORMED WITHIN 48 HOURS PRIOR TO AN ANTICIPATED RAIN EVENT, DAILY DURING A RAIN EVENT AND WITHIN 48 HOURS FOLLOWING A RAIN EVENT. REMOVE SEDIMENTS WHEN ACCUMULATIONS REACH 1/3 THE HEIGHT OF THE BARRIER AND REPLACE FILTER DEVICES AS NECESSARY TO ENSURE PROPER FUNCTION.

UNSTABILIZED AREAS SHALL BE REPAIRED AS SOON AS POSSIBLE AFTER BEING DAMAGED.

GRADED OR DISTURBED AREAS SHALL BE STABILIZED IMMEDIATELY AFTER GRADING IS COMPLETE.

ENTRANCE TO THE PROJECT SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT INTO PUBLIC RIGHTS-OF-WAY. WHEN NECESSARY, WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE INTO PUBLIC RIGHTS-OF-WAY. WHEN WASHING IS REQUIRED IT SHALL BE DONE IN AN AREA STABILIZED WITH CRUSHED ROCK THAT DRAINS INTO A SEDIMENT TRAP.

SEDIMENT SPILLED, DROPPED, OR TRACKED INTO PUBLIC RIGHTS-OF-WAY SHALL BE REMOVED IMMEDIATELY USING BEST MANAGEMENT PRACTICES.

EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR PURPOSE SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REPAIRED OR REPLACED WHEN THEY ARE NO LONGER FUNCTIONING IN ACCORDANCE WITH BEST MANAGEMENT PRACTICES.

THE EROSION AND SEDIMENT CONTROL PLAN SHALL EMPHASIZE SOURCE CONTROL AND ADDRESS CONTROLLING WATER AND WIND EROSION, SEDIMENTATION, TRASH AND OTHER POSSIBLE POLLUTANTS USING BEST MANAGEMENT PRACTICES (BMPS). THE PLAN SHALL REFERENCE CASQA "STORM WATER BEST MANAGEMENT PRACTICE HANDBOOK FOR CONSTRUCTION" FOR PROPER BMP SELECTION, INSTALLATION AND MAINTENANCE.

TRASH OR MATERIALS DEPOSITED OR TRACKED ONTO THE PUBLIC RIGHT-OF-WAY SHALL BE REMOVED DAILY.

FAILURE TO IMPLEMENT OR MAINTAIN BMPS AS SHOWN ON THE EROSION AND SEDIMENT CONTROL PLAN SHALL BE CONSIDERED A POTENTIAL NON-STORM WATER DISCHARGE AND A VIOLATION OF CITY OF HAYWARD ORDINANCE.

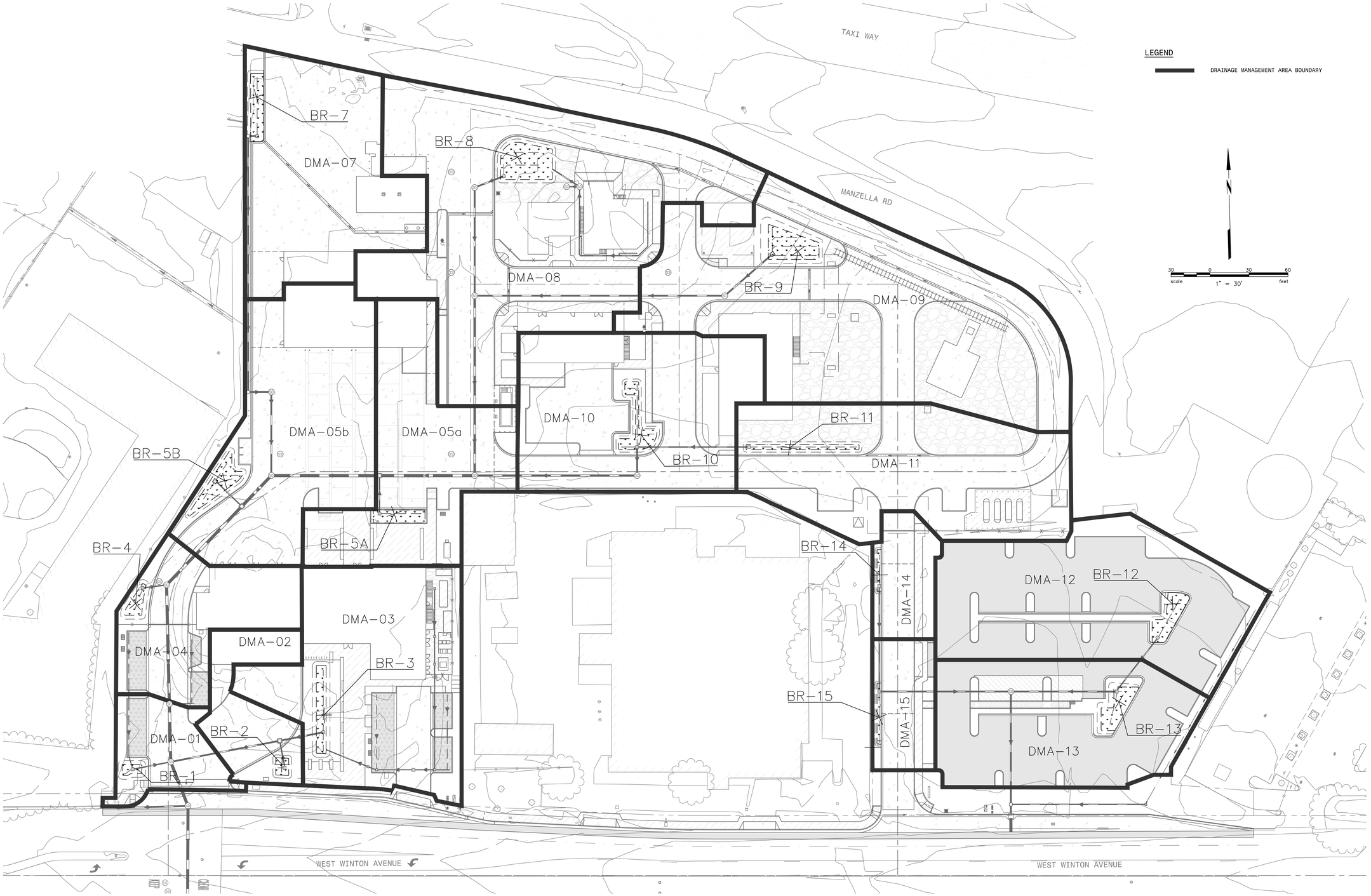
AFTER CONSTRUCTION IS COMPLETED ALL STORM DRAIN SYSTEMS IMPACTED BY THIS PROJECT SHALL BE CLEANED OF ACCUMULATED SEDIMENT AND DEBRIS AND INSPECTED. STORM DRAIN CLEANING/FLUSHING WATER SHALL NOT BE DISCHARGED TO THE STORM DRAIN SYSTEM.

Plot Mar 04, 2020 at 5:39pm

159134_FTC_SITE.dwg

STORMWATER TREATMENT MEASURES SUMMARY TABLE

DRAINAGE MANAGEMENT AREA (DMA)	TREATMENT CONTROL MEASURES (TCM)	TOTAL DMA AREA (SF)	PERVIOUS AREA (SF)	IMPERVIOUS AREA (SF)	EFFECTIVE PERVIOUS AREA (SF)	EFFECTIVE IMPERVIOUS AREA (SF)	TREATMENT AREA REQUIRED IF 6" PONDING DEPTH (SF)	DEPTH OF PONDING PROVIDED (INCHES)	TREATMENT AREA PROVIDED (SF)	TREATMENT TYPE	SIZING METHOD Combination Flow and Volume (CF&V)
1	BR-1	5,714	1,927	3,787	193	3,980	115	6.15	114	Bio-retention	CF&V
2	BR-2	6,455	1,793	4,662	179	4,841	139	7.25	132	Bio-retention	CF&V
3	BR-3	23,023	5,228	17,795	523	18,318	528	11.43	507	Bio-retention	CF&V
4	BR-4	11,114	3,486	7,628	349	7,977	230	7.84	212	Bio-retention	CF&V
5a	BR-5A	17,310	2,282	15,028	228	15,256	440	9.87	373	Bio-retention	CF&V
5b	BR-5B	22,685	2,104	20,581	210	20,791	595	6.36	590	Bio-retention	CF&V
7	BR-7	20,010	1,670	18,340	167	18,507	533	6.49	522	Bio-retention	CF&V
8	BR-8	42,100	6,307	35,793	631	36,424	1050	6.43	1030	Bio-retention	CF&V
9	BR-9	39,115	13,248	25,867	1,325	27,192	784	6.12	780	Bio-retention	CF&V
10	BR-10	21,655	4,080	17,575	408	17,983	518	6.46	508	Bio-retention	CF&V
11	BR-11	23,160	12,149	11,011	1,215	12,226	352	6.54	344	Bio-retention	CF&V
12	BR-12	23,643	5,958	17,685	596	18,281	527	6.56	514	Bio-retention	CF&V
13	BR-13	18,425	3,586	14,839	359	15,198	438	6.22	434	Bio-retention	CF&V
14	BR-14	3,916	1,421	2,495	142	2,637	76	6.02	76	Bio-retention	CF&V
15	BR-15	5,513	1,685	3,828	169	3,997	115	6.05	115	Bio-retention	CF&V



LEGEND

DRAINAGE MANAGEMENT AREA BOUNDARY

N

30 0 30 60
scale 1" = 30' feet

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

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DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, DIR. OF PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	INC 01_ADD_01_VI	12/06/2019

PERMIT SUBMITTAL V3 - INCREMENT #1

REGISTERED PROFESSIONAL ENGINEER JASON KIRCHNER C 78079 CIVIL STATE OF CALIFORNIA
03/09/2020

Sheet Title

STORM WATER MANAGEMENT PLAN

BkF 100+ YEARS
ENGINEERS . SURVEYORS . PLANNERS
255 SHORLINE DR, STE 200
REDWOOD CITY, CA 94065
PHONE: (415) 936-7960
FAX: (650) 482-6399

Drawn By: TRL Checked By: BD

Scale: **AS SHOWN**

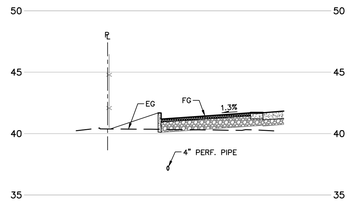
Date: **October 4, 2019**

Project No. 20159134

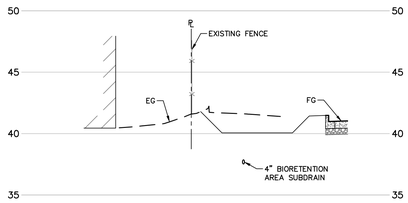
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Drawing No.

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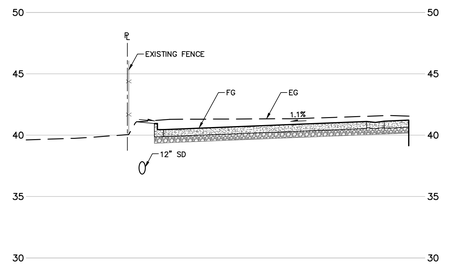
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159134_FTC_SITE.dwg



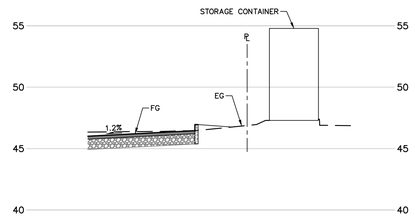
S1 SECTION 1
H: 1"=10'
V: 1"=5'



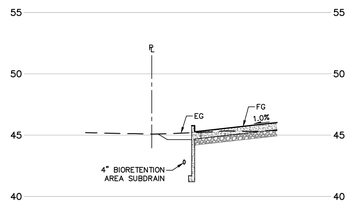
S2 SECTION 2
H: 1"=10'
V: 1"=5'



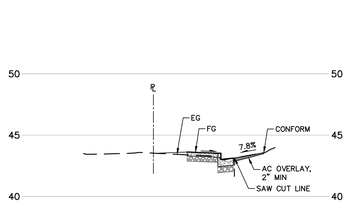
S3 SECTION 3
H: 1"=10'
V: 1"=5'



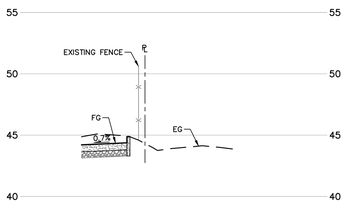
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V: 1"=5'



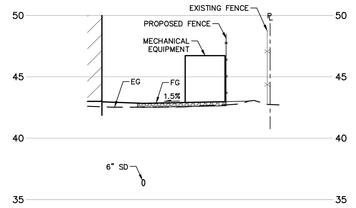
S5 SECTION 5
H: 1"=10'
V: 1"=5'



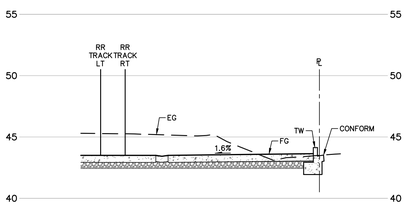
S6 SECTION 6
H: 1"=10'
V: 1"=5'



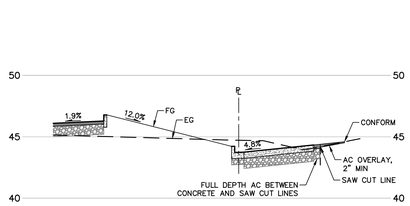
S7 SECTION 7
H: 1"=10'
V: 1"=5'



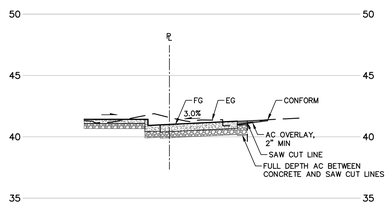
S8 SECTION 8
H: 1"=10'
V: 1"=5'



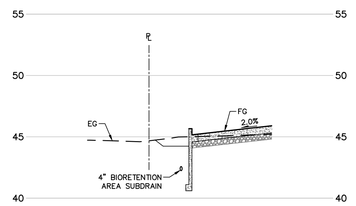
S9 SECTION 9
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V: 1"=5'



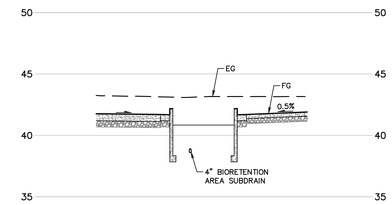
S10 SECTION 10
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V: 1"=5'



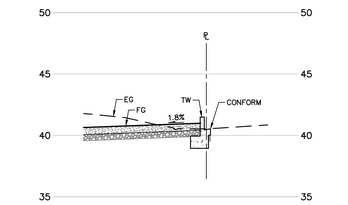
S11 SECTION 11
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V: 1"=5'



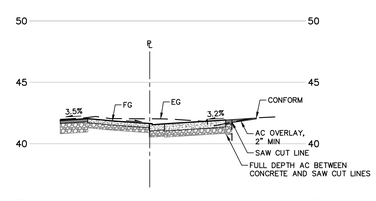
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V: 1"=5'



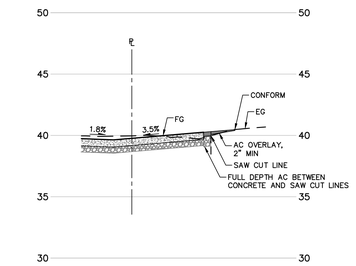
S13 SECTION 13
H: 1"=10'
V: 1"=5'



S14 SECTION 14
H: 1"=10'
V: 1"=5'



S15 SECTION 15
H: 1"=10'
V: 1"=5'



S16 SECTION 16
H: 1"=10'
V: 1"=5'

Plot File: 06, 2020 at 4:30pm

159134_FTC_SITE.dwg

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: **KATHY GARCIA** DEP. DIR. PUBLIC WORKS	**ALEX AMERI** DIR. OF PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

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No.	Description	Date
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REGISTERED PROFESSIONAL ENGINEER
JACKSON KIRCHDORFER
C 78079
CIVIL
STATE OF CALIFORNIA
03/09/2020

Sheet Title

SECTIONS

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255 SHORLINE DR, STE 200
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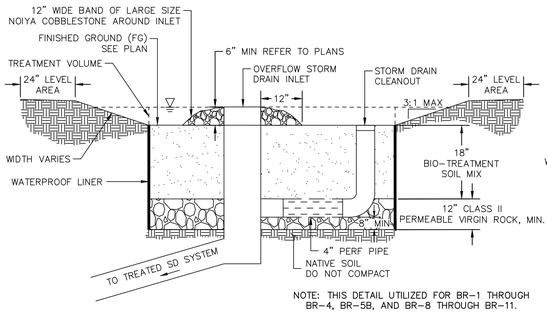
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Date: **October 4, 2019**

Project No. 20159134

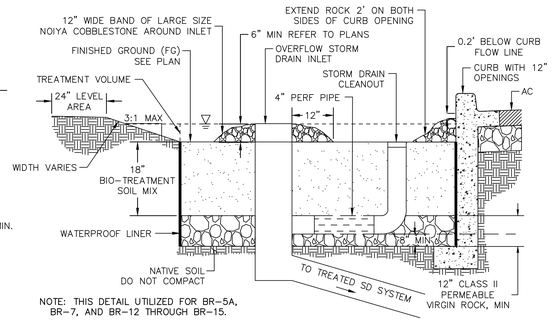
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Drawing No.

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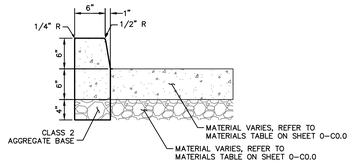
NOTE: THIS DETAIL UTILIZED FOR BR-1 THROUGH BR-4, BR-5B, AND BR-8 THROUGH BR-11.

1 — UNRETAINED BIORETENTION AREA CROSS SECTION
NO SCALE

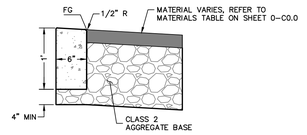


NOTE: THIS DETAIL UTILIZED FOR BR-5A, BR-7, AND BR-12 THROUGH BR-15.

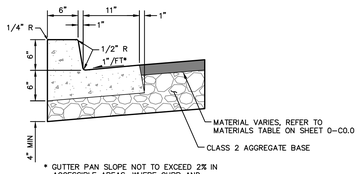
2 — RETAINED BIORETENTION AREA CROSS SECTION
NO SCALE



3 — VERTICAL CURB
NO SCALE



4 — FLUSH CURB
NO SCALE

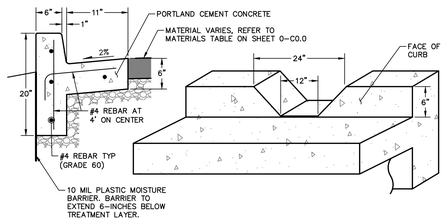


* GUTTER PAN SLOPE NOT TO EXCEED 2% IN ACCESSIBLE AREAS. WHERE CURB AND GUTTER ARE PERPENDICULAR TO A CONCRETE SURFACE, GUTTER SLOPE SHALL CONFORM TO ADJACENT CONCRETE SLOPE.

PROVIDE A UNIFORM TRANSITION OVER A DISTANCE OF APPROXIMATELY 4-FEET BETWEEN CURB TYPES

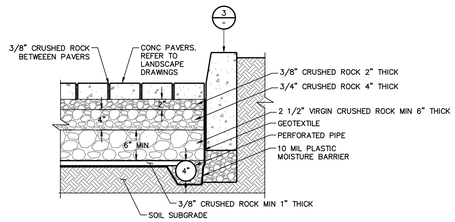
5 — CURB AND GUTTER
NO SCALE

LOCATE CURB DEPRESSIONS WHERE SHOWN ON THESE DRAWINGS AT INTERVALS NOT EXCEEDING 15-FEET ON CENTER.



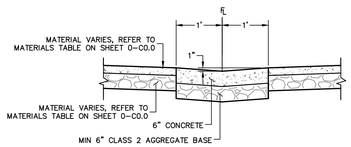
NOTE
PROVIDE WEAKENED PLANE JOINTS 1/8-INCH WIDE AND 1.5-INCH DEEP EVERY 15-FEET. PROVIDE EXPANSION JOINTS EVERY 60-FEET AND AT CHANGES IN DIRECTION. USE 1/4-INCH THICK PREMOLDED JOINT FILLER FULL THICKNESS OF CONCRETE.

6 — CURB DEPRESSION
NO SCALE

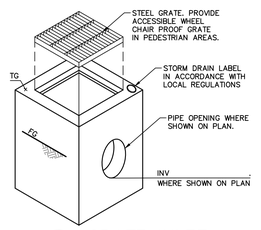


NOTE: PROVIDE CONCRETE CONTAINMENT BAND IN ACCORDANCE WITH THE PAVER MANUFACTURER'S RECOMMENDATIONS AND IN ACCORDANCE WITH THE LANDSCAPE DRAWINGS.

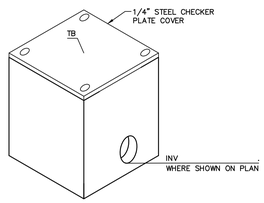
7 — PERMEABLE PAVER
NO SCALE



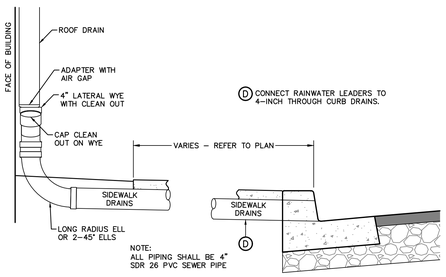
8 — VALLEY GUTTER
NO SCALE



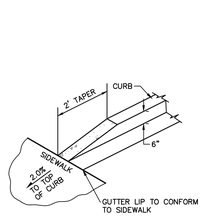
10 — GRATE INLET
NO SCALE



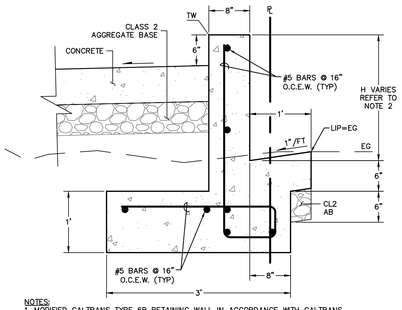
11 — DROP INLET
NO SCALE



12 — ROOF DRAIN LEADER
NO SCALE



13 — CURB TAPER
NO SCALE



NOTES:
1. MODIFIED CALTRANS TYPE 6B RETAINING WALL IN ACCORDANCE WITH CALTRANS 2018 STANDARD PLAN B3-7B.
2. H VARIES BETWEEN 0.5' AND 2.5'. REFER TO GRADING DRAWINGS.

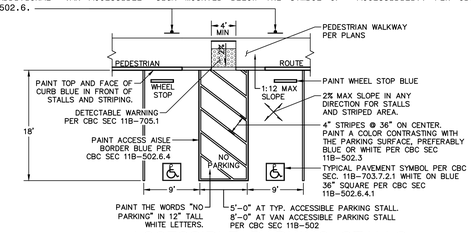
14 — RETAINING CURB & GUTTER
NO SCALE

NOTES

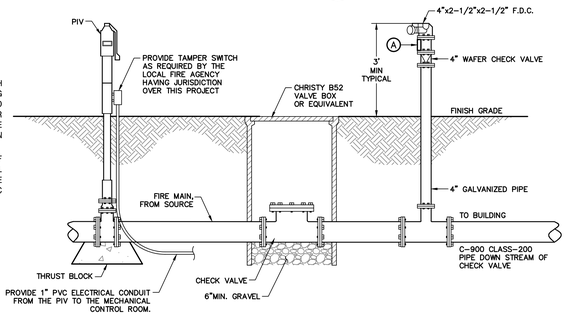
ACCESSIBLE PARKING STALLS TO BE IN ACCORDANCE WITH 2015 CALTRANS STANDARD PLAN A90A.

INSTALL SIGN NO LESS THAN 17" WIDE BY 22" HIGH POSTED EITHER 1) IN A CONSPICUOUS PLACE AT EACH ENTRANCE TO AN OFF-STREET PARKING FACILITY OR 2) IMMEDIATELY ADJACENT TO ONSITE ACCESSIBLE PARKING AND VISIBLE FROM EACH PARKING SPACE WHICH READS "UNAUTHORIZED VEHICLES PARKED IN DESIGNATED ACCESSIBLE SPACES NOT DISPLAYING DISTINGUISHING PLACARDS OR SPECIAL LICENSE PLATES ISSUED FOR PERSONS WITH DISABILITIES WILL BE TOWED AWAY AT THE OWNERS EXPENSE. TOWED VEHICLES MAY BE RECLAIMED AT: _____ OR BY TELEPHONING _____." (BLANK SPACES SHALL BE FILLED IN WITH APPROPRIATE INFORMATION AS A PERMANENT PART OF THE SIGN.)

70 SQ. IN. DARK BLUE REFLECTIVE PORCELAIN, ENAMEL STEEL SIGN WITH WHITE INTERNATIONAL SYMBOL OF ACCESSIBILITY MOUNTED 80" OFF F.G. ON 1.5" Ø STEEL POST. PROVIDE AN ADDITIONAL SIGN OR ADDITIONAL LANGUAGE BELOW THE SYMBOL OF ACCESSIBILITY WHICH READS "MINIMUM FINE $250." VAN SPACE SHALL HAVE AN ADDITIONAL "VAN ACCESSIBLE" SIGN MOUNTED BELOW THE SYMBOL OF ACCESSIBILITY PER CBC SEC 11B-502.6.



23 — ACCESSIBLE PARKING STALLS
NO SCALE

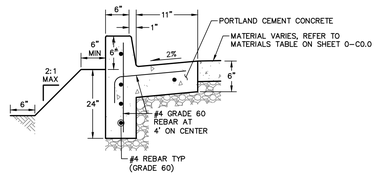


(A) PROVIDE A RED PERMANENT SIGN WHITE ENGRAVED OR STAMPED 1.5-INCH TALL LETTERS, HAVING A 1/4-INCH STROKE, WHICH IDENTIFIES WHICH BUILDING THE FIRE DEPARTMENT PUMPER CONNECTION SERVES. MOUNT THE SIGN ON THE STAND PIPE 4-6 INCHES BELOW THE PUMPER CONNECTION IN A MANNER WHICH MAY BE READ FROM THE DRIVE LANE.

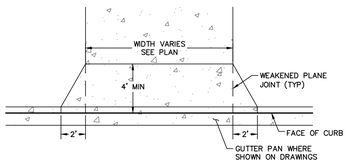
NOTES:
1) ALL VALVE FITTINGS AND PIPE SHALL MEET AWWA STANDARDS.

2) A FIRE DEPARTMENT PERMIT IS REQUIRED FOR THE INSTALLATION OF PRIVATE FIRE SYSTEM.

24 — FIRE DEPARTMENT CONNECTION
NO SCALE



25 — CURB AND GUTTER WITH DEEPENED FOOTING
NO SCALE



15 — NON STANDARD DRIVEWAY DETAIL
NO SCALE

Plot: Jan 17, 2020 at 3:20pm
159134_FTC_SITE.dwg

RossDrulisCusenbery
ARCHITECTURE
18294 Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, DIR. OF PUBLIC WORKS
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REGISTERED PROFESSIONAL ENGINEER JASON K. KIRCHDOERFER C 78079 CIVIL STATE OF CALIFORNIA
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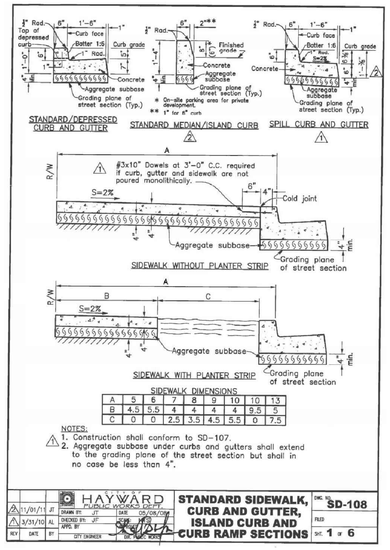
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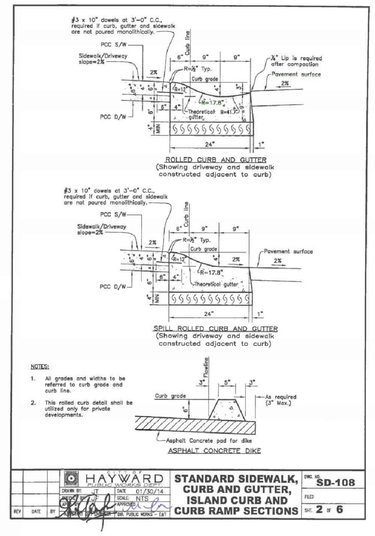
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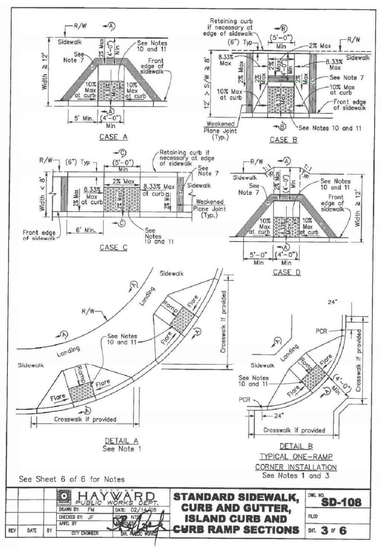
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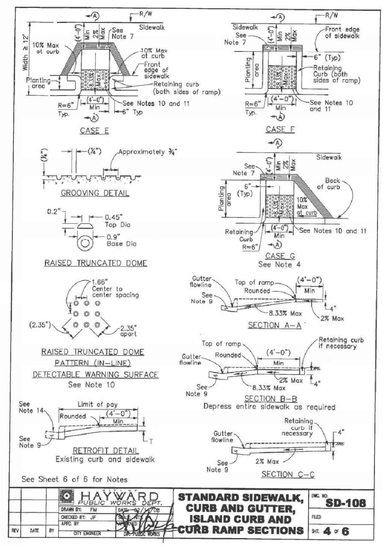
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Drawing No.

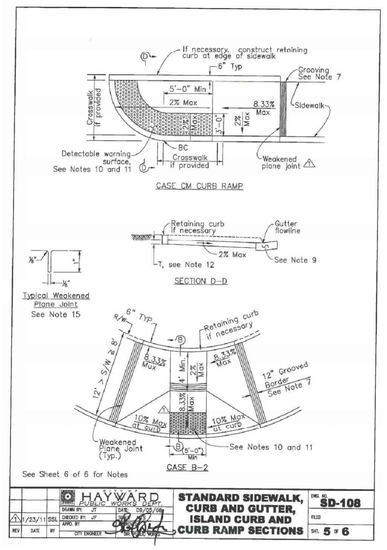
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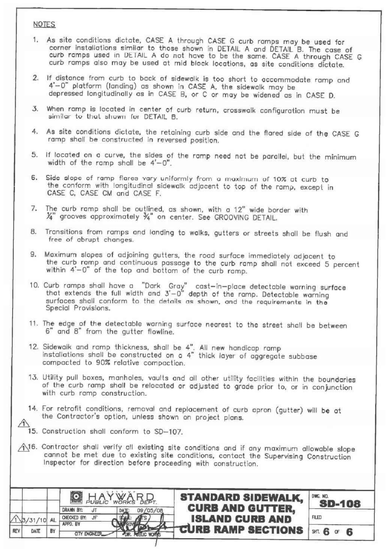


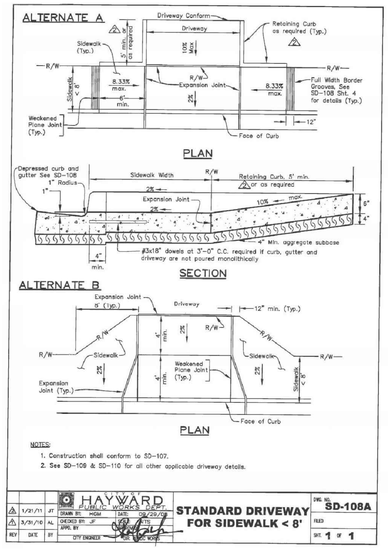


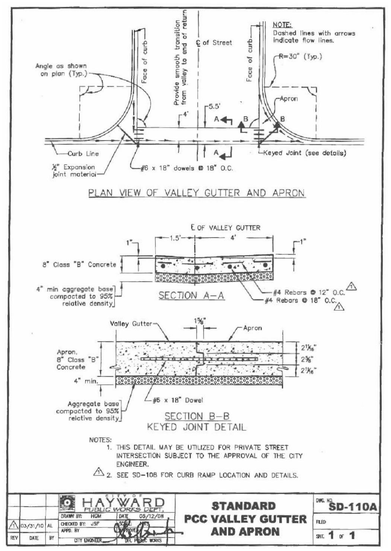


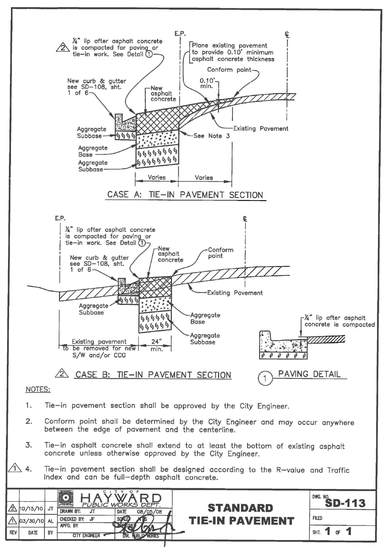


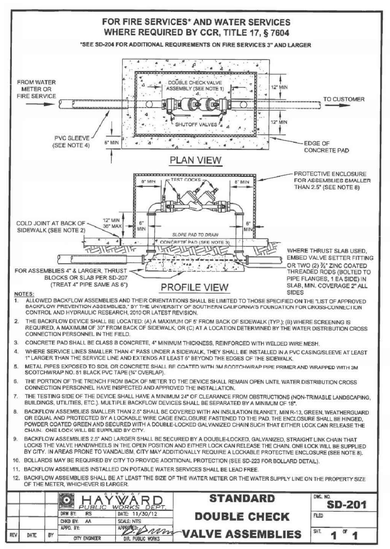


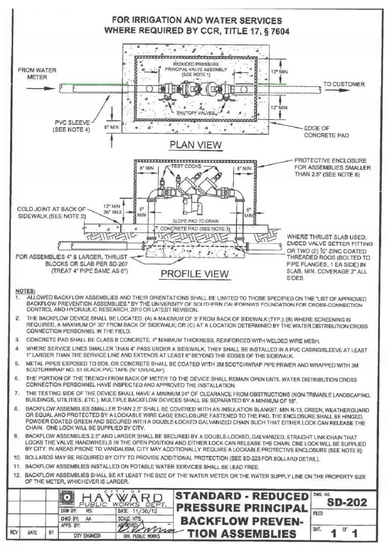


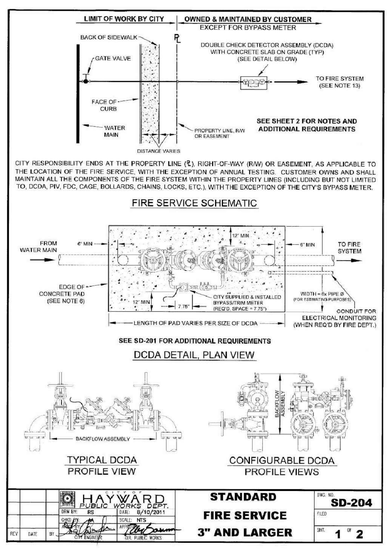


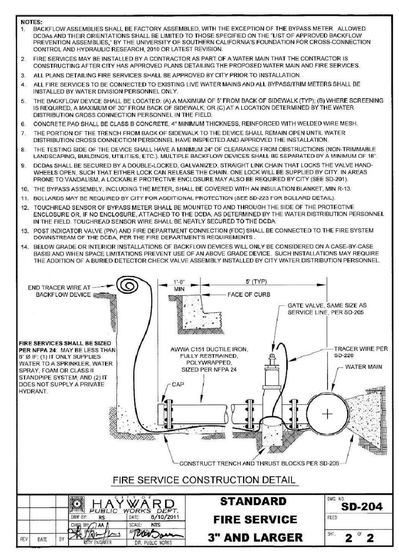


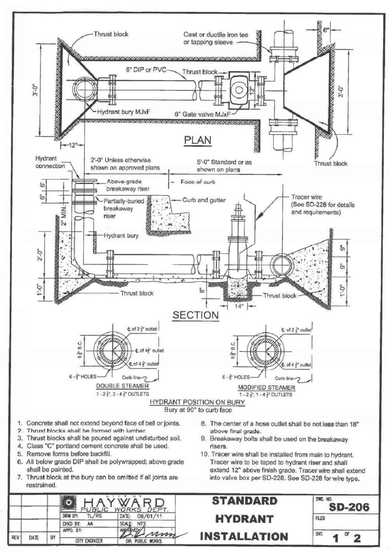


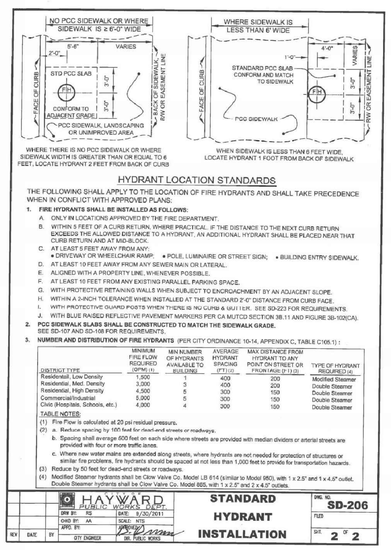












RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA	ALEX AMERI
DEP. DIR. PUBLIC WORKS	DIR. OF PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	INC 01_ADD_01_VI	12/06/2019

PERMIT SUBMITTAL V3 - INCREMENT #1

REGISTERED PROFESSIONAL ENGINEER — JASON KIRCHNER — C 78079 — CIVIL — STATE OF CALIFORNIA
03/09/2020

Sheet Title

CITY OF HAYWARD STANDARD DETAILS

BkF 100+ YEARS
ENGINEERS . SURVEYORS . PLANNERS
255 SHORLINE DR, STE 200
REDWOOD CITY, CA 94065
PHONE: (415) 936-7960
FAX: (650) 482-6399

Drawn By: TRL — Checked By: BD

Scale: **AS SHOWN**

Date: **October 4, 2019**

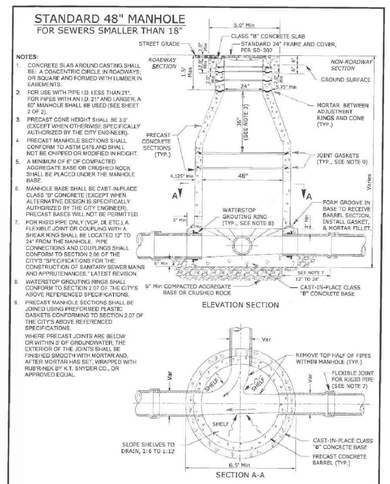
Project No. 20159134

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Drawing No.

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Plot Feb 06, 2020 at 2:28pm
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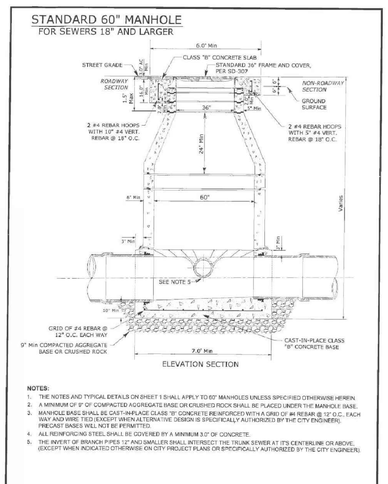
STANDARD 48" MANHOLE
FOR SEWERS SMALLER THAN 18"



NOTES:
1. CONCRETE SLAB AROUND CASTING SHALL BE, A CONCENTRIC CIRCLE IN ROADWAYS, OR SQUARE AND FORMED WITH LUMBER IN EASEMENTS.
2. FOR USE WITH PIPE I.D. LESS THAN 21", FOR PIPES WITH AN I.D. 21" AND LARGER, A 60" MANHOLE SHALL BE USED (SEE SHEET 2 OF 2).
3. PRECAST CONE HEIGHT SHALL BE 3.0' (EXCEPT WHEN OTHERWISE SPECIFICALLY AUTHORIZED BY THE CITY ENGINEER).
4. PRECAST MANHOLE SECTIONS SHALL CONFORM TO ASTM C478 AND SHALL NOT BE CHIPPED OR MODIFIED IN HEIGHT.
5. A MINIMUM OF 6" OF COMPACTED AGGREGATE BASE OR CRUSHED ROCK SHALL BE PLACED UNDER THE MANHOLE BARREL.
6. MANHOLE BASE SHALL BE CAST-IN-PLACE CLASS "B" CONCRETE (EXCEPT WHEN ALTERNATIVE DESIGN IS SPECIFICALLY AUTHORIZED BY THE CITY ENGINEER). PRECAST BASES WILL NOT BE PERMITTED.
7. FOR RISER PIPE ONLY (SCH. 35 ETC.), A FLEXIBLE JOINT OR COUPLING WITH A SHEAR RING SHALL BE LOCATED 12" TO 24" FROM THE MANHOLE. PIPE PENETRATIONS IN MANHOLE SHALL CONFORM TO SECTION 2.56 OF THE CITY'S "SPECIFICATIONS FOR THE CONSTRUCTION OF SANITARY SEWER MAINS AND APPURTENANCES," LATEST REVISION.
8. WATERSTOP GROUTING RINGS SHALL CONFORM TO SECTION 2.57 OF THE CITY'S ABOVE REFERENCED SPECIFICATIONS.
9. PRECAST MANHOLE SECTIONS SHALL BE JOINED USING PREFORMED PLASTIC GASKETS CONFORMING TO SECTION 2.07 OF THE CITY'S ABOVE REFERENCED SPECIFICATIONS.
10. WHERE PRECAST JOINTS ARE BELOW OR WITHIN 2' OF GROUNDWATER, THE EXTERIOR OF THE JOINTS SHALL BE FINISHED SMOOTH WITH MORTAR AND, AFTER MORTAR HAS SET, WRAPPED WITH RUBRENEK 8" K.T. SNYDER CO., OR APPROVED EQUAL.

REV	DATE	BY	HAYWARD PUBLIC WORKS DEPT.	STANDARD - PRECAST CONCENTRIC SANITARY SEWER MANHOLE	DWG. NO. SD-304
			DRAWN BY: R.S. DATE: 05/20/10		FILED
			CHECKED BY: JJK/AA SCALE: N.T.S.		SHT. 1 of 2
			APPD. BY:		
			CITY ENGINEER DIR. PUBLIC WORKS		

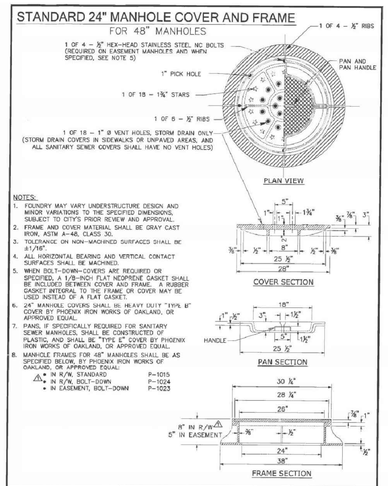
STANDARD 60" MANHOLE
FOR SEWERS 18" AND LARGER



NOTES:
1. THE NOTES AND TYPICAL DETAILS ON SHEET 1 SHALL APPLY TO 60" MANHOLES UNLESS SPECIFIED OTHERWISE HEREIN.
2. A MINIMUM OF 9" OF COMPACTED AGGREGATE BASE OR CRUSHED ROCK SHALL BE PLACED UNDER THE MANHOLE BASE.
3. MANHOLE BASS SHALL BE CAST-IN-PLACE CLASS "B" CONCRETE REINFORCED WITH A GRID OF #4 REBAR @ 12" O.C., EACH WAY AND WIRE TIED (EXCEPT WHEN ALTERNATIVE DESIGN IS SPECIFICALLY AUTHORIZED BY THE CITY ENGINEER). PRECAST BASES WILL NOT BE PERMITTED.
4. ALL REINFORCING STEEL SHALL BE COVERED BY A MINIMUM 3.0" OF CONCRETE.
5. THE INVERT OF BRANCH PIPES 12" AND SMALLER SHALL INTERSECT THE TRUNK SEWER AT ITS CENTERLINE OR ABOVE, (EXCEPT WHEN INDICATED OTHERWISE ON CITY PROJECT PLANS OR EXPRESSLY AUTHORIZED BY THE CITY ENGINEER).

REV	DATE	BY	HAYWARD PUBLIC WORKS DEPT.	STANDARD - PRECAST CONCENTRIC SANITARY SEWER MANHOLE	DWG. NO. SD-304
			DRAWN BY: R.S. DATE: 05/20/10		FILED
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			APPD. BY:		
			CITY ENGINEER DIR. PUBLIC WORKS		

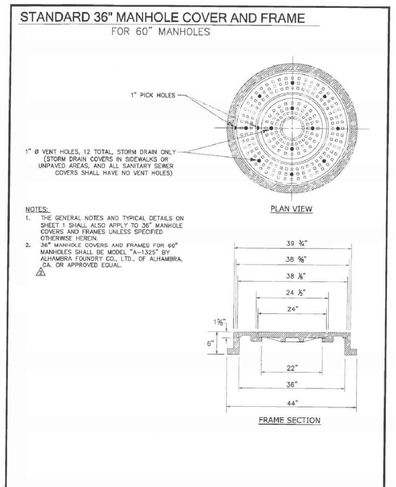
STANDARD 24" MANHOLE COVER AND FRAME
FOR 48" MANHOLES



NOTES:
1. FOUNDRY MAY VARY UNDERSTRUCTURE DESIGN AND MINOR VARIATIONS TO THE SPECIFIED DIMENSIONS, SUBJECT TO CITY'S PRIOR REVIEW AND APPROVAL.
2. FRAME AND COVER MATERIAL SHALL BE GRAY CAST IRON, ASTM A-48, CLASS 30.
3. TOLERANCE ON NON-MACHINED SURFACES SHALL BE ±1/16".
4. ALL HORIZONTAL BEARING AND VERTICAL CONTACT SURFACES SHALL BE MACHINED.
5. WHEN BOLT-DOWN COVERS ARE REQUIRED OR SPECIFIED, A 1/8-INCH FLAT NEOPRENE GASKET SHALL BE INCLUDED BETWEEN COVER AND FRAME. A RUBBER GASKET INTEGRAL TO THE FRAME OR COVER MAY BE USED INSTEAD OF A FLAT GASKET.
6. 24" MANHOLE COVERS SHALL BE HEAVY DUTY "TYPE B" COVER BY PHOENIX IRON WORKS OF OAKLAND, OR APPROVED EQUAL.
7. PANS, IF SPECIFICALLY REQUIRED FOR SANITARY SEWER MANHOLES, SHALL BE CONSTRUCTED OF PLASTIC, AND SHALL BE "TYPE E" COVER BY PHOENIX IRON WORKS OF OAKLAND, OR APPROVED EQUAL.
8. MANHOLE FRAMES FOR 48" MANHOLES SHALL BE AS SPECIFIED BELOW, BY PHOENIX IRON WORKS OF OAKLAND, OR APPROVED EQUAL.
   - IN R/W, STANDARD P-1015
   - IN R/W, BOLT-DOWN P-1024
   - IN EASEMENT, BOLT-DOWN P-1023

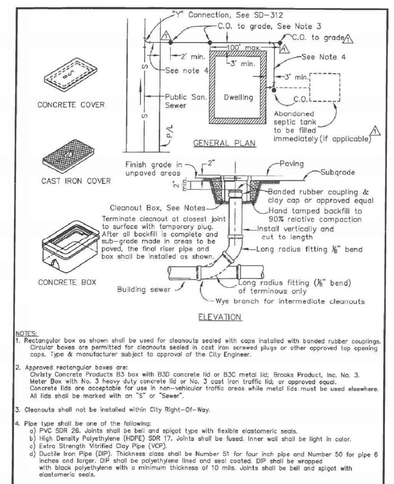
REV	DATE	BY	HAYWARD PUBLIC WORKS DEPT.	STANDARD MANHOLE FRAME, COVER AND PAN	DWG. NO. SD-307
			DRAWN BY: FM DATE: 05/20/10		FILED
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			APPD. BY:		
			CITY ENGINEER DIR. PUBLIC WORKS		

STANDARD 36" MANHOLE COVER AND FRAME
FOR 60" MANHOLES



NOTES:
1. THE GENERAL NOTES AND TYPICAL DETAILS ON SHEET 1 SHALL ALSO APPLY TO 36" MANHOLE COVERS AND FRAMES UNLESS SPECIFIED OTHERWISE HEREIN.
2. 36" MANHOLE COVERS AND FRAMES FOR 60" MANHOLES SHALL BE MODEL "A-1325" BY ALHAMBRA FOUNDRY CO., LTD., OF ALHAMBRA, CA. OR APPROVED EQUAL.

REV	DATE	BY	HAYWARD PUBLIC WORKS DEPT.	STANDARD MANHOLE FRAME, COVER AND PAN	DWG. NO. SD-307
			DRAWN BY: FM DATE: 5/20/10		FILED
1	1/25/12	HGM	CHECKED BY: JF SCALE: N.T.S.		SHT. 2 of 2
2	9/13/10	HGM	APPD. BY:		
			CITY ENGINEER DIR. PUBLIC WORKS		



NOTES:
1. Rectangular box as shown shall be used for cleanouts sealed with caps installed with banded rubber couplings. Circular boxes are permitted for cleanouts sealed in cast iron screwed plugs or other approved top opening caps. Type & manufacturer subject to approval of the City Engineer.
2. Approved rectangular boxes are:
   Christy Concrete Products B3 box with B30 concrete lid or B3C metal lid; Brooks Product, Inc. No. 3. Meter Box with No. 3 heavy duty concrete lid or No. 3 cast iron traffic lid or approved equal. Concrete lids are acceptable for use in non-vehicular traffic areas while metal lids must be used elsewhere. All lids shall be marked with an "S" or "Sewer".
3. Cleanouts shall not be installed within City Right-Of-Way.
4. Pipe type shall be one of the following:
   a) PVC SDR 26. Joints shall be bell and spigot type with flexible elastomeric seals.
   b) High Density Polyethylene (HDPE) SDR 17. Joints shall be fused. Inner wall shall be light in color.
   c) Extra Strength Vitrified Clay Pipe (VCP).
   d) Ductile Iron Pipe (DIP). Thickness class shall be Number 51 for four inch pipe and Number 50 for pipe 6 inches and longer. DIP shall be polyethylene lined and seal coated. DIP shall be wrapped with black polyethylene with a minimum thickness of 10 mils. Joints shall be bell and spigot with elastomeric seals.

REV	DATE	BY	HAYWARD PUBLIC WORKS DEPT.	STANDARD HOUSE SEWER	DWG. NO. SD-313
			DRAWN BY: H.M. DATE: 1/29/12		FILED
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			APPD. BY:		
			CITY ENGINEER DIR. PUBLIC WORKS		

NOTES:
1. See SD-401 for frame and grate details.
2. See SD-112 for gutter flare details.
3. See SD-401A for Storm Water Inlet Marking details.
4. Inlet shall be formed and concrete shall be vibrated in place.
5. Class "B" concrete shall be used.
6. Type "D" inlet shall only be used for a large area drain where required.
7. Use structural details shown on SD-403 for inlets with 27" to 48" pipes.
8. All concrete shall be cast-in-place except where authorized by the City Engineer. Submittal approval required for pre-cast boxes.
9. All rebar lap splices to be 20" minimum.

REV	DATE	BY	HAYWARD PUBLIC WORKS DEPT.	STANDARD TYPE "D" STORM WATER INLET	DWG. NO. SD-404
			DRAWN BY: HGM DATE: 05/20/10		FILED
1	5/14/10	AL	CHECKED BY: MHW SCALE: N.T.S.		SHT. 1 of 1
			APPD. BY:		
			CITY ENGINEER DIR. PUBLIC WORKS		

NOTES:
1. See SD-401 for frame and grate details.
2. See SD-112 for gutter flare details.
3. See SD-401A for Storm Water Inlet Marking details.
4. Inlet shall be formed and concrete shall be vibrated in place.
5. Class "B" concrete shall be used.
6. Use structural details shown on SD-403 for inlets with 27" to 48" pipes.
7. Type "E" inlet shall only be used in front of driveways.
8. All concrete shall be cast-in-place except where authorized by the City Engineer. Submittal approval required for precast boxes.
9. All rebar lap splices to be 20" minimu

REV	DATE	BY	HAYWARD PUBLIC WORKS DEPT.	STANDARD TYPE "E" STORM WATER INLET	DWG. NO. SD-405
			DRAWN BY: HGM DATE: 05/20/10		FILED
1	5/14/10	AL	CHECKED BY: MHW SCALE: N.T.S.		SHT. 1 of 1
			APPD. BY:		
			CITY ENGINEER DIR. PUBLIC WORKS		

TYPE "A" MANHOLE	
PIPE DIAMETER (inches)	MINIMUM DEPTH (D) (feet)
12	5.59
15	5.86
18	6.13
21	6.42
24	6.67
27	6.94
30	7.21
33	7.48
36	7.75

For heights less than shown above, use type "B" standard manhole or special design.

* Step is required when "D" is greater than 3'-6". See plastic step detail on SD-410A.

REV	DATE	BY	HAYWARD PUBLIC WORKS DEPT.	STANDARD STORM DRAIN MANHOLE	DWG. NO. SD-410
			DRAWN BY: FM DATE: 09/29/10		FILED
			CHECKED BY: MHW SCALE: N.T.S.		SHT. 1 of 2
			APPD. BY:		
			CITY ENGINEER DIR. PUBLIC WORKS		

TYPE "B" MANHOLE	
PIPE DIAMETER (inches)	MINIMUM DEPTH (D) (feet)
12	3.34
15	3.59
18	3.86
21	4.12
24	4.38
27	4.64
30	4.90

Type "B" manhole to be used only where available height restricts the use of Type "A" manholes.

* Step is required when "D" is greater than 3'-6". See plastic step detail on SD-410A.

REV	DATE	BY	HAYWARD PUBLIC WORKS DEPT.	STANDARD STORM DRAIN MANHOLE	DWG. NO. SD-410
			DRAWN BY: FM DATE: 10/20/10		FILED
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			APPD. BY:		
			CITY ENGINEER DIR. PUBLIC WORKS		

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RossDrulisCusenbery
ARCHITECTURE
18294 Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA	ALEX AMERI
DEP. DIR. PUBLIC WORKS	DIR. OF PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	INC 01_ADD_01_VI	12/06/2019

PERMIT SUBMITTAL V3 - INCREMENT #1

REGISTERED PROFESSIONAL ENGINEER
JASON K. TRICHARD
C 78079
CIVIL
STATE OF CALIFORNIA

03/09/2020

Sheet Title

CITY OF HAYWARD STANDARD DETAILS

BkF 100+ YEARS
ENGINEERS . SURVEYORS . PLANNERS
255 SHORLINE DR, STE 200
REDWOOD CITY, CA 94065
PHONE: (415) 936-7960
FAX: (650) 482-6399

Drawn By: TRL Checked By: BD

Scale: **AS SHOWN**

Date: **October 4, 2019**

Project No. 20159134

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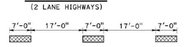
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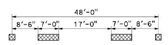
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CENTERLINES
(2 LANE HIGHWAYS)

DETAIL 1



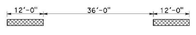
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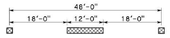
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DETAIL 5



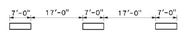
DETAIL 6



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LANELINES
(MULTILANE HIGHWAYS)

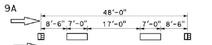
DETAIL 8



DETAIL 9



DETAIL 9A
SEE NOTE



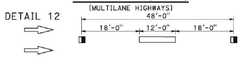
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DETAIL 11

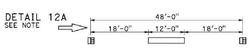


LANELINES (Cont)
(MULTILANE HIGHWAYS)

DETAIL 12



DETAIL 12A
SEE NOTE



~~DETAIL 13~~ DETAIL 13 DELETED

~~DETAIL 14~~ DETAIL 14 DELETED

~~DETAIL 14A~~ DETAIL 14A DELETED

NO PASSING ZONES-ONE DIRECTION

DETAIL 15



DETAIL 16

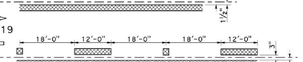


~~DETAIL 17~~ DETAIL 17 DELETED

DETAIL 18



DETAIL 19



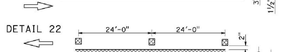
~~DETAIL 20~~ DETAIL 20 DELETED

NO PASSING ZONES-TWO DIRECTION

DETAIL 21



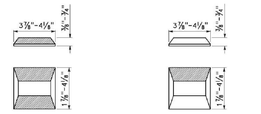
DETAIL 22



~~DETAIL 23~~ DETAIL 23 DELETED

LEGEND
MARKERS
- TYPE C RED-CLEAR RETROREFLECTIVE
- TYPE D TWO-WAY YELLOW RETROREFLECTIVE
- TYPE G ONE-WAY CLEAR RETROREFLECTIVE
- TYPE H ONE-WAY YELLOW RETROREFLECTIVE

LINES
- 6" WHITE
- 6" YELLOW



TYPE C AND TYPE D TYPE G AND TYPE H

RETROREFLECTIVE FACE

NOTE:
FOR FREEWAY APPLICATION ONLY

Dist	COUNTY	ROUTE	POST MILES: TOTAL PROJECT	SHEET NO.	TOTAL SHEETS

Attila Feraud
REGISTERED CIVIL ENGINEER
April 20, 2018
PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

Attila Feraud No. C80402 Exp. 3-31-19 CIVIL STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED _____

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKERS AND TRAFFIC LINES TYPICAL DETAILS

NO SCALE

RSP A20A DATED APRIL 20, 2018 SUPERSEDES RSP A20A DATED JULY 21, 2017 AND STANDARD PLAN A20A DATED OCTOBER 30, 2015 – PAGE 12 OF THE STANDARD PLANS BOOK DATED 2015.

REVISED STANDARD PLAN RSP A20A

2015 REVISED STANDARD PLAN RSP A20A

11-18-17

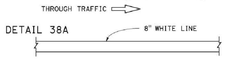
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CHANNELIZING LINE

DETAIL 38



DETAIL 38A



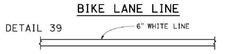
DETAIL 38B



~~DETAIL 38C~~ DETAIL 38C DELETED

BIKE LANE LINE

DETAIL 39



INTERSECTION LINE
BIKE LANE

DETAIL 39A



LANE LINE EXTENSIONS THROUGH INTERSECTIONS

DETAIL 40



~~DETAIL 40A~~ DETAIL 40A DELETED

CENTER LINE EXTENSIONS THROUGH INTERSECTIONS

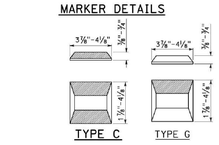
DETAIL 41

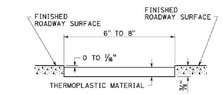


~~DETAIL 41A~~ DETAIL 41A DELETED

LEGEND
MARKERS
- TYPE C RED-CLEAR RETROREFLECTIVE
- TYPE G ONE-WAY CLEAR RETROREFLECTIVE
- 6" YELLOW LINE

MARKER DETAILS





DETAIL FOR RECESSED THERMOPLASTIC TRAFFIC STRIPE

See Notes A and B.

RECESSED THERMOPLASTIC NOTES

A. See typical traffic line details for pavement marking patterns.

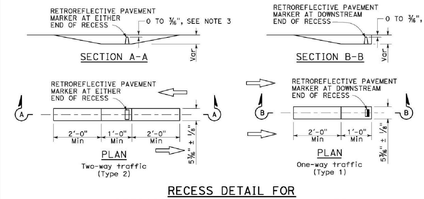
B. The top of the thermoplastic installed in recessed pavement shall be 0 to ⅛" below the pavement surface.

Dist	COUNTY	ROUTE	POST MILES: TOTAL PROJECT	SHEET NO.	TOTAL SHEETS

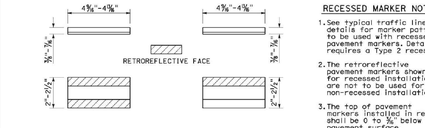
Attila Feraud
REGISTERED CIVIL ENGINEER
April 20, 2018
PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

Attila Feraud No. C80402 Exp. 3-31-19 CIVIL STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED _____



RECESS DETAIL FOR RETROREFLECTIVE PAVEMENT MARKER



See Notes 1 and 2.

RECESSED MARKER NOTES:

1. See typical traffic line details for marker patterns to be used with recessed pavement markers. Detail 14A requires a Type 2 recess.
2. The retroreflective pavement markers shown for recessed installations are not to be used for non-recessed installations.
3. The top of pavement markers installed in recesses shall be 0 to ⅜" below the pavement surface.

RETROREFLECTIVE PAVEMENT MARKER FOR RECESSED INSTALLATION

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKERS AND TRAFFIC LINES TYPICAL DETAILS

NO SCALE

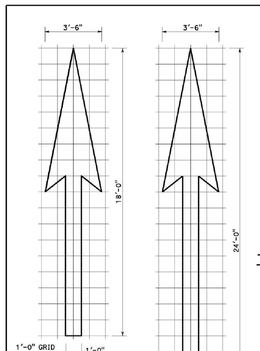
RSP A20D DATED APRIL 20, 2018 SUPERSEDES RSP A20D DATED JULY 21, 2017 AND STANDARD PLAN A20D DATED OCTOBER 30, 2015 – PAGE 15 OF THE STANDARD PLANS BOOK DATED 2015.

REVISED STANDARD PLAN RSP A20D

2015 REVISED STANDARD PLAN RSP A20D

11-14-17

16

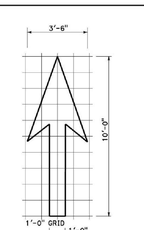


A=25 ft²

TYPE I 18'-0" ARROW

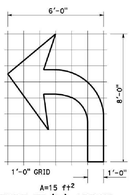
A=31 ft²

TYPE I 24'-0" ARROW



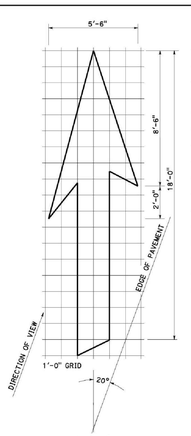
A=14 ft²

TYPE I 10'-0" ARROW



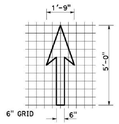
A=15 ft²

TYPE IV (L) ARROW
(For Type II (R) arrow, use mirror image)



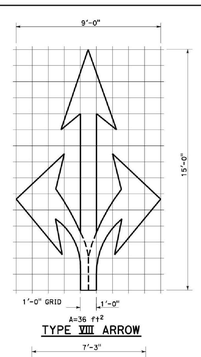
A=42 ft²

TYPE VI ARROW
Right lane drop arrow
(For left lane, use mirror image)



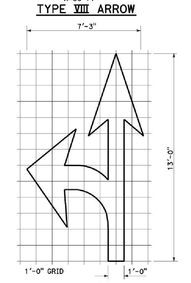
A=3.5 ft²

BIKE LANE ARROW



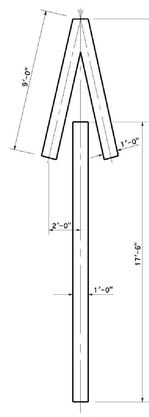
A=36 ft²

TYPE VIII ARROW



A=27 ft²

TYPE VII (L) ARROW
(For Type III (R) arrow, use mirror image)



A=33 ft²

TYPE V ARROW

NOTE:
Minor variations in dimensions may be accepted by the Engineer.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKINGS ARROWS

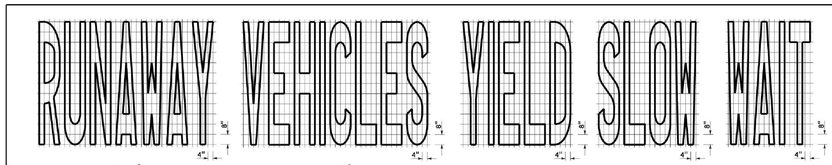
NO SCALE

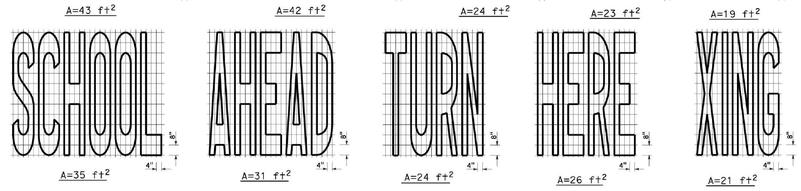
A24A

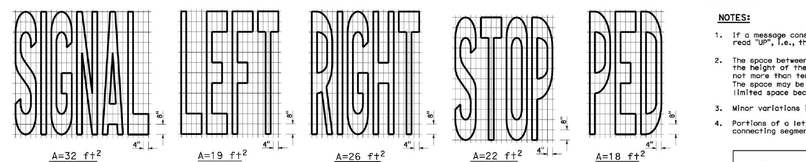
9-28-16

2015 STANDARD PLAN A24A

19







NOTES:

1. If a message consists of more than one word, it must read "UP", i.e., the first word must be nearest the driver.
2. The space between words must be at least four times the height of the characters for low speed roads, but not more than ten times the height of the characters. The space may be reduced appropriately where there is limited space because of local conditions.
3. Minor variations in dimensions may be accepted by the Engineer.
4. Portions of a letter, number or symbol may be separated by connecting segments not to exceed 2" in width.

WORD MARKINGS							
ITEM	ft²	ITEM	ft²	ITEM	ft²	ITEM	ft²
XING	21	YIELD	24	BIKE	5	PED	18
AHEAD	31	SCHOOL	35	SLOW	23	COMPACT	10
WAIT	19	SIGNAL	32	STOP	22	RUNAWAY	43
LANE	6	TURN	24	LEFT	19	VEHICLES	42
RIGHT	26	HERE	26				

Dist	COUNTY	ROUTE	POST MILES: TOTAL PROJECT	SHEET NO.	TOTAL SHEETS

Attila Feraud
REGISTERED CIVIL ENGINEER
October 30, 2015
PLANS APPROVAL DATE
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Attila Feraud No. C80402 Exp. 3-31-17 CIVIL STATE OF CALIFORNIA

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKINGS WORDS

NO SCALE

A24D

11-14-17

2015 STANDARD PLAN A24D

Plot: Jan 17, 2020 at 2:02pm

159134_FTC_SITE.dwg

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA	ALEX AMERI
DEP. DIR. PUBLIC WORKS	DIR. OF PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	INC 01_ADD_01_VI	12/06/2019

PERMIT SUBMITTAL V3 - INCREMENT #1

REGISTERED PROFESSIONAL ENGINEER
JASON KINCHEN
C 78079
CIVIL
STATE OF CALIFORNIA
03/09/2020

Sheet Title

CALTRANS STANDARD DETAILS

BKF 100+ YEARS
ENGINEERS . SURVEYORS . PLANNERS
255 SHORLINE DR, STE 200
REDWOOD CITY, CA 94065
PHONE: (415) 936-7960
FAX: (650) 482-6399

Drawn By: TRL Checked By: BD

Scale:
AS SHOWN

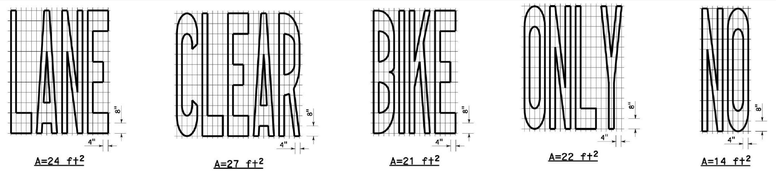
Date:
October 4, 2019

Project No. 20159134

0-C5.4

Drawing No.

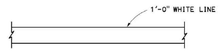
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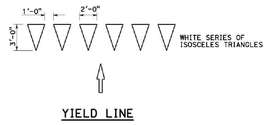
WORD MARKINGS			
ITEM	ft²	ITEM	ft²
LANE	24	NO	14
POOL	23	BIKE	21
CAR	17	BUS	20
CLEAR	27	ONLY	22
KEEP	24	FWY	16



A=2 ft²
See Notes 6 and 7



LIMIT LINE (STOP LINE)



YIELD LINE

NOTES:

1. If a message consists of more than one word, it must read "UP", i.e., the first word must be nearest the driver.
2. The space between words must be at least four times the height of the characters for low speed roads, but not more than ten times the height of the characters. The space may be reduced appropriately where there is limited space because of local conditions.
3. Minor variations in dimensions may be accepted by the Engineer.
4. Portions of a letter, number or symbol may be separated by connecting segments not to exceed 2" in width.
5. The words "NO PARKING" pavement marking is to be used for parking facilities. For typical locations of markings, see Standard Plans A90A and A90B.
6. The words "NO PARKING", shall be painted in white letters no less than 1'-0" high on a contrasting background and located so that it is visible to traffic enforcement officials.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

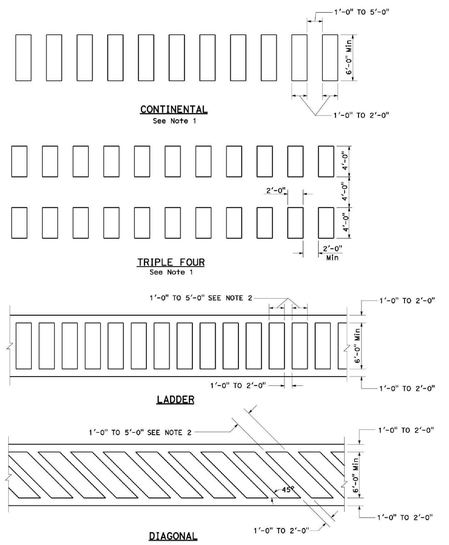
PAVEMENT MARKINGS
WORDS, LIMIT AND YIELD LINES

NO SCALE

A24E

9-22-15

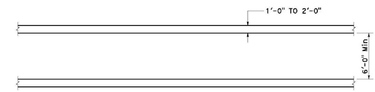
2015 STANDARD PLAN A24E



HIGHER VISIBILITY CROSSWALKS

NOTES:

1. Spaces between markings must be placed in wheel tracks of each lane.
2. Spacings not to exceed 2.5 times width of longitudinal line.
3. All crosswalk markings must be white except those near schools must be yellow.



BASIC

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKINGS
CROSSWALKS

NO SCALE

A24F

9-22-15

2015 STANDARD PLAN A24F

RossDrulisCusenbery
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542
ARCHITECTURE

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, DIR. OF PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

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HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	INC 01_ADD_01_VI	12/06/2019

PERMIT SUBMITTAL V3 - INCREMENT #1

REGISTERED PROFESSIONAL ENGINEER
JASON K. KICHUEN
C 78079
CIVIL
STATE OF CALIFORNIA

03/09/2020

Sheet Title

CALTRANS STANDARD DETAILS

BkF 100+ YEARS
ENGINEERS . SURVEYORS . PLANNERS
255 SHORLINE DR, STE 200
REDWOOD CITY, CA 94065
PHONE: (415) 936-7960
FAX: (650) 482-6399

Drawn By: TRL
Checked By: BD

Scale:
AS SHOWN

Date:
October 4, 2019

Project No. 20159134

0-C5.5

Drawing No.

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Plot: Jan 17, 2020 at 2:03pm
159134_FTC_SITE.dwg

GENERAL NOTES

1. PROVIDE ALL MATERIALS AND EQUIPMENT AND PERFORM ALL LABOR REQUIRED TO INSTALL COMPLETE AND OPERABLE MECHANICAL SYSTEMS AS INDICATED ON THE CONTRACT DOCUMENTS AND AS REQUIRED BY CODE.

2. INSTALL AND TEST ALL FUEL SYSTEM EQUIPMENT AND APPURTENANCES IN ACCORDANCE WITH MANUFACTURER'S WRITTEN RECOMMENDATIONS, THE CONTRACT DOCUMENTS, AND APPLICABLE CODES AND REGULATIONS.

3. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL UTILITIES BEFORE COMMENCING WORK AND REFER TO CIVIL ENGINEERING PLANS (BY BKF ENGINEERS) FOR THE LOCATION OF ALL EXISTING AND PROPOSED UTILITIES. THE CONTRACTOR SHALL PAY FOR AND REPAIR ALL DAMAGES CAUSED BY FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

4. WHERE TWO OR MORE ITEMS OF THE SAME TYPE OF EQUIPMENT ARE REQUIRED, THE PRODUCT OF ONE MANUFACTURER SHALL BE USED.

5. THE CONTRACTOR SHALL OBTAIN ALL STATE AND LOCAL TANK HANDLING LICENSES AND CERTIFICATIONS GOVERNING THE TYPE OF WORK TO BE PERFORMED. PROOF OF NECESSARY LICENSES AND CERTIFICATIONS SHALL BE FURNISHED TO THE OWNER PRIOR TO THE START OF SITE WORK.

6. THE CONTRACTOR SHALL OBTAIN AND MAINTAIN INSTALLER CERTIFICATIONS AS REQUIRED BY THE EQUIPMENT MANUFACTURERS OUTLINED IN THIS PROJECT, INCLUDING CERTIFICATIONS FOR INSTALLATION OF THE ENVIRONMENTAL MONITORING SYSTEM AND UNDERGROUND PIPING SYSTEMS. PROOF OF NECESSARY MANUFACTURER CERTIFICATIONS SHALL BE FURNISHED TO THE OWNER PRIOR TO THE START OF SITE WORK.

7. THE CONTRACTOR SHALL OBTAIN NECESSARY PERMITS FROM ALL GOVERNING FEDERAL, STATE, AND LOCAL JURISDICTIONS AND MAKE ARRANGEMENTS FOR INSPECTIONS AND APPROVALS FOR THE WORK. WHERE APPLICABLE, THIS INCLUDES ALL PERMITS/APPROVALS FROM THE LOCAL MUNICIPALITY AND AIRPORT AUTHORITIES. ALL INCURRED COSTS ARE TO BE BORNE BY THE CONTRACTOR. UPON COMPLETION OF THE WORK, THE CONTRACTOR SHALL DELIVER TO THE OWNER ALL NECESSARY CERTIFICATES OF APPROVAL FROM ALL GOVERNING JURISDICTIONS AS PART OF THE PROJECT CLOSEOUT DOCUMENTATION. CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS AND COORDINATE PERMITTING WITH ENGINEER.

8. THE CONSTRUCTION DRAWINGS COVER THE DESIGN AND INSTALLATION ELEMENTS OF THE PROPERTY IMPROVEMENT PROJECT. ANY DEVIATION FROM THE DRAWINGS SHALL BE APPROVED BY THE OWNER PRIOR TO THE CONTRACTOR MAKING ANY SUBSTITUTIONS, CHANGES, OR MODIFICATIONS.

9. THE OWNER SHALL, AT ALL TIMES, HAVE ACCESS TO THE WORK, AND THE CONTRACTOR SHALL PROVIDE FOR SUCH ACCESS AND FOR INSPECTION. IF CERTAIN WORK IS FOUND TO BE NOT IN ACCORDANCE WITH THE CONTRACTUAL DOCUMENTS, THE DEFICIENT WORK SHALL BE IMMEDIATELY REMOVED AND REPLACED TO THE OWNER'S SATISFACTION.

10. ALL TESTS REQUIRED SHALL BE DOCUMENTED ON A TEST REPORT SIGNED BY THE CONTRACTOR. ALL TEST REPORTS SHALL BE SUBMITTED TO THE OWNER WITHIN 3 DAYS OF THE TEST AND INCLUDED IN THE CLOSEOUT DOCUMENTS.

11. SHOP DRAWINGS FOR ALL FUEL SYSTEM EQUIPMENT OUTLINED ON THE SPECIFICATIONS SHALL BE SUBMITTED TO THE OWNER FOR APPROVAL. REALIZING THE LONG LEAD TIME ASSOCIATED WITH CERTAIN EQUIPMENT, E.G., STORAGE TANKS, THE CONTRACTOR SHALL MAKE EVERY EFFORT TO SUBMIT THESE SHOP DRAWINGS AS SOON AS POSSIBLE AFTER THE CONTRACT AWARD DATE. IF THE CONTRACTOR DOES NOT SUBMIT SHOP DRAWINGS IN THE ALLOTTED TIME, NO CONSIDERATION WILL BE GIVEN ON THE PROJECT SCHEDULE FOR SUPPLY DELAYS.

12. THE CONTRACTOR SHALL PROVIDE CLOSEOUT DOCUMENTATION IN ACCORDANCE WITH THIS SECTION. AT A MINIMUM, THE CONTRACTOR SHALL PROVIDE THE OWNER WITH ONE (1) HARD COPY AND ONE (1) DIGITAL COPY (IN PDF FORMAT) OF THE FOLLOWING CLOSEOUT DOCUMENTATION WITHIN 30 DAYS OF PROJECT COMPLETION. CLOSEOUT DOCUMENTS SHALL BE ORGANIZED INTO HEAVY DUTY VINYL COVERED 3-RING BINDERS OF MANAGEABLE SIZE AS WELL AS ELECTRONIC COPIES (PDF)S ON A CD. BIND AND INDEX ALL DOCUMENTS. INCLUDE FOLDERS TO ACCOMMODATE FOLDED OR OVERSIZED SHEETS, OR CDS. EACH BINDER SHALL BE LABELED ON THE COVER AND SPINE WITH THE PRINTED TITLE 'CLOSEOUT DOCUMENTS', PROJECT NAME, NUMBER, AND DATE. THE OWNER RESERVES THE RIGHT TO WITHHOLD FINAL PAYMENT TO THE CONTRACTOR UNTIL THE OWNER IS IN RECEIPT OF ALL REQUIRED DOCUMENTATION:

    A. MANUFACTURER'S INSTALLATION CHECKLISTS FOR ABOVEGROUND STORAGE TANK (AST) SYSTEMS AND APPROVED PIPING AND PUMP ATTACHMENTS.
    B. MANUFACTURERS INSTALLATION AND SETUP CHECKLISTS FOR ANY SPECIFIED ELECTRONIC OVERFILL PREVENTION DEVICE, INCLUDING CERTIFICATION OF OPERATION IF REQUIRED BY AUTHORITIES HAVING JURISDICTION.
    C. COPIES OF ALL PERMITS AND CERTIFICATES OF INSPECTION AND/OR APPROVAL.
    D. A MINIMUM OF TWELVE (12) PHOTOGRAPHS EACH OF KEY PHASES OF THE PROJECT, SUCH AS AST INSTALLATION, SYSTEM COMPONENT AND EQUIPMENT INSTALLATION (I.E., TANK PLACEMENT, CONDUIT RUNS AND CONNECTIONS, ETC.).
    E. AS-BUILT CONSTRUCTION DRAWINGS. ALL SHEETS SHALL BE SUBMITTED, EVEN IF THERE ARE NO CHANGES, EACH SIGNED AND DATED BY THE CONTRACTOR. IF ANY SHEETS DO NOT REQUIRE EDITING, THE CONTRACTOR SHALL INDICATE 'NO CHANGES THIS SHEET' THEN SIGN AND DATE THE NOTATION.
    F. PRIMARY TANK AND PIPING TEST RESULTS AND TEST RESULTS FOR ANY SECONDARY CONTAINMENT STRUCTURE OR ANNULUS AND CONTAINMENT SUMPS.
    G. THIRD PARTY HYDROSTATIC TEST RESULTS OF ALL TANK, DISPENSER AND TRANSITION SUMPS WITH CONSIDERATION TO ANY LOCAL OR STATE REQUIRED DOCUMENTATION.
    H. SHEAR VALVE TEST RESULTS
    I. EMERGENCY STOP TEST RESULTS
    J. AN AMENDED OR NEW TANK REGISTRATION FORM SHALL BE COMPLETED AND SIGNED BY THE CONTRACTOR WHERE APPLICABLE. THE AMENDED TANK REGISTRATION FORM(S) SHALL BE FORWARDED TO THE OWNER FOR FURTHER HANDLING AND SUBMISSION WITHIN THE PERIOD ESTABLISHED BY THE AUTHORITY HAVING JURISDICTION.
    K. WARRANTIES FOR ALL EQUIPMENT AND APPARATUS. IN GENERAL, ANY PRODUCT/MANUFACTURER DOCUMENTATION THAT WAS PROVIDED WITH THE EQUIPMENT SHALL BE PROVIDED AS PART OF THE CLOSEOUT DOCUMENTS.
    L. ALL INSTRUCTION BULLETINS, PREVENTIVE MAINTENANCE SCHEDULES, OPERATIONAL INSTRUCTIONS, AND PARTS LISTS PROVIDED WITH THE TANKS, DISPENSERS, AND MONITORING SYSTEM (ONLY 1 COPY OF OWNER OPERATING MANUALS REQUIRED).
    M. WASTE DISPOSAL DOCUMENTATION (IF ANY).
    N. OTHER ENVIRONMENTAL INFORMATION (IF ANY).
    O. THE CONTRACTOR SHALL PROVIDE A GENERAL RELEASE OF LIENS, ALONG WITH A RELEASE OF LIENS FOR ALL SUBCONTRACTORS.
    P. COPIES OF RECEIPTS FOR ANY KEYS, LOCKS, OR OTHER EQUIPMENT TURNED OVER TO THE OWNER.
    Q. COMPLETE CLOSEOUT DOCUMENTATION AS REQUIRED BY OWNER.

13. CONTRACTOR SHALL GUARANTEE ALL MATERIALS AND WORKMANSHIP FREE FROM DEFECTS FOR A PERIOD OF NOT LESS THAN TWO (2) YEARS FROM DATE OF ACCEPTANCE, UNLESS INDICATED OR SPECIFIED OTHERWISE.

14. IN CASE OF DISCREPANCY BETWEEN THESE CONTRACT DOCUMENTS, NUMERICAL DIMENSIONS, UNLESS OBVIOUSLY INCORRECT, WILL GOVERN OVER SCALED DIMENSIONS.

15. THE CONTRACTOR SHALL NOT TAKE ADVANTAGE OF ANY APPARENT ERROR OR OMISSION IN THE CONTRACT. IF AN ERROR OR OMISSION IS DISCOVERED, THE ENGINEER SHALL BE PROMPTLY NOTIFIED SO CORRECTIONS AND INTERPRETATIONS NECESSARY TO FULFILL THE INTENT OF THE CONTRACT CAN BE MADE.

16. ALL EQUIPMENT SHALL BE INSTALLED PER MANUFACTURER'S WRITTEN RECOMMENDATIONS AND INSTALLATION INSTRUCTIONS AS APPLICABLE.

17. PIPING SHALL BE PNEUMATICALLY TESTED TO 100% OF THE MAXIMUM OPERATING PRESSURE OR A MINIMUM OF PRESSURE OF 5 POUNDS PER SQUARE INCH AND IN ACCORDANCE WITH MANUFACTURERS REQUIREMENTS.

18. TANKS SHALL BE TESTED IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS. ALL TESTING SHALL BE WITNESSED BY CERTIFIED PERSONNEL PRIOR TO PLACING THE TANKS IN SERVICE.

19. PRIOR TO OPERATIONS, SYSTEM SHALL BE TESTED IN PRESENCE OF THE INSPECTOR, IF REQUIRED. CONTRACTOR SHALL COORDINATE WITH INSPECTOR TO SET APPOINTMENT FOR ACCEPTANCE TEST.

20. SYSTEM SHALL BE INSTALLED IN COMPLIANCE WITH NFPA 30, NFPA 30A, NFPA70, STATE OF CALIFORNIA REGULATIONS, AND LOCAL REGULATIONS.

21. THE DSA / FLS PORTION OF THE FUEL STORAGE TANKS, PROPANE STORAGE TANKS AND UNDERGROUND FUEL PIPING FALLS UNDER THE JURISDICTION OF THE HAYWARD FIRE DEPARTMENT CERTIFIED UNIFIED PROGRAM (CUPA).

22. ACQUIRE PERMITS FOR STORAGE FUEL TANK REMOVAL AND INSTALLATION, PROPANE TANKS AND UNDERGROUND FUEL PIPING INSTALLATION WITH THE HAYWARD FIRE DEPARTMENT FOR PLANS APPROVAL AND INSPECTIONS FOR THE DSA / FLS PORTION SHOWN ON THESE PLANS.

1 FUEL SYSTEM GENERAL NOTES
SCALE: N/A

ELECTRICAL NOTES:

1. ENTIRE INSTALLATION SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE (NEC) AND THE LATEST EDITION OF ALL LOCAL CODES, RULES AND ORDINANCES HAVING JURISDICTION. DUE TO THE NATURE OF THIS INSTALLATION, THE CONTRACTOR SHALL PAY PARTICULAR ATTENTION TO ARTICLES 501, 511, 514 AND 515 OF THE NEC.

2. ALL CONDUIT RUNS ARE SHOWN DIAGRAMMATICALLY, EXACT ROUTING SHALL BE DETERMINED IN THE FIELD, UNLESS OTHERWISE NOTED.

3. WIRE WAYS SHALL BE SIZED AS REQUIRED, PER NEC AND EQUIPMENT MANUFACTURER, UNLESS OTHERWISE NOTED.

4. FOR UNDERGROUND ELECTRICAL CONDUITS, PROVIDE PULL BOXES, SUCH THAT NO SINGLE CONDUIT RUN HAS BENDS IN EXCESS OF 360°. PULL BOXES SHALL BE SUITABLE AND APPROVED FOR THE INTENDED USE, WARNING TAPE WHICH SAYS "WARNING BURIED ELECTRIC" SHALL BE PLACED IN TRENCHES ABOVE ALL UNDERGROUND ELECTRIC CONDUITS.

5. ALL ELECTRICAL EQUIPMENT, DEVICES, WIRE, ETC., SHALL BE LISTED, FOR THE INTENDED USE, WITH UNDERWRITER'S LABORATORIES INC. (U.L.) WHERE STANDARDS HAVE BEEN ESTABLISHED BY U.L.

6. ALL CONDUCTORS SHALL BE IN CONDUITS.

7. COORDINATE ELECTRIC SERVICE WITH BUILDING ELECTRICAL PLANS IF AVAILABLE.

8. CONTRACTOR SHALL VERIFY CIRCUIT PROTECTIVE DEVICE RATING FOR EQUIPMENT PRIOR TO CONSTRUCTION.

9. AS A MINIMUM, ALL EQUIPMENT SHALL MEET APPLICABLE STANDARDS, FOR THE TYPE OF EQUIPMENT AND INTENDED USE, OF THE FOLLOWING:
    A. AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI).
    B. ILLUMINATING ENGINEERS SOCIETY (IES).
    C. AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM).
    D. NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATES (NEMA).

NOTE: THESE STANDARDS ARE SUBORDINATE TO CODES AND STANDARDS SET BY U.L.

10. ALL PANEL DIRECTORIES SHALL BE TYPE WRITTEN. HAND WRITTEN DIRECTORIES ARE UNACCEPTABLE.

11. ALL CONNECTIONS TO GROUND RODS SHALL BE MADE WITH U.L. APPROVED WELDED CONNECTIONS, UNLESS NOTED OTHERWISE.

12. PROVIDE FIRE RETARDANT U.L. APPROVED SEALANT ON ALL PENETRATIONS OF FIRE RATED PARTITIONS, WALLS AND STRUCTURAL SLABS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY, PRIOR TO SUBMITTING BID, LOCATIONS OF ALL SUCH FIRE RATED PARTITIONS, WALL AND STRUCTURAL SLABS.

13. CONTRACTOR SHALL VERIFY AVAILABLE SERVICE VOLTAGE AND PHASES WITH THE LOCAL UTILITY COMPANY PRIOR TO BID, AND PROVIDE BID ALLOWANCE FOR ALTERNATIVES.

14. ELECTRICAL CONDUITS SHALL COMPLY WITH THE ELECTRICAL SPECIFICATIONS (REFER TO ELECTRICAL SHEETS).

15. JUNCTION/OUTLET BOXES IN CLASSIFIED HAZARDOUS AREAS SHALL BE EXPLOSION PROOF, CLASS I, DIVISION 1 OR DIVISION 2, AND SIZED IN ACCORDANCE WITH NEC REQUIREMENTS.

16. ALL ELECTRICAL WIRE AND CABLE FOR CIRCUITS SHALL BE PROPERLY SIZED TO CONFORM TO NFPA 70.

17. ALL WIRE AND CABLE INSTALLED WITHIN CONDUITS THAT EXIT, ENTER, OR GO THROUGH A HAZARDOUS AREA MUST CONFORM TO THE NEC, ARTICLE 501-13 FOR CONDUCTOR INSULATION.

18. CONTROL CABLE SHALL CONSIST OF MULTI-CONDUCTORS OF STRANDED WIRES, 95% SHIELD COVERAGE, PVC JACKET; MANUFACTURED BY BELDEN. REFER TO CONDUIT SCHEDULE FOR ADDITIONAL DETAILS.

19. ALL CONDUCTORS SHALL BE IN ACCORDANCE WITH THE ELECTRICAL SPECIFICATIONS (REFER TO ELECTRICAL SHEETS).

20. SAFETY TAPE SHALL BE USED ABOVE ALL UNDERGROUND ELECTRICAL CONDUIT.

21. ALL CIRCUITS AND SYSTEMS SHALL BE GROUNDED IN ACCORDANCE WITH APPLICABLE SECTIONS OF ARTICLES 250 AND 500 OF THE NEC AND BE IN CONFORMANCE WITH THE ELECTRICAL SPECIFICATIONS.

22. ALL CONTROL DEVICES, MOTORS OR OTHER APPARATUS, INCLUDING NON-CURRENT CARRYING ENCLOSURES, FRAMES, AND CONDUIT FOR POWER AND CONTROL, ARE TO BE PERMANENTLY AND EFFECTIVELY GROUNDED.

23. ALL WIRING SHALL BE LABELED AND COLOR-CODED TO IDENTIFY EACH WIRE FROM THE POINT OF ORIGIN, INTERMEDIATE JUNCTION POINTS, AND POINT OF TERMINATION. IN ENCLOSURES CONTAINING NUMBERED TERMINAL BOARDS, A DIRECTORY OF THE PURPOSE OF THE WIRE CONNECTED TO EACH TERMINAL BOARD SHALL BE SUFFICIENT. AN AS-BUILT DRAWING OF THE COLOR CODED WIRES IDENTIFYING EACH AS ACTUALLY INSTALLED SHALL BE PROVIDED TO THE OWNER UPON COMPLETION OF THE PROJECT.

24. THE CONTRACTOR SHALL FURNISH AND INSTALL AN EMERGENCY ELECTRICAL DISCONNECT SWITCH THAT PROVIDES A MEANS TO DISCONNECT ALL ELECTRICAL POWER TO THE MOTOR FUEL DISPENSING EQUIPMENT AND ALL ASSOCIATED POWER, CONTROL, SIGNAL CIRCUITS AND OTHER ELECTRICAL EQUIPMENT DURING AN EMERGENCY, AS SPECIFIED ON THE CONSTRUCTION DRAWINGS AND SPECIFICATIONS (REFER TO ELECTRICAL SHEETS).

25. UNLESS SO SPECIFIED ON THE CONSTRUCTION DRAWINGS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR SIZING AND SPECIFYING ALL CIRCUIT BREAKERS AND CONDUCTORS. ALL CONDUCTORS SHALL BE SIZED TO MEET THE RECOMMENDATIONS FOR MAXIMUM VOLTAGE DROP IN THE NEC.

26. EMERGENCY ELECTRICAL DISCONNECT SWITCHES SHALL BE LOCATED NOT LESS THAN 20 FEET OR MORE THAN 100 FEET FROM EACH FUEL DISPENSER.

27. ALL CONTROL SYSTEMS SHALL BE IN PROPER OPERATING CONDITION AND APPROVAL MUST BE GIVEN BY THE CONTROL SYSTEM APPARATUS MANUFACTURER, AS WELL AS BY THE OWNER, BEFORE ANY FINAL ACCEPTANCE IS MADE.

28. THE CONTRACTOR SHALL THOROUGHLY TEST ALL WIRING FOR SHORTS AND GROUNDS BEFORE CURRENT IS TURNED ON.

29. ALL PANEL BOARDS SHALL INCLUDE A CIRCUIT DIRECTORY OR CIRCUIT IDENTIFICATION IN ACCORDANCE WITH THE NEC. IN ADDITION, THE INSIDE PANEL OF ALL ENCLOSURES SHALL INCLUDE A DIAGRAMMATIC DEPICTION OF THE PURPOSE OF EACH DEVICE IN THAT ENCLOSURE, AS SHOWN ON THE CONSTRUCTION DRAWINGS.

30. ALL CONDUITS SHALL BE LABELED AS INDICATED ON THE CONSTRUCTION DRAWINGS. LABELS SHALL BE INCLUDED ON ALL INTERIOR AND EXTERIOR CONDUITS AT THE POINT OF EXIT FROM A PANEL BOARD OR ENCLOSURE AND AT THE POINT THE CONDUIT ENTERS THE GROUND, REALIZING THAT SOME OR ALL CONDUITS MAY BE LABELED MORE THAN ONCE.

31. THE CONTRACTOR SHALL SECURELY FASTEN CONDUITS TO OUTLET BOXES, PANEL-BOARDS, ETC., WITH TWO NUTS AND ONE BUSHING OR THREAD HUB. CONDUITS SHALL HAVE ENDS BUTTED INSIDE COUPLINGS.

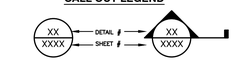
32. ALL BELOW-GRADE CONDUIT SHALL BE BEDDED WITH SUITABLE MATERIAL, FREE FROM MUCK, ASPHALT, DELETERIOUS MATERIAL, BROKEN CONCRETE OR DEBRIS OF ANY KIND. THE BACKFILL MATERIAL SHALL BE COMPACTED TO A MINIMUM OF 95% OF MAXIMUM DRY DENSITY.

2 FUEL SYSTEM ELECTRICAL NOTES
SCALE: N/A

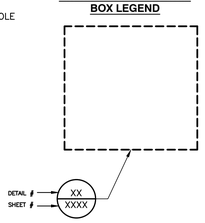
ABBREVIATIONS

AG	ABOVEGROUND
AST	ABOVEGROUND STORAGE TANK
ATG	AUTOMATIC TANK GAUGE
AWK	ACKNOWLEDGEMENT
BLK	BLACK
CONT	CONTINUATION
CUPA	CERTIFIED UNIFIED PROGRAM AGENCY
DESI	DISPENSER EMERGENCY STOP INTERRUPT
DIA.	DIAMETER
DW	DOUBLE WALL
EMC	ENVIRONMENTAL MONITORING CONSOLE
EMT	ELECTRICAL METALLIC TUBING
ESB	E-STOP BUTTON
E-STOP	EMERGENCY STOP
FMS	FUEL MANAGEMENT SYSTEM
FRP	FIBERGLASS REINFORCED PLASTIC
GAP	GASOLINE ADVERTISING PRODUCTS
GLV	GALVANIZED
HLA	HIGH LEVEL ALARM
I.S.	INTRINSICALLY SAFE
MFR	MANUFACTURER
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRIC CODE
N.T.S.	NOT TO SCALE
O.C.	ON CENTER
PL	PROPERTY LINE
RC	RIGID CONDUIT
RMC	RIGID METAL CONDUIT
SCH	SCHEDULE
SS	STAINLESS STEEL
STP	SUBMERSIBLE TURBINE PUMP
SW	SINGLE WALL
TBD	TO BE DETERMINED
TYP	TYPICAL
UG	UNDERGROUND
UST	UNDERGROUND STORAGE TANK
VR	VAPOR RECOVERY

CALL OUT LEGEND



ENLARGED PLAN DETAIL BOX LEGEND



3 ABBREVIATIONS & LEGENDS
SCALE: N/A
FUELING SYSTEM

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

Stantec
Stantec Consulting Services Inc.
5 Dartmouth Drive Suite 200
Auburn NH 03032-2964
Tel. (603) 647-5642
www.stantec.com

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HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3 - INCREMENT #1

REGISTERED PROFESSIONAL ENGINEER
RONALD B. LAURENCE JR.
34127
ELECTRICAL
STATE OF CALIFORNIA
1/9/2020

Ronald B. Laurence Jr., PE
California PE #34127
Stantec Consulting Services, Inc.

Sheet Title

FUELING SYSTEM GENERAL NOTES, ABBREVIATIONS AND LEGENDS

Author NRD Checker RBL

Scale:
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Date:
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Project No. 2016039

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Drawing No.

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THE FUEL SYSTEM EQUIPMENT LISTS REPRESENTS THE BASIS OF DESIGN. IF SUBSTITUTIONS ARE MADE, THE CONTRACTOR IS RESPONSIBLE FOR SEEKING APPROVAL FROM CUPA AND THE AQMD AND TO DEMONSTRATE THE THE SUBSTITUTED EQUIPMENT IS COMPLIANT WITH CARB EXECUTIVE ORDERS AND OTHER REGULATIONS. THE CONTRACTOR SHALL PROVIDE DESIGN DATA AND ALL OTHER DOCUMENTATION TO DEMONSTRATE THE SUBSTITUTION DOES NOT ADVERSELY AFFECT THE SYSTEM AND SHALL BE ACCEPTABLE TO THE APPLICABLE REGULATORY AUTHORITIES. FOR ANY SUBSTITUTIONS, THE CONTRACTOR SHALL BE RESPONSIBLE AT NO COST TO THE OWNER FOR ANY AND ALL DESIGN AND CONSTRUCTION MODIFICATIONS NECESSARY FOR THE SYSTEM TO MEET DESIGN REQUIREMENTS WITHIN THESE CONSTRUCTION DOCUMENTS.

ABOVEGROUND STORAGE TANKS

DESCRIPTION	MANUFACTURER	PART#	NOTES
UL 2085 DOUBLE-WALLED, ABOVEGROUND STORAGE TANK 7,000 GALLON, 2-COMPARTMENTS (2,000 GALLONS GASOLINE / 5,000 GALLONS DIESEL) *CUSTOM DIMENSIONS - 25'-4"L X 7'-11"W X 6'-1"H*. EXTERIOR COLOR SHALL BE LIGHT GRAY. SHADE OF LIGHT GRAY BY OWNER.	CSI	BY TANK MFR	TANK DIMENSIONS ARE CUSTOM. AST IS "LOW PROFILE". REFER TO FUEL SYSTEM PLANS FOR ADDITIONAL DIMENSIONS
GALVANIZED AST ACCESS STAIRS	CSI	BY TANK MFR	
FRP TRANSITION SUMP, DW, BRINE FILLED	BRAVO	B-500 SERIES	PLANTER STYLE, DW, BRINE FILLED

NOTE:
THE EQUIPMENT SHOWN IN THIS TABLE INDICATES MAJOR EQUIPMENT ONLY. THE CONTRACTOR SHALL PROVIDE ALL OTHER EQUIPMENT NECESSARY FOR A COMPLETE FUEL SYSTEM. CONTRACTOR TO VERIFY THAT ALL EQUIPMENT WILL WORK WITHIN THE SYSTEM AS DESIGNED. MODEL NUMBERS ARE SUBJECT TO CHANGE, THE CONTRACTOR SHALL ALERT THE ENGINEER IF ANY MODEL NUMBERS LISTED NO LONGER EXIST FROM THE MANUFACTURER OR IF THE ITEM IS NO LONGER AVAILABLE.

ABOVEGROUND STORAGE TANK ANCILLARY EQUIPMENT

DESCRIPTION	MANUFACTURER	PART#	NOTES
SS REMOTE FILL BOX WITH ADJUSTABLE LEG STAND. ORDER GALLON CAPACITY AND ENTRY HOLES AS DEPICTED IN SHEET FS.320	OPW	211SS	VR-102 EVR PHASE 1 CERTIFIED
FILL SWIVEL ADAPTER	OPW	61ALP EVR	VR-102 EVR PHASE 1 CERTIFIED
FILL CAP	OPW	634TT-EVR	VR-102 EVR PHASE 1 CERTIFIED
VAPOR SWIVEL ADAPTER	OPW	61VSA EVR	VR-102 EVR PHASE 1 CERTIFIED
VAPOR RECOVERY CAP	OPW	1711T-EVR	VR-102 EVR PHASE 1 CERTIFIED
OVERFILL PREVENTION VALVE	OPW	61 FSTOP-3050	VR-102 EVR PHASE 1 CERTIFIED WITH DROP TUBE KIT
PROBE CAP AND ADAPTER KIT	VEEDER ROOT	BY MFR	VR-102 EVR PHASE 1 CERTIFIED
INTERSTITIAL MONITORING CAP AND ADAPTER KIT	VEEDER ROOT	BY MFR	VR-102 EVR PHASE 1 CERTIFIED
MECHANICAL CLOCK TANK GAUGE	MORRISON BROTHERS	818C-0X00-AC-EVR *REPLACE X WITH 1 OR 4 FOR APPROPRIATE THREAD TYPE	EVR PHASE 1 CERTIFIED; ORDER FACE FOR EACH TANK COMPARTMENT
TEST STICK PORT CAP AND ADAPTOR	MORRISON BROTHERS	3050SP2000AKEVR	EVR PHASE 1 CERTIFIED

NOTE:
THE EQUIPMENT SHOWN IN THIS TABLE INDICATES MAJOR EQUIPMENT ONLY. THE CONTRACTOR SHALL PROVIDE ALL OTHER EQUIPMENT NECESSARY FOR A COMPLETE FUEL SYSTEM. CONTRACTOR TO VERIFY THAT ALL EQUIPMENT WILL WORK WITHIN THE SYSTEM AS DESIGNED. MODEL NUMBERS ARE SUBJECT TO CHANGE, THE CONTRACTOR SHALL ALERT THE ENGINEER IF ANY MODEL NUMBERS LISTED NO LONGER EXIST FROM THE MANUFACTURER OR IF THE ITEM IS NO LONGER AVAILABLE.

PIPING EQUIPMENT

DESCRIPTION	MANUFACTURER	PART#	NOTES
UL 971 DW SS FLEXIBLE PIPING	BRUGG	FLEXWELL HL	PROVIDE END FITTINGS BY MFR
ATMOSPHERIC VENT CAP (DIESEL)	OPW	23 SERIES	DIESEL VENT CAP
PRESSURE/VACUUM VENT CAP (GASOLINE)	OPW	723V	EVR PHASE 1 CERTIFIED
FRP PIPING ENTRY BOOT	BRAVO	F SERIES D	DW SUMP ENTRY FITTING FOR DW SS FLEXIBLE PIPING
SS SOLENOID VALVE	MORRISON BROS	710SS SERIES	SIZES SHOWN ON PLANS

NOTE:
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DISPENSING EQUIPMENT

DESCRIPTION	MANUFACTURER	PART#	NOTES
1 HOSE, SINGLE PRODUCT REMOTE DIESEL DISPENSER, BRANDED DIESEL	WAYNE/GASBOY	BY MFR	ENHANCED CAPACITY, LANE ORIENTED STAINLESS STEEL PANELS AND DOORS, AND DUAL-PULSE OUTPUT
3/4" DIESEL NOZZLE, WITH GREEN HANDWARMERS	OPW	11BP	
3/4" x 9' HOSE (GASOLINE AND DIESEL)	CONTINENTAL	FLEXSTEEL FUTURA	
3/4" BREAKAWAY (GASOLINE AND DIESEL)	OPW	68EZR	RECONNECTABLE
3/4" SWIVEL (GASOLINE AND DIESEL)	OPW	45-5060	
1 HOSE, SINGLE PRODUCT REMOTE GASOLINE DISPENSER, BRANDED GASOLINE	WAYNE/GASBOY	BY MFR	ENHANCED CAPACITY, LANE ORIENTED, STAINLESS STEEL PANELS AND DOORS, AND DUAL-PULSE OUTPUT
3/4" GASOLINE NOZZLE, WITH BLACK HANDWARMERS	OPW	11BP	
1.5" SS EMERGENCY SHEAR VALVE (GASOLINE AND DIESEL)	EMCO WHEATON	A0060 S	DOUBLE POPPET STAINLESS STEEL CONFIRM OUTLET CONNECTION WITH DISPENSER INSTALLATION.
HOSE RETRIEVER ASSEMBLY	MORRISON BROTHERS	610H-0100 AR	
HINGED BASE ASSEMBLY	MORRISON BROTHERS	610B-0200 AB	
AG SS CONTAINMENT SUMP WITH STABILIZER BAR	MORRISON BROTHERS	434S	STAINLESS STEEL. ORDER TO FIT DISPENSER. INCLUDE 434CB CONNECTION BOOTS FOR PIPING AND CONDUIT

NOTE:
THE EQUIPMENT SHOWN IN THIS TABLE INDICATES MAJOR EQUIPMENT ONLY. THE CONTRACTOR SHALL PROVIDE ALL OTHER EQUIPMENT NECESSARY FOR A COMPLETE FUEL SYSTEM. CONTRACTOR TO VERIFY THAT ALL EQUIPMENT WILL WORK WITHIN THE SYSTEM AS DESIGNED. MODEL NUMBERS ARE SUBJECT TO CHANGE, THE CONTRACTOR SHALL ALERT THE ENGINEER IF ANY MODEL NUMBERS LISTED NO LONGER EXIST FROM THE MANUFACTURER OR IF THE ITEM IS NO LONGER AVAILABLE.

SUBMERSIBLE PUMPING EQUIPMENT

DESCRIPTION	MANUFACTURER	PART#	NOTES
3/4 HP SUBMERSIBLE TURBINE PUMP	FE PETRO	STP 75-###	3/4 HP FIXED SPEED, ORDER LENGTH TO BE COMPATIBLE WITH TANK
1/3 HP SUBMERSIBLE TURBINE PUMP	FE PETRO	STP 33-###	1/3 HP FIXED SPEED, ORDER LENGTH TO BE COMPATIBLE WITH TANK
ELECTRONIC LINE LEAK DETECTOR	VEEDER ROOT	848480-001	DIGITAL PRESSURIZED LEAK DETECTOR. INSTALL ON SUBMERSIBLES WITH MODEL R CHECK VALVE
SUBMERSIBLE PUMP CONTROLLER	FE PETRO	5800100215	

NOTE:
THE EQUIPMENT SHOWN IN THIS TABLE INDICATES MAJOR EQUIPMENT ONLY. THE CONTRACTOR SHALL PROVIDE ALL OTHER EQUIPMENT NECESSARY FOR A COMPLETE FUEL SYSTEM. CONTRACTOR TO VERIFY THAT ALL EQUIPMENT WILL WORK WITHIN THE SYSTEM AS DESIGNED. MODEL NUMBERS ARE SUBJECT TO CHANGE, THE CONTRACTOR SHALL ALERT THE ENGINEER IF ANY MODEL NUMBERS LISTED NO LONGER EXIST FROM THE MANUFACTURER OR IF THE ITEM IS NO LONGER AVAILABLE.

FUEL MANAGEMENT AND ELECTRICAL EQUIPMENT

DESCRIPTION	MANUFACTURER	PART#	NOTES
FUEL MANAGEMENT PEDESTAL (ADA COMPLIANT W/ SS PANELS)	GASBOY	ISLANDER PRIME	ADA COMPLIANT OPTION WITH SS PANELS. NO SUBSTITUTIONS AUTHORIZED.
E-STOP BUTTON	POWER INTEGRITY	IA-ESOC	
DISPENSER EMERGENCY STOP DISCONNECT (DESI)	POWER INTEGRITY	DDS-FFPWRHUB2	
CONDUIT ENTRY FITTING (DOUBLE WALL)	BRAVO	F17 - ¾" ; F10 - 1"	MATCH ENTRY FITTING TO CONDUIT SIZE
SURGE SUPPRESSION MODULE	POWER INTEGRITY	SMS-PS-06	DISPENSERS, VEEDER ROOT & FUEL MANAGEMENT POWER CIRCUITS TO BE PROTECTED
FUEL SYSTEM ELECTRICAL ENCLOSURE	HOFFMAN	A74H7212LP3PT	
ENCLOSURE COOLING UNIT	STRATUS	TA20-020-16-4X	
EMERGENCY CALL STATION	VIKING	E-1600-45A-EWP	ENHANCED WEATHER PROTECTION OPTION

NOTE:
THE EQUIPMENT SHOWN IN THIS TABLE INDICATES MAJOR EQUIPMENT ONLY. THE CONTRACTOR SHALL PROVIDE ALL OTHER EQUIPMENT NECESSARY FOR A COMPLETE FUEL SYSTEM. CONTRACTOR TO VERIFY THAT ALL EQUIPMENT WILL WORK WITHIN THE SYSTEM AS DESIGNED. MODEL NUMBERS ARE SUBJECT TO CHANGE, THE CONTRACTOR SHALL ALERT THE ENGINEER IF ANY MODEL NUMBERS LISTED NO LONGER EXIST FROM THE MANUFACTURER OR IF THE ITEM IS NO LONGER AVAILABLE.

VEEDER ROOT EQUIPMENT AND TANK MONITORING EQUIPMENT

DESCRIPTION	MANUFACTURER	PART#	NOTES
ENVIRONMENTAL MONITORING CONSOLE	VEEDER ROOT	TLS 450 PLUS-ATG	NO SUBSTITUTIONS AUTHORIZED
UNIVERSAL SENSOR/PROBE INTERFACE MODULE (USM)	VEEDER ROOT	332812-001	
UNIVERSAL INPUT/OUTPUT INTERFACE MODULE (UIOM)	VEEDER ROOT	332813-001	
MAGNETOSTRICTIVE PROBE	VEEDER ROOT	846391-10X ; X (SIZE PER NOTE)	0.1 GPH LEAK DETECTION AND WATER DETECTION. REPLACE X WITH APPROPRIATE PROBE HEIGHT
MINI HYDROSTATIC SENSOR	VEEDER ROOT	794380-304	SINGLE POINT MINI HYDROSTATIC SENSOR FOR DOUBLE WALL BRINE SUMPS
SUMP LEAK SENSOR	VEEDER ROOT	794380-321	
INTERSTITIAL SENSOR	VEEDER ROOT	794380-420	

NOTE:
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RossDrulisCusenbery ARCHITECTURE
18294 Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

Stantec
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REVISIONS

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REGISTERED PROFESSIONAL ENGINEER RONALD B. LAURENCE JR. 34127 ELECTRICAL STATE OF CALIFORNIA
1/9/2020

Ronald B. Laurence Jr., PE
California PE #34127
Stantec Consulting Services, Inc.

Sheet Title

FUELING SYSTEM EQUIPMENT LIST

Author NRD Checker RBL

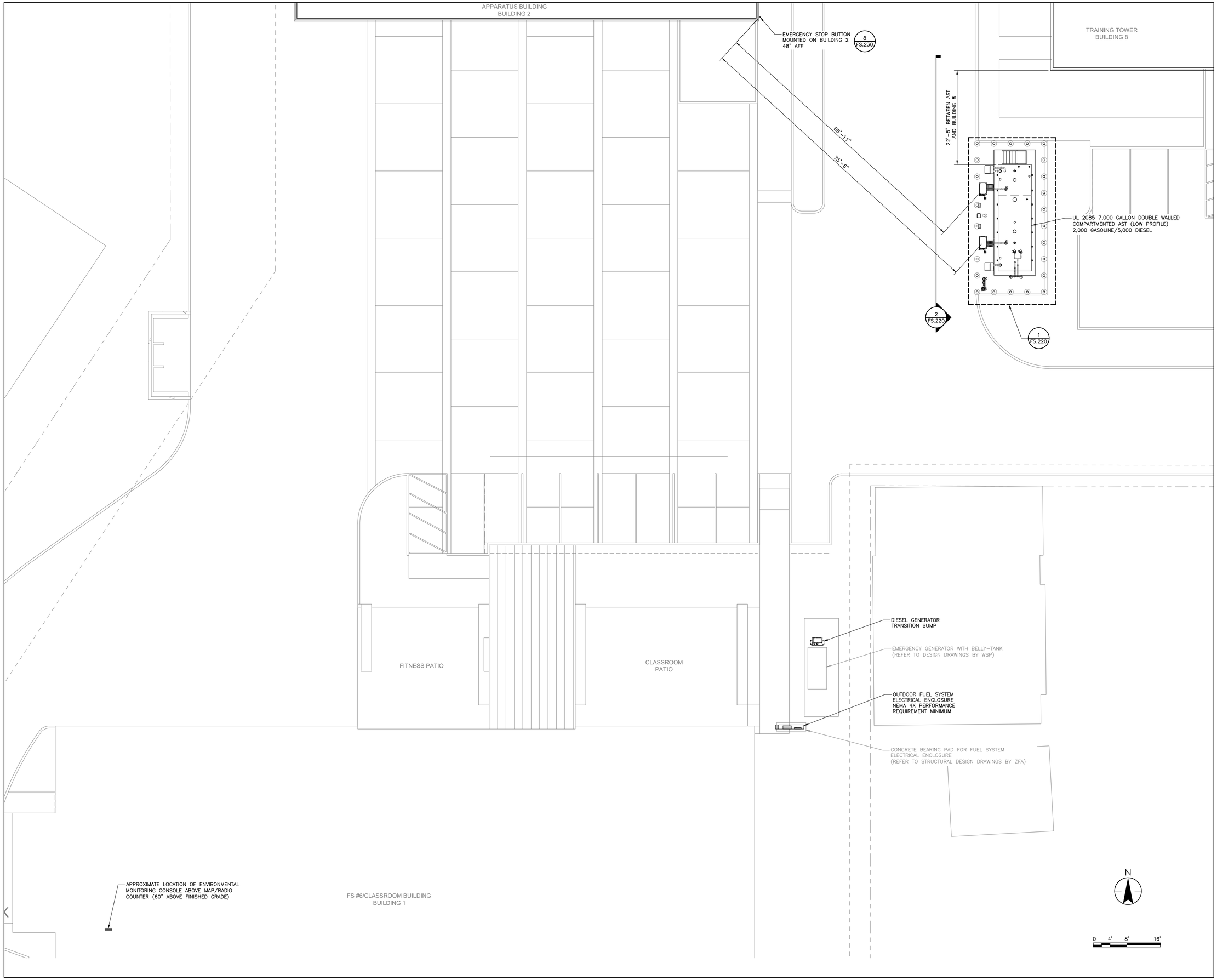
Scale:
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Date:
October 4, 2019

Project No. 2016039

FS.101
Drawing No.

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Sonoma
CA 95476

TEL 707 996 8448
FAX 707 996 8542

Stantec

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RONALD B. LAURENCE JR.
34127
ELECTRICAL
STATE OF CALIFORNIA
1/9/2020

Ronald B. Laurence Jr., PE
California PE #34127
Stantec Consulting Services, Inc.

Sheet Title

FUELING SYSTEM SITE PLAN

Author NRD Checker RBL

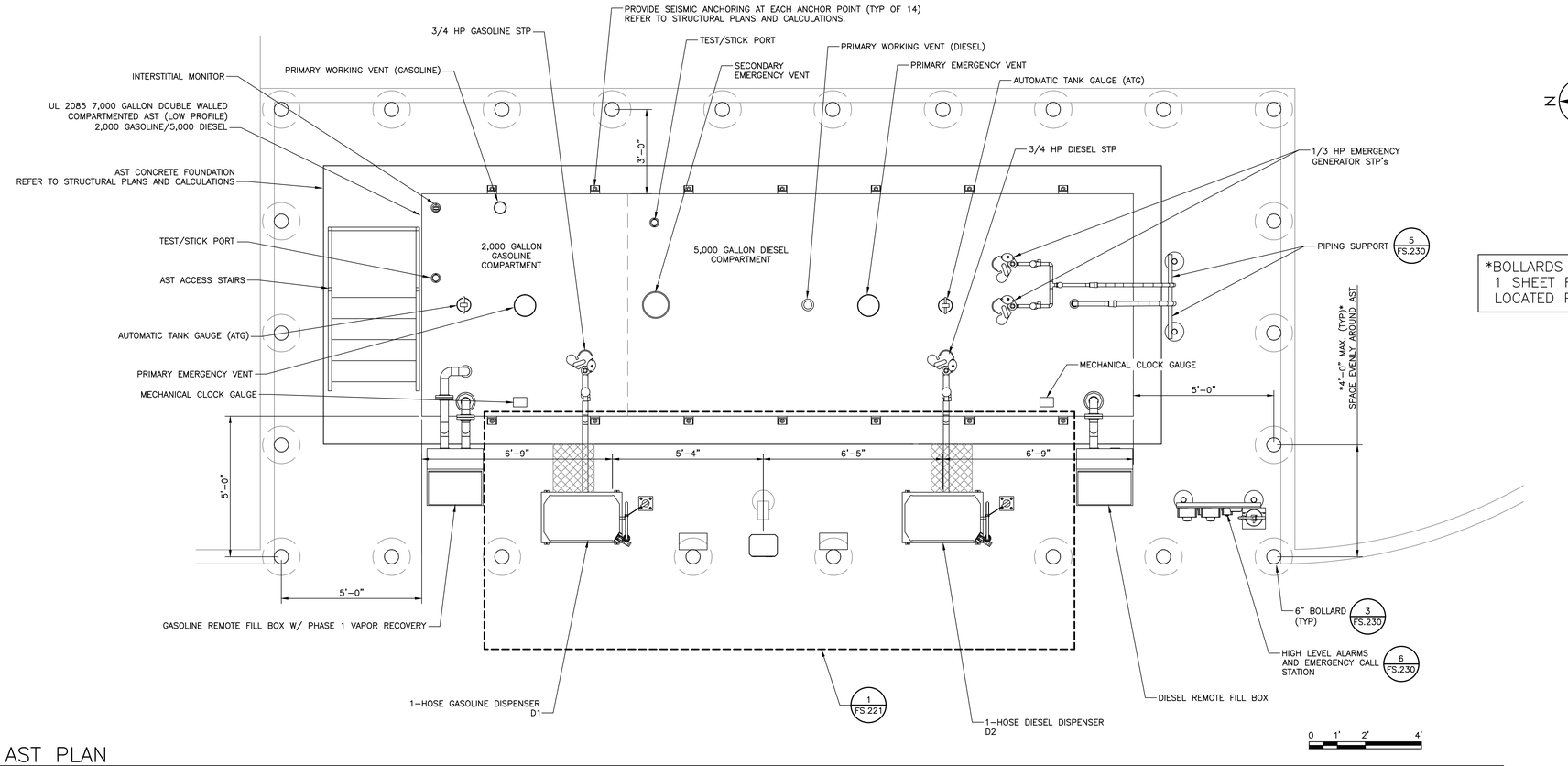
Scale:
1/8" = 1'-0"

Date:
October 4, 2019

Project No. 2016039

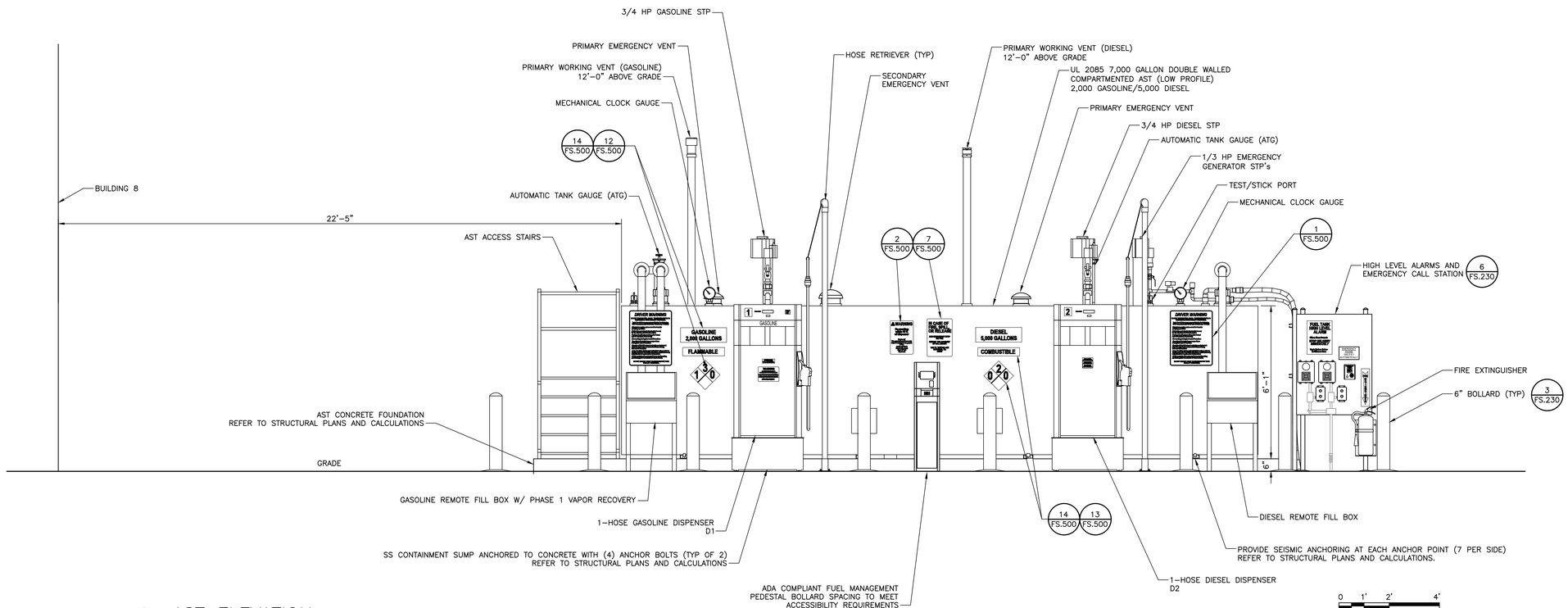
FS.210
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*BOLLARDS SHOWN IN DETAIL 1 SHEET FS.221 SHALL BE LOCATED PER DIMENSIONS

1 AST PLAN
SCALE: 1/2" = 1'-0"



2 AST ELEVATION
SCALE: 1/2" = 1'-0"

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ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

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RONALD B. LAURENCE JR.
34127
MECHANICAL
STATE OF CALIFORNIA
1/9/2020

Ronald B. Laurence Jr., PE
California PE #34127
Stantec Consulting Services, Inc.

Sheet Title

FUELING SYSTEM AST PLAN & ELEVATION

Author NRD Checker RBL

Scale:
1/8" = 1'-0"

Date:
October 4, 2019

Project No. 2016039

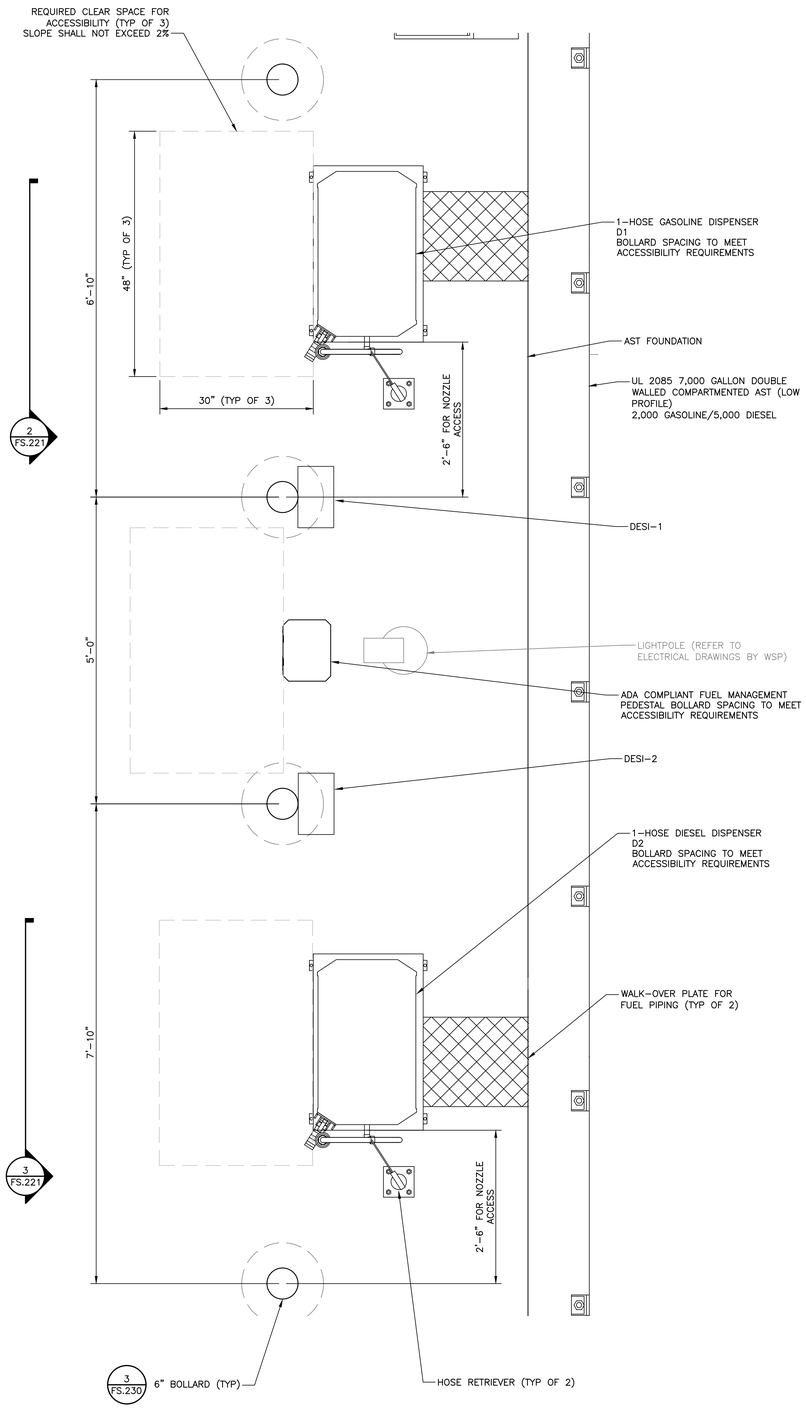
FS.220
Drawing No.

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DISPENSER ACCESSIBILITY NOTES:

1. FORWARD REACH: REACH RANGE NOT TO EXCEED 48" AND LESS THAN 15" IN HEIGHT, AND NOT TO EXCEED 44" WHERE PLACED FROM 20" TO 25" FROM OBSTRUCTION EDGE. (CBC 11B–308.2)
2. SIDE REACH: REACH RANGE NOT TO EXCEED 48" AND LESS THAN 15" IN HEIGHT AND NOT TO EXCEED 46" WHERE PLACED FROM 10" TO 24" FROM OBSTRUCTION EDGE. (CBC 11B–308.3)
3. OPERABLE PARTS SHALL BE OPERABLE WITH ONE HAND AND SHALL NOT REQUIRE TIGHT GRASPING, PINCHING, OR TWISTING OF THE WRIST. THE FORCE REQUIRED TO ACTIVATE OPERABLE PARTS SHALL BE 5 POUNDS (22.2 N) MAX. (CBC–309.4)

EXCEPTIONS: DISPENSER NOZZLES SHALL NOT BE REQUIRED TO PROVIDE OPERABLE PARTS THAT HAVE AN ACTIVATING FORCE OF 5 POUNDS (22.2 N) MAX.



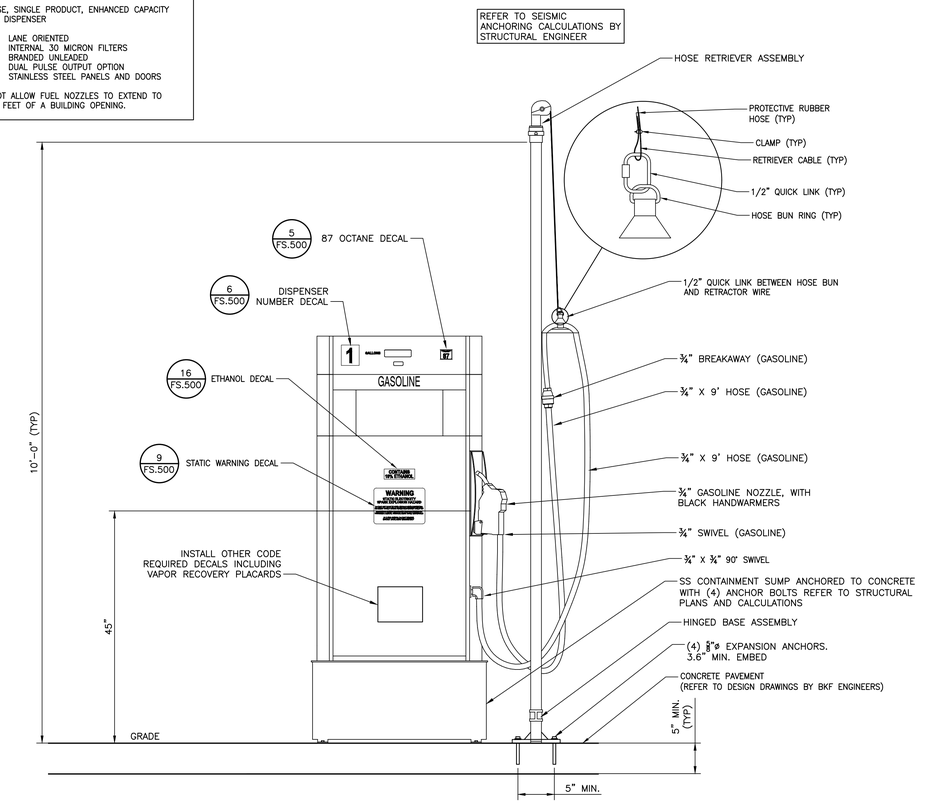
1 ENLARGED DISPENSING AREA PLAN

SCALE: 1" = 1'-0"

0 1/2' 1' 2'

NOTES:
1. 1-HOSE, SINGLE PRODUCT, ENHANCED CAPACITY GASOLINE DISPENSER
   - LANE ORIENTED
   - INTERNAL 30 MICRON FILTERS
   - BRANDED UNLEADED
   - DUAL PULSE OUTPUT OPTION
   - STAINLESS STEEL PANELS AND DOORS
2. DO NOT ALLOW FUEL NOZZLES TO EXTEND TO WITHIN 5 FEET OF A BUILDING OPENING.

REFER TO SEISMIC ANCHORING CALCULATIONS BY STRUCTURAL ENGINEER

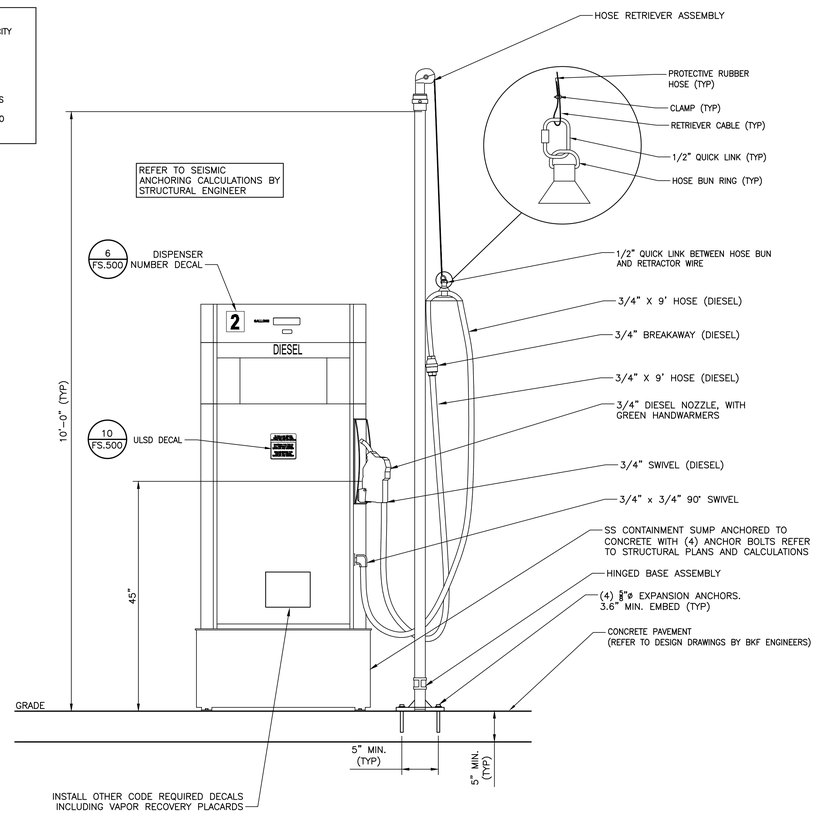


2 GASOLINE DISPENSER DETAIL D1

SCALE: N.T.S.

NOTES:
1. 1-HOSE, SINGLE PRODUCT, ENHANCED CAPACITY DIESEL DISPENSER
   - LANE ORIENTED
   - INTERNAL 30 MICRON FILTERS
   - BRANDED DIESEL/DIESEL
   - DUAL PULSE OUTPUT OPTION
   - STAINLESS STEEL PANELS AND DOORS
2. DO NOT ALLOW FUEL NOZZLES TO EXTEND TO WITHIN 5 FEET OF A BUILDING OPENING.

REFER TO SEISMIC ANCHORING CALCULATIONS BY STRUCTURAL ENGINEER



3 DIESEL DISPENSER DETAIL D2

SCALE: N.T.S.

RossDrulisCusenbery ARCHITECTURE
18294 Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

Stantec
Stantec Consulting Services Inc.
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REGISTERED PROFESSIONAL ENGINEER RONALD B. LAURENCE JR. 34127 MECHANICAL STATE OF CALIFORNIA

1/9/2020

Ronald B. Laurence Jr., PE
California PE #34127
Stantec Consulting Services, Inc.

Sheet Title

FUELING SYSTEM DISPENSER PLAN AND ELEVATIONS

Author NRD Checker RBL

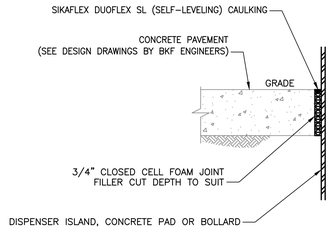
Scale:
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Date:
October 4, 2019

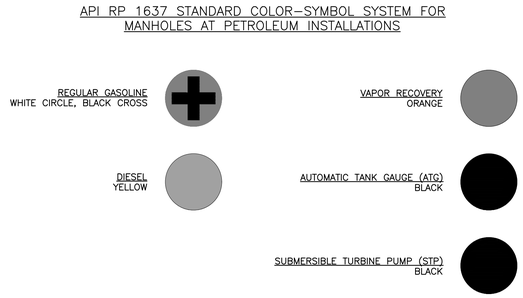
Project No. 2016039

FS.221
Drawing No.

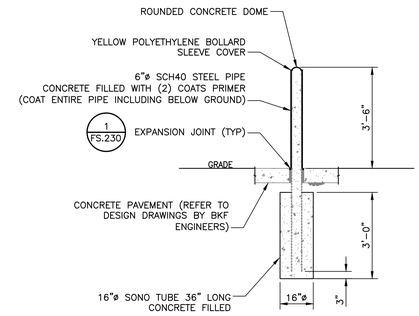
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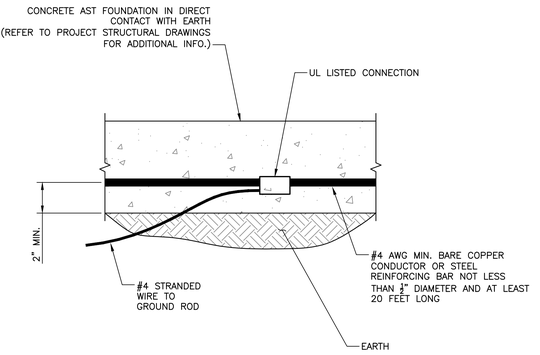
1 EXPANSION JOINT DETAIL
SCALE: N.T.S.



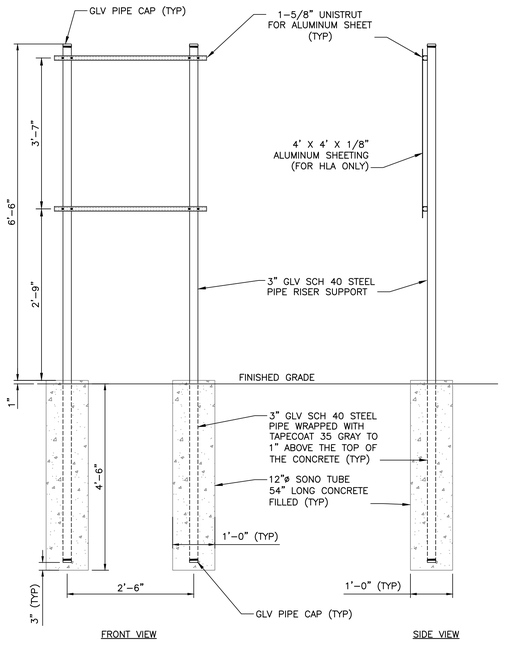
2 API PAINTING DETAIL
SCALE: N.T.S.



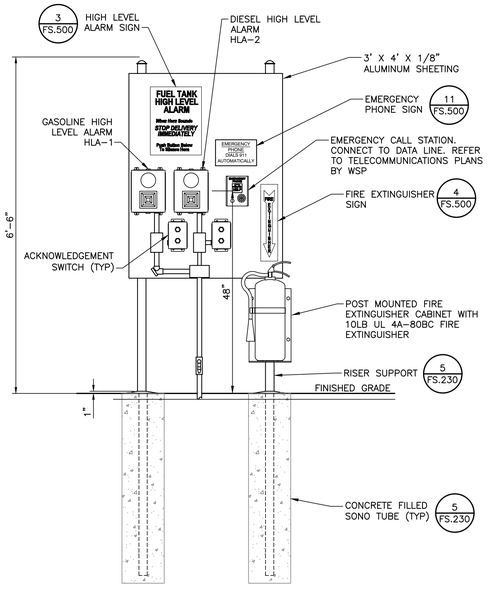
3 BOLLARD DETAIL
SCALE: N.T.S.



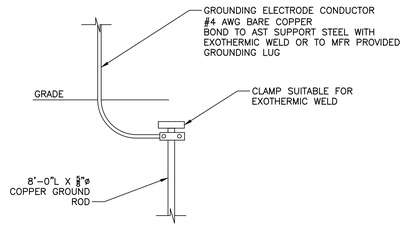
4 CONCRETE ENCASED ELECTRODE DETAIL
SCALE: N.T.S.



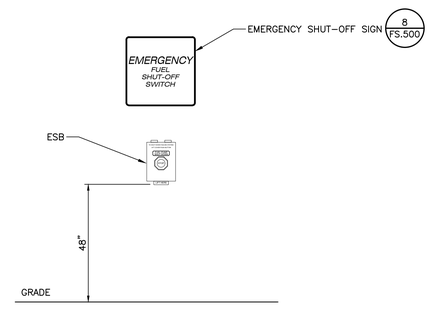
5 RISER SUPPORT DETAIL
SCALE: N.T.S.



6 HIGH LEVEL ALARM DETAIL
SCALE: N.T.S.



7 GROUND ROD DETAIL
SCALE: N.T.S.



8 EMERGENCY STOP BUTTON DETAIL
SCALE: N.T.S.

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

Stantec
Stantec Consulting Services Inc.
5 Dartmouth Drive Suite 200
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RONALD B. LAURENCE JR.
34127
MECHANICAL
STATE OF CALIFORNIA
1/9/2020

Ronald B. Laurence Jr., PE
California PE #34127
Stantec Consulting Services, Inc.

Sheet Title

FUELING SYSTEM CONCRETE DETAILS

Author NRD Checker RBL

Scale:
AS NOTED

Date:
October 4, 2019

Project No. 2016039

FS.230
Drawing No.

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APPARATUS BUILDING
BUILDING 2

TRAINING TOWER
BUILDING 8

EMERGENCY STOP BUTTON
MOUNTED ON BUILDING 2
48" AFF
8
FS.230

1
FS.320

UL 2085 7,000 GALLON DOUBLE WALLED
COMPARTMENTED AST (LOW PROFILE)
2,000 GASOLINE/5,000 DIESEL

2
FS.320

3
FS.331
1.5" DW SS UG PIPING
GENERATOR FUEL OVERFLOW

1" DW SS UG PIPING
GENERATOR FUEL SUPPLY
3
FS.331

SLOPE PIPING 1/8" PER FOOT
TOWARD TRANSITION SUMP

DIESEL GENERATOR
TRANSITION SUMP
4
FS.331

EMERGENCY GENERATOR WITH BELLY-TANK
(REFER TO DESIGN DRAWINGS BY WSP)

FUEL SYSTEM
ELECTRICAL
ENCLOSURE

FITNESS PATIO

CLASSROOM
PATIO

FS #6/CLASSROOM BUILDING
BUILDING 1

FUEL SYSTEM PIPING NOTES:
1. UNDERGROUND PIPING SHALL BE SLOPED 1/8" PER FOOT TO THE TRANSITION SUMP.

N

0 4' 8' 16'

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ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

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34127
MECHANICAL
STATE OF CALIFORNIA
1/9/2020

Ronald B. Laurence Jr., PE
California PE #34127
Stantec Consulting Services, Inc.

Sheet Title

FUELING SYSTEM PIPING PLAN

Author NRD Checker RBL

Scale:
1/8" = 1'-0"

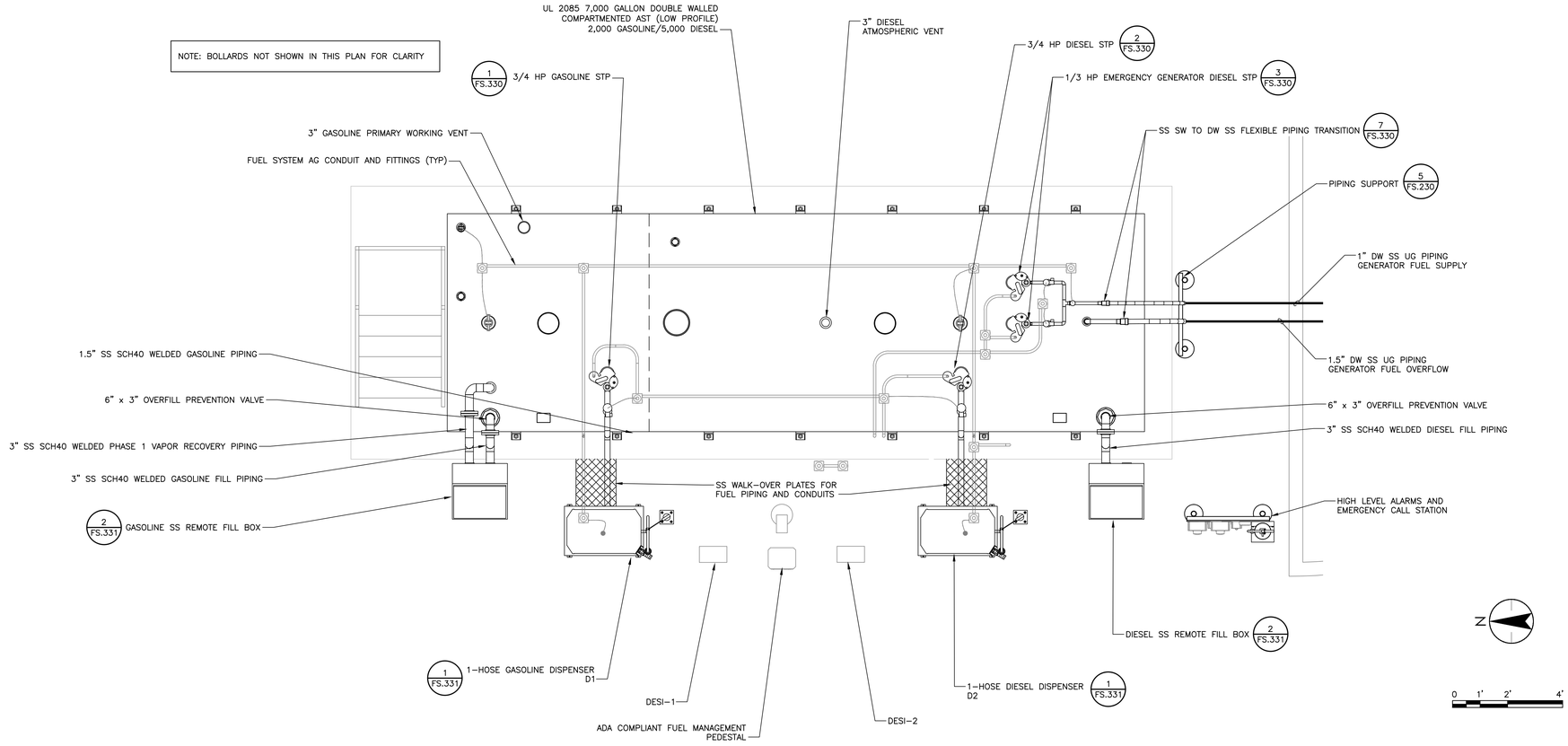
Date:
October 4, 2019

Project No. 2016039

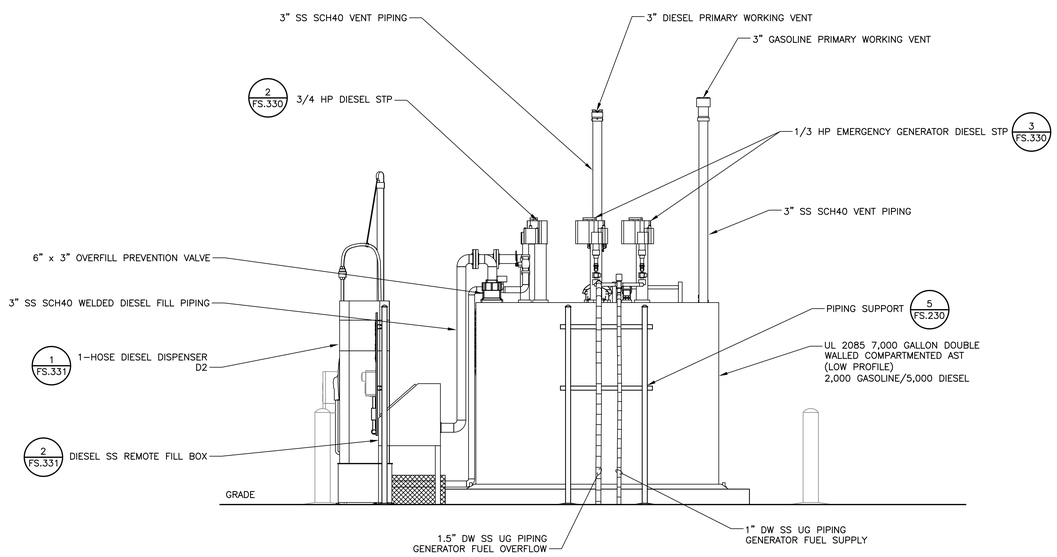
FS.310

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1 AST PLAN
SCALE: 1/2" = 1'-0"



2 AST ELEVATION
SCALE: 1/2" = 1'-0"

RossDrulisCusenbery ARCHITECTURE
18294 Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

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5 Dartmouth Drive Suite 200
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1/9/2020

Ronald B. Laurence Jr., PE
California PE #34127
Stantec Consulting Services, Inc.

Sheet Title

FUELING SYSTEM AST PIPING PLAN AND ELEVATION

Author NRD Checker RBL

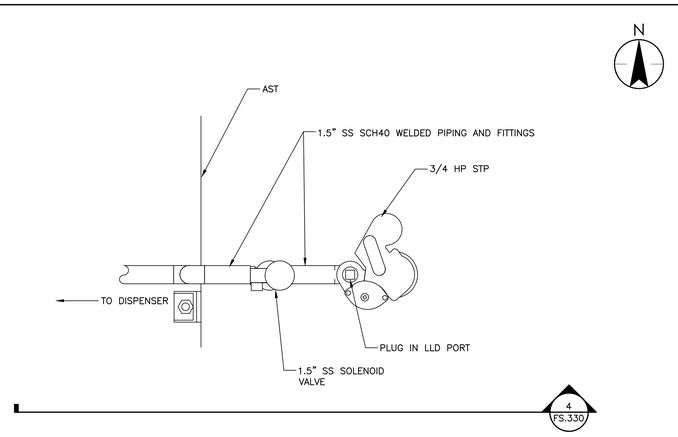
Scale: **1/8" = 1'-0"**

Date: **October 4, 2019**

Project No. 2016039

FS.320
Drawing No.

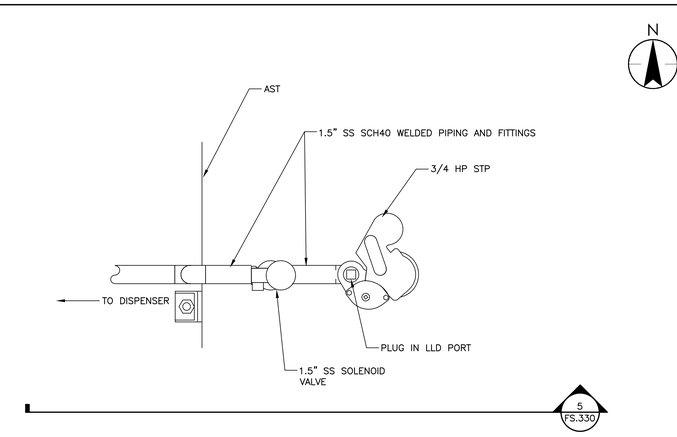
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1 GASOLINE STP PIPING DETAIL

SCALE: 1-1/2" = 1'-0"

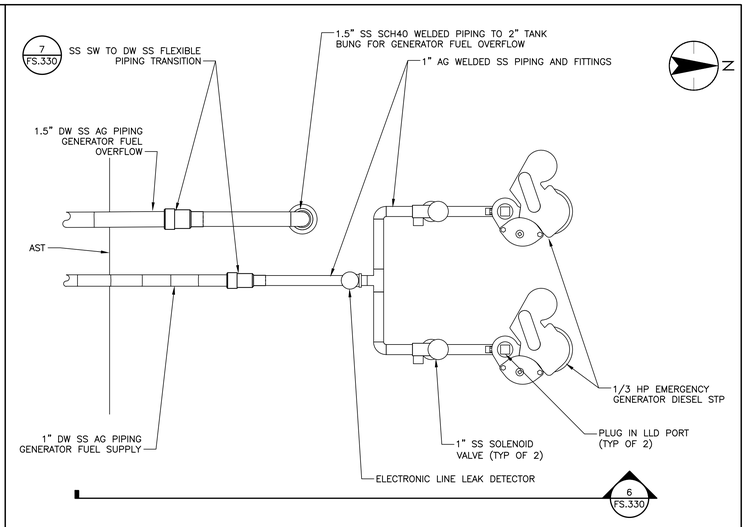
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2 DIESEL STP PIPING DETAIL

SCALE: 1-1/2" = 1'-0"

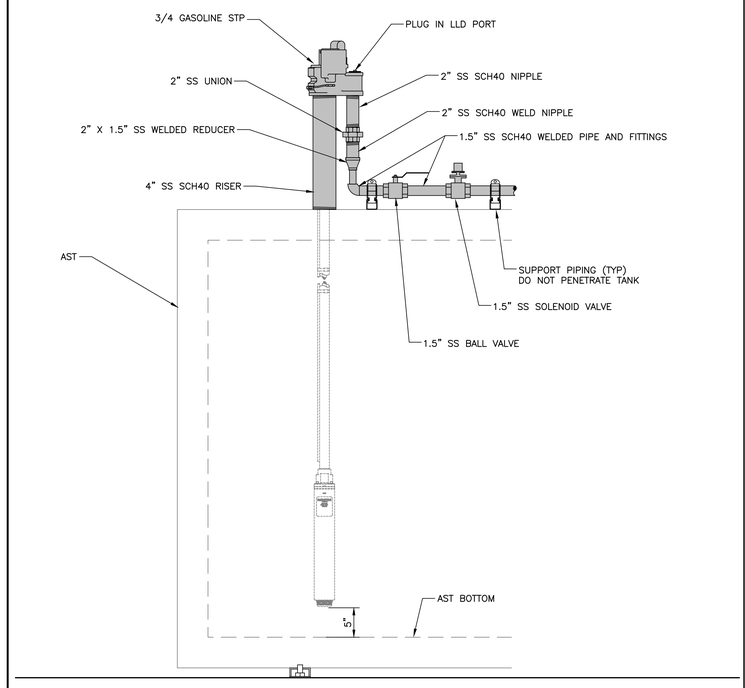
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3 GENERATOR STP PIPING DETAIL

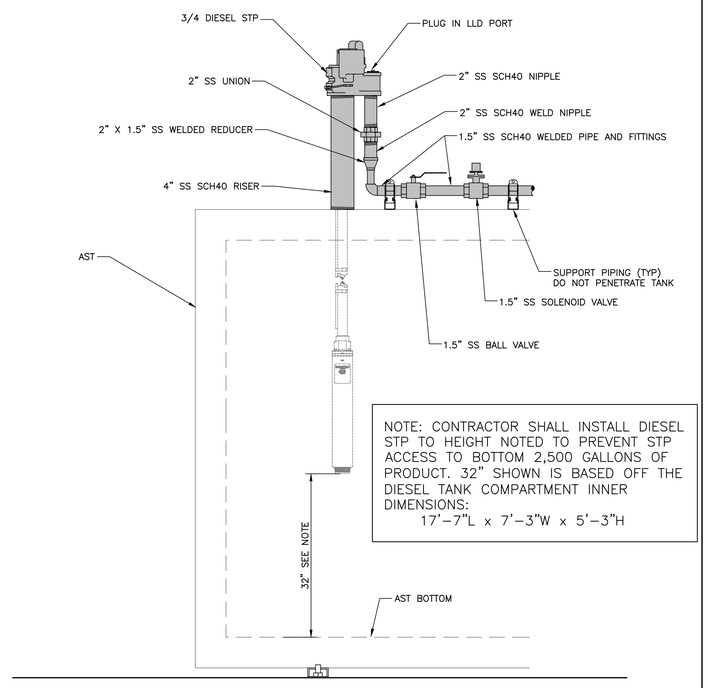
SCALE: 1-1/2" = 1'-0"

0 1/2' 1' 1 1/2'



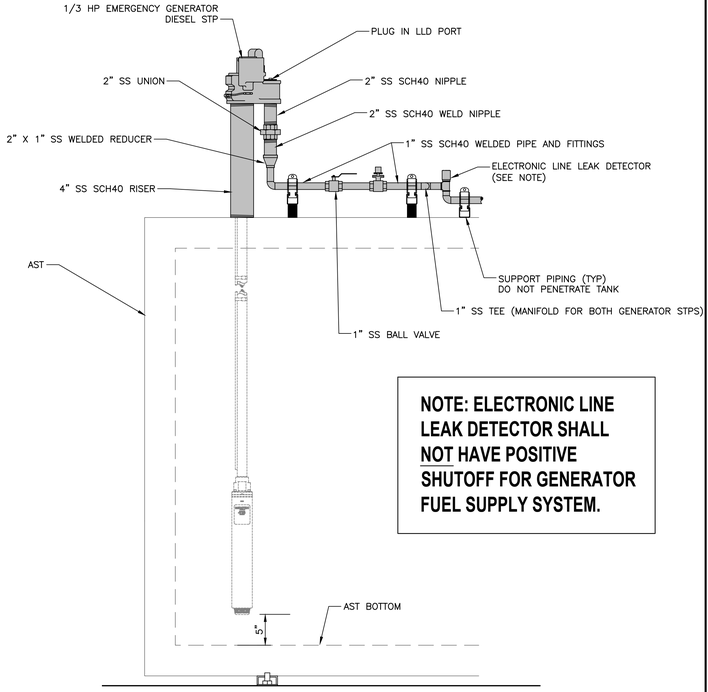
4 GASOLINE STP PIPING ELEVATION

SCALE: NTS



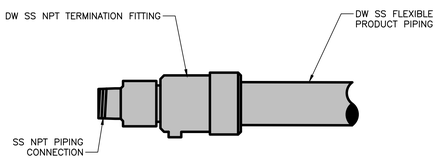
5 DIESEL STP PIPING ELEVATION

SCALE: NTS



6 GENERATOR STP PIPING ELEVATION

SCALE: NTS



7 DW SS FLEXIBLE PIPE TRANSITION DETAIL

SCALE: NTS

SEQUENCE OF OPERATIONS - DIESEL FUEL SYSTEM

1. THE DIESEL AST SERVES BOTH THE DIESEL FUEL DISPENSER AND EMERGENCY GENERATOR.
2. PER NFPA 110, 2,500 GALLONS OF DIESEL FUEL MUST REMAIN AVAILABLE IN THE AST FOR EMERGENCY POWER USE.
3. THE STP IMPELLER SERVING THE DIESEL DISPENSER SHALL BE SET 32" (INCHES) ABOVE THE BOTTOM OF THE AST.
4. THE STP SERVING THE DIESEL DISPENSER SHALL BE PREVENTED FROM PUMPING WHEN FUEL LEVEL IS NEAR THE BOTTOM OF THE STP IMPELLER. ADDITIONALLY, A DIESEL LOW LEVEL ALARM SHALL BE INDICATED WHEN THE LEVEL REACHES 3,000 GALLONS REMAINING.
5. AN ADDITIONAL DELIVERY LIMIT ALARM SHALL SOUND WHEN THE DIESEL LEVEL REACHES 90% FILL CAPACITY FOR OVERFILL PREVENTION.

8 SEQUENCE OF OPERATIONS – DIESEL FUEL SYSTEM

SCALE: NTS

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

Stantec
Stantec Consulting Services Inc.
5 Dartmouth Drive Suite 200
Auburn ME 03502-2984
Tel (207) 647-2642
www.stantec.com

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1401 W. WINTON AVE.
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REVISIONS

No.	Description	Date
1	INC 01_ADD_01_V1	12/06/2019

PERMIT SUBMITTAL V3 - INCREMENT #1

REGISTERED PROFESSIONAL ENGINEER RONALD B. LAURENCE JR. 34127 MECHANICAL STATE OF CALIFORNIA

1/9/2020

Ronald B. Laurence Jr., PE
California PE #34127
Stantec Consulting Services, Inc.

Sheet Title

FUELING SYSTEM PIPING DETAILS

Author NRD Checker RBL

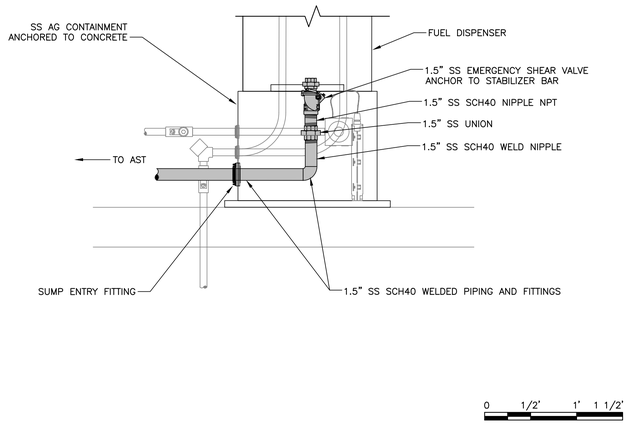
Scale:
AS NOTED

Date:
October 4, 2019

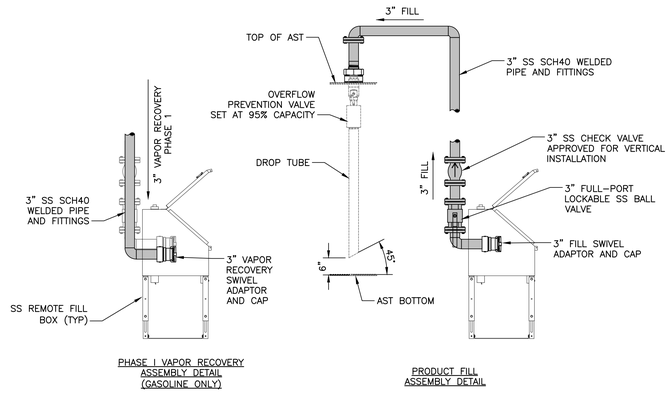
Project No. 2016039

FS.330
Drawing No.

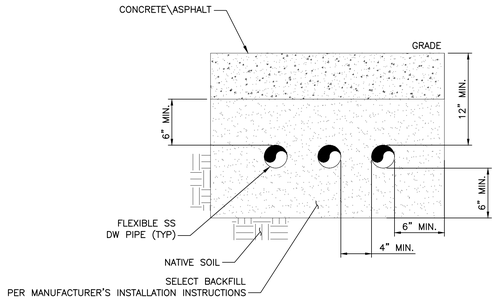
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1 DISPENSER PIPING DETAIL
SCALE: NTS

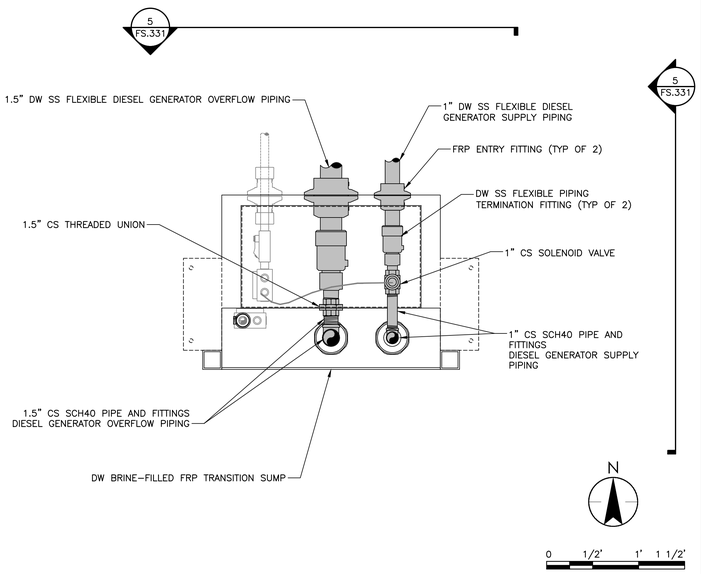


2 REMOTE FILL PIPING DETAIL
SCALE: NTS



3 FLEXIBLE PRODUCT PIPING TRENCH DETAIL
SCALE: NTS

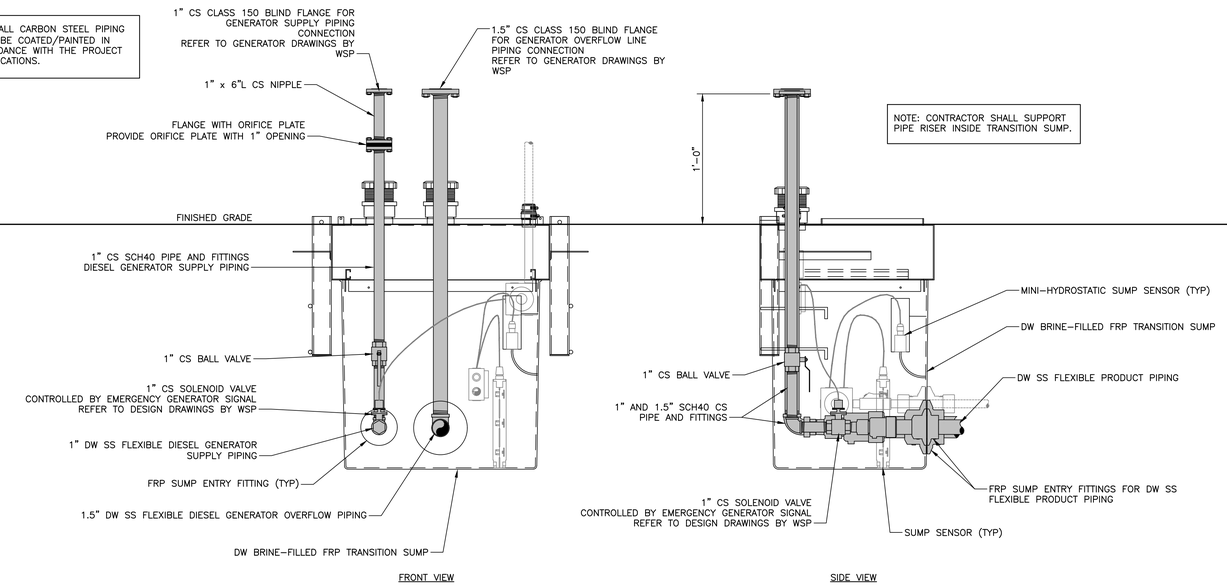
MINIMUM REQUIREMENTS



4 DIESEL GENERATOR TRANSITION SUMP DETAIL
SCALE: 1-1/2" = 1'-0"

PLAN VIEW

NOTE: ALL CARBON STEEL PIPING SHALL BE COATED/PAINTED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.



5 DIESEL GENERATOR TRANSITION SUMP DETAIL
SCALE: 1-1/2" = 1'-0"

ELEVATION

RossDrulisCusenbery
ARCHITECTURE
18294 Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

Stantec
Stantec Consulting Services Inc.
5 Dartmouth Drive Suite 200
Auburn NH 03032-2984
Tel (603) 647-5252
www.stantec.com

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REGISTERED PROFESSIONAL ENGINEER RONALD B. LAURENCE JR. 34127 MECHANICAL STATE OF CALIFORNIA
1/9/2020

Ronald B. Laurence Jr., PE
California PE #34127
Stantec Consulting Services, Inc.

Sheet Title

FUELING SYSTEM PIPING DETAILS

Author NRD Checker RBL

Scale:
AS NOTED

Date:
October 4, 2019

Project No. 2016039

FS.331
Drawing No.

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APPARATUS BUILDING 2

TRAINING TOWER
BUILDING 8

EMERGENCY STOP BUTTON
MOUNTED ON BUILDING 2
48" AFF
8
FS.230

UL 2085 7,000 GALLON DOUBLE WALLED
COMPARTMENTED AST (LOW PROFILE)
2,000 GASOLINE/5,000 DIESEL

4
FS.411

C-ESB

UG FUEL SYSTEM CONDUITS (TYP)

C-IS2	C-P4
C-LV2	C-P5
C-SP2	C-P6
C-SP3	
C-SP4	

C-IS1	C-P2
C-IS2	C-P3
C-LV1	C-SP1
C-SP2	

C-IS1	C-P2
C-LV1	C-P3
C-LV2	C-P4
C-SP1	C-P5
C-SP3	C-P6
C-ESB	C-P7

C-IS1
C-SP4
C-P7

DIESEL GENERATOR
TRANSITION SUMP
2
FS.420

EMERGENCY GENERATOR WITH BELLY-TANK
(REFER TO DESIGN DRAWINGS BY WSP)

FITNESS PATIO

CLASSROOM
PATIO

3
FS.420

OUTDOOR FUEL SYSTEM
ELECTRICAL ENCLOSURE
NEMA 4X PERFORMANCE
REQUIREMENT MINIMUM

100A PANEL FOR FUELING SYSTEM
(APPROX LOCATION)

F12

FS #6/CLASSROOM BUILDING
BUILDING 1

1
FS.420

FUELING SYSTEM ENVIRONMENTAL MONITORING
CONSOLE ABOVE MAP/RADIO COUNTER. MOUNT
60" ABOVE FINISHED GRADE. PROVIDE UPS
DISCONNECT AND SIGN.
15
FS.500

COORDINATE FUEL SYSTEM
FEED WITH ELECTRICAL
DESIGN FROM WSP

N

0 4' 8' 16'

RossDrulisCusenbery
ARCHITECTURE

18294
Sonoma Highway
Sonoma
CA 95476

TEL 707 996 8448
FAX 707 996 8542

Stantec

Stantec Consulting Services Inc.
5 Dartmouth Drive Suite 200
Auburn NH 03032-2984
Tel (603) 647-5252
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PERMIT SUBMITTAL V3 - INCREMENT #1

REGISTERED PROFESSIONAL ENGINEER
RONALD B. LAURENCE
34127
MECHANICAL
STATE OF CALIFORNIA
1/9/2020

Ronald B. Laurence Jr., PE
California PE #34127
Stantec Consulting Services, Inc.

Sheet Title

FUELING SYSTEM CONDUIT PLAN

Author NRD Checker RBL

Scale:
1/8" = 1'-0"

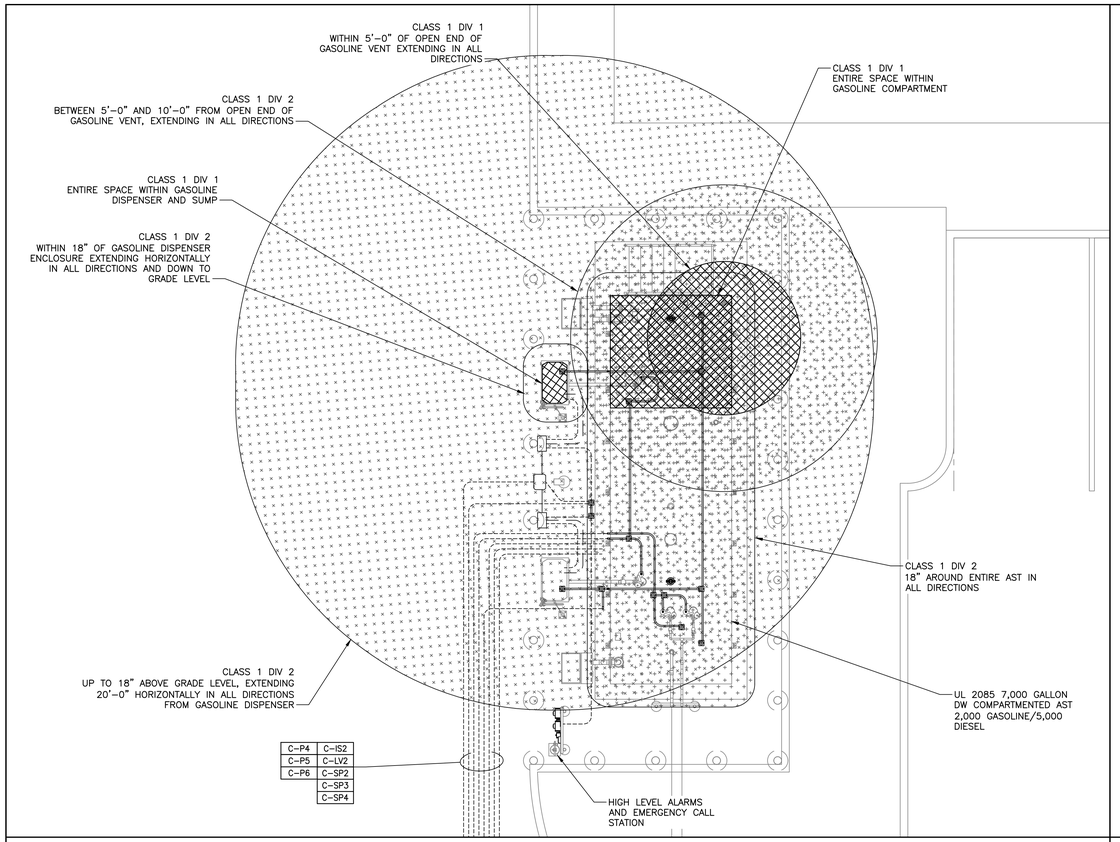
Date:
October 4, 2019

Project No. 2016039

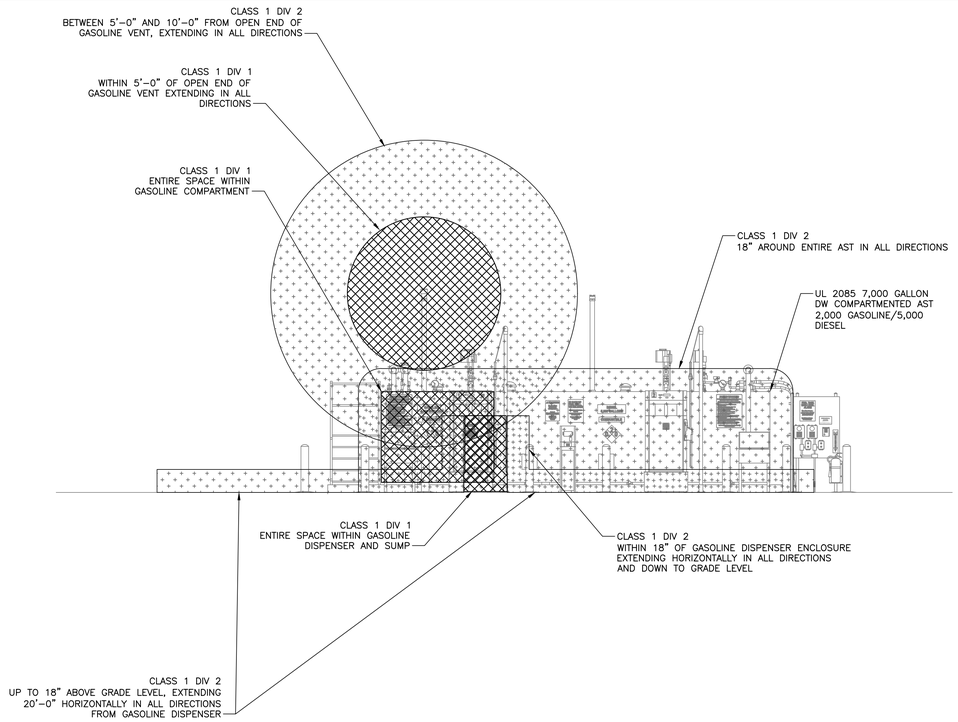
FS.410

Drawing No.

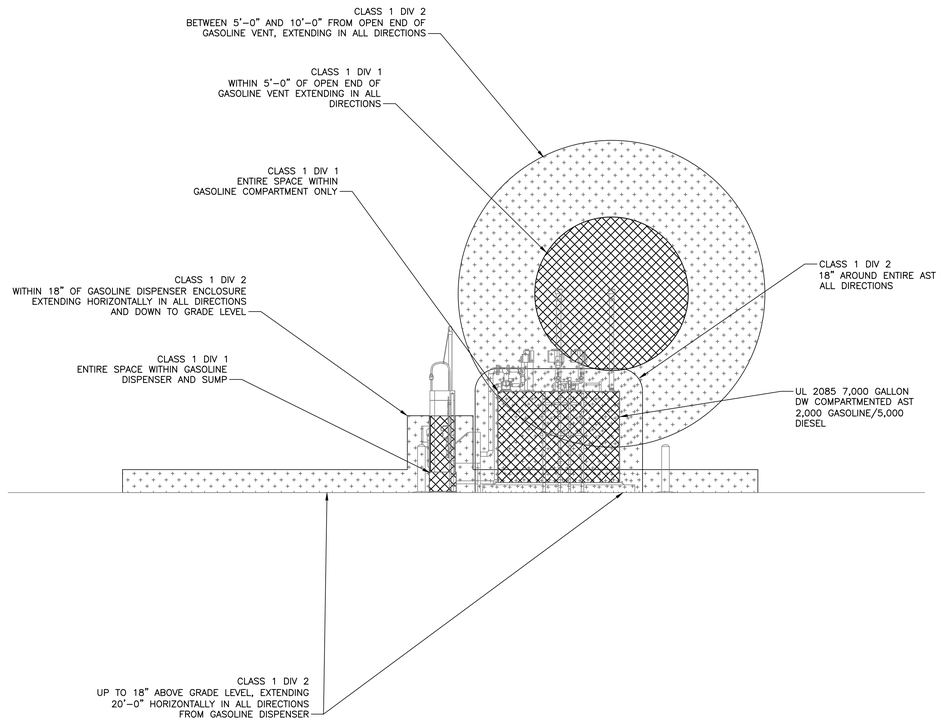
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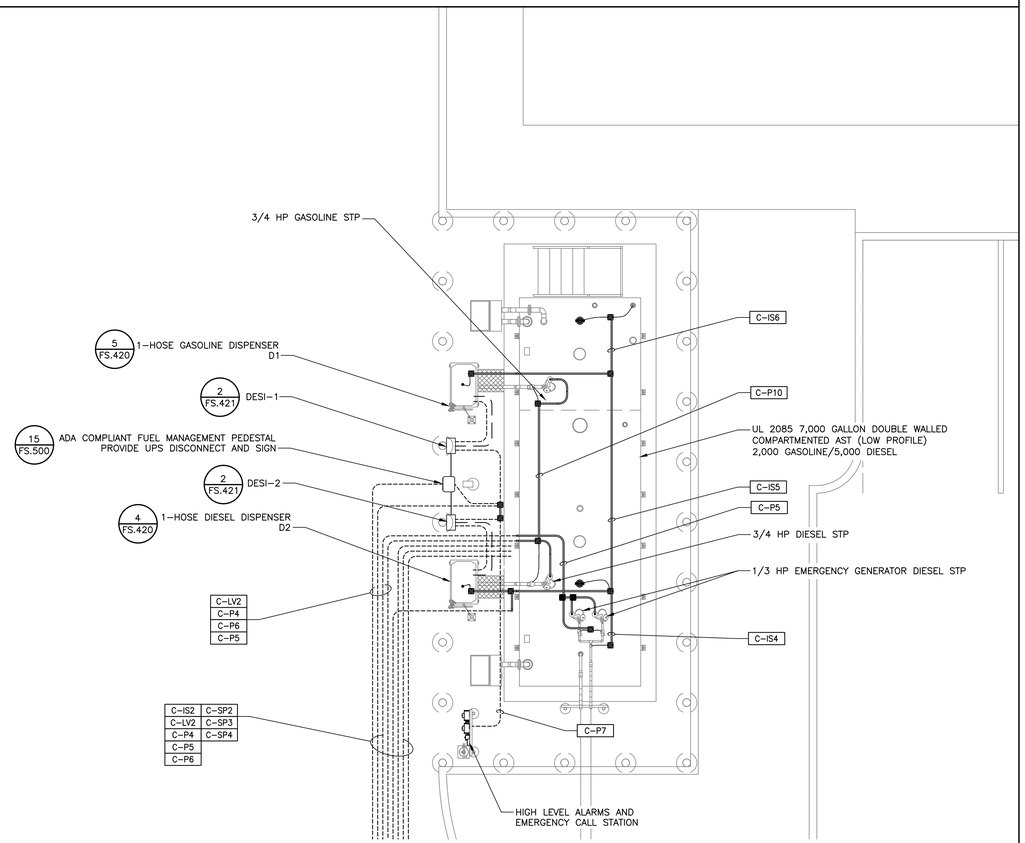
1 HAZARD LOCATION PLAN
SCALE: 1/4" = 1'–0"



2 HAZARD LOCATION ELEVATION (SIDE VIEW)
SCALE: 1/4" = 1'–0"



3 HAZARD LOCATION ELEVATION (END VIEW)
SCALE: 1/4" = 1'–0"



4 ENLARGED CONDUIT PLAN
SCALE: 1/4" = 1'–0"

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

Stantec
Stantec Consulting Services Inc.
5 Dartmouth Drive Suite 200
Auburn NH 03032-2984
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REGISTERED PROFESSIONAL ENGINEER
RONALD B. LAURENCE JR.
34127
ELECTRICAL
STATE OF CALIFORNIA
1/9/2020

Ronald B. Laurence Jr., PE
California PE #34127
Stantec Consulting Services, Inc.

Sheet Title

FUELING SYSTEM HAZARD AREA LOCATION PLAN AND ELEVATIONS

Author NRD Checker RBL

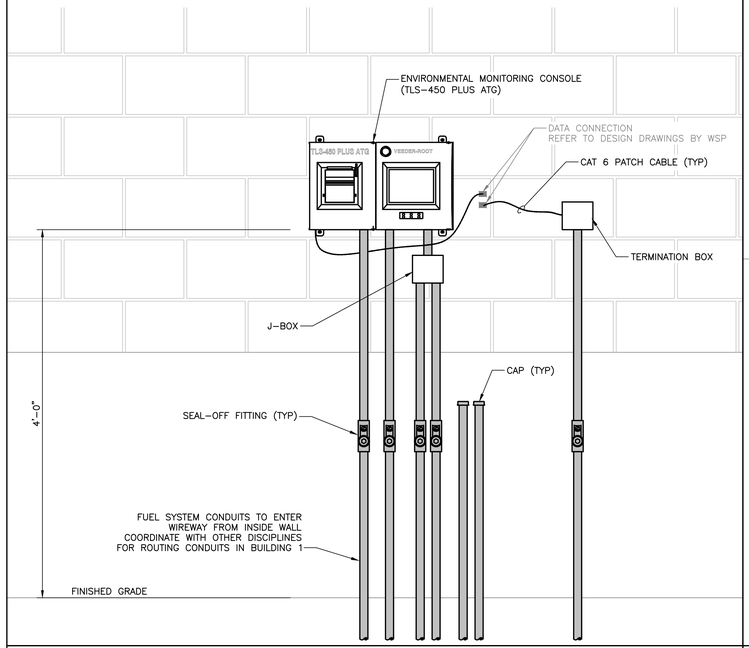
Scale:
AS NOTED

Date:
October 4, 2019

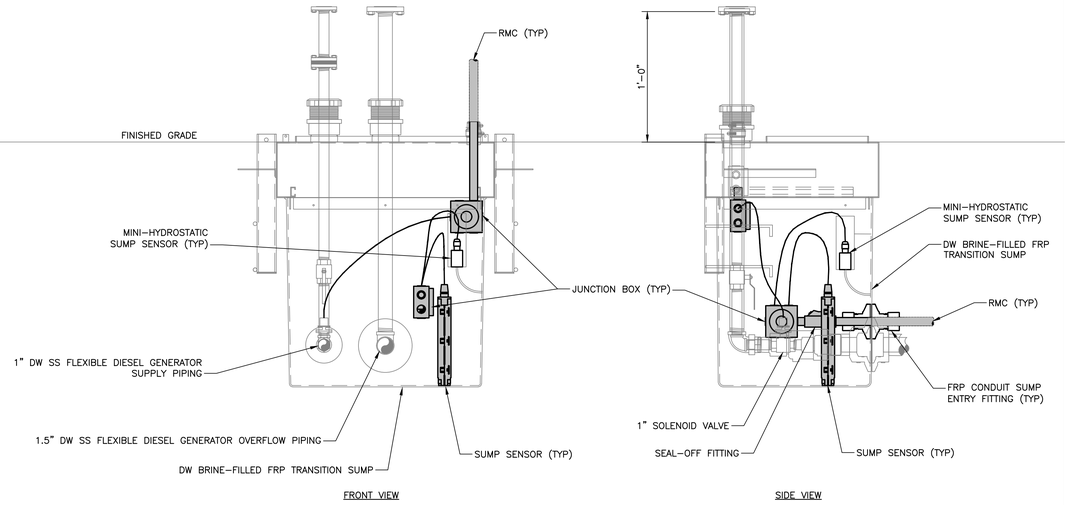
Project No. 2016039

FS.411
Drawing No.

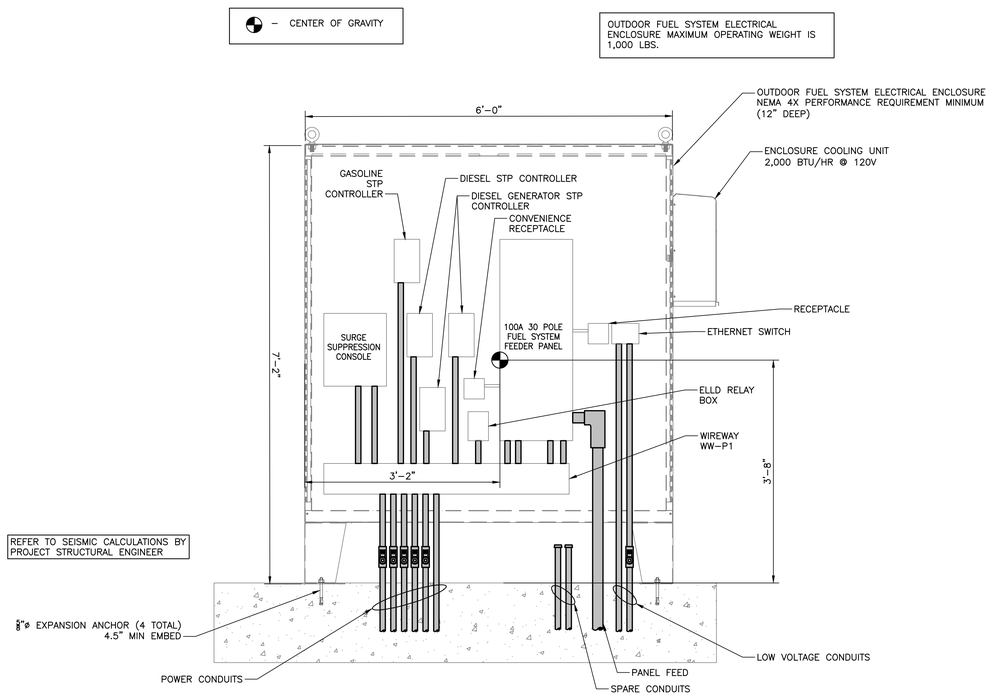
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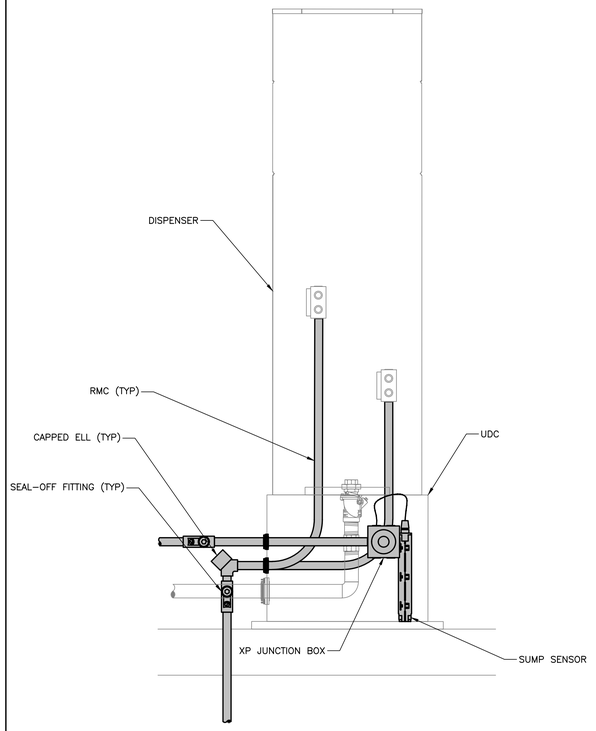
1 ENVIRONMENTAL MONITORING CONSOLE ELEVATION
N.T.S.



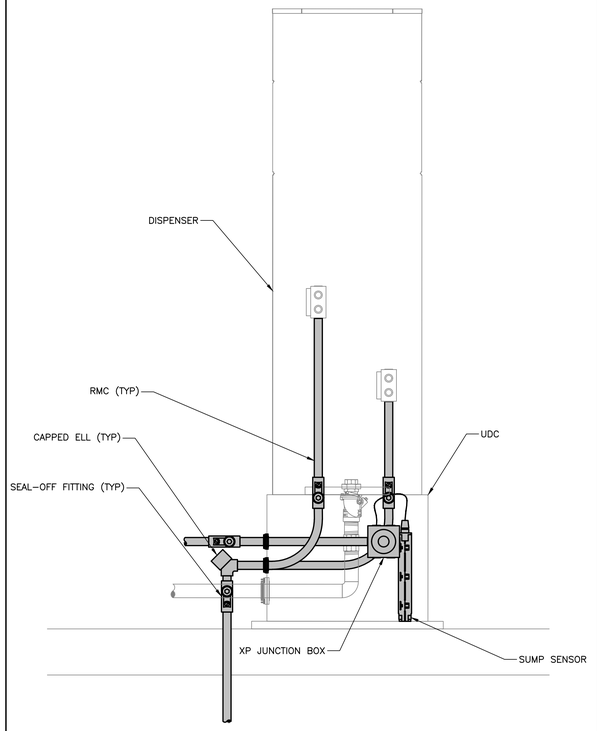
2 DIESEL GENERATOR TRANSITION CONDUIT ELEVATIONS
N.T.S.



3 FUEL SYSTEM ELECTRICAL ENCLOSURE ELEVATION
N.T.S.



4 DIESEL DISPENSER CONDUIT ELEVATION
N.T.S.



5 GASOLINE DISPENSER CONDUIT ELEVATION
N.T.S.

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

Stantec
Stantec Consulting Services Inc.
5 Dartmouth Drive Suite 200
Auburn NH 03032-2984
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RONALD B. LAURENCE JR.
34127
MECHANICAL
STATE OF CALIFORNIA
1/9/2020

Ronald B. Laurence Jr., PE
California PE #34127
Stantec Consulting Services, Inc.

Sheet Title

FUELING SYSTEM DISPENSER SUMP DETAILS

Author NRD Checker RBL

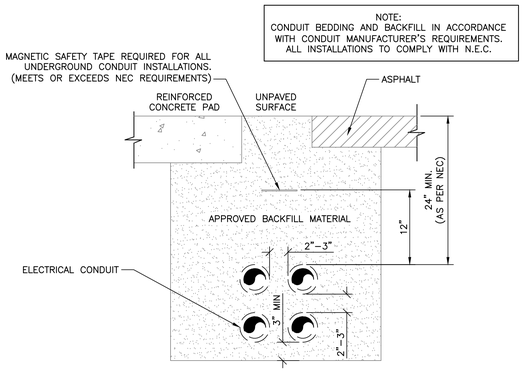
Scale:
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Date:
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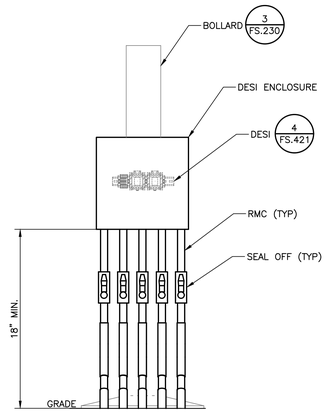
Project No. 2016039

FS.420
Drawing No.

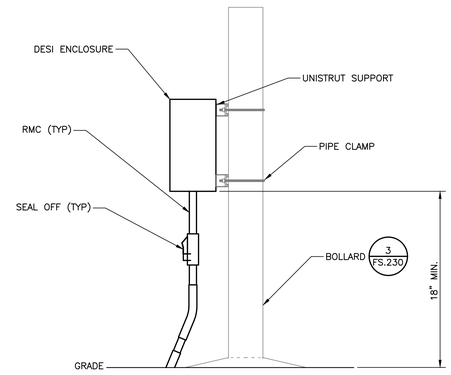
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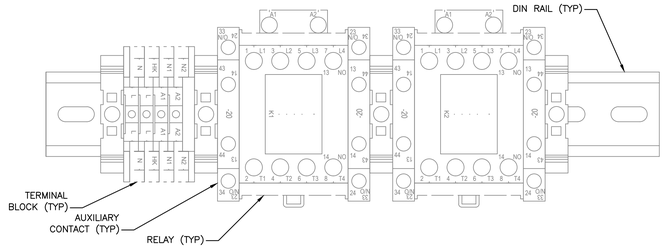
1 CONDUIT TRENCH DETAIL
SCALE: N.T.S.



2 DESI ELEVATION (FRONT)
SCALE: N.T.S.



3 DESI ELEVATION (SIDE)
SCALE: N.T.S.



ALL COMPONENTS BY DESI MFR.
ARE WITHIN THE DESI ENCLOSURE
MODEL #: DDS–FFPWRHUB2

4 DESI CONNECTION POINT DETAIL
SCALE: N.T.S.

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

Stantec
Stantec Consulting Services Inc.
5 Dartmouth Drive Suite 200
Auburn NH 03032-2984
Tel (603) 647-5847
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RONALD B. LAURENCE JR.
34127
MECHANICAL
STATE OF CALIFORNIA
1/9/2020

Ronald B. Laurence Jr., PE
California PE #34127
Stantec Consulting Services, Inc.

Sheet Title

FUELING SYSTEM ELECTRICAL DETAILS

Author NRD Checker RBL

Scale:
AS NOTED

Date:
October 4, 2019

Project No. 2016039

FS.421
Drawing No.

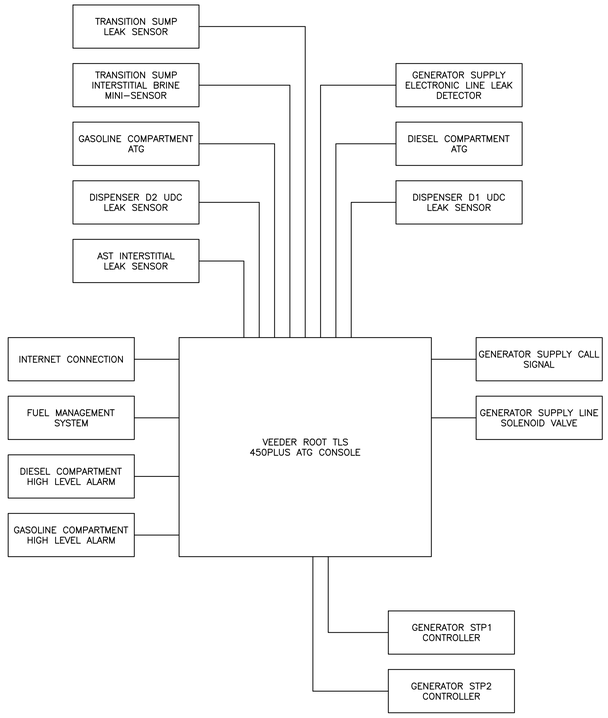
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PROVIDE 100A 3P BREAKER FOR FUEL SYSTEM FEED FROM FEEDER PANEL. REFER TO PROJECT ELECTRICAL SHEETS BY WSP.

	NUMBER	DESCRIPTION	SIZE	CONDUCTORS
	F12	FUEL SYSTEM PANEL FEED – REFER TO SHEET 1–E5.01 IN ELECTRICAL SHEETS BY WSP	REFER TO 1–E5.01	REFER TO SHEET 1–E5.01
	C–P2	VEEDER ROOT POWER AND HLA SIGNALS	3/4" RMC	2–#12, 4–#14, 2–#12G
	C–P3	DISPENSER AND STP CONTROLS	1–1/4" RMC	8–#12, 1–#12G
	C–P4	DISPENSERS\FMS PEDESTAL\HLA POWER AND HLA SIGNALS	1–1/4" RMC	4–#10, 4–#12, 6–#14, 1–#10G
	C–P5	DIESEL AND GASOLINE STP POWER	1" RMC	6–#12, 1–#12G
	C–P6	GENERATOR STPs POWER	3/4" RMC	6–#12, 1–#12G
	C–P7	GENERATOR SOLENOID POWER AND CALL SIGNAL	3/4" RMC	4–#12, 1–#12G
	C–P8	GENERATOR SOLENOID POWER	3/4" RMC	2–#12, 1–#12G
	C–P9	GENERATOR CALL SIGNAL	3/4" RMC	2–#12, 1–#12G
	C–P10	GASOLINE STP POWER	3/4" RMC	2–#12, 1–#12G
	C–P11	FUEL MANAGMENT PEDESTAL POWER	3/4" RMC	2–#12, 1–#12G
*	C–P.D1	DISPENSER POWER & HOOK SIGNAL	3/4" RMC	2–#10, 1–#14, 1–#10G
*	C–P.D2	DISPENSER POWER & HOOK SIGNAL	3/4" RMC	2–#10, 1–#14, 1–#10G
	C–ESB	E–STOP CIRCUIT	3/4" RMC	2–#12, 1–#12G
	C–P.HLA	HLA POWER/SIGNAL	3/4" RMC	2–#12, 4–#14, 1–#12G
*	C–CT.1	DISPENSER FUEL MANAGEMENT CONTROL	3/4" RMC	1–BELDEN 88760
	C–CT.2	DISPENSER FUEL MANAGEMENT CONTROL	3/4" RMC	2–BELDEN 88760
	C–LV1	FUEL MANAGEMENT COMMUNICATION	1–1/4" RMC	1–BELDEN 121700A
	C–LV2	FUEL MANAGEMENT COMMUNICATION	1–1/4" RMC	1–BELDEN 121700A
	C–IS1	GENERATOR TRANSITION I.S. SENSORS	3/4" RMC	2–BELDEN 8760
	C–IS2	AST FUELING AREA I.S. SENSORS	1" RMC	6–BELDEN 8760
	C–IS3	AST FUELING AREA I.S. SENSORS	3/4" RMC	5–BELDEN 8760
	C–IS4	ELECTRONIC LINE LEAK DETECTOR I.S. SENSOR	3/4" RMC	1–BELDEN 8760
	C–IS5	AST FUELING AREA I.S. SENSORS	3/4" RMC	3–BELDEN 8760
	C–IS6	AST FUELING AREA I.S. SENSORS	3/4" RMC	2–BELDEN 8760
*	C–IS.D	AST FUELING AREA I.S. SENSORS	3/4" RMC	1–BELDEN 8760
	C–SP1	SPARE	1" RMC	PULL STRING
	C–SP2	SPARE	1" RMC	PULL STRING
	C–SP3	SPARE	1" RMC	PULL STRING
	C–SP4	SPARE	1" RMC	PULL STRING

* DENOTES MULTIPLE CONDUIT DESIGNATION

1 CONDUIT SCHEDULE



2 VEEDER ROOT BLOCK DIAGRAM

NOTE: PROVIDE SWITCHED NEUTRAL BREAKERS ON ALL FUEL DISPENSERS. PROVIDE SHUNT TRIP ACCESSORY FOR ALL DISPENSER AND MOTOR FUEL SUBMERSIBLE PUMP BREAKERS. DO NOT SHUNT TRIP EMERGENCY GENERATOR PUMP BREAKERS

Pos	CB	Description	Load Type	Phase Load kVA A	B	C	Load Type	Description	CB	Pos	M	C	N	R	L
1	15	1/3 HP STP	M	0.42							0.42				
				0.8			M	3/4 HP STP	20	2	0.8				
3			M		0.42						0.42				
					0.8		M			4	0.8				
5		STA													
								STA		6					
7	15	1/3 HP STP	M	0.42							0.42				
				0.8			M	3/4 HP STP	20	8	0.8				
9			M		0.42						0.42				
					0.8		M			10	0.8				
11		STA													
								STA		12					
13	15	GAS DISPENSER	C	0.8								0.8			
				0.8			C	DIESEL DISPENSER		14		0.8			
15		SWN													
								SWN		16					
17		STA													
								STA		18					
19	15	PLLD SOLENOID	N	0.12									0.12		
				0.12			C	CONTROL CIRCUIT	15	20		0.12			
21	15	COOLING UNIT	C		0.31							0.31			
					0.12		N	E-STOP LOOP	15	22			0.12		
23			C			0.31						0.31			
						0.3	C	FMS PEDESTAL	15	24		0.3			
25		SPACE													
				0.12			N	HIGH LEVEL ALARMS	15	26			0.12		
27		SPACE													
								SPACE		28					
29	15	VR CONSOLE	C			0.24						0.24			
						1.8	R	RECEPTACLES	15	30				1.8	
				A	B	C					4.88	2.88	0.36	1.8	

	A	B	C
	4.4	2.87	2.65
Total Connected	9.92		
Calculated Code kVA	11		
CODE AMPS=	31		

Poles	30
Volts	120/ 208
MLO	100A/4W

SUM OF MOTOR KVA + 25% LARGEST KVA =	5.5
CONTINUOUS LOAD x 125% =	3.6
NON-CONTINUOUS LOAD x 100% =	0.4
10KVA x 100% + 50% REMAINDER =	1.8
LIGHTING x 125% =	
TOTAL DEMAND	**11.24 kVA**

PANEL LEGEND:
SWN: SWITCHED NEUTRAL ACCESSORY
STA: SHUNT TRIP ACCESSORY

3 PANEL SCHEDULE

NOTES:

ALL POWER, LOW VOLTAGE, COMMUNICATION AND BRANCH CIRCUIT WIRING AND CONDUIT SHALL BE INSTALLED IN ACCORDANCE WITH THE PROVISIONS OF N.E.C., NFPA 30A, AND ALL APPLICABLE FEDERAL, STATE AND LOCAL REQUIREMENTS.

ALL CONDUCTORS ARE TO BE COPPER, THHN OR THWN. ALL WIRING INSULATION TO BE INSTALLED IN ACCORDANCE WITH THE PROVISIONS OF N.E.C. AND NFPA 30A. ALL POWER AND BRANCH CIRCUITING TO BE MINIMUM #12 AWG.

ALL EQUIPMENT INSTALLATIONS SHALL COMPLY WITH MANUFACTURER'S SPECIFICATIONS AND BE INSTALLED IN ACCORDANCE WITH THE PROVISIONS OF N.E.C. AND NFPA 30A. ALL COMPONENTS FOR ELECTRICAL INSTALLATIONS MUST BE UL RATED AND BEAR THE UL SEAL. ALL WORKING CLEARANCES IN FRONT OF PANELS AND EQUIPMENT SHALL BE MAINTAINED.

ALL SEAL–OFF FITTINGS SHALL BE INSTALLED AND SEALED IN ACCORDANCE WITH THE PROVISIONS OF N.E.C. AND MANUFACTURER'S SPECIFICATIONS.

ALL PENETRATIONS THROUGH RATED WALL AND ROOF ASSEMBLIES SHALL CONFORM TO UL STANDARD PENETRATION DETAIL, (SYSTEM #F–C–5010), NEC, AND ALL APPLICABLE LOCAL CODES.

ALL PENETRATIONS THROUGH RATED SLAB ASSEMBLIES MUST CONFORM TO UL STANDARD PENETRATION DETAIL, (SYSTEM #C–AJ–1064), NEC, AND ALL APPLICABLE LOCAL CODES.

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THAT PERSON IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER OR LAND SURVEYOR, TO ALTER ANY ITEM IN THIS PLAN IN ANY WAY. IF ANY ITEM ON THIS PLAN IS ALTERED, THE ALTERING ENGINEER OR LAND SURVEYOR SHALL AFFIX TO THE ITEM HIS SEAL AND THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

Stantec
Stantec Consulting Services Inc.
5 Dartmouth Drive Suite 200
Auburn ME 04210-2984
Tel (207) 784-0582
www.stantec.com

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HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	INC 01_ADD_01_V1	12/06/2019

PERMIT SUBMITTAL V3 - INCREMENT #1



1/9/2020

Ronald B. Laurence Jr., PE
California PE #34127
Stantec Consulting Services, Inc.

Sheet Title

CONDUIT SCHEDULE AND PANEL SCHEDULE

Author NRD Checker RBL

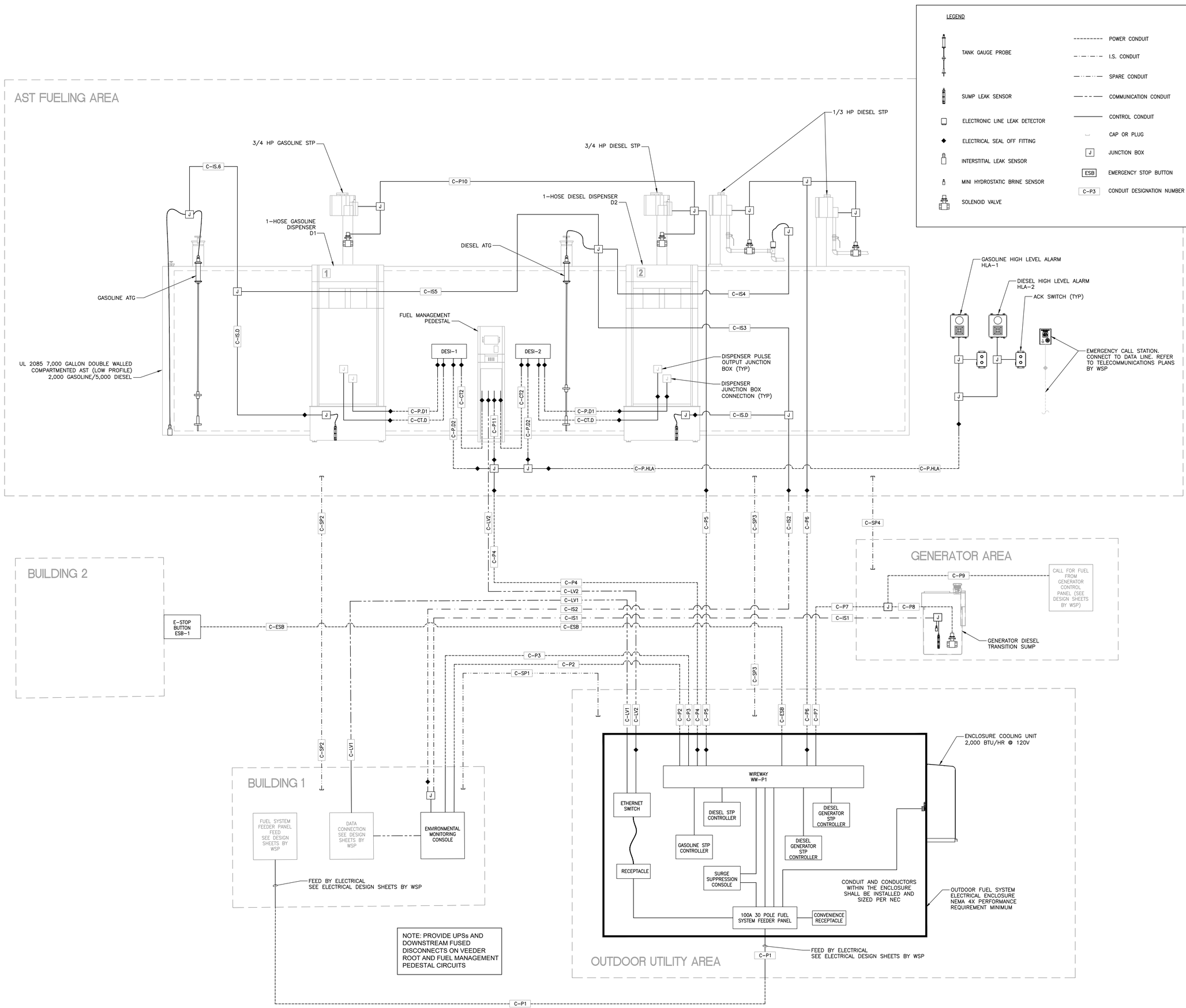
Scale:
NONE

Date:
October 4, 2019

Project No. 2016039

FS.430
Drawing No.

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RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
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REGISTERED PROFESSIONAL ENGINEER
RONALD B. LAURENCE JR.
34127
ELECTRICAL
STATE OF CALIFORNIA
1/9/2020

Ronald B. Laurence Jr., PE
California PE #34127
Stantec Consulting Services, Inc.

Sheet Title

FUELING SYSTEM ELECTRICAL SINGLE LINE DIAGRAM

Author NRD Checker RBL

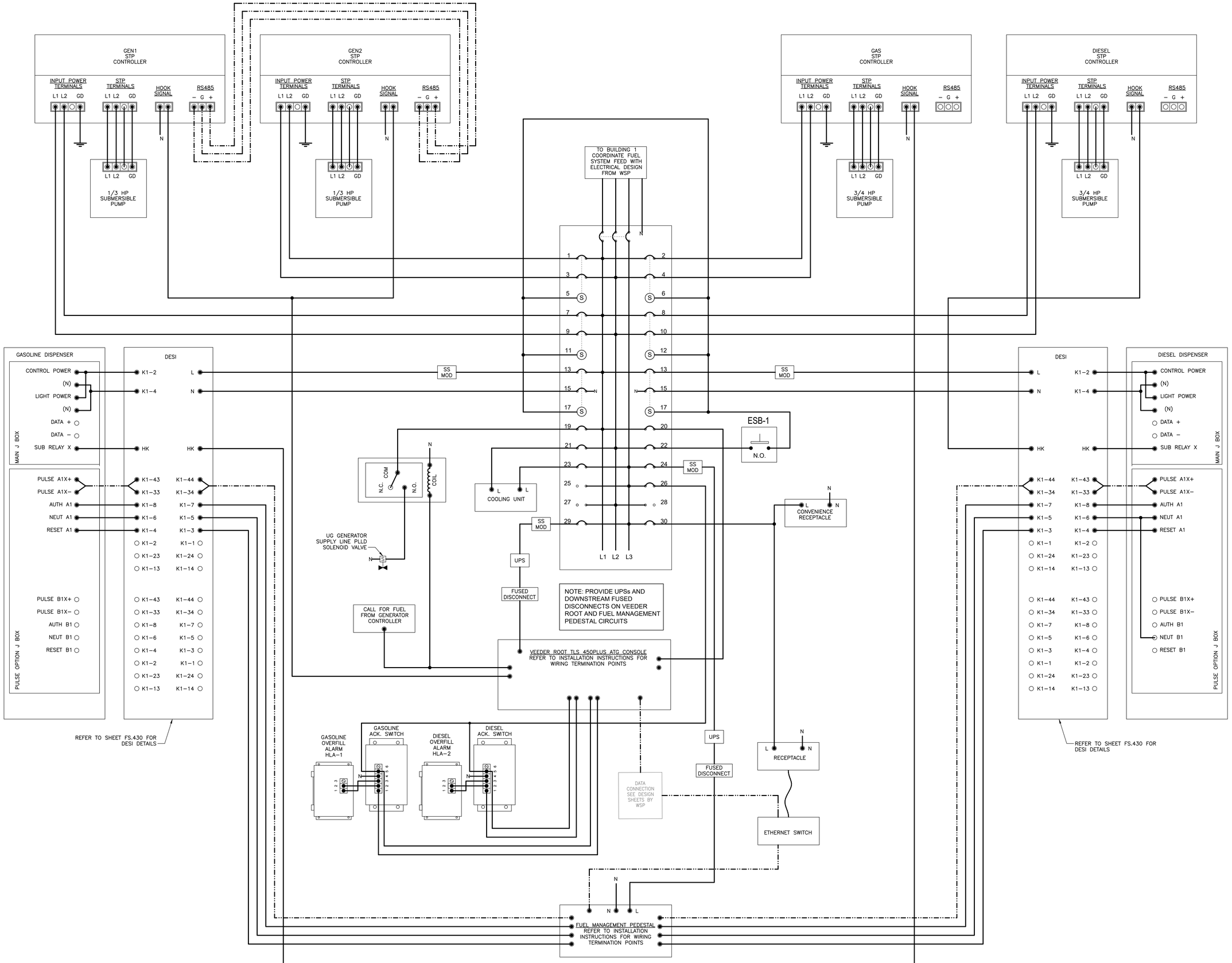
Scale: NONE

Date: October 4, 2019

Project No. 2016039

FS.431
Drawing No.

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ARCHITECTURE

18294
Sonoma Highway
Sonoma
CA 95476

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FAX 707 996 8542

Stantec
Stantec Consulting Services Inc.
5 Dartmouth Drive Suite 200
Auburn ME 04210-2984
Tel (207) 784-0582
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RONALD B. LAURENCE JR.
34127
ELECTRICAL
STATE OF CALIFORNIA
1/9/2020

Ronald B. Laurence Jr., PE
California PE #34127
Stantec Consulting Services, Inc.

Sheet Title

FUELING SYSTEM ELECTRICAL SCHEMATIC

Author JSW Checker RBL

Scale:
NONE

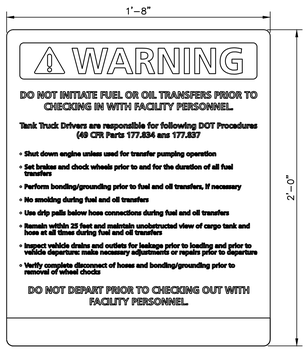
Date:
October 4, 2019

Project No. 2016039

FS.432

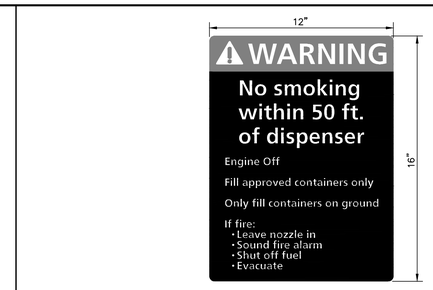
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NOTES:
20"X24" SINGLE–FACED ALUMINUM SIGN.
RED BACKGROUND WITH WHITE LETTERS.

1 DRIVER WARNING SIGN
SCALE: N.T.S.



NOTES:
12"X16" SINGLE FACED, ALUMINUM SIGN. RED BACKGROUND WITH WHITE LETTERS.
GASOLINE ADVERTISING PRODUCTS
MODEL NUMBER: AS–47

LOCATIONS:
TO BE MOUNTED NEAR FUELING OPERATIONS AREA.

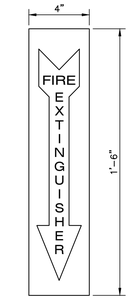
2 NO SMOKING SIGN
SCALE: N.T.S.



NOTES:
12"X16" SINGLE FACED, ALUMINUM SIGN. WHITE BACKGROUND WITH RED LETTERS.

LOCATIONS:
TO BE MOUNTED DIRECTLY ABOVE HIGH LEVEL ALARM.

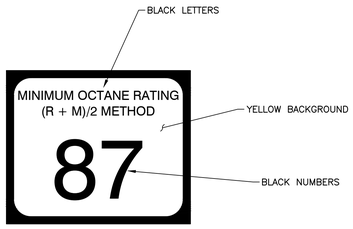
3 HIGH LEVEL ALARM SIGN
SCALE: N.T.S.



NOTES:
4"X18" SINGLE FACED ALUMINUM SIGN. WHITE BACKGROUND WITH RED LETTERS.
(GASOLINE ADVERTISING #AS–74)

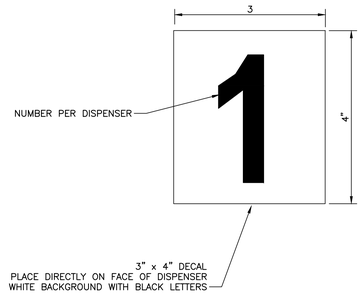
LOCATIONS:
TO BE MOUNTED DIRECTLY ABOVE FIRE EXTINGUISHERS

4 FIRE EXTINGUISHER SIGN
SCALE: N.T.S.

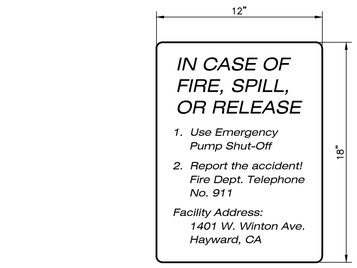


LOCATIONS:
MOUNT (1) CONSPICUOUSLY ON GASOLINE DISPENSER.

5 87 OCTANE DECAL
SCALE: N.T.S.



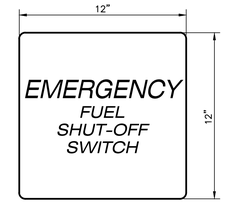
6 DISPENSER NUMBER DECAL
SCALE: NTS



NOTES:
18"X18" SINGLE FACED, ALUMINUM SIGN. RED BACKGROUND WITH WHITE LETTERS.

LOCATIONS:
TO BE MOUNTED NEAR FUELING OPERATIONS AREA.

7 EMERGENCY PROCEDURE SIGN
SCALE: N.T.S.



NOTES:
12"X12" SINGLE FACED, ALUMINUM SIGN. RED BACKGROUND WITH WHITE LETTERS.

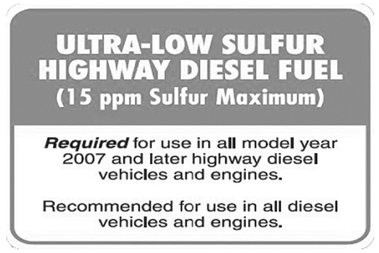
LOCATIONS:
TO BE MOUNTED ABOVE EMERGENCY FUEL PUMP SHUT–OFF SWITCH

8 E–STOP SIGN
SCALE: N.T.S.



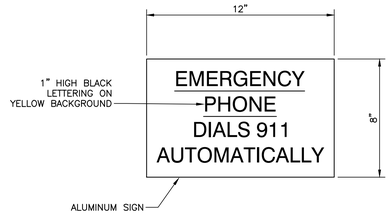
LOCATIONS:
MOUNT (1) CONSPICUOUSLY ON EVERY DISPENSER.

9 STATIC WARNING DECAL
SCALE: N.T.S.



LOCATIONS:
MOUNT (1) CONSPICUOUSLY ON DIESEL DISPENSER.

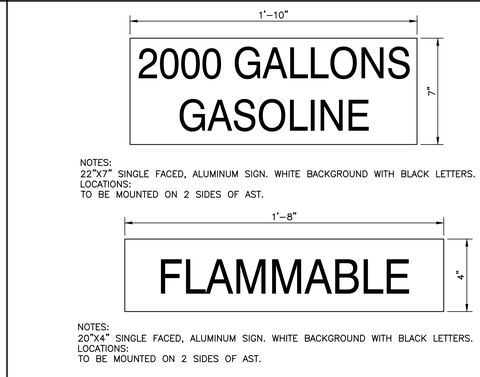
10 ULSD DECAL
SCALE: N.T.S.



NOTES:
12"x8" ALUMINUM SIGN.
YELLOW BACKGROUND WITH BLACK LETTERS

LOCATIONS:
MOUNT DIRECTLY ABOVE EMERGENCY PHONE AT EMERGENCY CALL STATION

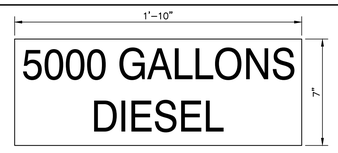
11 EMERGENCY PHONE SIGN
SCALE: N.T.S.



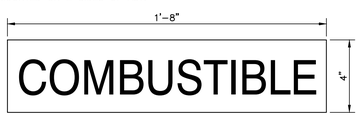
NOTES:
22"X7" SINGLE FACED, ALUMINUM SIGN. WHITE BACKGROUND WITH BLACK LETTERS.
LOCATIONS:
TO BE MOUNTED ON 2 SIDES OF AST.

NOTES:
20"X4" SINGLE FACED, ALUMINUM SIGN. WHITE BACKGROUND WITH BLACK LETTERS.
LOCATIONS:
TO BE MOUNTED ON 2 SIDES OF AST.

12 GASOLINE AND VOLUME SIGNS
SCALE: N.T.S.

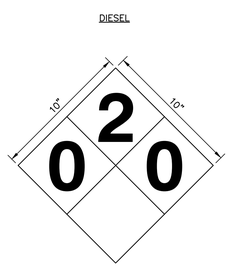


NOTES:
22"X7" SINGLE FACED, ALUMINUM SIGN. WHITE BACKGROUND WITH BLACK LETTERS.
LOCATIONS:
TO BE MOUNTED ON 2 SIDES OF AST.



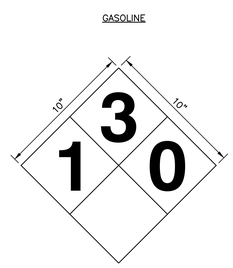
NOTES:
20"X4" SINGLE FACED, ALUMINUM SIGN. WHITE BACKGROUND WITH BLACK LETTERS.
LOCATIONS:
TO BE MOUNTED ON 2 SIDES OF AST.

13 DIESEL AND VOLUME SIGNS
SCALE: N.T.S.



NOTES:
10"X10" HAZARDOUS MATERIAL DIAMOND,

LOCATIONS:
TO BE MOUNTED DIRECTLY ON AST ON A MINIMUM OF 2 SIDES.



NOTES:
10"X10" HAZARDOUS MATERIAL DIAMOND,

LOCATIONS:
TO BE MOUNTED DIRECTLY ON AST ON A MINIMUM OF 2 SIDES.

14 NFPA 704 PLACARDS
SCALE: N.T.S.

THIS DEVICE IS SERVED BY AN INTERRUPTIBLE POWER SUPPLY (UPS). CIRCUIT BREAKER WILL NOT SECURE POWER. USE DISCONNECT SWITCH FOR SERVICING.

NOTES:
SINGLE FACED, DECAL OR ALUMINUM SIGN. WHITE BACKGROUND WITH BLACK LETTERS.
LOCATIONS:
TO BE MOUNTED CONSPICUOUSLY NEAR/ON EQUIPMENT PROTECTED BY UPS DEVICES.

15 UPS DISCONNECT SIGN
SCALE: N.T.S.

CONTAINS 10% ETHANOL

LOCATIONS:
MOUNT DIRECTLY ON GASOLINE FUEL DISPENSER IN A CONSPICUOUS LOCATION

16 ETHANOL DECAL
SCALE: N.T.S.

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

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Auburn NH 03032-3964
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34127
ELECTRICAL
STATE OF CALIFORNIA
1/9/2020

Ronald B. Laurence Jr., PE
California PE #34127
Stantec Consulting Services, Inc.

Sheet Title

FUELING SYSTEM GENERAL SIGNAGE

Author NRD Checker RBL

Scale:
NONE

Date:
October 4, 2019

Project No. 2016039

FS.500
Drawing No.

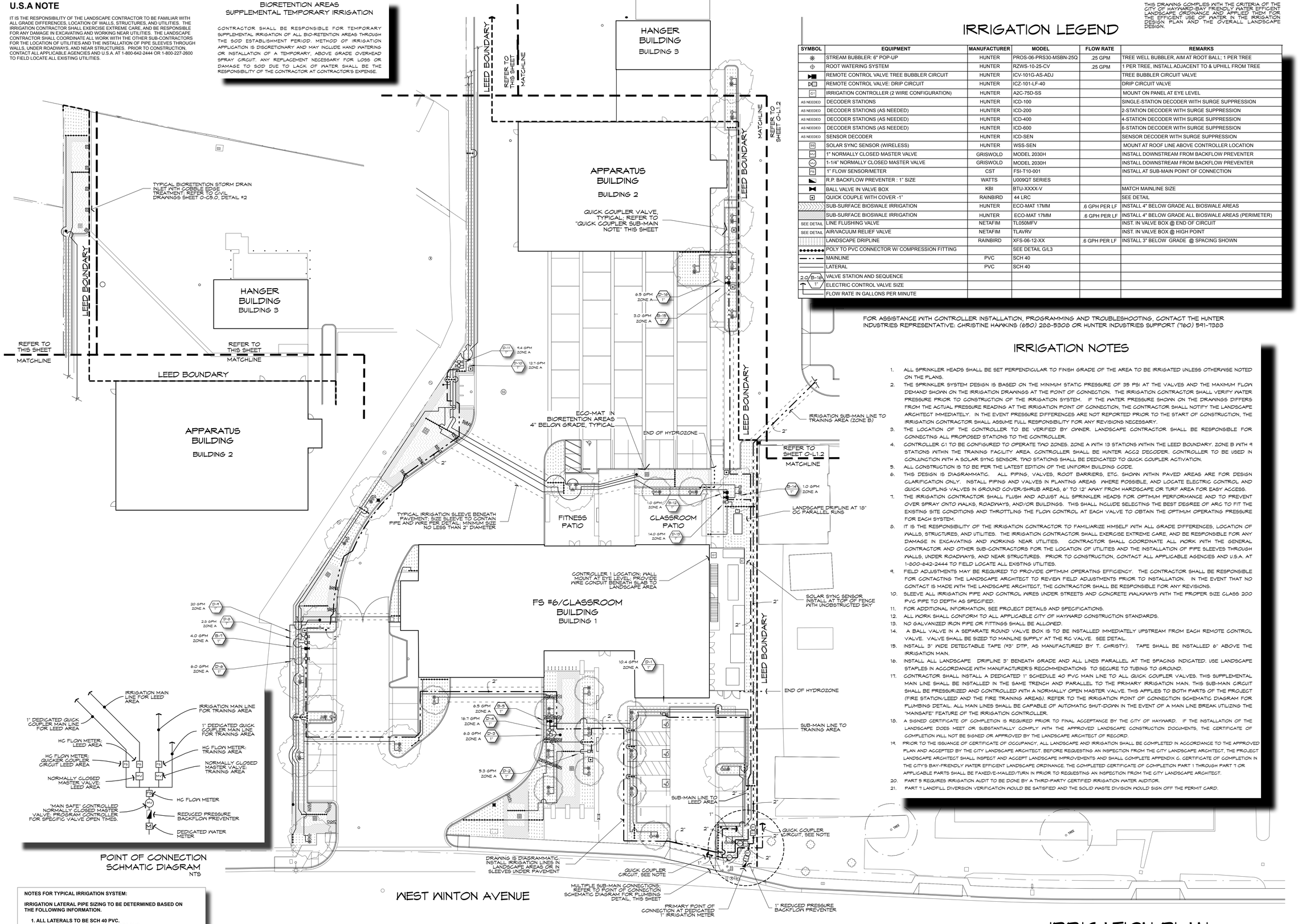
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U.S.A NOTE

IT IS THE RESPONSIBILITY OF THE LANDSCAPE CONTRACTOR TO BE FAMILIAR WITH ALL GRADE DIFFERENCES, LOCATION OF WALLS, STRUCTURES, AND UTILITIES. THE IRRIGATION CONTRACTOR SHALL EXERCISE EXTREME CARE, AND BE RESPONSIBLE FOR ANY DAMAGE IN EXCAVATING AND WORKING NEAR UTILITIES. THE LANDSCAPE CONTRACTOR SHALL COORDINATE ALL WORK WITH THE OTHER SUB-CONTRACTORS FOR THE LOCATION OF UTILITIES AND THE INSTALLATION OF PIPE SLEEVES THROUGH WALLS, UNDER ROADWAYS, AND NEAR STRUCTURES. PRIOR TO CONSTRUCTION, CONTACT ALL APPLICABLE AGENCIES AND U.S.A. AT 1-800-642-2444 OR 1-800-227-2600 TO FIELD LOCATE ALL EXISTING UTILITIES.

BIORETENTION AREAS SUPPLEMENTAL TEMPORARY IRRIGATION

CONTRACTOR SHALL BE RESPONSIBLE FOR TEMPORARY SUPPLEMENTAL IRRIGATION OF ALL BIO-RETENTION AREAS THROUGH THE SOD ESTABLISHMENT PERIOD. METHOD OF IRRIGATION APPLICATION IS DISCRETIONARY AND MAY INCLUDE HAND WATERING OR INSTALLATION OF A TEMPORARY, ABOVE GRADE OVERHEAD SPRAY CIRCUIT. ANY REPLACEMENT NECESSARY FOR LOSS OR DAMAGE TO SOD DUE TO LACK OF WATER SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AT CONTRACTOR'S EXPENSE.



POINT OF CONNECTION SCHMATIC DIAGRAM
NTS

NOTES FOR TYPICAL IRRIGATION SYSTEM:

IRRIGATION LATERAL PIPE SIZING TO BE DETERMINED BASED ON THE FOLLOWING INFORMATION.

1. ALL LATERALS TO BE SCH 40 PVC.
2. FLOW SHALL NOT EXCEED 5' PER SECOND.
3. MAXIMUM FRICTION LOSS THROUGH ANY SECTION OF PIPE SHALL NOT EXCEED 3.00 PSI PER 100' OF PIPE.
4. NO LATERAL SHALL BE SMALLER THAN 3/4" DIAMETER.
5. MINIMUM OPERATING PRESSURE SHALL BE 25 PSI AT THE SPRINKLER HEAD AND 50 PSI FOR ROTORS.
6. MAX FLOW THROUGH LATERALS, AS FOLLOWS:
   - 3/4" SCH 40 PVC: 5.5 GPM
   - 1" SCH 40 PVC: 10.5 GPM
   - 1-1/4" SCH 40 PVC: 17.5 GPM
   - 1-1/2" SCH 40 PVC: 27 GPM
   - 2" SCH 40 PVC: 45 GPM
7. ALL MAINLINE TO BE 2" IN SIZE UNLESS OTHERWISE INDICATED.
8. INSTALL SUPPLEMENTAL CHECK VALVES IN LATERALS AT 15' VERTICAL ELEVATION CHANGE, AS REQUIRED.

REFER TO SHEET O-L1.4 FOR IRRIGATION WATER USE CALCULATIONS AND HYDROZONE MAP

THIS DRAWING COMPLIES WITH THE CRITERIA OF THE CITY OF HAYWARD BAY FRIENDLY WATER EFFICIENT LANDSCAPE ORDINANCE AND APPLIED THEM FOR THE EFFICIENT USE OF WATER IN THE IRRIGATION DESIGN PLAN AND THE OVERALL LANDSCAPE DESIGN.

IRRIGATION LEGEND

SYMBOL	EQUIPMENT	MANUFACTURER	MODEL	FLOW RATE	REMARKS
	STREAM BUBBLER: 6" POP-UP	HUNTER	PROS-06-PRS30-MSBN-25Q	.25 GPM	TREE WELL BUBBLER, AIM AT ROOT BALL; 1 PER TREE
	ROOT WATERING SYSTEM	HUNTER	RZWS-10-25-CV	.25 GPM	1 PER TREE, INSTALL ADJACENT TO & UPHILL FROM TREE
	REMOTE CONTROL VALVE TREE BUBBLER CIRCUIT	HUNTER	ICV-101G-AS-ADJ		TREE BUBBLER CIRCUIT VALVE
	REMOTE CONTROL VALVE: DRIP CIRCUIT	HUNTER	ICZ-101-LF-40		DRIP CIRCUIT VALVE
C1	IRRIGATION CONTROLLER (2 WIRE CONFIGURATION)	HUNTER	A2C-75D-SS		MOUNT ON PANEL AT EYE LEVEL
AS NEEDED	DECODER STATIONS	HUNTER	ICD-100		SINGLE-STATION DECODER WITH SURGE SUPPRESSION
AS NEEDED	DECODER STATIONS (AS NEEDED)	HUNTER	ICD-200		2-STATION DECODER WITH SURGE SUPPRESSION
AS NEEDED	DECODER STATIONS (AS NEEDED)	HUNTER	ICD-400		4-STATION DECODER WITH SURGE SUPPRESSION
AS NEEDED	DECODER STATIONS (AS NEEDED)	HUNTER	ICD-600		6-STATION DECODER WITH SURGE SUPPRESSION
AS NEEDED	SENSOR DECODER	HUNTER	ICD-SEN		SENSOR DECODER WITH SURGE SUPPRESSION
SS	SOLAR SYNC SENSOR (WIRELESS)	HUNTER	WSS-SEN		MOUNT AT ROOF LINE ABOVE CONTROLLER LOCATION
MV	1" NORMALLY CLOSED MASTER VALVE	GRISWOLD	MODEL 2030H		INSTALL DOWNSTREAM FROM BACKFLOW PREVENTER
MV	1-1/4" NORMALLY CLOSED MASTER VALVE	GRISWOLD	MODEL 2030H		INSTALL DOWNSTREAM FROM BACKFLOW PREVENTER
FM	1" FLOW SENSOR/METER	CST	FSI-T10-001		INSTALL AT SUB-MAIN POINT OF CONNECTION
	R.P. BACKFLOW PREVENTER : 1" SIZE	WATTS	U009QT SERIES		
	BALL VALVE IN VALVE BOX	KBI	BTU-XXXX-V		MATCH MAINLINE SIZE
	QUICK COUPLE WITH COVER -1"	RAINBIRD	.44 LRC		SEE DETAIL
	SUB-SURFACE BIOSWALE IRRIGATION	HUNTER	ECO-MAT 17MM	.6 GPH PER LF	INSTALL 4" BELOW GRADE ALL BIOSWALE AREAS
	SUB-SURFACE BIOSWALE IRRIGATION	HUNTER	ECO-MAT 17MM	.6 GPH PER LF	INSTALL 4" BELOW GRADE ALL BIOSWALE AREAS (PERIMETER)
SEE DETAIL	LINE FLUSHING VALVE	NETAFIM	TL050MFV		INST. IN VALVE BOX @ END OF CIRCUIT
SEE DETAIL	AIR/VACUUM RELIEF VALVE	NETAFIM	TLAVRV		INST. IN VALVE BOX @ HIGH POINT
	LANDSCAPE DRIPLINE	RAINBIRD	XFS-06-12-XX	.6 GPH PER LF	INSTALL 3" BELOW GRADE @ SPACING SHOWN
	POLY TO PVC CONNECTOR W/ COMPRESSION FITTING		SEE DETAIL G/L3		
	MAINLINE	PVC	SCH 40		
	LATERAL	PVC	SCH 40		
2.0 / B-16 / 1"	VALVE STATION AND SEQUENCE				
	ELECTRIC CONTROL VALVE SIZE				
	FLOW RATE IN GALLONS PER MINUTE				

FOR ASSISTANCE WITH CONTROLLER INSTALLATION, PROGRAMMING AND TROUBLESHOOTING, CONTACT THE HUNTER INDUSTRIES REPRESENTATIVE: CHRISTINE HAWKINS (650) 288-5308 OR HUNTER INDUSTRIES SUPPORT (760) 591-7383

IRRIGATION NOTES

1. ALL SPRINKLER HEADS SHALL BE SET PERPENDICULAR TO FINISH GRADE OF THE AREA TO BE IRRIGATED UNLESS OTHERWISE NOTED ON THE PLANS.
2. THE SPRINKLER SYSTEM DESIGN IS BASED ON THE MINIMUM STATIC PRESSURE OF 35 PSI AT THE VALVES AND THE MAXIMUM FLOW DEMAND SHOWN ON THE IRRIGATION DRAWINGS AT THE POINT OF CONNECTION. THE IRRIGATION CONTRACTOR SHALL VERIFY WATER PRESSURE PRIOR TO CONSTRUCTION OF THE IRRIGATION SYSTEM. IF THE WATER PRESSURE SHOWN ON THE DRAWINGS DIFFERS FROM THE ACTUAL PRESSURE READING AT THE IRRIGATION POINT OF CONNECTION, THE CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT IMMEDIATELY. IN THE EVENT PRESSURE DIFFERENCES ARE NOT REPORTED PRIOR TO THE START OF CONSTRUCTION, THE IRRIGATION CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ANY REVISIONS NECESSARY.
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19. PRIOR TO THE ISSUANCE OF CERTIFICATE OF OCCUPANCY, ALL LANDSCAPE AND IRRIGATION SHALL BE COMPLETED IN ACCORDANCE TO THE APPROVED PLAN AND ACCEPTED BY THE CITY LANDSCAPE ARCHITECT. BEFORE REQUESTING AN INSPECTION FROM THE CITY LANDSCAPE ARCHITECT, THE PROJECT LANDSCAPE ARCHITECT SHALL INSPECT AND ACCEPT LANDSCAPE IMPROVEMENTS AND SHALL COMPLETE APPENDIX C. CERTIFICATE OF COMPLETION IN THE CITY'S BAY-FRIENDLY WATER EFFICIENT LANDSCAPE ORDINANCE. THE COMPLETED CERTIFICATE OF COMPLETION PART 1 THROUGH PART 7 OR APPLICABLE PARTS SHALL BE FAXED/E-MAILED/TURN IN PRIOR TO REQUESTING AN INSPECTION FROM THE CITY LANDSCAPE ARCHITECT.
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IRRIGATION PLAN LEED AREA

0 10 20 40

RossDrulisCusenbery ARCHITECTURE
18294 Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY
DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	INC 01_ADD_01_V1	12/06/2019

PERMIT SUBMITTAL V3 - INCREMENT #1

MACNAIR LANDSCAPE ARCHITECTURE
POST OFFICE BOX 251
KENWOOD, CA 95452
TEL (707) 833-2288
RLA #2800
don@macnairlandscapes.com

IRRIGATION PLAN SOUTHWEST AND NORTHWEST QUADRANTS

REGISTERED LANDSCAPE ARCHITECT DONALD G. MACNAIR No. 2800 Exp. 8-31-21 STATE OF CALIFORNIA

Drawn By: DM Checked By: DM

Scale: 1" = 20'

Date: October 21, 2019

Project No. 2016039

O-L1.1
Drawing No.

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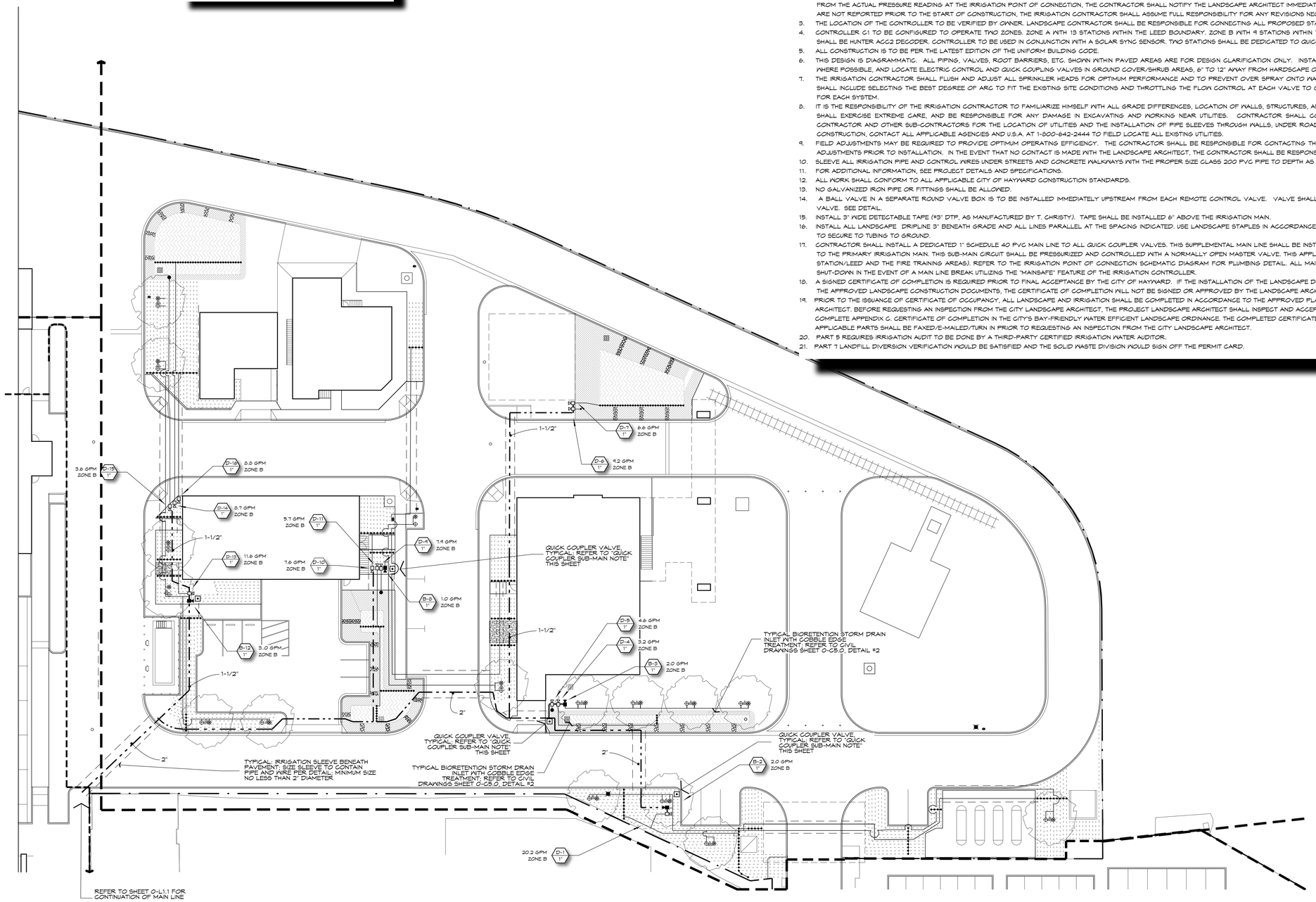
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THIS DRAWING COMPLIES WITH THE CRITERIA OF THE ORDINANCE AND CRITERIA HAS BEEN APPLIED ACCORDINGLY FOR THE EFFICIENT USE OF WATER IN THE IRRIGATION DESIGN PLAN AND THE OVERALL LANDSCAPE DESIGN."

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NOTES FOR TYPICAL IRRIGATION SYSTEM:

IRRIGATION LATERAL PIPE SIZING TO BE DETERMINED BASED ON THE FOLLOWING INFORMATION.

1. **ALL LATERALS TO BE SCH 40 PVC.**
2. **FLOW SHALL NOT EXCEED 5' PER SECOND.**
3. **MAXIMUM FRICTION LOSS THROUGH ANY SECTION OF PIPE SHALL NOT EXCEED 3.00 PSI PER 100' OF PIPE.**
4. **NO LATERAL SHALL BE SMALLER THAN 3/4" DIAMETER.**
5. **MINIMUM OPERATING PRESSURE SHALL BE 25 PSI AT THE SPRINKLER HEAD AND 50 PSI FOR ROTORS.**
6. **MAX FLOW THROUGH LATERALS, AS FOLLOWS:**
   - **3/4" SCH 40 PVC: 5.5 GPM**
   - **1" SCH 40 PVC: 10.5 GPM**
   - **1-1/4" SCH 40 PVC: 17.5 GPM**
   - **1-1/2" SCH 40 PVC: 27 GPM**
   - **2" SCH 40 PVC: 45 GPM**
7. **ALL MAINLINE TO BE 2" IN SIZE UNLESS OTHERWISE INDICATED.**
8. **INSTALL SUPPLEMENTAL CHECK VALVES IN LATERALS AT 15' VERTICAL ELEVATION CHANGE, AS REQUIRED.**

REFER TO SHEET 0-L1.4 FOR IRRIGATION WATER USE CALCULATIONS AND HYDROZONE MAP

REFER TO SHEET 0-L1.1 FOR IRRIGATION LEGEND AND IRRIGATION NOTES.

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IRRIGATION PLAN
TRAINING AREA

0 10 20 40

RossDrulisCusenbery
18294 Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542
ARCHITECTURE

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	INC 01_ADD_01_V1	12/06/2019

PERMIT SUBMITTAL V3 - INCREMENT #1

MACNAIR LANDSCAPE ARCHITECTURE
POST OFFICE BOX 251
KENWOOD, CA 95452
TEL (707) 833-2288
RLA #2800
don@macnairlandscapes.com

IRRIGATION PLAN NORTHEAST QUADRANT

REGISTERED LANDSCAPE ARCHITECT
DONALD G. MACNAIR
No. 2800
Exp. 8-31-21
STATE OF CALIFORNIA

Drawn By: DM Checked By: DM

Scale: 1" = 20'

Date: October 21, 2019

Project No. 2016039

O-L1.2
Drawing No.

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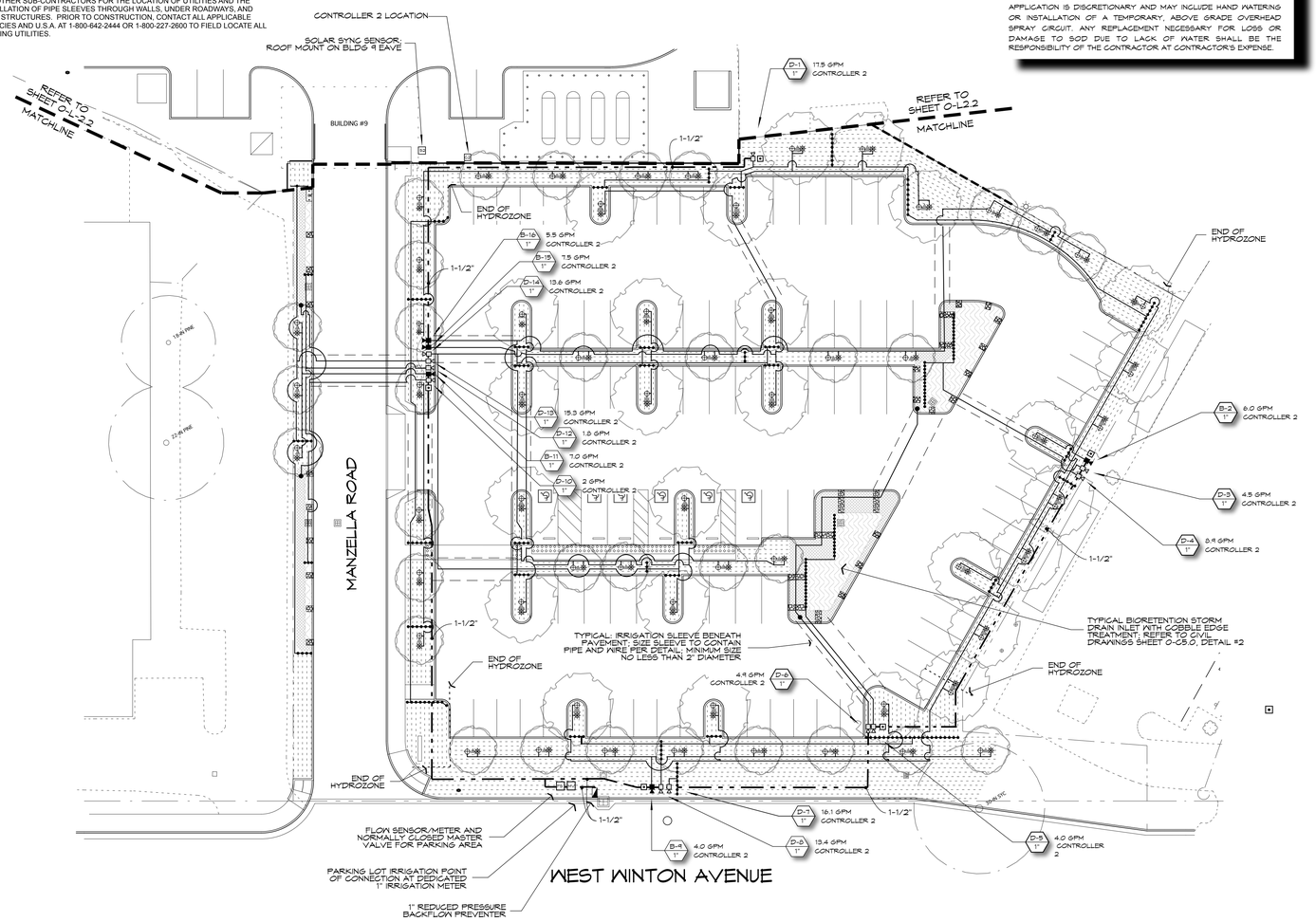
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3. THE LOCATION OF THE CONTROLLER TO BE VERIFIED BY OWNER. LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR CONNECTING ALL PROPOSED STATIONS TO THE CONTROLLER.
4. CONTROLLER C2 TO BE CONFIGURED TO OPERATE 16 STATIONS. CONTROLLER SHALL BE HUNTER IC-600 WITH ICM600 EXPANSION MODULE INSTALLED IN CONTROLLER PEDESTAL. CONTROLLER TO BE USED IN CONJUNCTION WITH A SOLAR SYNC SENSOR.
5. ONE IRRIGATION CONTROLLER STATION SHALL BE DEDICATED FOR MANUAL OPERATION TO PRESSURIZE THE MAIN LINE FOR QUICK COUPLER AND HOSE BIB USE.
6. ALL CONSTRUCTION IS TO BE PER THE LATEST EDITION OF THE UNIFORM BUILDING CODE.
7. THIS DESIGN IS DIAGRAMMATIC. ALL PIPING, VALVES, ROOT BARRIERS, ETC. SHOWN WITHIN PAVED AREAS ARE FOR DESIGN CLARIFICATION ONLY. INSTALL PIPING AND VALVES IN PLANTING AREAS WHERE POSSIBLE, AND LOCATE ELECTRIC CONTROL AND QUICK COUPLING VALVES IN GROUND COVER/SHRUB AREAS, 6" TO 12" AWAY FROM HARDSCAPE OR TURF AREA FOR EASY ACCESS.
8. THE IRRIGATION CONTRACTOR SHALL FLUSH AND ADJUST ALL SPRINKLER HEADS FOR OPTIMUM PERFORMANCE AND TO PREVENT OVER SPRAY ONTO WALKS, ROADWAYS, AND/OR BUILDINGS. THIS SHALL INCLUDE SELECTING THE BEST DEGREE OF ARC TO FIT THE EXISTING SITE CONDITIONS AND THROTTLING THE FLOW CONTROL AT EACH VALVE TO OBTAIN THE OPTIMUM OPERATING PRESSURE FOR EACH SYSTEM.
9. IT IS THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR TO FAMILIARIZE HIMSELF WITH ALL GRADE DIFFERENCES, LOCATION OF WALLS, STRUCTURES, AND UTILITIES. THE IRRIGATION CONTRACTOR SHALL EXERCISE EXTREME CARE, AND BE RESPONSIBLE FOR ANY DAMAGE IN EXCAVATING AND WORKING NEAR UTILITIES. CONTRACTOR SHALL COORDINATE ALL WORK WITH THE GENERAL CONTRACTOR AND OTHER SUB-CONTRACTORS FOR THE LOCATION OF UTILITIES AND THE INSTALLATION OF PIPE SLEEVES THROUGH WALLS, UNDER ROADWAYS, AND NEAR STRUCTURES. PRIOR TO CONSTRUCTION, CONTACT ALL APPLICABLE AGENCIES AND U.S.A. AT 1-800-642-2444 TO FIELD LOCATE ALL EXISTING UTILITIES.
10. FIELD ADJUSTMENTS MAY BE REQUIRED TO PROVIDE OPTIMUM OPERATING EFFICIENCY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING THE LANDSCAPE ARCHITECT TO REVIEW FIELD ADJUSTMENTS PRIOR TO INSTALLATION. IN THE EVENT THAT NO CONTACT IS MADE WITH THE LANDSCAPE ARCHITECT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY REVISIONS.
11. SLEEVE ALL IRRIGATION PIPE AND CONTROL WIRES UNDER STREETS AND CONCRETE WALKWAYS WITH THE PROPER SIZE CLASS 200 PVC PIPE TO DEPTH AS SPECIFIED.
12. FOR ADDITIONAL INFORMATION, SEE PROJECT DETAILS AND SPECIFICATIONS.
13. ALL WORK SHALL CONFORM TO ALL APPLICABLE CITY OF HAYWARD CONSTRUCTION STANDARDS.
14. NO GALVANIZED IRON PIPE OR FITTINGS SHALL BE ALLOWED.
15. A BALL VALVE IN A SEPARATE ROUND VALVE BOX IS TO BE INSTALLED IMMEDIATELY UPSTREAM FROM EACH REMOTE CONTROL VALVE. VALVE SHALL BE SIZED TO MAINLINE SUPPLY AT THE RC VALVE. SEE DETAIL.
16. INSTALL 3" WIDE DETECTABLE TAPE (#3" DTP, AS MANUFACTURED BY T. CHRISTY). TAPE SHALL BE INSTALLED 6" ABOVE THE IRRIGATION MAIN.
17. INSTALL ALL LANDSCAPE DRIPLINE 9" BENEATH GRADE AND ALL LINES PARALLEL AT THE SPACING INDICATED. USE LANDSCAPE STAPLES IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS TO SECURE TO TUBING TO GROUND.
18. CONTRACTOR SHALL BE RESPONSIBLE FOR TEMPORARY SUPPLEMENTAL IRRIGATION OF ALL BIO-RETENTION AREAS THROUGH THE SOD ESTABLISHMENT PERIOD. METHOD OF IRRIGATION APPLICATION IS DISCRETIONARY AND MAY INCLUDE HAND WATERING OR INSTALLATION OF A TEMPORARY, ABOVE GRADE OVERHEAD SPRAY CIRCUIT. ANY REPLACEMENT NECESSARY FOR LOSS OR DAMAGE TO SOD DUE TO LACK OF WATER SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AT CONTRACTOR'S EXPENSE.
19. A SIGNED CERTIFICATE OF COMPLETION IS REQUIRED PRIOR TO FINAL ACCEPTANCE BY THE CITY OF HAYWARD. IF THE INSTALLATION OF THE LANDSCAPE DOES MEET OR SUBSTANTIALLY COMPLY WITH THE APPROVED LANDSCAPE CONSTRUCTION DOCUMENTS, THE CERTIFICATE OF COMPLETION WILL NOT BE SIGNED OR APPROVED BY THE LANDSCAPE ARCHITECT OF RECORD.
20. PRIOR TO THE ISSUANCE OF CERTIFICATE OF OCCUPANCY, ALL LANDSCAPE AND IRRIGATION SHALL BE COMPLETED IN ACCORDANCE TO THE APPROVED PLAN AND ACCEPTED BY THE CITY LANDSCAPE ARCHITECT. BEFORE REQUESTING AN INSPECTION FROM THE CITY LANDSCAPE ARCHITECT, THE PROJECT LANDSCAPE ARCHITECT SHALL INSPECT AND ACCEPT LANDSCAPE IMPROVEMENTS AND SHALL COMPLETE APPENDIX C, CERTIFICATE OF COMPLETION IN THE CITY'S BAY-FRIENDLY WATER EFFICIENT LANDSCAPE ORDINANCE. THE COMPLETED CERTIFICATE OF COMPLETION PART 1 THROUGH PART 7 OR APPLICABLE PARTS SHALL BE FAXED/E-MAILED/TURN IN PRIOR TO REQUESTING AN INSPECTION FROM THE CITY LANDSCAPE ARCHITECT.
21. PART 5 REQUIRES IRRIGATION AUDIT TO BE DONE BY A THIRD-PARTY CERTIFIED IRRIGATION WATER AUDITOR.
22. PART 7 LANDFILL DIVERSION VERIFICATION WOULD BE SATISFIED AND THE SOLID WASTE DIVISION WOULD SIGN OFF THE PERMIT CARD.

REFER TO SHEET O-L1.4 FOR IRRIGATION WATER USE CALCULATIONS AND HYDROZONE MAP

IRRIGATION LEGEND

SYMBOL	EQUIPMENT	MANUFACTURER	MODEL	FLOW RATE	REMARKS
	STREAM BUBBLER: 6" POP-UP	HUNTER	PROS-06-PRS30-MSBN-25Q	.25 GPM	TREE WELL BUBBLER, AIM AT ROOT BALL; 1 PER TREE
	ROOT WATERING SYSTEM	HUNTER	RZWS-10-25-CV	.25 GPM	1 PER TREE, INSTALL ADJACENT TO & UPHILL FROM TREE
	REMOTE CONTROL VALVE TREE BUBBLER CIRCUIT	HUNTER	ICV-101G-AS-ADJ		TREE BUBBLER CIRCUIT VALVE
	REMOTE CONTROL VALVE: DRIP CIRCUIT	HUNTER	ICZ-101-LF-40		DRIP CIRCUIT VALVE
C2	6 STATION BASE CONTROLLER: PUBLIC PARKING	HUNTER	IC-600-SS		MOUNT IN PEDESTAL
	2 - 6 STATION PLUG-IN EXPANSION MODULES	HUNTER	ICM-600		EXPANSION MODULE FOR 18 STATIONS
E	STAINLESS STEEL CONTROLLER PEDESTAL	HUNTER	PED-SS		
SS	SOLAR SYNC SENSOR (WIRELESS)	HUNTER	WSS-SEN		MOUNT AT ROOF LINE ABOVE CONTROLLER LOCATION
	R.P. BACKFLOW PREVENTER : 1" SIZE	WATTS	U009QT SERIES		
	BALL VALVE IN VALVE BOX	KBI	BTU-XXXX-V		SEE DETAIL; MATCH MAINLINE SIZE
	SUB-SURFACE BIOSWALE IRRIGATION	HUNTER	ECO-MAT 17MM	.6 GPH PER LF	INSTALL 4" BELOW GRADE ALL BIOSWALE AREAS
	SUB-SURFACE BIOSWALE IRRIGATION	HUNTER	ECO-MAT 17MM	.6 GPH PER LF	INSTALL 4" BELOW GRADE ALL BIOSWALE AREAS (PERIMETER)
SEE DETAIL	LINE FLUSHING VALVE	NETAFIM	TL050MFV		INST. IN VALVE BOX @ END OF CIRCUIT
SEE DETAIL	AIR/VACUUM RELIEF VALVE	NETAFIM	TLAVRV		INST. IN VALVE BOX @ HIGH POINT
	LANDSCAPE DRIPLINE	RAINBIRD	XFS-06-12-XX	.6 GPH PER LF	INSTALL 3" BELOW GRADE @ SPACING SHOWN
	POLY TO PVC CONNECTOR W/ COMPRESSION FITTING		SEE DETAIL G/L3		
	MAINLINE	PVC	SCH 40		
	LATERAL	PVC	SCH 40		
	QUICK COUPLE WITH COVER -1"	RAINBIRD	44 LRC		SEE DETAIL
FS	FLOW SENSOR/METER	HUNTER	HC-100-FLOW		INSTALL AT POINT OF CONNECTION
NC	1" NORMALLY CLOSED MASTER VALVE	GRISWOLD	MODEL 2030H		INSTALL DOWNSTREAM FROM BACKFLOW PREVENTER
19.0 D-7 1"	VALVE STATION AND SEQUENCE				
	ELECTRIC CONTROL VALVE SIZE				
	FLOW RATE IN GALLONS PER MINUTE				

NOTES FOR TYPICAL IRRIGATION SYSTEM:

IRRIGATION LATERAL PIPE SIZING TO BE DETERMINED BASED ON THE FOLLOWING INFORMATION.

1. **ALL LATERALS TO BE SCH 40 PVC.**
2. **FLOW SHALL NOT EXCEED 5' PER SECOND.**
3. **MAXIMUM FRICTION LOSS THROUGH ANY SECTION OF PIPE SHALL NOT EXCEED 3.OO PSI PER 100' OF PIPE.**
4. **NO LATERAL SHALL BE SMALLER THAN 3/4" DIAMETER.**
5. **MINIMUM OPERATING PRESSURE SHALL BE 25 PSI AT THE SPRINKLER HEAD AND 50 PSI FOR ROTORS.**
6. **MAX FLOW THROUGH LATERALS, AS FOLLOWS:**
   - **3/4" SCH 40 PVC: 5.5 GPM**
   - **1" SCH 40 PVC: 10.5 GPM**
   - **1-1/4" SCH 40 PVC: 17.5 GPM**
   - **1-1/2" SCH 40 PVC: 27 GPM**
   - **2" SCH 40 PVC: 45 GPM**
7. **ALL MAINLINE TO BE 1-1/2" IN SIZE UNLESS OTHERWISE INDICATED.**
8. **INSTALL SUPPLEMENTAL CHECK VALVES IN LATERALS AT 15' VERTICAL ELEVATION CHANGE, AS REQUIRED.**

QUICK COUPLER NOTE
QUICK COUPLER VALVES SHALL BE SET TO OPERATE WHEN THE NORMALLY OPEN MASTER VALVE IS OPENED MANUALLY FROM THE CONTROLLER.

IRRIGATION PLAN PUBLIC PARKING LOT

0 10 20 40

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	INC 01_ADD_01_V1	12/06/2019

PERMIT SUBMITTAL V3 - INCREMENT #1

MACNAIR LANDSCAPE ARCHITECTURE
POST OFFICE BOX 251
KENWOOD, CA 95452
TEL (707) 833-2288
RLA #2800
don@macnairlandscapes.com

IRRIGATION PLAN SOUTHEAST QUADRANT

REGISTERED LANDSCAPE ARCHITECT DONALD G. MACNAIR #2800 Exp. 8-31-21 STATE OF CALIFORNIA

Drawn By: DM Checked By: DM

Scale: 1" = 20'

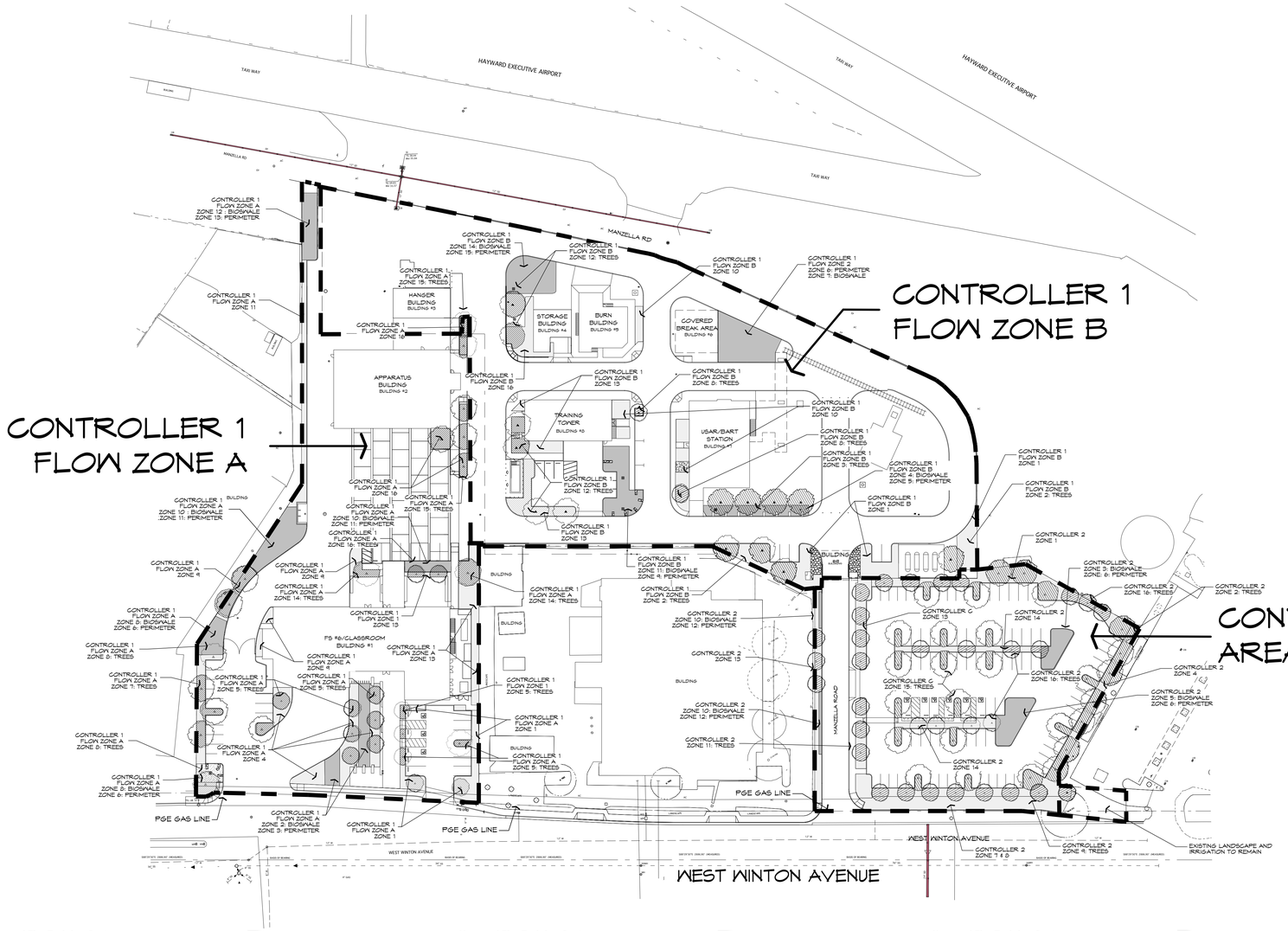
Date: October 21, 2019

Project No. 2016039

O-L1.3
Drawing No.

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THIS DRAWING COMPLIES WITH THE CRITERIA OF THE ORDINANCE AND CRITERIA HAS BEEN APPLIED ACCORDINGLY FOR THE EFFICIENT USE OF WATER IN THE IRRIGATION DESIGN PLAN AND THE OVERALL LANDSCAPE DESIGN."



Hayward Fire Training Center
CONTROLLER 1, ZONE A
MAWA AND ETWU CALCULATIONS

1.) Maximum Applied Water Allowance (MAWA)

A.) Net Evapotranspiration Calculation

Annual Eto = 44.20

B.) Adjusted Landscape Area Calculation

Landscape Area	21,144	X	Adjustment Factor 0.45	=	9,515
Special Landscape Area	-	X	Adjustment Factor 0.55	=	-
			Sum of Adjusted Landscape Area	=	9,515

MAWA = 44.20 X 0.62 X 9,515 = 260,740 Gallons

2.) Estimated Total Water Use (ETWU)

A.) Net Evapotranspiration Calculation = 44.20

Very Low Water Plant Use SF	7,440	X	0.10	=	744
Low Water Plant Use SF	11,298	X	0.30	=	3,389
Moderate Water Plant Use SF	2,406	X	0.60	=	1,444
High Water Use		X	0.80	=	-
			Sum of Adjusted Landscape Area	=	5,577

DRIP ETWU = 44.20 X 0.62 X 5,577 / 0.81 = 188,685 Gallons

Hayward Fire Training Center
CONTROLLER 1, ZONE B
MAWA AND ETWU CALCULATIONS

1.) Maximum Applied Water Allowance (MAWA)

A.) Net Evapotranspiration Calculation

Annual Eto = 44.20

B.) Adjusted Landscape Area Calculation

Landscape Area	18,433	X	Adjustment Factor 0.45	=	9,515
Special Landscape Area	-	X	Adjustment Factor 0.55	=	-
			Sum of Adjusted Landscape Area	=	9,515

MAWA = 44.20 X 0.62 X 9,515 = 260,740 Gallons

2.) Estimated Total Water Use (ETWU)

A.) Net Evapotranspiration Calculation = 44.20

Very Low Water Plant Use SF	10,671	X	0.10	=	744
Low Water Plant Use SF	7,516	X	0.30	=	3,389
Moderate Water Plant Use SF	246	X	0.60	=	1,444
High Water Use		X	0.80	=	-
			Sum of Adjusted Landscape Area	=	5,577

DRIP ETWU = 44.20 X 0.62 X 5,577 / 0.81 = 188,685 Gallons

Hayward Fire Training Center
CONTROLLER 2
MAWA AND ETWU CALCULATIONS

1.) Maximum Applied Water Allowance (MAWA)

A.) Net Evapotranspiration Calculation

Annual Eto = 44.20

B.) Adjusted Landscape Area Calculation

Landscape Area	34,887	X	Adjustment Factor 0.45	=	15,699
Special Landscape Area	-	X	Adjustment Factor 0.55	=	-
			Sum of Adjusted Landscape Area	=	15,699

MAWA = 44.20 X 0.62 X 15,699 = 430,221 Gallons

2.) Estimated Total Water Use (ETWU)

A.) Net Evapotranspiration Calculation = Annual Eto

Very Low Water Plant Use SF	7,331	X	0.10	=	733
Low Water Plant Use SF	23,191	X	0.30	=	6,957
Moderate Water Plant Use SF	4,365	X	0.60	=	2,619
High Water Use	-	X	0.80	=	
			Sum of Adjusted Landscape Area	=	10,310

DRIP ETWU = 44.20 X 0.62 X 10,310 / 0.81 = 348,795 Gallons

Hydrozone Tables
CONTROLLER 1, ZONE A
HYDROZONE TABLE

	VALVE NO. (HYDROZONE)	IRRIGATION METHOD	PLANT TYPE	GPM	PRECIPITATION RATE IN INCHES PER HOUR	AREA IN SQUARE FEET	% OF LANDSCAPE
	D-1	DRIPLINE	LOW	10.4	0.58	1,723.40	8.2%
	D-2	ECO MAT	VERY LOW	5.3	0.80	634.55	3.0%
	D-3	ECO MAT	VERY LOW	6.8	0.81	807.13	3.8%
	D-4	DRIPLINE	LOW	16.7	0.60	2,674.78	12.7%
DUPLICATE AREA	B-5	BUBBLER	MODERATE	6.5	0.34	1,828.47	8.6%
	D-6	ECO MAT	VERY LOW	6.0	0.81	709.84	3.4%
DUPLICATE AREA	B-7	BUBBLER	VERY LOW	4.0	0.23	1,659.99	7.9%
	D-8	ECO MAT	VERY LOW	2.8	0.82	329.88	1.6%
	D-9	DRIPLINE	LOW	23.0	0.61	3,617.70	17.1%
	D-10	ECO MAT	VERY LOW	12.7	0.81	1,514.35	7.2%
	D-11	ECO MAT	VERY LOW	9.4	0.81	1,122.00	5.3%
DUPLICATE AREA	B-12	BUBBLER	MODERATE	1.0	0.17	577.85	2.7%
	D-13	DRIPLINE	LOW	14.0	0.62	2,186.50	10.3%
	D-14	ECO MAT	VERY LOW	1.0	0.32	302.22	1.4%
DUPLICATE AREA	B-15	BUBBLER	VERY LOW	3.0	0.80	359.59	1.7%
	D-16	DRIPLINE	LOW	6.3	0.55	1,095.47	5.2%
			TOTAL SQUARE FEET			21,143.72	100%

SUMMARY HYDROZONE TABLE

PLANT TYPE	AREA (SF)	% OF LANDSCAPE
VERY LOW WATER USE	7,439.55	35%
LOW WATER USE	11,297.85	53%
MODERATE WATER USE	2,406.32	11%
HIGH WATER USE	-	0%
TOTAL	21,143.72	100%

ACTUAL LANDSCAPE AREA (SF)	16,717.82
DUPLICATE LANDSCAPE AREA (SF)	4,425.90
CALCULATED MAWA AND ETWU AREA (SF)	21,143.72

Hydrozone Tables
CONTROLLER 1, Zone B
HYDROZONE TABLE

	VALVE NO. (HYDROZONE)	IRRIGATION METHOD	PLANT TYPE	GPM	PRECIPITATION RATE IN INCHES PER HOUR	AREA IN SQUARE FEET	% OF LANDSCAPE
	D-1	DRIPLINE	LOW	20.2	0.60	3,246.17	17.6%
DUPLICATE AREA	B-2	BUBBLER	VERY LOW	2.0	0.16	1,216.46	6.6%
DUPLICATE AREA	B-3	BUBBLER	VERY LOW	2.0	0.10	1,884.20	10.2%
	D-4	ECO MAT	VERY LOW	3.2	0.82	376.20	2.0%
	D-5	ECO MAT	VERY LOW	4.6	0.82	542.90	2.9%
	D-6	ECO MAT	VERY LOW	9.2	0.81	1,094.55	5.9%
	D-7	ECO MAT	VERY LOW	6.6	0.81	780.97	4.2%
DUPLICATE AREA	B-8	BUBBLER	MODERATE	1.0	0.39	245.53	1.3%
	D-9	ECO MAT	VERY LOW	7.9	0.81	935.29	5.1%
	D-10	DRIPLINE	LOW	9.1	0.73	1,203.61	6.5%
	D-11	ECO MAT	VERY LOW	5.7	1.08	509.17	2.8%
DUPLICATE AREA	B-12	BUBBLER	VERY LOW	3.0	0.16	1,862.15	10.1%
	D-13	DRIPLINE	LOW	10.0	0.60	1,598.00	8.7%
	D-14	ECO MAT	VERY LOW	8.7	0.81	1,036.65	5.6%
	D-15	ECO MAT	VERY LOW	3.6	0.80	432.72	2.3%
	D-16	DRIPLINE	LOW	8.8	0.56	1,468.00	8.0%
			TOTAL SQUARE FEET			18,432.57	100%

SUMMARY HYDROZONE TABLE

PLANT TYPE	AREA (SF)	% OF LANDSCAPE
VERY LOW WATER USE	10,671.26	58%
LOW WATER USE	7,515.78	41%
MODERATE WATER USE	245.53	1%
HIGH WATER USE	-	0%
TOTAL	18,432.57	100%

ACTUAL LANDSCAPE AREA (SF)	13,224.23
DUPLICATE LANDSCAPE AREA (SF)	5,208.34
CALCULATED MAWA AND ETWU AREA (SF)	18,432.57

Hydrozone Tables
CONTROLLER 2
HYDROZONE TABLE

	VALVE NO. (HYDROZONE)	IRRIGATION METHOD	PLANT TYPE	GPM	PRECIPITATION RATE IN INCHES PER HOUR	AREA IN SQUARE FEET	% OF LANDSCAPE
	D-1	DRIPLINE	LOW	17.5	0.14	12,382.07	35.5%
DUPLICATE AREA	B-2	BUBBLER	VERY LOW	6.0	0.19	3,014.74	8.6%
	D-3	ECOMAT	VERY LOW	4.5	0.80	540.16	1.5%
	D-4	DRIPLINE	LOW	8.9	0.60	1,438.81	4.1%
DUPLICATE AREA	D-5	BUBBLER	VERY LOW	4.0	0.81	477.98	1.4%
	D-6	ECOMAT	VERY LOW	4.9	0.81	579.72	1.7%
	D-7	DRIPLINE	LOW	15.3	0.60	2,434.36	7.0%
	D-8	DRIPLINE	LOW	13.4	0.60	2,142.35	6.1%
DUPLICATE AREA	B-9	BUBBLER	MODERATE	4.0	0.28	1,366.22	3.9%
	D-10	ECOMAT	VERY LOW	2.0	0.80	240.99	0.7%
DUPLICATE AREA	B-11	BUBBLER	MODERATE	7.0	0.34	1,975.02	5.7%
	D-12	ECOMAT	VERY LOW	1.8	0.82	211.88	0.6%
	D-13	DRIPLINE	LOW	16.7	0.64	2,529.63	7.3%
	D-14	DRIPLINE	LOW	13.6	0.58	2,264.15	6.5%
DUPLICATE AREA	B-15	BUBBLER	VERY LOW	7.5	0.32	2,265.08	221.2%
DUPLICATE AREA	B-16	BUBBLER	MODERATE	5.6	0.52	1,023.93	2.9%
			TOTAL SQUARE FEET			34,887.11	315%

SUMMARY HYDROZONE TABLE

PLANT TYPE	AREA (SF)	% OF LANDSCAPE
VERY LOW WATER USE	7,330.55	21%
LOW WATER USE	23,191.39	66%
MODERATE WATER USE	4,365.17	13%
HIGH WATER USE	-	0%
TOTAL	34,887.11	100%

ACTUAL LANDSCAPE AREA (SF)	24,764.14
DUPLICATE LANDSCAPE AREA (SF)	10,122.97
CALCULATED MAWA AND ETWU AREA (SF)	34,887.11

AREA CALCULATION NOTE:

WATER USE CALCULATIONS ARE BASED ON ACTUAL AND DUPLICATED LANDSCAPE AREAS. ACTUAL LANDSCAPE AREAS INCLUDE ALL SITE AREAS OCCUPIED WITH LANDSCAPE TREATMENT. DUPLICATED LANDSCAPE AREAS ARE THOSE AREAS WHERE A PROPOSED TREE CANOPY OVERLAPS AN ACTUAL LANDSCAPE AREA. ACTUAL PLUS DUPLICATE LANDSCAPE AREAS ARE INCLUDED IN THE OVERALL LANDSCAPE AREA A FOR MAWA CALCULATIONS.

FOR MAWA AREA AND HYDROZONE CALCULATIONS, SQUARE FOOTAGE BENEATH THE DRIP LINE OF A TREE IS CONSIDERED A SEPARATE HYDROZONE. THIS SQUARE FOOTAGE IS ALSO INCLUDED AS PART OF THE LANDSCAPE HYDROZONE FOR NON-TREE LANDSCAPE AREAS WHICH RESULTS IN CALCULATED LANDSCAPE AREAS GREATER THAN ACTUAL SQUARE FOOTAGE.

IRRIGATION HYDROZONES AND WATER CALCULATIONS

0 25 50 100

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	INC 01_ADD_01_V1	12/06/2019

PERMIT SUBMITTAL V3 - INCREMENT #1

MACNAIR LANDSCAPE ARCHITECTURE
POST OFFICE BOX 251
KENWOOD, CA 95452
TEL (707) 833-2288
RLA #2800
don@macnairlandscapes.com

HYDROZONE MAP

REGISTERED LANDSCAPE ARCHITECT
DONALD G. MACNAIR
No. 2800
Exp. 8-31-19
STATE OF CALIFORNIA

Drawn By: DM
Checked By: DM

Scale: **1" = 50'**

Date: **October 21, 2019**

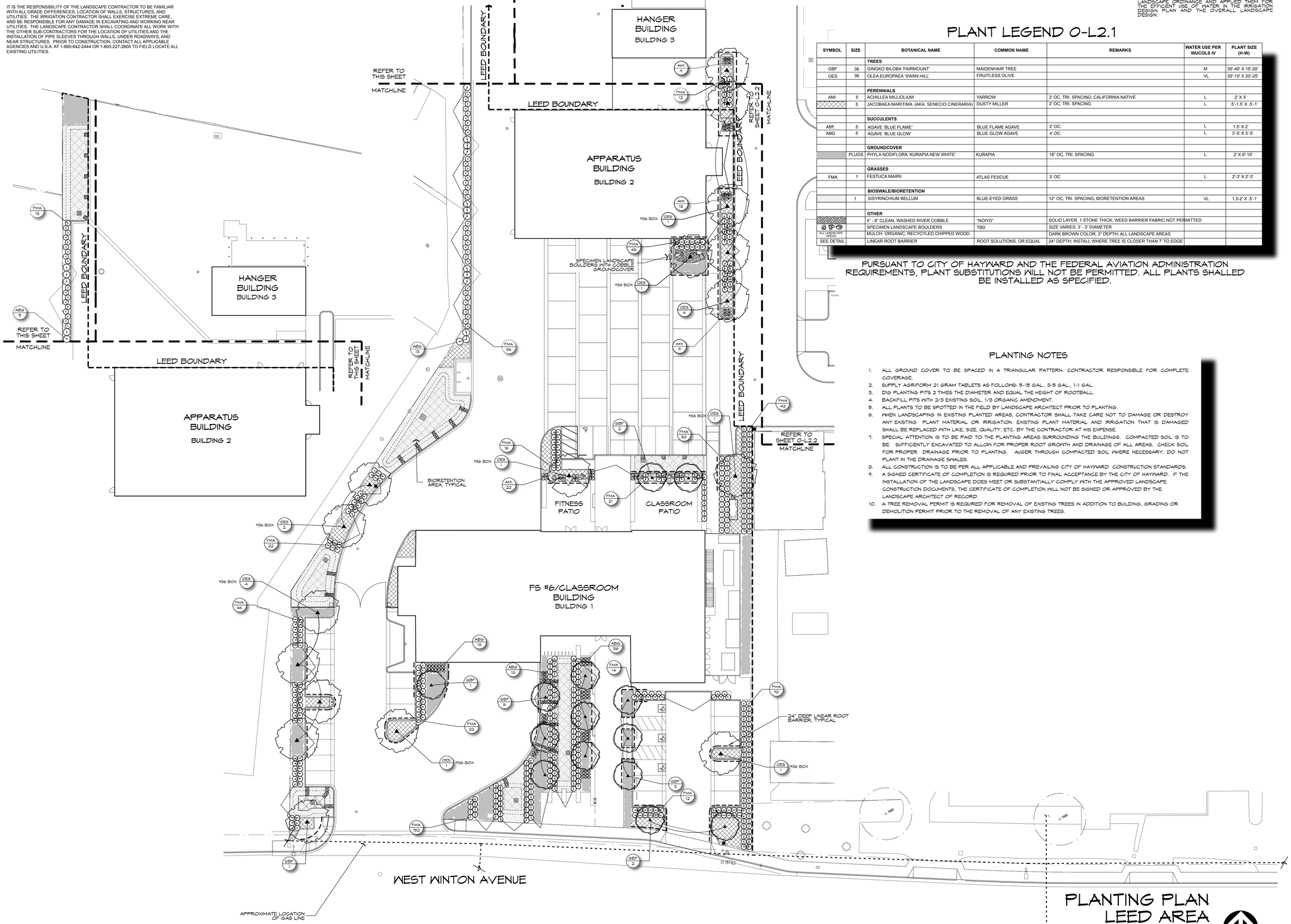
Project No. 2016039

O-L1.4
Drawing No.

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U.S.A NOTE

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REFER TO SHEET O-L2.4 FOR TREE REMOVAL PLAN AND TREE VALUATIONS

THIS DRAWING COMPLIES WITH THE CRITERIA OF THE CITY OF HAYWARD-BAY FRIENDLY WATER EFFICIENT LANDSCAPE ORDINANCE AND APPLIED THEM FOR THE EFFICIENT USE OF WATER IN THE IRRIGATION DESIGN PLAN AND THE OVERALL LANDSCAPE DESIGN.

PLANT LEGEND O-L2.1

SYMBOL	SIZE	BOTANICAL NAME	COMMON NAME	REMARKS	WATER USE PER WUCOLS IV	PLANT SIZE (H-W)
		TREES				
GBF	36	GINGKO BILOBA 'FAIRMOUNT'	MAIDENHAIR TREE		M	35'-40' X 15'-20'
OES	36	OLEA EUROPAEA 'SWAN HILL'	FRUITLESS OLIVE		VL	35'-15' X 20'-25'
		PERENNIALS				
AMI	5	ACHILLEA MILLIOLIUM	YARROW	3' OC, TRI. SPACING; CALIFORNIA NATIVE	L	2' X 3'
	5	JACOBAEA MARITIMA (AKA, SENECIO CINERARIA)	DUSTY MILLER	2' OC, TRI. SPACING	L	.5'-1.5' X .5'-1'
		SUCCULENTS				
ABF	5	AGAVE 'BLUE FLAME'	BLUE FLAME AGAVE	2' OC	L	1.5' X 2'
ABG	5	AGAVE 'BLUE GLOW'	BLUE GLOW AGAVE	4' OC	L	3'-5' X 3'-5'
		GROUNDCOVER				
	PLUGS	PHYLA NODIFLORA 'KURAPIA NEW WHITE'	KURAPIA	18" OC, TRI. SPACING	L	2' X 6'-10'
		GRASSES				
FMA	1	FESTUCA MAIRII	ATLAS FESCUE	3' OC	L	2'-3' X 2'-3'
		BIOSWALE/BIORETENTION				
	1	SISYRINCHIUM BELLUM	BLUE-EYED GRASS	12" OC, TRI. SPACING; BIORETENTION AREAS	VL	1.5-2' X .5'-1'
		OTHER				
		4" - 8" CLEAN, WASHED RIVER COBBLE	"NOIYO"	SOLID LAYER, 1 STONE THICK; WEED BARRIER FABRIC NOT PERMITTED		
		SPECIMEN LANDSCAPE BOULDERS	TBD	SIZE VARIES; 3' - 5' DIAMETER		
	ALL LANDSCAPE AREAS	MULCH: ORGANIC; RECYCYLED CHIPPED WOOD		DARK BROWN COLOR; 3" DEPTH; ALL LANDSCAPE AREAS		
SEE DETAIL		LINEAR ROOT BARRIER	ROOT SOLUTIONS, OR EQUAL	24" DEPTH; INSTALL WHERE TREE IS CLOSER THAN 7' TO EDGE		

PURSUANT TO CITY OF HAYWARD AND THE FEDERAL AVIATION ADMINISTRATION REQUIREMENTS, PLANT SUBSTITUTIONS WILL NOT BE PERMITTED. ALL PLANTS SHALLED BE INSTALLED AS SPECIFIED.

PLANTING NOTES

1. ALL GROUND COVER TO BE SPACED IN A TRIANGULAR PATTERN. CONTRACTOR RESPONSIBLE FOR COMPLETE COVERAGE.
2. SUPPLY AGRIFORM 21 GRAM TABLETS AS FOLLOWS: 5-15 GAL., 3-5 GAL., 1-1 GAL.
3. DIG PLANTING PITS 2 TIMES THE DIAMETER AND EQUAL THE HEIGHT OF ROOTBALL.
4. BACKFILL PITS WITH 2/3 EXISTING SOIL, 1/3 ORGANIC AMENDMENT.
5. ALL PLANTS TO BE SPOTTED IN THE FIELD BY LANDSCAPE ARCHITECT PRIOR TO PLANTING.
6. WHEN LANDSCAPING IN EXISTING PLANTED AREAS, CONTRACTOR SHALL TAKE CARE NOT TO DAMAGE OR DESTROY ANY EXISTING PLANT MATERIAL OR IRRIGATION. EXISTING PLANT MATERIAL AND IRRIGATION THAT IS DAMAGED SHALL BE REPLACED WITH LIKE, SIZE, QUALITY, ETC. BY THE CONTRACTOR AT HIS EXPENSE.
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10. A TREE REMOVAL PERMIT IS REQUIRED FOR REMOVAL OF EXISTING TREES IN ADDITION TO BUILDING, GRADING OR DEMOLITION PERMIT PRIOR TO THE REMOVAL OF ANY EXISTING TREES.

RossDrulisCusenbery ARCHITECTURE
18294 Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	INC 01_ADD_01_V1	12/06/2019

PERMIT SUBMITTAL V3 - INCREMENT #1

MACNAIR LANDSCAPE ARCHITECTURE
POST OFFICE BOX 251
KENWOOD, CA 95452
TEL (707) 833-2288
RLA #2800
don@macnairlandscapes.com

PLANTING PLAN SOUTHWEST AND NORTHWEST QUADRANTS

REGISTERED LANDSCAPE ARCHITECT DONALD G. MACNAIR No. 2800 Exp. 8-31-21 STATE OF CALIFORNIA

Drawn By: DM Checked By: DM

Scale: 1" = 20'

Date: October 21, 2019

Project No. 2016039

O-L2.1
Drawing No.

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U.S.A NOTE

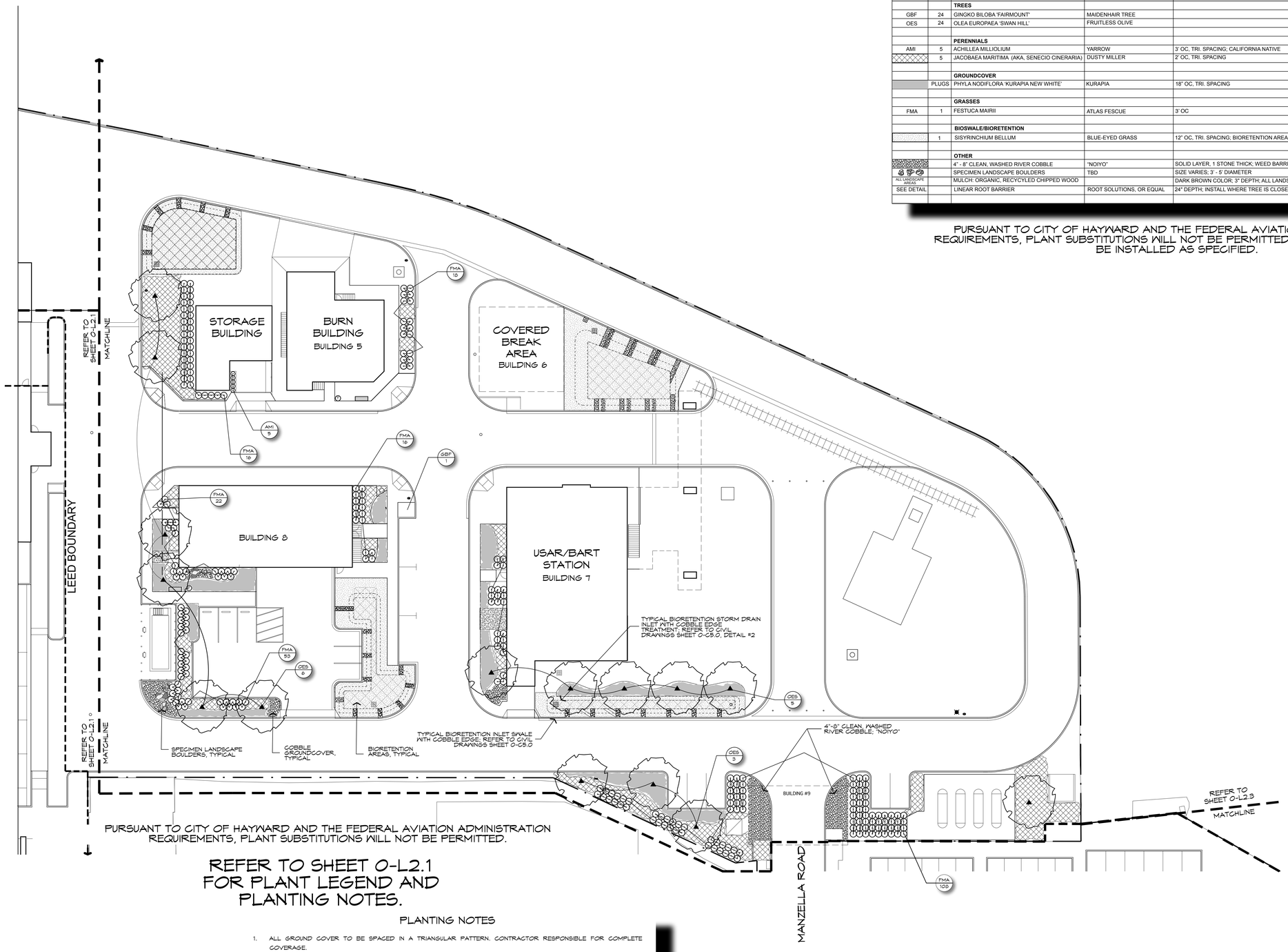
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PLANT LEGEND O-L2.2

SYMBOL	SIZE	BOTANICAL NAME	COMMON NAME	REMARKS	WATER USE PER WUCOLS IV	PLANT SIZE (H-W)
		TREES				
GBF	24	GINGKO BILOBA 'FAIRMOUNT'	MAIDENHAIR TREE		M	35'-40' X 15'-20'
OES	24	OLEA EUROPAEA 'SWAN HILL'	FRUITLESS OLIVE		VL	35'-15' X 20'-25'
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	5	JACOBAEA MARITIMA (AKA, SENECIO CINERARIA)	DUSTY MILLER	2' OC, TRI. SPACING	L	.5'-1.5' X .5'-1'
		GROUNDCOVER				
	PLUGS	PHYLA NODIFLORA 'KURAPIA NEW WHITE'	KURAPIA	18" OC, TRI. SPACING	L	2' X 6'-10'
		GRASSES				
FMA	1	FESTUCA MAIRII	ATLAS FESCUE	3' OC	L	2'-3' X 2'-3'
		BIOSWALE/BIORETENTION				
	1	SISYRINCHIUM BELLUM	BLUE-EYED GRASS	12" OC, TRI. SPACING; BIORETENTION AREAS	VL	1.5-2' X .5'-1'
		OTHER				
		4" - 8" CLEAN, WASHED RIVER COBBLE	"NOIYO"	SOLID LAYER, 1 STONE THICK; WEED BARRIER FABRIC NOT PERMITTED		
		SPECIMEN LANDSCAPE BOULDERS	TBD	SIZE VARIES; 3' - 5' DIAMETER		
		MULCH: ORGANIC, RECYCYLED CHIPPED WOOD		DARK BROWN COLOR; 3" DEPTH; ALL LANDSCAPE AREAS		
SEE DETAIL		LINEAR ROOT BARRIER	ROOT SOLUTIONS, OR EQUAL	24" DEPTH; INSTALL WHERE TREE IS CLOSER THAN 7' TO EDGE		

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PLANTING PLAN
TRAINING AREA

0 10 20 40

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

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PLANTING PLAN NORTHEAST QUADRANT

REGISTERED LANDSCAPE ARCHITECT DONALD G. MacNAIR No. 2800 Exp. 8-31-21 STATE OF CALIFORNIA

Drawn By: DM Checked By: DM

Scale: 1" = 20'

Date: October 21, 2019

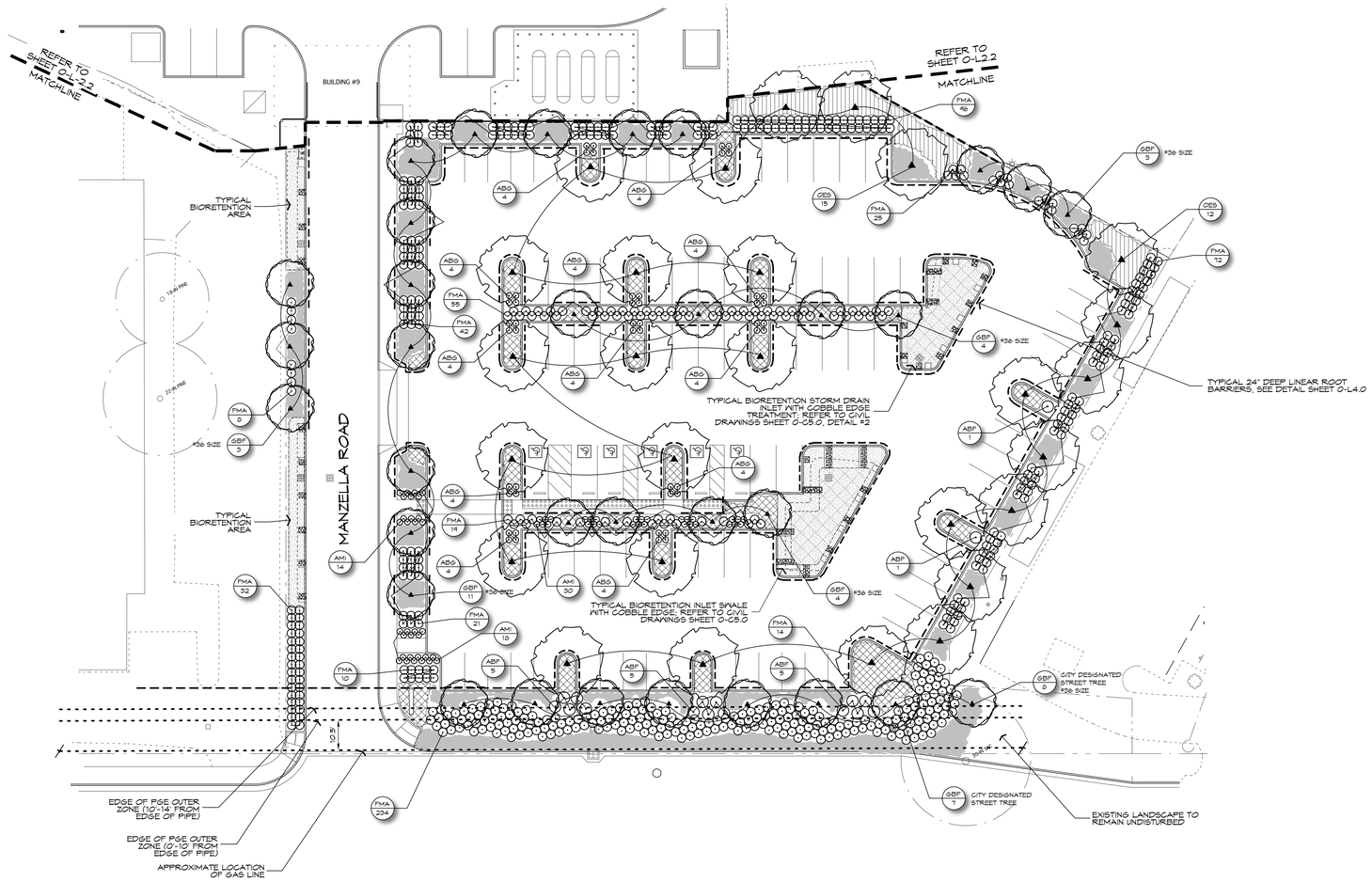
Project No. 2016039

O-L2.2
Drawing No.

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PLANT LEGEND O-2.3

SYMBOL	SIZE	BOTANICAL NAME	COMMON NAME	REMARKS	WATER USE PER WUCOLS IV	PLANT SIZE (H-W)
		TREES				
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OES	24	OLEA EUROPAEA 'SWAN HILL'	FRUITLESS OLIVE		VL	35'-15' X 20'-25'
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		SUCCULENTS				
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REFER TO SHEET O-L2.4 FOR TREE REMOVAL PLAN AND TREE VALUATIONS

PLANTING PLAN
PUBLIC PARKING LOT

0 10 20 40

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

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REVISIONS

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PLANTING PLAN SOUTHEAST QUADRANT

REGISTERED LANDSCAPE ARCHITECT DONALD G. MACNAIR No. 2800 Exp. 8-31-21 STATE OF CALIFORNIA

Drawn By: DM Checked By: DM

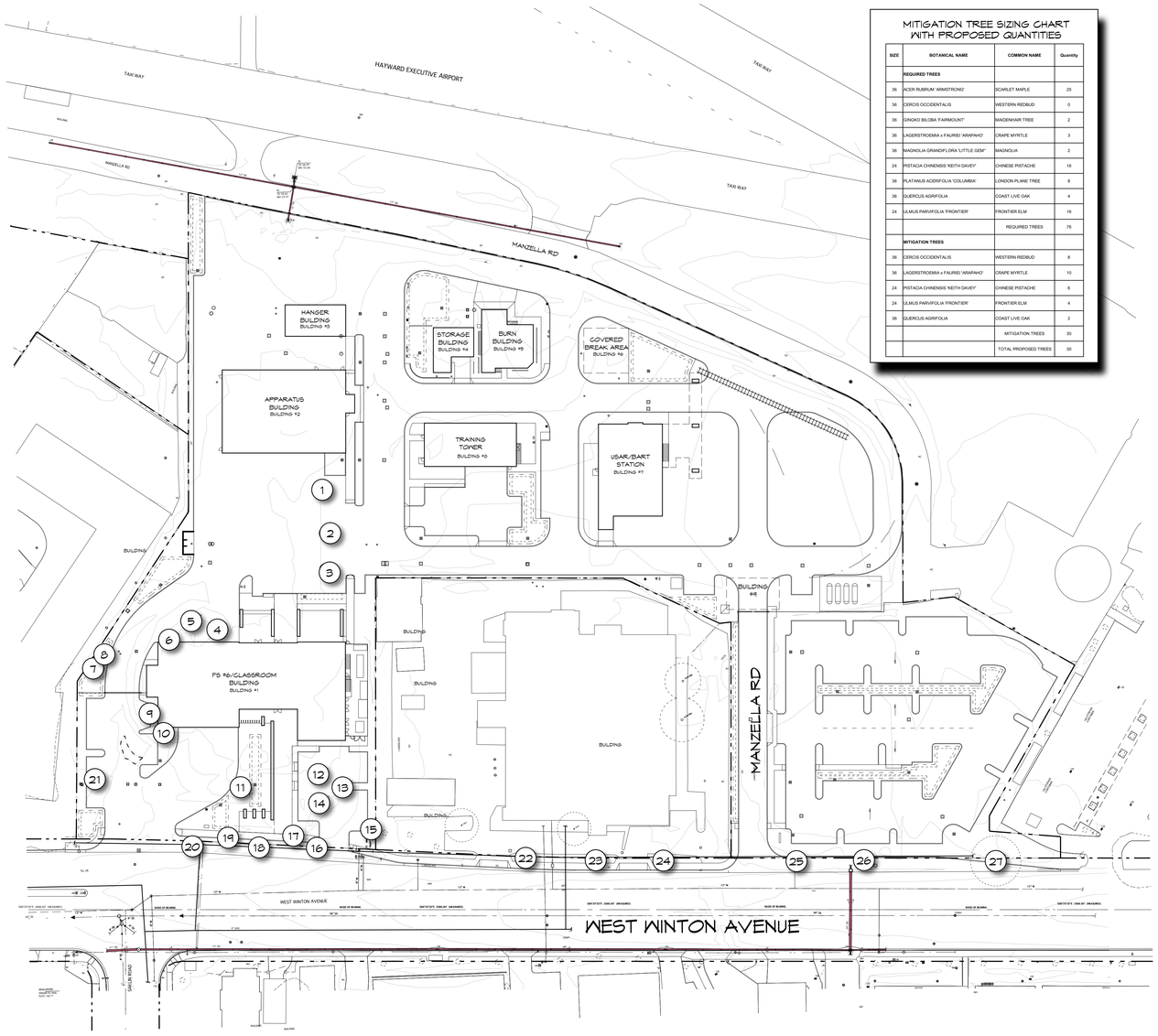
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Project No. 2016039

O-L2.3
Drawing No.

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MITIGATION TREE SIZING CHART WITH PROPOSED QUANTITIES

SIZE	BOTANICAL NAME	COMMON NAME	Quantity
	REQUIRED TREES		
36	ACER RUBRUM 'ARMSTRONG'	SCARLET MAPLE	25
36	CERCIS OCCIDENTALIS	WESTERN REDBUD	0
36	GINGKO BILOBA 'FAIRMOUNT'	MAIDENHAIR TREE	2
36	LAGERSTROEMIA x FAURIEI 'ARAPAHO'	CRAPE MYRTLE	3
36	MAGNOLIA GRANDIFLORA 'LITTLE GEM'	MAGNOLIA	2
24	PISTACIA CHINENSIS 'KEITH DAVEY'	CHINESE PISTACHE	16
36	PLATANUS ACERIFOLIA 'COLUMBIA'	LONDON PLANE TREE	8
36	QUERCUS AGRIFOLIA	COAST LIVE OAK	4
24	ULMUS PARVIFOLIA 'FRONTIER'	FRONTIER ELM	16
24		REQUIRED TREES	76
	MITIGATION TREES		
36	CERCIS OCCIDENTALIS	WESTERN REDBUD	8
36	LAGERSTROEMIA x FAURIEI 'ARAPAHO'	CRAPE MYRTLE	10
24	PISTACIA CHINENSIS 'KEITH DAVEY'	CHINESE PISTACHE	6
24	ULMUS PARVIFOLIA 'FRONTIER'	FRONTIER ELM	4
36	QUERCUS AGRIFOLIA	COAST LIVE OAK	2
		MITIGATION TREES	30
		TOTAL PROPOSED TREES	30

Hayward Fire Training Facility
Appendix B- Tree Valuations

Trunk Formula Method Appraisal Calculations

Tree #	Species	Condition	Trunk Diameter (Of equivalent multiple trunk diameter)	Location	Site	Contribution	Placement	Species Rating	Replacement Tree Size (in.) (Average)	Replacement Tree Trunk Area	Replacement Tree Cost	Installation Cost	Installed Tree Cost	Unit Tree Cost	Appraised Trunk Area (TA) (or adjusted TA)	Basic Tree Cost	Appraised Value	% Loss	Appraised Value (rounded)
001	bronze loquat	75%	19.5	33%	70%	15%	15%	70%	1.69	2.24	$172.73	$345.46	$518.19	$201.33	298	$60,052.58	$12,084.20	100%	$12,100
002	bronze loquat	75%	13.5	33%	70%	15%	15%	70%	1.69	2.24	$172.73	$345.46	$518.19	$201.33	143	$33,096.21	$5,791.84	100%	$5,800
003	bronze loquat	75%	13.5	33%	70%	15%	15%	70%	1.69	2.24	$172.73	$345.46	$518.19	$201.33	143	$33,096.21	$5,791.84	100%	$5,800
004	Italian stone pine	80%	30	40%	70%	25%	25%	70%	2.46	4.75	$172.73	$345.46	$518.19	$209.09	707	$170,845.43	$34,084.57	100%	$34,100
005	Italian stone pine	80%	43	40%	70%	25%	25%	70%	2.46	4.75	$172.73	$345.46	$518.19	$209.09	1249	$326,243.34	$65,048.67	100%	$65,100
006	Italian stone pine	80%	43	40%	70%	25%	25%	70%	2.46	4.75	$172.73	$345.46	$518.19	$209.09	1273	$318,874.92	$23,530.99	100%	$23,600
007	willow	35%	21	33%	70%	15%	15%	70%	2.46	4.75	$172.73	$345.46	$518.19	$209.09	346	$37,788.23	$881.21	100%	$900
008	willow	35%	13	33%	70%	15%	15%	70%	2.46	4.75	$172.73	$345.46	$518.19	$209.09	177	$19,266.49	$449.60	100%	$500
009	Italian stone pine	80%	49	40%	70%	25%	25%	70%	2.46	4.75	$172.73	$345.46	$518.19	$209.09	1504	$164,075.32	$27,564.65	100%	$27,600
010	Italian stone pine	75%	32	40%	70%	25%	25%	70%	2.46	4.75	$172.73	$345.46	$518.19	$209.09	786	$85,964.95	$18,052.65	100%	$18,100
011	Shamel ash	80%	17	33%	70%	15%	15%	30%	2.46	4.75	$172.73	$345.46	$518.19	$109.09	788	$85,964.95	$2,578.95	100%	$2,600
012	Italian stone pine	80%	38	40%	70%	25%	25%	30%	2.46	4.75	$172.73	$345.46	$518.19	$109.09	1134	$123,668.86	$29,775.02	100%	$29,800
013	Italian stone pine	80%	33	40%	70%	25%	25%	70%	2.46	4.75	$172.73	$345.46	$518.19	$109.09	835	$91,092.35	$15,303.53	100%	$15,300
014	Italian stone pine	75%	26	40%	70%	25%	25%	30%	2.46	4.75	$172.73	$345.46	$518.19	$109.09	321	$57,895.10	$12,157.13	100%	$12,200
015	English walnut	75%	7	25%	70%	3%	3%	30%	2.2	3.8	$172.73	$345.46	$518.19	$136.37	38	$5,245.21	$298.98	100%	$300
016	London plane tree	75%	26	37%	70%	15%	25%	70%	2.20	3.80	$172.73	$345.46	$518.19	$136.37	1134	$123,668.86	$29,775.02	100%	$29,800
017	ginkgo	75%	7.5	37%	70%	5%	5%	30%	1.69	2.24	$172.73	$345.46	$518.19	$233.33	48	$10,214.89	$1,838.68	100%	$1,850
018	London plane tree	10%	16.5	37%	70%	15%	25%	70%	2.20	3.80	$172.73	$345.46	$518.19	$136.37	213.72	$29,143.59	$748.02	100%	$700
019	ginkgo	75%	7	27%	70%	5%	5%	30%	1.69	2.24	$172.73	$345.46	$518.19	$233.33	38	$8,898.35	$1,835.69	100%	$1,600
020	London plane tree	60%	13	37%	70%	15%	25%	70%	2.20	3.80	$172.73	$345.46	$518.19	$136.37	132.67	$18,090.97	$2,786.01	100%	$2,800
021	ginkgo	80%	6	27%	70%	5%	5%	30%	1.69	2.24	$172.73	$345.46	$518.19	$233.33	28	$6,537.52	$1,251.20	100%	$1,300
022	London plane tree	75%	27	40%	70%	25%	25%	70%	2.20	3.80	$172.73	$345.46	$518.19	$136.37	572.27	$78,037.37	$16,387.85	100%	$16,400
023	London plane tree	75%	25	40%	70%	25%	25%	70%	2.20	3.80	$172.73	$345.46	$518.19	$136.37	490.63	$66,904.47	$14,049.94	100%	$14,000
024	London plane tree	10%	18.5	37%	70%	15%	25%	70%	2.20	3.80	$172.73	$345.46	$518.19	$136.37	268.67	$36,636.89	$940.35	100%	$900
025	London plane tree	75%	26	40%	70%	25%	25%	70%	2.20	3.80	$172.73	$345.46	$518.19	$136.37	530.66	$72,363.87	$15,196.41	100%	$15,200
026	London plane tree	75%	15.5	37%	70%	15%	25%	70%	2.20	3.80	$172.73	$345.46	$518.19	$136.37	188.60	$25,718.08	$4,950.73	100%	$5,000
027	London plane tree	75%	31.5	40%	70%	25%	25%	70%	2.20	3.80	$172.73	$345.46	$518.19	$136.37	763.92	$104,165.10	$21,849.89	100%	$21,800
																	Total=		$317,900

Appraised Value = Basic Tree Cost x Species Rating x Condition x Location
Basic Value = Unit Tree Cost x Appraised Trunk Area (TA or ATA)
Condition = Structural integrity and health rating (rating assigned based upon the following factors: roots, trunk, scaffold branches, smaller branches and twigs, and foliage.)
Location = Measure of site, contribution, and placement ratings.
Installed Tree Cost = The cost to buy and install the largest normally available transplantable tree in the Western Region.
Unit Tree Cost = The cost per unit trunk area of an installed replacement tree as established by the Regional Supplement.
Appraised Trunk Area (TA) = Cross-sectional trunk area measured at 4.5 feet above grade (dbh) in square inches.
Adjusted TA = Adjusted trunk area for trees greater than a 30 inch diameter.
Species Factor = regional rating of the appraised tree species.

MacNair and Associates — Page 1 of 1 — 5/7/18

RossDrulisCusenbery ARCHITECTS — May 31, 2018

Hayward Fire Station #6 / Fire Training Center
1401 West Winton Avenue, Hayward, CA 94545

Tree Mitigation Valuation

Mitigation Trees

Tree (Common Name)	Size	Wholesale Tree Cost	Quantity	Mitigation Value
Chinese Pistache	#24	$275.00	6	$ 1,650
Frontier Elm	#24	$205.00	4	$ 820
Western Redbud	#36	$695.00	8	$ 5,560
Crape Myrtle	#36	$550.00	10	$ 5,500
Coast Live Oak	#36	$595.00	2	$ 1,190
			30	**$ 14,720**

Tree Enhancement

Tree (Common Name)	Base Tree Size	Enlarged Tree Size	Base Wholesale Tree Cost	Enlarged Wholesale Tree Cost	Difference	Quantity	Mitigation Value
Chinese Pistache	#15	#24	$95.00	$275.00	$180.00	16	$ 2,880
Frontier Elm	#15	#24	$63.00	$205.00	$142.00	16	$ 2,272
Scarlet Maple	#15	#36	$63.00	$595.00	$532.00	25	$ 13,300
Maidenhair Tree	#15	#36	$74.00	$650.00	$576.00	2	$ 1,152
Crape Myrtle	#15	#36	$60.00	$550.00	$490.00	3	$ 1,470
Magnolia	#15	#36	$74.00	$595.00	$521.00	2	$ 1,042
London Plane Tree	#24	#36	$205.00	$550.00	$345.00	8	$ 2,760
Coast Live Oak	#15	#36	$63.00	$595.00	$532.00	4	$ 2,128
						76	**$ 27,004**

Parking Pavers

Paver Area (SF)	AC Budget ($/SF)	Paver Budget ($/SF)	Difference	Mitigation Value
4,217	$7.50	$25.00	$17.50	**$ 73,798**

Pedestrian Pavers

Paver Area (SF)	Concrete Budget ($/SF)	Paver Budget ($/SF)	Difference	Mitigation Value
2,807	$15.00	$25.00	$10.00	**$ 28,070**

Tree Valuation (May 7, 2018 Arborist Report Addendum)	$ 272,900
Total Mitigation Valuation	$ 143,592
Capital Improvement Transfer Amount	$ 129,309

M:\Projects\HAYWARD, CA_Hayward Fire Training Center & FS 6\Documents\20180531_Planning Resubmittal\Documents\Planning Tabulations.xlsx — 1 of 1

Hayward Fire Training Facility, Hayward, CA- Tree Evaluation and Construction Impact Assessment (Appendix A)

Hayward Fire Training Facility, Hayward, CA- Tree Evaluation and Construction Impact Assessment

Health and Structural Rating Key: 3.0 = moderate or better condition; 2.5 = marginal to moderate; 2.0 = marginal condition; 1.5 = poor to marginal condition; 1.0 = poor condition

Construction Impact Code: RC= Removal Due to Construction; RR- Removal Recommended Due to Condition; PI= Possible Impact- Tree Protection Required; N= No Impact

Tree Tag /GPS Waypoint	Species	Trunk Diameter @ 4.5' (inches)	# of Trunks	Crown Height	Crown Diameter	Health Rating	Structural Rating	Comments/Observations	Suitability for Preservation (Based on Condition)	Construction Impact	Tree Impact Code	Protected Tree Status	Appraisal Value (Protected Trees)
001	bronze loquat (*Eriobotrya deflexa*)	19.5	1	25'±	35'-40'±	3.0	3.0	Wide, spreading crown 50% Closely spaced, multiple limb attachments form at 8'. No significant structural defects observed. Vigor and foliage density are moderate to good.	Moderate	Located within construction or grading limits with removal required.	RC	Yes	$12,100.00
002	bronze loquat	13.5	1	25'±	25'±	3.0	3.0	Rounded crown form with closely spaced, multiple limb attachments form at 8'. No significant structural defects observed. Areas of variable foliage density. Limited twig dieback occurring.	Moderate	Located within construction or grading limits with removal required.	RC	Yes	$5,800.00
003	bronze loquat	13.5	1	25'±	30'±	2.5	3.0	Wind shaped crown with closely spaced, multiple limb attachments form at 8'. Significant twig dieback occurring.	Moderate	Located within construction or grading limits with removal required.	RC	Yes	$5,800.00
004	Italian stone pine (*Pinus pinea*)	30.5	1	35'-40'±	50'-55'±	3.0	2.0	Mature tree with co-dominant trunks forming at 10'. West trunk has 45° angle and then ascends. Originally a three trunk structure with trunk removal scar. Wood reaction ridge present. Dense crown with normal vigor. Dense ivy on lower trunk	Marginal	Located within construction or grading limits with removal required.	RC	Yes	$12,900.00
005	Italian stone pine	26; 31	2	35'-40'±	50'-55'±	3.0	2.0	Mature tree with three trunk structure forming at 4.5' ± wide, symmetrical crown form. Wood reaction ridge formed at trunk union. Significant pavement displacement occurring from roots. Vigor and foliage density are normal. Dense ivy on lower trunk.	Marginal	Located within construction or grading limits with removal required.	RC	Yes	$21,100.00
006	Italian stone pine	43	1	35'-40'±	50'-55'±	3.0	2.0	Mature tree with closely spaced limb attachments forming at 6' ±. Wide, symmetrical, and dense crown. Extended limb over building. Vigor and foliage density are normal. Dense ivy on lower trunk.	Marginal	Located within construction or grading limits with removal required.	RC	Yes	$23,300.00
007	willow (Salix lanigata)	21	1	40'-45'±	35'-40'±	2.0	1.5	Mature tree with significant trunk and limb decay. History of limb failure. Old second trunk removed at base.	Poor	Located within construction or grading limits with removal required.	RC	Yes	$900.00
008	willow	6; 14	2	40'±	30'-35'±	2.0	2.0	Low, two trunk structure forming at grade. Small cavity opening at base of trunk. High-branched structure. On opposite side of fence is a 15" willow in very poor condition.	Poor	Located within construction or grading limits with removal required.	RC	Yes	$400.00
009	Italian stone pine	34; 35	2	45'-50'±	40'-45'±	3.0	2.0	Mature tree with low, two-trunk structure. Wide structure with extended and heavy limbs. History of lower crown pruning. Vigor and foliage density are normal.	Marginal	Located within construction or grading limits with removal required.	RC	Yes	$27,600.00

MacNair and Associates — Page 1 of 3 — 9/14/17

Hayward Fire Training Facility, Hayward, CA- Tree Evaluation and Construction Impact Assessment (Appendix A)

Tree Tag /GPS Waypoint	Species	Trunk Diameter @ 4.5' (inches)	# of Trunks	Crown Height	Crown Diameter	Health Rating	Structural Rating	Comments/Observations	Suitability for Preservation (Based on Condition)	Construction Impact	Tree Impact Code	Protected Tree Status	Appraisal Value (Protected Trees)
010	Italian stone pine	32	1	50'±	30'-35'±	3.0	3.0	Mature tree with single trunk structure. Upright crown form with no significant structural defects observed. Dense crown. Pavement displacement occurring.	Moderate	Located within construction or grading limits with removal required.	RC	Yes	$18,100.00
011	Shamel ash (*Fraxinus uhdei*)	17		30'-35'±	30'-35'±	2.0	2.0	Semi-mature tree with closely spaced, multiple limb attachments. Deep seams and included attachments present. Vigor is moderately low,with significant upper crown dieback occurring.	Poor	Located within construction or grading limits with removal required.	RC	Yes	$2,600.00
012	Italian stone pine	24; 30	2	35'-40'±	35'-40'±	3.0	2.0	Mature tree with two-trunk structure with seam present. Dense, symmetrical crown form. Extended and weighted limb form.	Marginal	Located within construction or grading limits with removal required.	RC	Yes	$20,800.00
013	Italian stone pine	33.5	1	35'-40'±	35'-40'±	3.0	2.0	Mature tree with co-dominant trunks forming at 10'. Vertical trunk forms with narrow union and wood reaction ridge present.	Marginal	Located within construction or grading limits with removal required.	RC	Yes	$15,300.00
014	Italian stone pine	26		35'-40'±	35'-40'±	3.0	3.0	Mature tree with single trunk structure. No significant structural defects observed. Dense crown.	Moderate	Located within construction or grading limits with removal required.	RC	Yes	$12,200.00
015	English walnut (*Juglans regia*)	7 (low)	2	12'±	15'±	3.0	3.0	Young tree with low structure. No significant structural defects observed. Vigor and foliage density are moderate. Located at fence line.	Moderate	Located within construction or grading limits with removal required.	RC	Yes	$300.00
016	London plane tree (*Platanus xacerifolia*) 'Bloodgood')	26	1	40'-45'±	45'-50'±	2.0	3.0	Mature tree located adjacent to sidewalk. History of displacement and repairs. Closely spaced, multiple limb attachments form at 10'. History of lower crown pruning. No significant structural defects. Vigor is low with significant branch and twig dieback occurring. Apparent drought stress.	Marginal	Located within the PG&E high pressure gas line easement and is being removed as part of the gas line project.	NA	Yes	NA
017	ginkgo (*Ginkgo biloba*)	7.5	1	15'±	20'±	2.5	3.0	Small tree with leaning form. No significant structural defects. Vigor is moderately low from drought stress.	Moderate	Located within construction or grading limits with removal required.	RC	Yes	$1,800.00
018	London plane tree	16.5	1	35'±	30'±	1.5	2.5	Mature tree located adjacent to storm drain. Open limb structure with history of lower crown pruning. Very low vigor with substantial branch and twig dieback.	Poor	Located within the PG&E high pressure gas line easement and is being removed as part of the gas line project.	NA	Yes	NA
019	ginkgo	7	1	18'-20'±	15'±	3.0	3.0	Young tree with closely spaced multiple limb attachments. No significant structural defects observed. Vigor and foliage density are moderate	Moderate	Located within construction or grading limits with removal required.	RC	Yes	$1,600.00
020	London plane tree	13	1	35'±	30'±	2.0	2.5	Located in 4' sidewalk cutout. Semi-mature tree with open, symmetrical crown form. Lower crown pruning. Vigor is low with twig dieback occurring.	Marginal	Located within the PG&E high pressure gas line easement and is being removed as part of the gas line project.	NA	Yes	NA

MacNair and Associates — Page 2 of 3 — 9/14/17

Hayward Fire Training Facility, Hayward, CA- Tree Evaluation and Construction Impact Assessment (Appendix A)

Tree Tag /GPS Waypoint	Species	Trunk Diameter @ 4.5' (inches)	# of Trunks	Crown Height	Crown Diameter	Health Rating	Structural Rating	Comments/Observations	Suitability for Preservation (Based on Condition)	Construction Impact	Tree Impact Code	Protected Tree Status	Appraisal Value (Protected Trees)
021	ginkgo	6	1	18'±	12'±	3.0	3.0	Young tree with no significant structural defects. Vigor and foliage density are moderate.	Moderate to Goo	Located within construction or grading limits with removal required.	RC	Yes	$1,300.00
022	London plane tree	27	1	50'-55'±	50'-60'±	2.5	3.0	Mature tree with closely spaced, multiple limb attachments. No significant structural defects present. Lower crown pruning. Vigor and foliage density are moderately low with twig dieback occurring.	Moderate	Located within the PG&E high pressure gas line easement and is being removed as part of the gas line project.	NA	Yes	NA
023	London plane tree	25	1	50'-55'±	50'-60'±	2.5	3.0	Mature tree with closely spaced, multiple limb attachments. No significant structural defects present. Lower crown pruning. Vigor and foliage density are moderately low with twig dieback occurring.	Moderate	Located within the PG&E high pressure gas line easement and is being removed as part of the gas line project.	NA	Yes	NA
024	London plane tree	18.5	1	50'-55'±	50'-60'±	1.5	2.5	Mature tree nearly entirely defoliated. Lower trunk wound present. Open limb structure.	Poor	Located within the PG&E high pressure gas line easement and is being removed as part of the gas line project.	NA	Yes	NA
025	London plane tree	26	1	45'-50'±	40'-45'±	2.5	3.0	Mature tree with closely spaced, multiple limb attachments. No significant structural defects present. Lower crown pruning. Vigor and foliage density are moderately low with twig dieback occurring.	Moderate	Located within the PG&E high pressure gas line easement and is being removed as part of the gas line project.	NA	Yes	NA
026	London plane tree	15.5	1	45'-50'±	40'-45'±	2.5	3.0	Mature tree with closely spaced, multiple limb attachments. No significant structural defects present. Lower crown pruning. Vigor and foliage density are moderately low with twig dieback occurring.	Moderate	Located within the PG&E high pressure gas line easement and is being removed as part of the gas line project.	NA	Yes	NA
027	London plane tree	31.5	1	50'-55'±	50'-60'±	2.5	3.0	Mature tree with closely spaced, multiple limb attachments. No significant structural defects present. Lower crown pruning. Vigor and foliage density are moderately low with twig dieback occurring.	Moderate	Located within the PG&E high pressure gas line easement and is being removed as part of the gas line project.	NA	Yes	NA

MacNair and Associates — Page 3 of 3 — 9/14/17

TREE REMOVAL AND MITIGATION

0 25 50 100

RossDrulisCusenbery ARCHITECTS
18294 Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING ENDIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	INC 01_ADD_01_V1	12/06/2019

PERMIT SUBMITTAL V3 - INCREMENT #1

MACNAIR LANDSCAPE ARCHITECTURE
POST OFFICE BOX 251
KENWOOD, CA 95452
TEL (707) 833-2288
RLA #2800
don@macnairlandscapes.com

TREE REMOVAL PLAN

REGISTERED LANDSCAPE ARCHITECT — DONALD G. MACNAIR — No. 2800 Exp. 8-31-19 — STATE OF CALIFORNIA

Drawn By: DM — Checked By: DM

Scale: **1" = 50'**

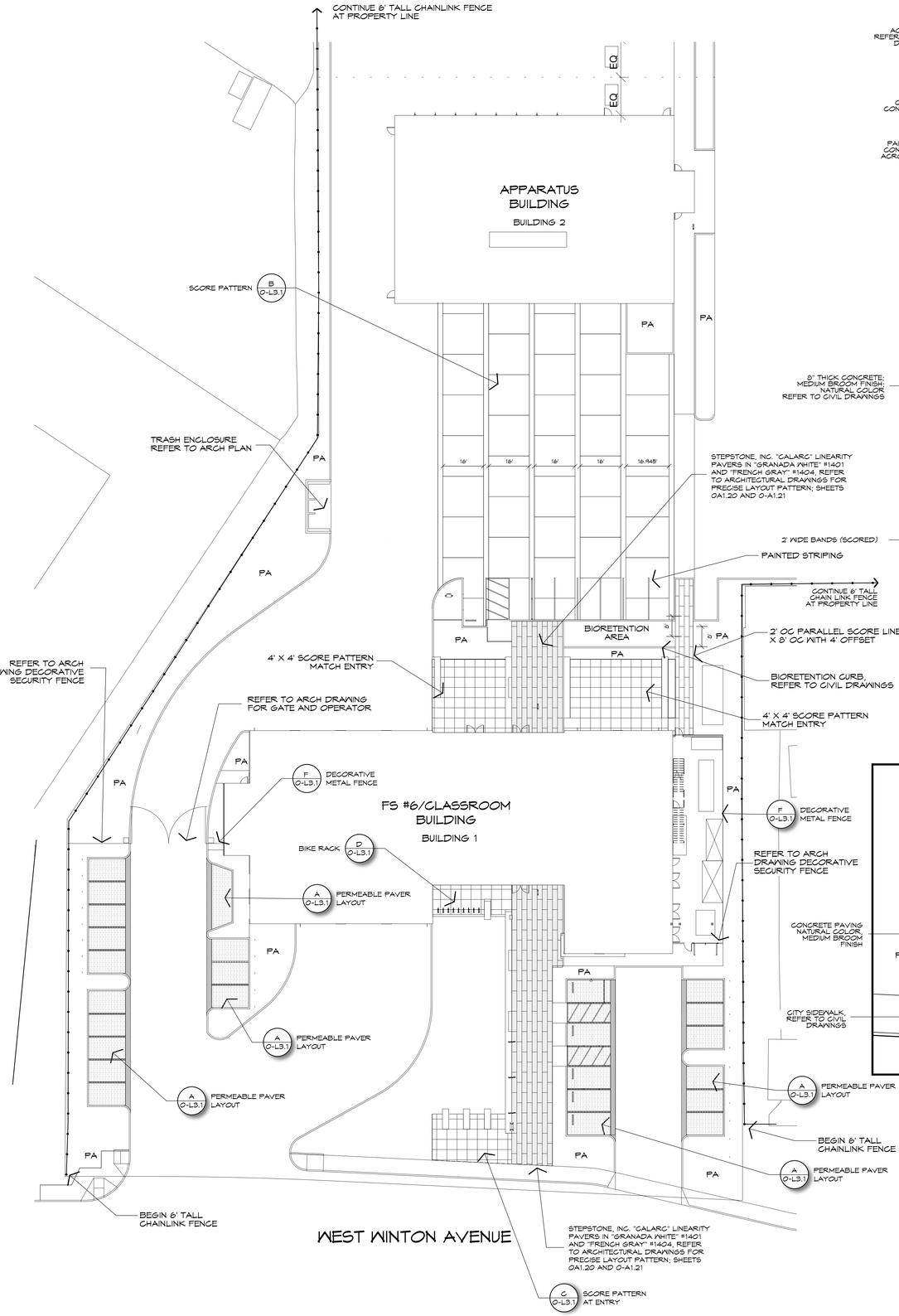
Date: **October 21, 2019**

Project No. 2016039

O-L2.4

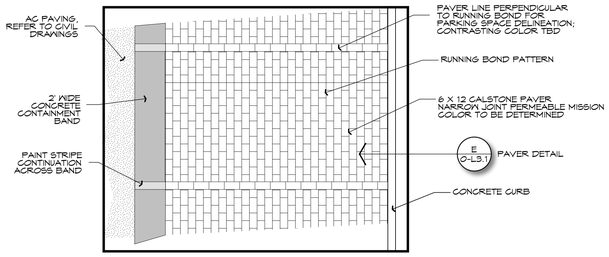
Drawing No.

If this drawing is not 30" x 42". It is a reduced print - scale accordingly. All rights reserved. Material may not be reproduced in any form without permission from RossDrulisCusenbery Architecture, Inc.

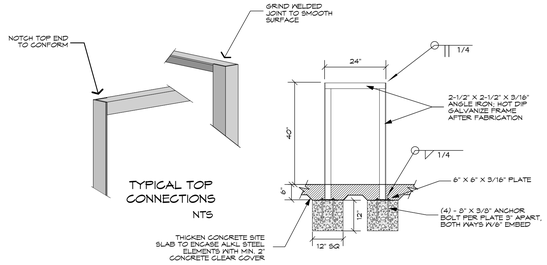


LAYOUT PLAN

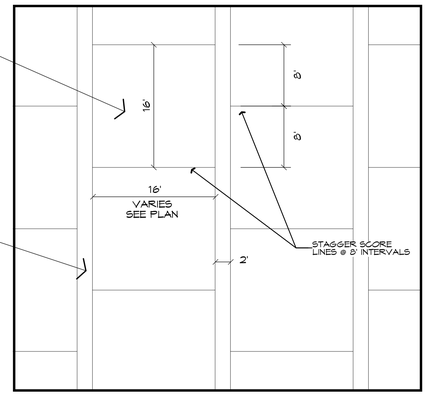
0 10 20 40



A O-L3.1 TYPICAL PERMEABLE PAVER LAYOUT 1/4" = 1'-0"



D O-L3.1 BIKE RACK DETAIL SCALE: 1/2" = 1'-0"

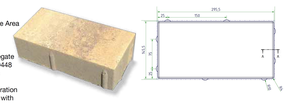


B O-L3.1 TYPICAL SCORING DETAIL AT BUILDING 2 1/8" = 1'-0"

Permeable Mission - Product Details

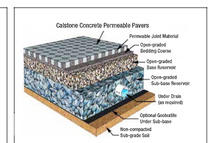
6 x 12 Narrow Joint Permeable Mission

- 93 square feet per pallet
- 192 stones per pallet
- 5.91" x 11.81" Actual Coverage Area
- 80 millimeter height
- 2.06 stones per square foot
- 3.70% open area
- Requires use of crushed aggregate joint fill conforming to ASTM D448 size #9 with 100% of particles passing a number 4 sieve
- 171 inches per hour initial infiltration rate when used in conjunction with Calstone Fine #9 joint rock



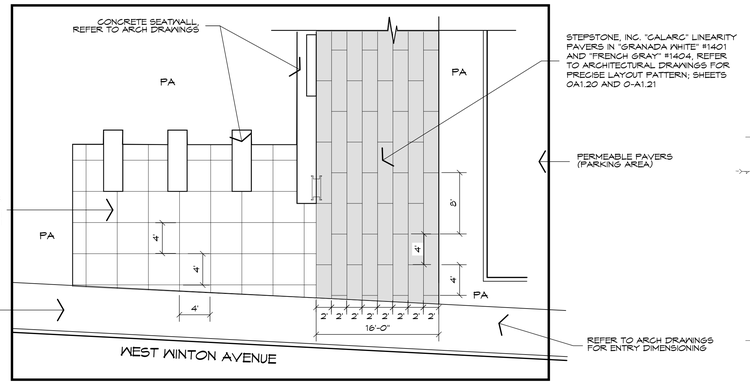


Permeable interlocking concrete pavement (PICP) with open-graded base and subbase for infiltration and storage.

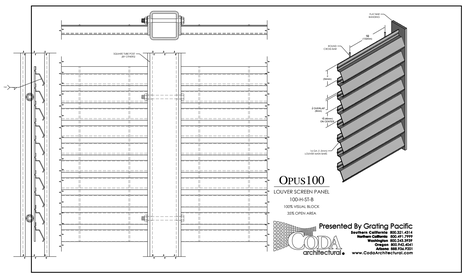


Typical cross (PICP) cross section

E O-L3.1 TYPICAL PERMEABLE PAVER LAYOUT 1/4" = 1'-0"



G O-L3.1 TYPICAL SCORING DETAIL AT BUILDING 1 ENTRY 1/8" = 1'-0"



F O-L3.1 DECORATIVE METAL FENCE NTS

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY:	
KATHY GARCIA DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

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HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	INC 01_ADD_01_V1	12/06/2019

PERMIT SUBMITTAL V3 - INCREMENT #1

MACNAIR
LANDSCAPE ARCHITECTURE
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KENWOOD, CA 95452
TEL (707) 833-2288
RLA #2800
don@macnairlandscapes.com

LAYOUT PLAN SOUTHWEST AND NORTHWEST QUADRANTS

REGISTERED LANDSCAPE ARCHITECT DONALD G. MACNAIR No. 2800 Exp. 8-31-21 STATE OF CALIFORNIA

Drawn By: DM Checked By: DM

Scale: **1" = 20'**

Date: **October 21, 2019**

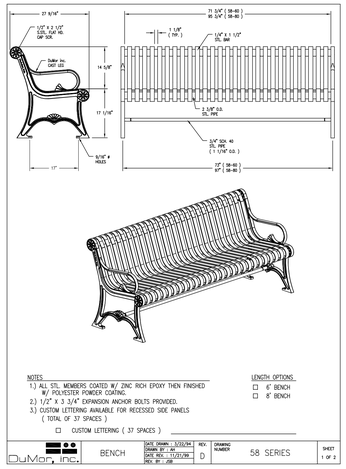
Project No. 2016039

O-L3.1
Drawing No.

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THIS DRAWING COMPLIES WITH THE CRITERIA OF THE CITY OF HAYWARD-BAY FRIENDLY WATER EFFICIENT LANDSCAPE ORDINANCE AND APPLIED THEM FOR THE EFFICIENT USE OF WATER IN THE IRRIGATION DESIGN PLAN AND THE OVERALL LANDSCAPE DESIGN.

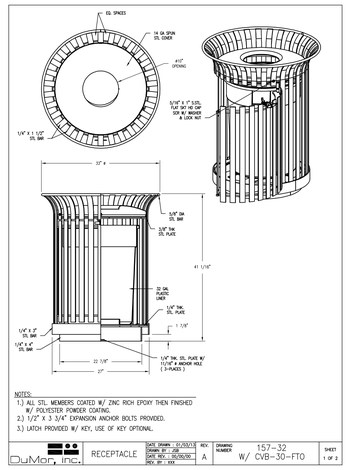
SYMBOL	DESCRIPTION	QUANTITY	MANUFACTURER	MODEL NUMBER	NOTE
Ⓣ	TRASH RECEPTACLE	2	DUMOR	DUMOR	MAY BE EQUIVALENT PRODUCT FROM DIFFERENT MANUFACTURER SUBJECT OWNER APPROVAL; STANDAR COLOR TO BE DETERMINED
	6' STEEL BENCH	2	DUMOR	58 SERIES	MAY BE EQUIVALENT PRODUCT FROM DIFFERENT MANUFACTURER SUBJECT OWNER APPROVAL; STANDAR COLOR TO BE DETERMINED
	TREE GRATE	1	VERIFY	VERIFY	REPURPOSED FROM CITY INVENTORY; INSTALL PER MANUFACTURER'S SPECIFICATION



NOTES
1.) ALL STL. MEMBERS COATED W/ ZINC RICH EPOXY THEN FINISHED W/ POLYESTER POWDER COATING.
2.) 1/2" X 3 3/4" EXPANSION ANCHOR BOLTS PROVIDED.
3.) CUSTOM LETTERING AVAILABLE FOR RECESSED SIDE PANELS (TOTAL OF 37 SPACES)
☐ CUSTOM LETTERING (37 SPACES)

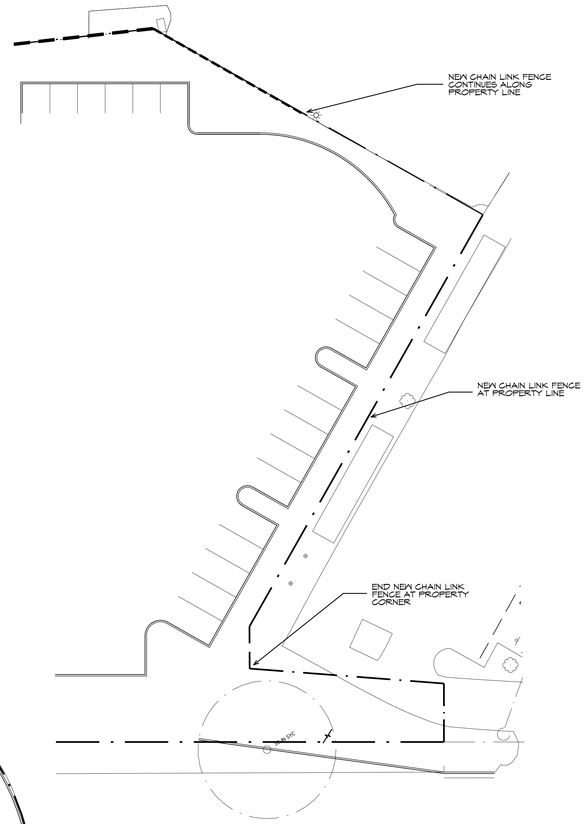
LENGTH OPTIONS
☐ 6' BENCH
☐ 8' BENCH

DuMor, Inc. | BENCH | DATE DRAWN - 3/23/94 | DRAWN BY - HK | DATE REV. - 11/21/96 | REV. BY - JSB | REV. D | DRAWING NUMBER 58 SERIES | SHEET 1 OF 2



NOTES:
1.) ALL STL. MEMBERS COATED W/ ZINC RICH EPOXY THEN FINISHED W/ POLYESTER POWDER COATING.
2.) 1/2" X 3 3/4" EXPANSION ANCHOR BOLTS PROVIDED.
3.) LATCH PROVIDED W/ KEY, USE OF KEY OPTIONAL.

DuMor, Inc. | RECEPTACLE | DATE DRAWN - 01/03/17 | DRAWN BY - JSB | DATE REV. - 05/05/20 | REV. BY - RW | REV. A | DRAWING NUMBER 157-32 W/ CVB-30-FTO | SHEET 1 OF 2



LAYOUT PLAN (CONTINUED)

LAYOUT PLAN

0 10 20 40

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	INC 01_ADD_01_V1	12/06/2019

PERMIT SUBMITTAL V3 - INCREMENT #1

MACNAIR
LANDSCAPE ARCHITECTURE
POST OFFICE BOX 251
KENWOOD, CA 95452
TEL (707) 833-2288
FLA #2800
don@macnairlandscapes.com

LAYOUT PLAN NORTHEAST QUADRANT

REGISTERED LANDSCAPE ARCHITECT DONALD G. MACNAIR No. 2800 Exp. 8-31-21 STATE OF CALIFORNIA

Drawn By: DM | Checked By: DM

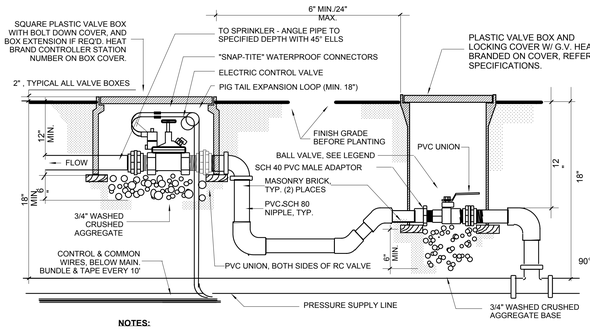
Scale: 1" = 20'

Date: October 21, 2019

Project No. 2016039

O-L3.2
Drawing No.

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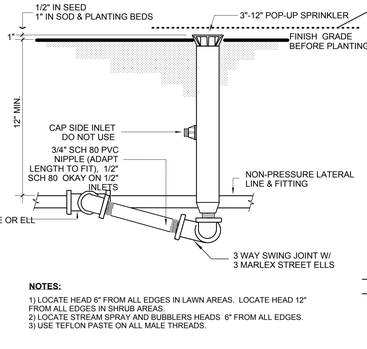


NOTES:

1) INSTALL CONTROL VALVES A MINIMUM OF 18" FROM STRUCTURES OR HARDSCAPING.
2) INSTALL VALVES IN PLANT BEDS WHEREVER POSSIBLE.
3) PLACE VALVE BOX AT RIGHT ANGLES TO STRUCTURES OR HARDSCAPING.
4) INSTALL VALVE BOX SO THAT TOP OF BOX IS FLUSH WITH ADJACENT HARDSCAPING.
5) PLACE AGGREGATE PRIOR TO INSTALLATION OF VALVE BOX.
6) INSTALL VALVE BOXES SO THAT TOP OF BOX IS FLUSH WITH ADJACENT HARDSCAPE.
7) INSTALL ONE BALL VALVE IN BOX IMMEDIATELY UPSTREAM FROM EACH REMOTE CONTROL VALVE.

A L-4 ELECTRIC CONTROL VALVE WITH SHUT OFF

NTS



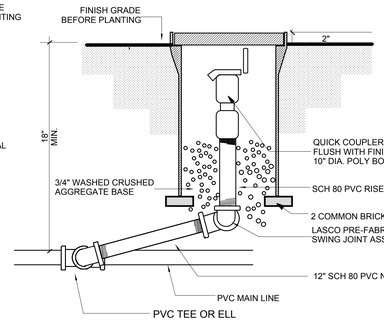
NOTES:

1) LOCATE HEAD 6" FROM ALL EDGES IN LAWN AREAS. LOCATE HEAD 12" FROM ALL EDGES IN SHRUB AREAS.
2) LOCATE STREAM SPRAY AND BUBBLERS HEADS 6" FROM ALL EDGES.
3) USE TEFLON PASTE ON ALL MALE THREADS.

B L-4 POP-UP SPRINKLER DETAIL

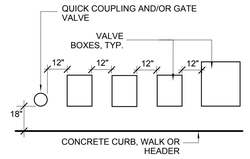
INCLUDES 4", 6" AND 12"

NTS



C L-4 QUICK COUPLER DETAIL

NTS



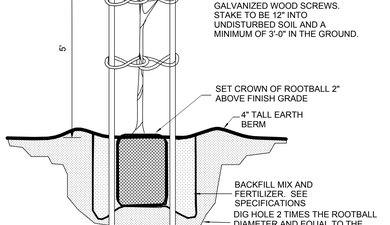
PLAN VIEW

NOTES:

1) CENTER VALVE BOX OVER VALVE ASSEMBLY.
2) LOCATE VALVE BOXES IN GROUND COVER/ SHRUB AREAS WHEN POSSIBLE.
3) SET VALVE BOXES PARALLEL TO EACH OTHER AND PERPENDICULAR TO EDGE.

D L-4 VALVE BOX LAYOUT

NTS

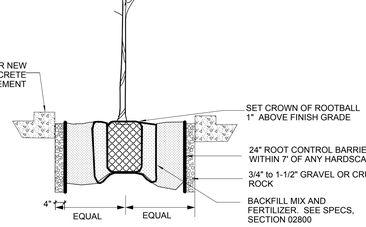


NOTE:

1) PIGTAIL AND LOOP CONTROL WIRE AT ALL CHANGES IN DIRECTION.
2) PROVIDE 18" EXPANSION LOOP AT ALL 90° ANGLES, AND EVERY 100' OF STRAIGHT CURVE RUN.

E L-4 PIPE INSTALLATION UNDER PLANTED AREA

NTS



NOTES:

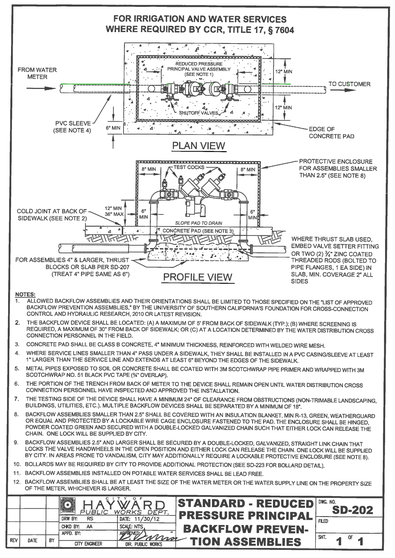
1) ALL SLEEVES TO BE SCH 40 PVC.
2) EXTEND ALL SLEEVES 12" BEYOND EDGE OF HARDSCAPING AT BOTH ENDS.

F L-3 PIPE INSTALLATION UNDER PAVING

NTS

G L-4 DRIP CIRCUIT LAYOUT

NTS

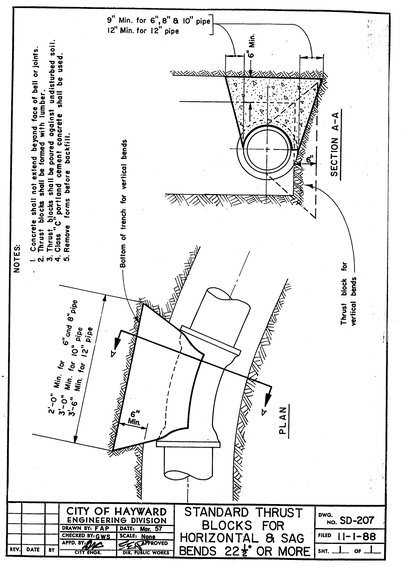


NOTES:

1. ALLOWED BACKFLOW ASSEMBLIES AND THEIR ORIENTATIONS SHALL BE LIMITED TO THOSE SPECIFIED ON THE "LIST OF APPROVED BACKFLOW PREVENTION ASSEMBLIES," BY THE UNIVERSITY OF SOUTHERN CALIFORNIA'S FOUNDATION FOR CROSS-CONNECTION CONTROL AND HYDRAULIC RESEARCH, 2010 OR LATEST REVISION.
2. THE BACKFLOW DEVICE SHALL BE LOCATED: (A) A MAXIMUM OF 5' FROM BACK OF SIDEWALK (TYP.); (B) WHERE SCREENING IS REQUIRED A MAXIMUM OF 10' FROM BACK OF SIDEWALK; OR (C) AT A LOCATION DETERMINED BY THE WATER DISTRIBUTION CROSS CONNECTION PERSONNEL IN THE FIELD.
3. CONCRETE PAD SHALL BE CLASS B CONCRETE, 4" MINIMUM THICKNESS, REINFORCED WITH WELDED WIRE MESH.
4. WHERE SERVICE LINES SMALLER THAN 4" PASS UNDER A SIDEWALK, THEY SHALL BE INSTALLED IN A PVC CASING/SLEEVE AT LEAST 1" LARGER THAN THE SERVICE LINE AND EXTENDS AT LEAST 6" BEYOND THE EDGES OF THE SIDEWALK.
5. METAL PIPES EXPOSED TO SOIL OR CONCRETE SHALL BE COATED WITH 3M SCOTCHWRAP PIPE PRIMER AND WRAPPED WITH 3M SCOTCHWRAP NO. 51 BLACK PVC TAPE (½" OVERLAP).
6. THE PORTION OF THE TRENCH FROM BACK OF METER TO THE DEVICE SHALL REMAIN OPEN UNTIL WATER DISTRIBUTION CROSS CONNECTION PERSONNEL HAVE INSPECTED AND APPROVED THE INSTALLATION.
7. THE TESTING SIDE OF THE DEVICE SHALL HAVE A MINIMUM 24" OF CLEARANCE FROM OBSTRUCTIONS (NON-TRIMABLE LANDSCAPING, BUILDINGS, UTILITIES, ETC.). MULTIPLE BACKFLOW DEVICES SHALL BE SEPARATED BY A MINIMUM OF 18".
8. BACKFLOW ASSEMBLIES SMALLER THAN 2.5" SHALL BE COVERED WITH AN INSULATION BLANKET, MIN R-13, GREEN, WEATHERGUARD OR EQUAL AND PROTECTED BY A LOCKABLE WIRE CAGE ENCLOSURE FASTENED TO THE PAD. THE ENCLOSURE SHALL BE HINGED, POWDER COATED GREEN AND SECURED WITH A DOUBLE-LOCKED GALVANIZED CHAIN SUCH THAT EITHER LOCK CAN RELEASE THE CHAIN. ONE LOCK WILL BE SUPPLIED BY CITY.
9. BACKFLOW ASSEMBLIES 2.5" AND LARGER SHALL BE SECURED BY A DOUBLE-LOCKED, GALVANIZED, STRAIGHT LINK CHAIN THAT LOCKS THE VALVE HANDWHEELS IN THE OPEN POSITION AND EITHER LOCK CAN RELEASE THE CHAIN. ONE LOCK WILL BE SUPPLIED BY CITY. IN AREAS PRONE TO VANDALISM, CITY MAY ADDITIONALLY REQUIRE A LOCKABLE PROTECTIVE ENCLOSURE (SEE NOTE 8).
10. BOLLARDS MAY BE REQUIRED BY CITY TO PROVIDE ADDITIONAL PROTECTION (SEE SD-223 FOR BOLLARD DETAIL).
11. BACKFLOW ASSEMBLIES INSTALLED ON POTABLE WATER SERVICES SHALL BE LEAD FREE.
12. BACKFLOW ASSEMBLIES SHALL BE AT LEAST THE SIZE OF THE WATER METER OR THE WATER SUPPLY LINE ON THE PROPERTY SIZE OF THE METER, WHICHEVER IS LARGER.

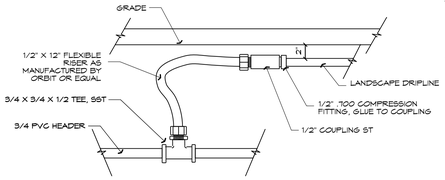
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			DRW BY: KB / DATE: 11/30/12	FILED
			CHD BY: AA / APPD: BY:	SCALE: NTS
			CITY ENGINEER / DIR. PUBLIC WORKS	SHT. 1 OF 1

STANDARD - REDUCED PRESSURE PRINCIPAL BACKFLOW PREVENTION ASSEMBLIES



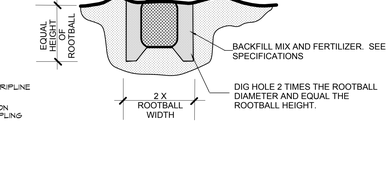
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			DRAWN BY: F.A.P. / DATE: Mar. 87	FILED 11-1-88
			CHECKED BY: D.W.S. / SCALE: None	SHT. 1 OF 1
			APPD. BY: CITY ENGR. / DIR. PUBLIC WORKS	

STANDARD THRUST BLOCKS FOR HORIZONTAL & SAG BENDS 22½° OR MORE



H L-4 POLY TO PVC COMPRESSION FITTING DETAIL

NTS



I L-4 SHRUB PLANTING DETAIL

NTS

NOTE:
1) DO NOT PLACE MULCH IN TREE BASIN.
2) DETAIL NOT TO SCALE.

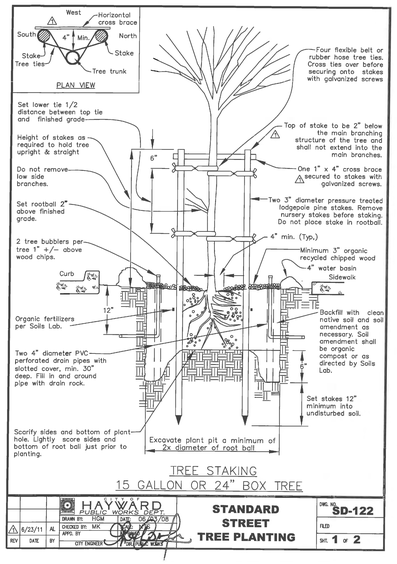
J L-4 TREE PLANTING DETAIL

NTS

NOTE:
1) DO NOT PLACE MULCH IN TREE BASIN.
2) PLANTING HOLE TO BE TESTED FOR DRAINAGE PRIOR TO PLANTING. IF HOLES DO NOT DRAIN WITHIN 4 HOURS CONTACT LANDSCAPE ARCHITECT.
3) INSTALL ROOT BARRIER ON ALL FOUR SIDES OF PLANTER.

K L-4 TREE WELL WITH ROOT BARRIER

NTS



REV	DATE	BY	HAYWARD PUBLIC WORKS DEPT.	DWG. NO. SD-122
1	6/23/11	AL	DRAWN BY: HSM / DATE: 06/11/08	FILED
			CHECKED BY: MK / SCALE: NTS	SHT. 1 OF 2
			APPD. BY: CITY ENGINEER / DIR. PUBLIC WORKS	

STANDARD STREET TREE PLANTING

STREET TREE PLANTING SPECIFICATIONS:

1. Tree shall be healthy, disease and insect-free, well rooted, and properly trained with a straight trunk that can stand upright without support. Tree shall exhibit a central leader, or a main branch that can be trained as a central leader. Branches shall be well-developed and shall be evenly and radially distributed around the trunk. Root ball shall not exhibit kinked or circling roots.
2. Tree shall comply with federal and state laws requiring inspection for plant diseases and pest infestation. Clearance from the county agricultural commissioner, as required by law, shall be obtained before planting trees delivered from outside the county.
3. Prior to planting tree, determine the location of existing or future underground utilities. Locate tree a minimum of 5 feet from lateral service lines and driveways. Locate tree a minimum of 15 feet from a light pole, and a minimum of 30 feet from the face of a traffic signal, or as otherwise specified by the City.
4. Tree pit shall be tested for proper drainage prior to planting tree. Fill pit with water; if water remains after a 24-hour period, auger three 4"-diameter by 3-foot deep holes at the bottom of the tree pit. Backfill with drain rock.
5. Set tree in an upright and plumb position. As much as possible, tree shall be positioned such that dominant branches are parallel to the roadway and are oriented away from potential conflicts.
6. If required by the City, a pressure-compensating bubbler, or drip emitters, shall be provided to each tree.
7. Depending on the planter strip width, or the tree well size and the tree species being planted, a 24" deep root-barrier may be required by the City to be placed between the root-ball and the curb and/or sidewalk. Length of strip barrier or size of the box barrier will be specified by the City.
8. Stakes are to be removed when the tree diameter meets or exceeds the diameter of the stake.

REV	DATE	BY	HAYWARD PUBLIC WORKS DEPT.	DWG. NO. SD-122
			DRAWN BY: JT / DATE: 06/11/08	FILED
			CHECKED BY: MHW / SCALE: NTS	SHT. 2 OF 2
			APPD. BY: CITY ENGINEER / DIR. PUBLIC WORKS	

STANDARD STREET TREE PLANTING

RossDrulisCusenbery
ARCHITECTURE
18294 Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	INC 01_ADD_01_V1	12/06/2019

PERMIT SUBMITTAL V3 - INCREMENT #1

MACNAIR LANDSCAPE ARCHITECTURE
POST OFFICE BOX 251
KENWOOD, CA 95452
TEL (707) 833-2288
RLA #2800
don@macnairlandscapes.com

LANDSCAPE DETAILS

REGISTERED LANDSCAPE ARCHITECT
DONALD G. MACNAIR
No. 2800
Exp. 8-31-21
STATE OF CALIFORNIA

Drawn By: DM
Checked By: DM

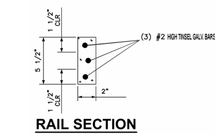
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Date: October 21, 2019

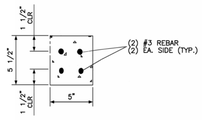
Project No. 2016039

O-L4
Drawing No.

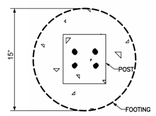
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RAIL SECTION

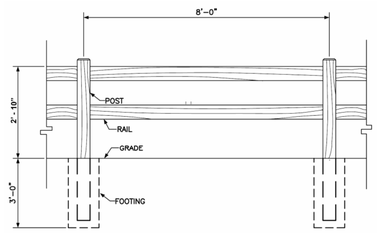


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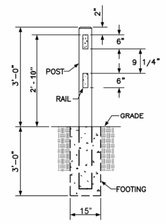


FOOTING

1 CONCRETE FENCE DETAILS
1" = 1'-0"

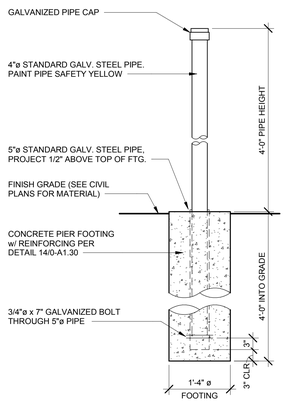


ELEVATION - 2 RAIL FENCE

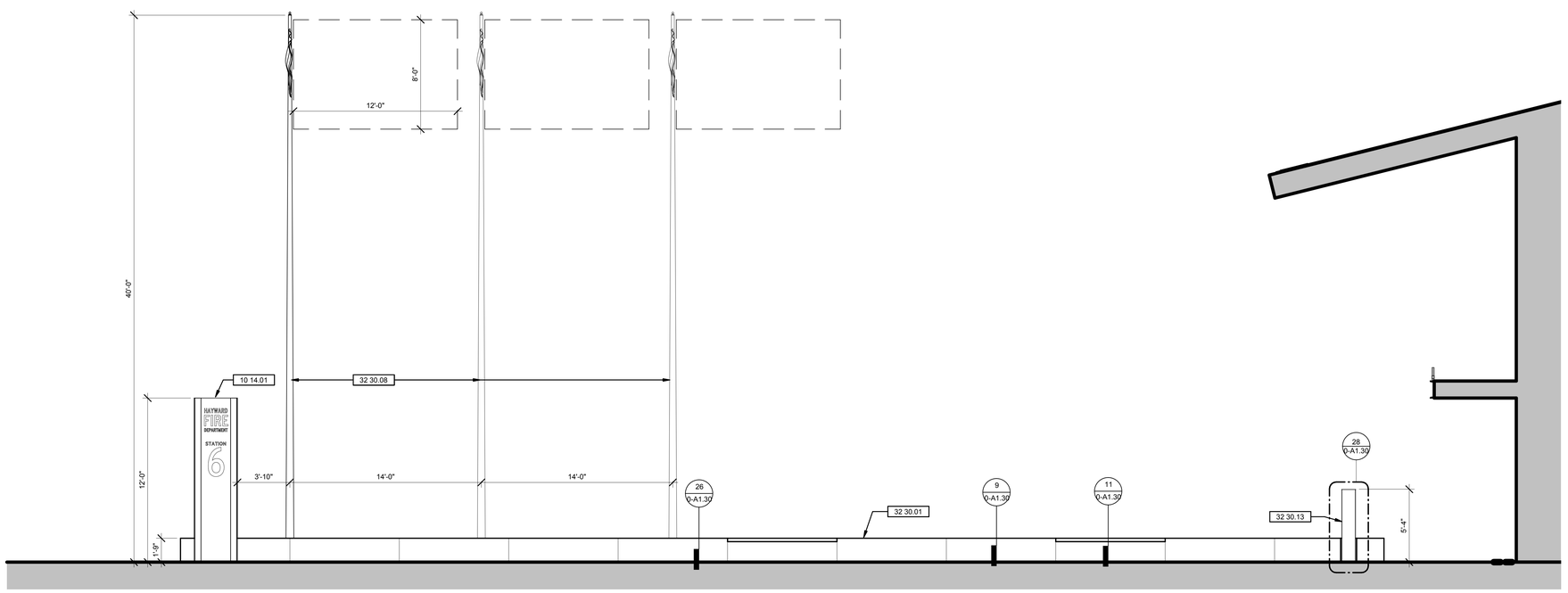


SECTION - 2 RAIL FENCE

2 CONCRETE FENCE ELEVATION
1/2" = 1'-0"



3 REMOVABLE BOLLARD
3/4" = 1'-0"



4 SEAT WALL AT MAIN ENTRY WALK
1/4" = 1'-0"

0' 1' 2' 4' 8'

GENERAL SHEET NOTES

1. SEE CIVIL AND LANDSCAPE DRAWINGS FOR ADDITIONAL SITE IMPROVEMENT PLANS AND DETAILS.

SHEET KEYNOTE LEGEND

10 14.01	MAIN ENTRY MONUMENT SIGN WITH LIGHTING, SEE SIGNAGE DRAWINGS
32 30.01	CIP CONCRETE SITE BENCH WITH DEPRESSED SEATING AREAS LINED WITH COMPOSITE DECKING MATERIAL. PROVIDE STEEL ANGLE PROTECTION AT ALL EXPOSED TOP EDGES. REFER TO 11/0-A1.30
32 30.08	FLAGPOLE
32 30.13	64" TALL STEEL W-SHAPE INSTALLED VERTICALLY WITH TOP PLATE CAP. INSTALL KNOX BOX, EMERGENCY PHONE, LIGHT, MAIN ENTRY DOOR ACTUATOR, AND FIRE STATION DOOR BELL TO WEB

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542
ARCHITECTURE

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, DIR. OF PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3 - INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
RENEWAL DATE 5/31/21
STATE OF CALIFORNIA

Sheet Title

ARCHITECTURAL SITE FEATURE ELEVATION, ARCHITECTURAL SITE DETAILS

Drawn By: EW Checked By: EW

Scale: **As indicated**

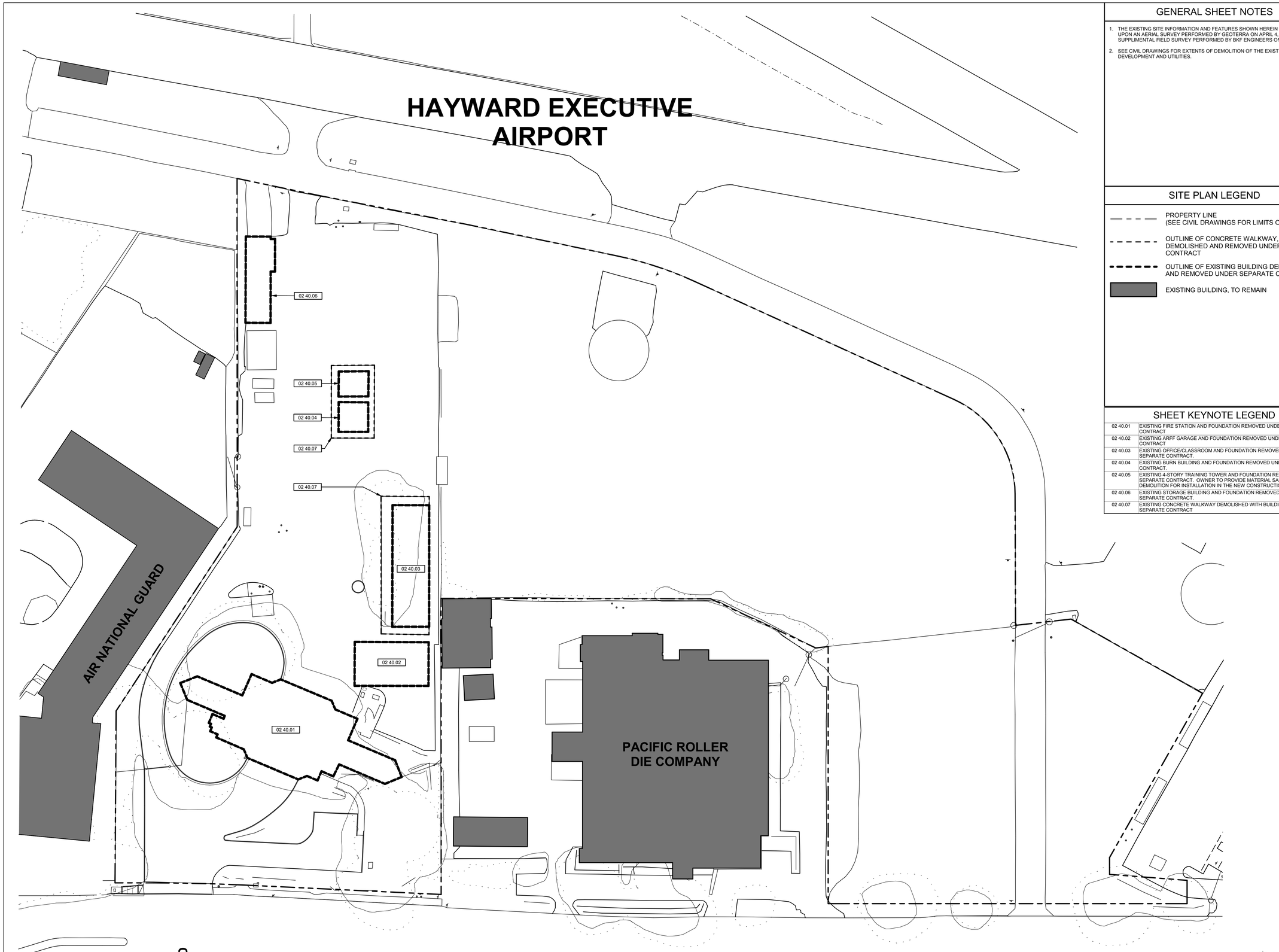
Date: **October 4, 2019**

Project No. 2016039

0-A1.22
Drawing No.

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HAYWARD EXECUTIVE AIRPORT



GENERAL SHEET NOTES

1. THE EXISTING SITE INFORMATION AND FEATURES SHOWN HEREIN ARE BASED UPON AN AERIAL SURVEY PERFORMED BY GEOTERRA ON APRIL 4, 2016 AND SUPPLIMENTAL FIELD SURVEY PERFORMED BY BKF ENGINEERS ON APRIL 27, 2016.
2. SEE CIVIL DRAWINGS FOR EXTENTS OF DEMOLITION OF THE EXISTING SITE DEVELOPMENT AND UTILITIES.

SITE PLAN LEGEND

- PROPERTY LINE (SEE CIVIL DRAWINGS FOR LIMITS OF WORK)
- OUTLINE OF CONCRETE WALKWAY, DEMOLISHED AND REMOVED UNDER SEPARATE CONTRACT
- OUTLINE OF EXISTING BUILDING DEMOLISHED AND REMOVED UNDER SEPARATE CONTRACT
- EXISTING BUILDING, TO REMAIN

SHEET KEYNOTE LEGEND

02 40.01	EXISTING FIRE STATION AND FOUNDATION REMOVED UNDER SEPARATE CONTRACT
02 40.02	EXISTING ARFF GARAGE AND FOUNDATION REMOVED UNDER SEPARATE CONTRACT
02 40.03	EXISTING OFFICE/CLASSROOM AND FOUNDATION REMOVED UNDER SEPARATE CONTRACT.
02 40.04	EXISTING BURN BUILDING AND FOUNDATION REMOVED UNDER SEPARATE CONTRACT.
02 40.05	EXISTING 4-STORY TRAINING TOWER AND FOUNDATION REMOVED UNDER SEPARATE CONTRACT. OWNER TO PROVIDE MATERIAL SALVAGED DURING DEMOLITION FOR INSTALLATION IN THE NEW CONSTRUCTION.
02 40.06	EXISTING STORAGE BUILDING AND FOUNDATION REMOVED UNDER SEPARATE CONTRACT.
02 40.07	EXISTING CONCRETE WALKWAY DEMOLISHED WITH BUILDING UNDER SEPARATE CONTRACT

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542
ARCHITECTURE

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, DIR. OF PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3 - INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
5/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

ARCHITECTURAL SITE PLAN - DEMOLITION

Drawn By: Author
Checked By: Checker

Scale: **As indicated**

Date: **October 4, 2019**

Project No. 2016039

0-A1.00
Drawing No.

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HAYWARD EXECUTIVE AIRPORT

General Building Information

Building No.	Name	Description	CBC Use & Occupancy Classification(s)	CBC Construction Type	Fire Sprinklers Provided	No. of Stories	Building Footprint Area	Total Building Area
1	Fire Station #6 / Classroom Building	2-company fire station, training classrooms, & administrative offices	A-3 (Assembly) B (Office) R-2 (Residential) S-2 (Storage)	II-B	Yes	2	12,598 SF	20,643 SF
2	Apparatus Building	Vehicle storage / training area, turn out lockers, & restrooms	B (Assembly > 50) F-1 (Shop) S-2 (Storage)	II-B	Yes	1	8,268 SF	8,268 SF
3	Hangar Building	Covered vehicle wash down area	U (Utility)	II-B	No	1	1,512 SF	1,512 SF
4	Storage Building	Residential-style Class "A" material storage building	S-2 (Storage)	II-B	No	1	1,160 SF	1,160 SF
5	Burn Building	Residential-style Class "A" burn training structure	N/A NFPA 1402 Live Fire Training Structure	II-B	No	3	2,120 SF	4,732 SF
6	Covered Break Area	Covered trainee break area, restrooms, & general storage	A-3 (Assembly) S-2 (Storage)	II-B	No	1	1,600 SF	1,600 SF
7	USAR/BART Station	Confined space / elevated BART platform training structure	N/A NFPA 1402 Live Fire Training Structure	II-B	No	3	4,719 SF	13,715 SF
8	Training Tower	Commercial-style Class "B" burn training structure	N/A NFPA 1402 Live Fire Training Structure	II-B	No	4	3,640 SF	11,513 SF
9	Entry Canopy	Photovoltaic shade structure	U (Utility)	II-B	No	1	1,333 SF	1,333 SF

Parking Tabulation

Use	Daily Classes	FTE Occupants	Occupant Total	Parking Ratio	Parking Required
Education (HFD)	1	22	22	1:2	11
Education (Chabot EMT)	2	45	90	1:2	45
Education (Chabot FT)	2	44	88	1:2	44
Education (Chabot AC)	1	25	25	1:2	13
Office (1,345 SF)				1:250 SF	5
Fire Station #6 Staff			6	2:1	12
Total Parking Required					130
Total Parking Provided					130
Total Accessible Stalls Required (per CBC Table 11B-208.2)					5
Total Accessible Stalls Provided					7
Van Accessible Stalls Required (per CBC 11B-208.2.4)					1
Van Accessible Stalls Provided					3
Electric Vehicle Charging Stations Required (per CALGreen Table 11B-208.2)					7
EVCS Provided (Incl. # Accessible)					7 (3)
Clean Air/Vanpool/EV Stalls Required (per CALGreen Table 5.106.5.2)					11
Clean Air/Vanpool/EV Stalls Provided					11

*See 0-A1.11 thru 0-A1.14 for Accessible/EV/Clean Air Stall Locations and Dimensions

**EVCS counted as designated parking for clean air vehicles per CALGreen 5.106.5.3.5

GENERAL SHEET NOTES

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2. SEE CIVIL AND LANDSCAPE DRAWINGS FOR ADDITIONAL SITE IMPROVEMENT PLANS AND DETAILS.

SITE PLAN LEGEND

- PROPERTY LINE (SEE CIVIL DRAWINGS FOR LIMITS OF WORK)
- OUTLINE OF EXISTING BUILDING, TO BE DEMOLISHED AND REMOVED
- PROJECT MATCH LINE
- LEED BOUNDARY LINE
- ZONING ORDINANCE BUILDING SETBACK LINE
- EXISTING BUILDING, TO REMAIN
- NEW BUILDING FOOTPRINT COLLEGE-OWNED BUILDING
- NEW BUILDING FOOTPRINT CITY-OWNED BUILDING
- FIRE ACCESS LANE, TYPICAL

HANGAR BUILDING (BUILDING 3)
APPARATUS BUILDING (BUILDING 2)
STORAGE BLDG (BUILDING 4)
BURN BUILDING (BUILDING 5)
COVERED BREAK AREA (BUILDING 6)
TRAINING TOWER (BUILDING 8)
USAR/BART STATION (BUILDING 7)
FS #6/CLASSROOM BUILDING (BUILDING 1)
PACIFIC ROLLER DIE COMPANY
BUILDING 9
LPG FUEL SYSTEMS
FITNESS PATIO
CLASSROOM PATIO
ENTRY PLAZA
UTILITY YARD
GATE
SECURITY FENCE
AIR NATIONAL GUARD
911 MEMORIAL WAY
343rd STREET
CRAVEN AVENUE
MANZELLA ROAD
LUNGER WAY
HOLT DRIVE
JIMENEZ BLVD
SAKLAN ROAD
WEST WINTON AVENUE
MATCH LINE
SHEET 0-A1.11
SHEET 0-A1.12
SHEET 0-A1.13
SHEET 0-A1.14

PARKING LOT #1
VISITORS
11 TOTAL STALLS
2 - ACCESSIBLE (1 VAN)
1 - EVCS VAN ACCESSIBLE
1 - EVCS STALL
2 - CLEAN AIR/VANPOOL/EV
5 - STANDARD STALLS

PARKING LOT #2
VISITORS, STAFF
14 TOTAL STALLS
2 - EVCS STALL
3 - CLEAN AIR/VANPOOL/EV
8 - STANDARD STALLS
1 - PARALLEL STALL

PARKING LOT #3
STAFF
9 TOTAL STALLS
1 - VAN ACCESSIBLE
1 - EVCS STALL
1 - CLEAN AIR/VANPOOL/EV
6 - STANDARD STALLS

PARKING LOT #4
STAFF
5 TOTAL STALLS
2 - CLEAN AIR/VANPOOL/EV
3 - STANDARD STALLS

PARKING LOT #5
STAFF, VISITORS, & STUDENTS
92 TOTAL STALLS
4 - ACCESSIBLE (1 VAN)
2 - EVCS ACCESSIBLE
3 - CLEAN AIR/VANPOOL/EV
56 - STANDARD STALLS
27 - COMPACT STALLS

0' 7.5' 15' 30' 60'

APPROVED
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APP. 01-117774 INC:01
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DATE: 11/12/2019

RossDrulisCusenbery
18294 Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542
ARCHITECTURE

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, DIR. OF PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

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LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
9/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

ARCHITECTURAL SITE PLAN - OVERALL CAMPUS

Drawn By: EW Checked By: EW

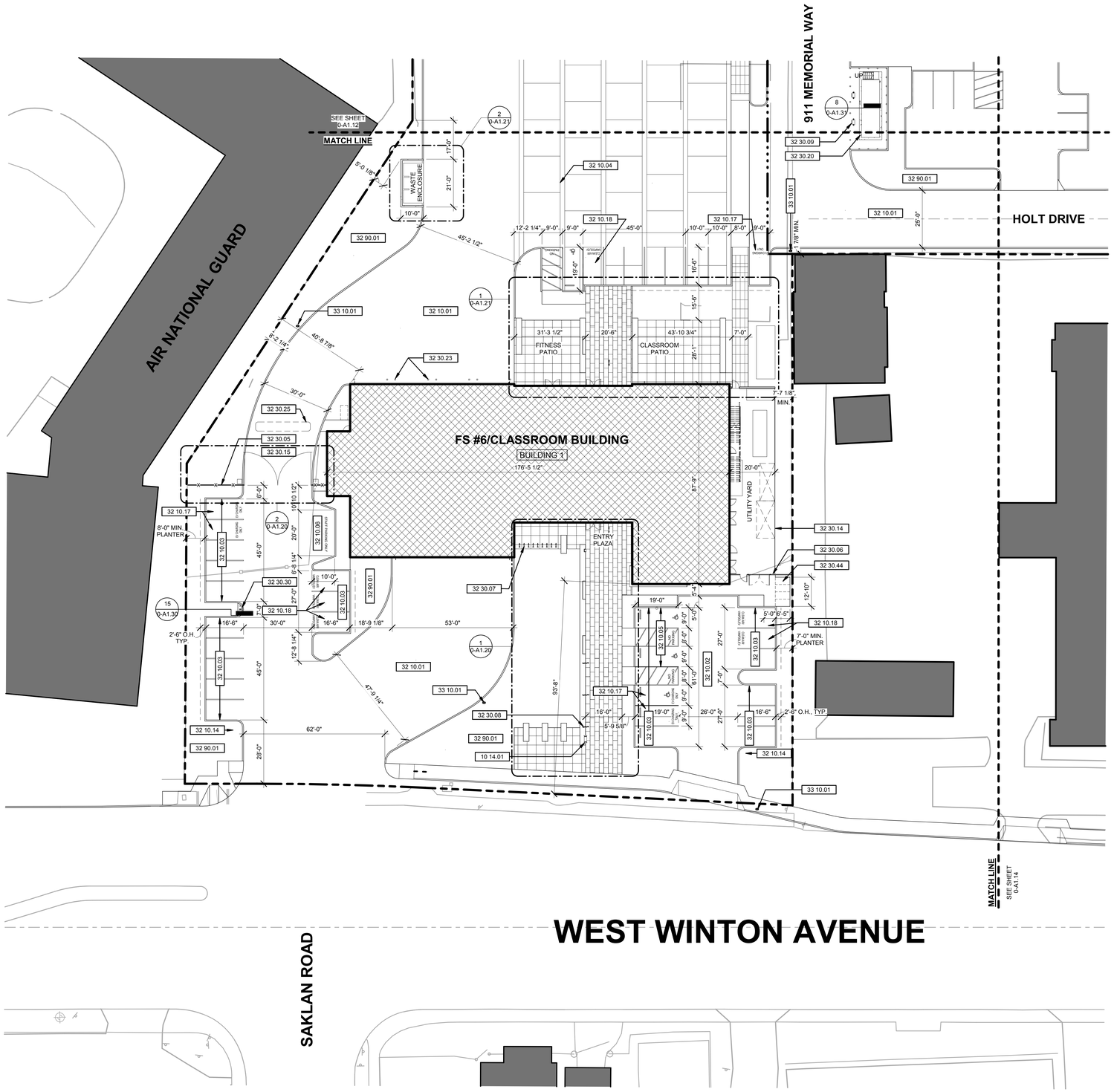
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Project No. 2016039

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1 ARCHITECTURAL SITE PLAN - SOUTHWEST QUADRANT
1" = 20'-0"

0' 5' 10' 20' 40'

GENERAL SHEET NOTES

1. THE EXISTING SITE INFORMATION AND FEATURES SHOWN HEREIN ARE BASED UPON AN AERIAL SURVEY PERFORMED BY GEOTERRA ON APRIL 4, 2016 AND SUPPLIMENTAL FIELD SURVEY PERFORMED BY BKF ENGINEERS ON APRIL 27, 2016.
2. SEE CIVIL AND LANDSCAPE DRAWINGS FOR ADDITIONAL SITE IMPROVEMENT PLANS AND DETAILS.

SITE PLAN LEGEND

- PROPERTY LINE (SEE CIVIL DRAWINGS FOR LIMITS OF WORK)
- OUTLINE OF EXISTING BUILDING, TO BE DEMOLISHED AND REMOVED
- PROJECT MATCH LINE
- LEED BOUNDARY LINE
- ZONING ORDINANCE BUILDING SETBACK LINE
- EXISTING BUILDING, TO REMAIN
- NEW BUILDING FOOTPRINT COLLEGE-OWNED BUILDING
- NEW BUILDING FOOTPRINT CITY-OWNED BUILDING
- FIRE ACCESS LANE, TYPICAL

SHEET KEYNOTE LEGEND

10 14.01	MAIN ENTRY MONUMENT SIGN WITH LIGHTING, SEE SIGNAGE DRAWINGS
32 10.01	CONCRETE PAVING, SEE CIVIL DRAWINGS
32 10.02	AC PAVING, SEE CIVIL DRAWINGS
32 10.03	PERMEABLE PAVERS IN PARKING STALLS, SEE CIVIL AND LANDSCAPE DRAWINGS
32 10.04	SPECIAL JOINT PATTERN IN CONCRETE PAVING, SEE LANDSCAPE DRAWINGS
32 10.05	ACCESSIBLE PARKING STALLS W/ SURFACE STRIPING AND POLE-MOUNTED SIGNAGE. SEE CIVIL DRAWINGS FOR STRIPING; GRAPHICS PACKAGE FOR DETAILS & LOCATIONS
32 10.06	PARALLEL PARKING STALL WITH PERMEABLE PAVERS, SEE LANDSCAPE DRAWINGS. PROVIDE "STAFF PARKING ONLY" LABEL PAINTED ON SURFACE OF PAVERS
32 10.14	TOW-AWAY SIGN PER CBC 11B-502.8. SEE VOLUME 8 GRAPHICS PACKAGE FOR DETAILS AND LOCATIONS
32 10.17	EV CHARGING ONLY PARKING SPACE W/ 12" TALL LETTERING PER CBC 11B-812.9 AND IDENTIFICATION SIGNS PER 11B-812.8
32 10.18	CLEAN AIR/VANPOOL/EV PARKING SPACE W/ 12" TALL LETTERING PER CBC 11B-812.9 AND IDENTIFICATION SIGNS PER 11B-812.8
32 30.05	8' HIGH DECORATIVE METAL SECURITY FENCE PER DETAIL 13/0-A1.30
32 30.06	8' HIGH DECORATIVE METAL SECURITY FENCE AT SOUTH SIDE OF UTILITY YARD. SEE DETAIL 7/1-A8.01
32 30.07	BICYCLE RACK (1 OF 9). SEE LANDSCAPE PLANS FOR DETAILS
32 30.08	FLAGPOLE
32 30.09	DIESEL/GASOLINE DISPENSING STATION
32 30.14	8' HIGH CHAIN-LINK FENCE AT EAST SIDE OF UTILITY YARD. SEE DETAIL 22/1-A8.01
32 30.15	8' HIGH DOUBLE SWING GATE WITH ELECTRIC OPERATOR ON EACH LEAF
32 30.20	ABOVEGROUND FUEL STORAGE TANK WITH CONCRETE MOUNTING PAD AND ACCESS STAIR. SEE FUEL SYSTEM DRAWINGS, SHEET FS.210
32 30.23	(8) 3-FOOT HIGH W6 X 15 PROTECTIVE BOLLARDS @ NORTH APPARATUS BAY DOOR JAMBS OF BUILDING 1. SEE DETAILS 19 & 25/0-A1.30
32 30.25	EXIT LOOP GATE SENSOR ENCASED IN CONCRETE PAVING
32 30.30	POST-MOUNTED GATE ACCESS CARD READER WITH KNOX KEY OVERRIDE
32 30.44	THREE (3) TWO-TIER AND ONE (1) SINGLE BICYCLE LOCKERS ON CONCRETE PAD. REFER TO DETAILS 3 AND 4/0-A1.31
32 90.01	LANDSCAPE AREA, SEE CIVIL AND LANDSCAPE DRAWINGS
33 10.01	FIRE HYDRANT, S.C.D.

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542
ARCHITECTURE

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, DIR. OF PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3 - INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
9/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

ARCHITECTURAL SITE PLAN - SOUTHWEST QUADRANT

Drawn By: EW Checked By: EW

Scale: **As indicated**

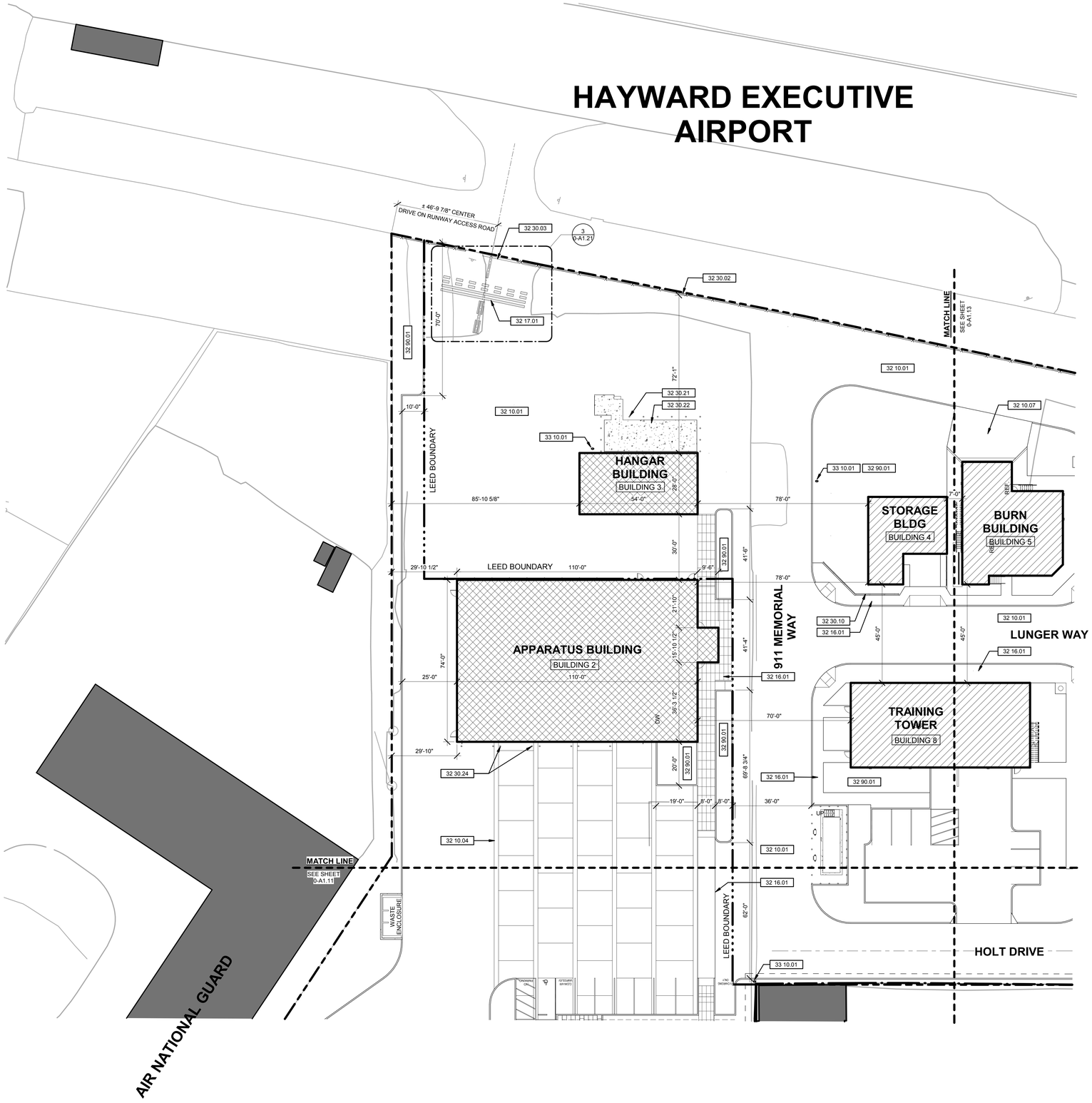
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HAYWARD EXECUTIVE AIRPORT



1 ARCHITECTURAL SITE PLAN - NORTHWEST QUADRANT
1" = 20'-0"

0' 5' 10' 20' 40'

GENERAL SHEET NOTES

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SITE PLAN LEGEND

- PROPERTY LINE (SEE CIVIL DRAWINGS FOR LIMITS OF WORK)
- OUTLINE OF EXISTING BUILDING, TO BE DEMOLISHED AND REMOVED
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- LEED BOUNDARY LINE
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- NEW BUILDING FOOTPRINT COLLEGE-OWNED BUILDING
- NEW BUILDING FOOTPRINT CITY-OWNED BUILDING
- FIRE ACCESS LANE, TYPICAL

SHEET KEYNOTE LEGEND

32 10.01	CONCRETE PAVING, SEE CIVIL DRAWINGS
32 10.04	SPECIAL JOINT PATTERN IN CONCRETE PAVING, SEE LANDSCAPE DRAWINGS
32 10.07	PERMEABLE PAVERS ON SLOPED SURFACE DOWN TO BASEMENT, SEE BUILDING 5 DRAWINGS
32 16.01	NEW CONCRETE SIDEWALK, SEE CIVIL PLANS
32 17.01	PAINTED RUNWAY DESIGNATOR MARKINGS FOR TRAINING PURPOSES, CENTERED ON DRIVE. ALL MARKING LINE WIDTHS AND PAINT COLORS SHALL COMPLY WITH FAA STANDARDS.
32 30.02	4-FOOT HIGH CHAIN-LINK SECURITY FENCE ALONG COMMON LINE WITH AIRPORT PROPERTY. SEE DETAIL 14B/0-A1.30
32 30.03	4-FOOT HIGH CHAIN-LINK SLIDING GATE WITH V-GROOVE WHEELS AND ELECTRIC OPERATOR. VERIFY OVERALL GATE LEAF LENGTH WITH OPERATOR SUPPLIER TO PROVIDE REQUIRED "TAIL" AND ROLLBACK DISTANCE. SEE DETAIL 3/0-A1.21
32 30.10	3' HIGH CONCRETE SPLIT-RAIL STYLE FENCE. SEE DETAIL 1/0-A1.22 & 2/0-A1.22
32 30.21	PROTECTIVE PIPE BOLLARDS @ PUMP TEST PIT PER DETAIL 19/0-A1.30. SEE BUILDING 3 PLANS FOR EXACT LOCATIONS
32 30.22	PUMP TEST PIT, SEE BUILDING 3 PLANS.
32 30.24	(8) 3-FOOT HIGH W6 X 15 PROTECTIVE BOLLARDS @ SOUTH APPARATUS BAY DOOR JAMBS OF BUILDING 2. SEE DETAILS 19 & 25/0-A1.30
32 90.01	LANDSCAPE AREA, SEE CIVIL AND LANDSCAPE DRAWINGS
33 10.01	FIRE HYDRANT, S.C.D.

APPROVED
DIV. OF THE STATE ARCHITECT
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SS ☑ FLS ☑ ACS ☑
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RossDrulisCusenbery
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542
ARCHITECTURE

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HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

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LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
RENEWAL DATE 9/30/21
STATE OF CALIFORNIA

Sheet Title

ARCHITECTURAL SITE PLAN - NORTHWEST QUADRANT

Drawn By: EW Checked By: EW

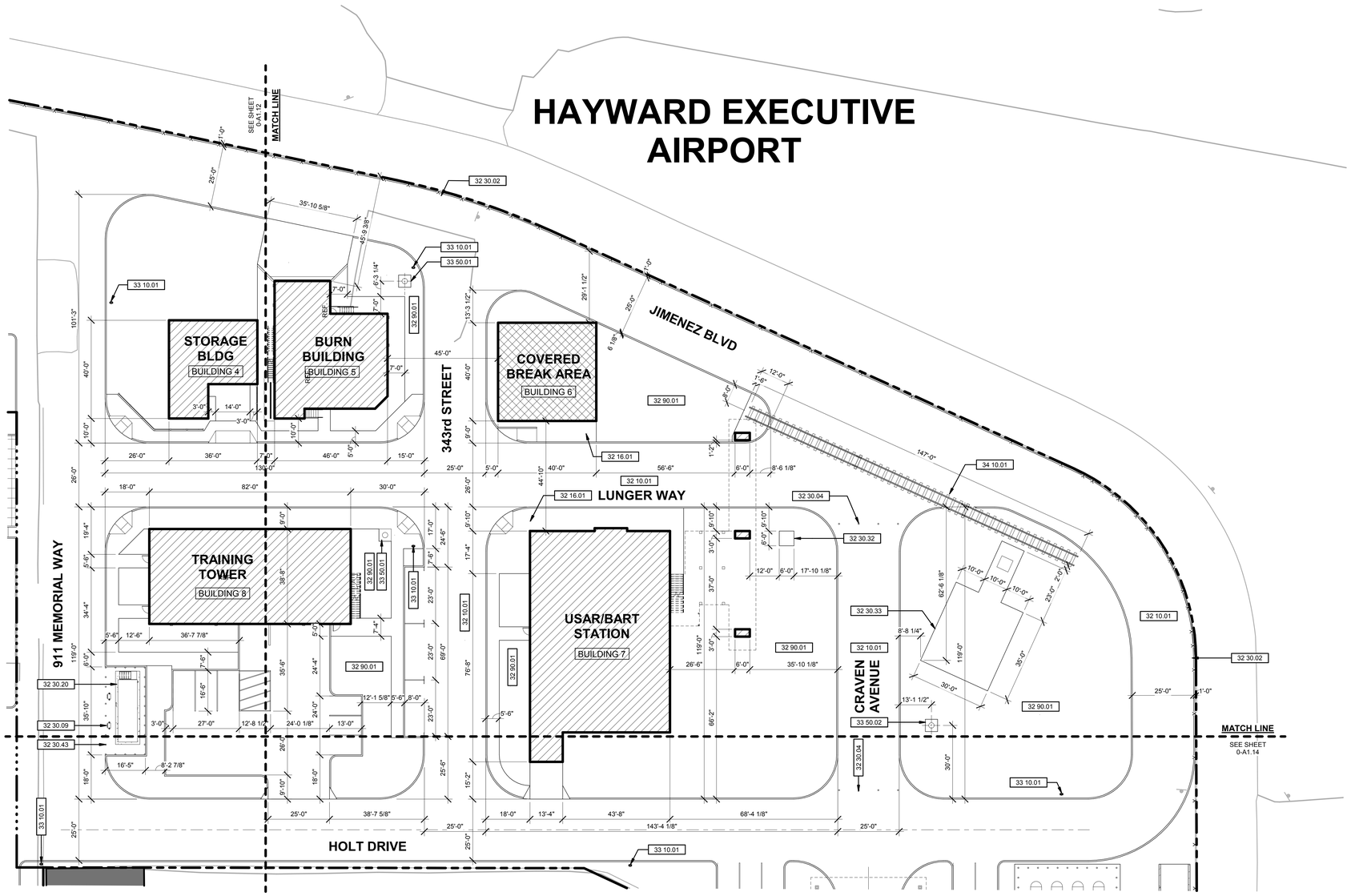
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1 ARCHITECTURAL SITE PLAN - NORTHEAST QUADRANT
1" = 20'-0"

0' 5' 10' 20' 40'

PACIFIC ROLLER DIE COMPANY

GENERAL SHEET NOTES

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2. SEE CIVIL AND LANDSCAPE DRAWINGS FOR ADDITIONAL SITE IMPROVEMENT PLANS AND DETAILS.

SITE PLAN LEGEND

- PROPERTY LINE (SEE CIVIL DRAWINGS FOR LIMITS OF WORK)
- OUTLINE OF EXISTING BUILDING, TO BE DEMOLISHED AND REMOVED
- PROJECT MATCH LINE
- LEED BOUNDARY LINE
- ZONING ORDINANCE BUILDING SETBACK LINE
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- NEW BUILDING FOOTPRINT COLLEGE-OWNED BUILDING
- NEW BUILDING FOOTPRINT CITY-OWNED BUILDING
- FIRE ACCESS LANE, TYPICAL

SHEET KEYNOTE LEGEND

32 10.01	CONCRETE PAVING, SEE CIVIL DRAWINGS
32 16.01	NEW CONCRETE SIDEWALK, SEE CIVIL PLANS
32 30.02	4-FOOT HIGH CHAIN-LINK SECURITY FENCE ALONG COMMON LINE WITH AIRPORT PROPERTY. SEE DETAIL 14B/0-A1.30
32 30.04	(4) REMOVABLE PIPE BOLLARDS @ EA. END OF STREET PER DETAIL 3/0-A1.22
32 30.09	DIESEL/GASOLINE DISPENSING STATION
32 30.20	ABOVEGROUND FUEL STORAGE TANK WITH CONCRETE MOUNTING PAD AND ACCESS STAIR. SEE FUEL SYSTEM DRAWINGS, SHEET FS.210
32 30.32	CONCRETE MOUNTING PAD FOR OFOI LPG PROP CONTROL STATION. SEE DETAIL 7/0-LP1.1 (NOT UNDER DSA REVIEW)
32 30.33	CONCRETE PAD FOR OFOI LPG SPILL FIRE PROP (NOT UNDER DSA REVIEW)
32 30.43	PAINTED PROTECTIVE PIPE BOLLARDS AT PERIMETER OF FUEL TANK. SEE FUEL SYSTEM DRAWINGS, SHEET FS.230
32 90.01	LANDSCAPE AREA, SEE CIVIL AND LANDSCAPE DRAWINGS
33 10.01	FIRE HYDRANT, S.C.D.
33 50.01	LPG VAPOR CONNECTION PIT PER FUEL SYSTEM DRAWINGS
33 50.02	LPG LIQUID CONNECTION PIT PER FUEL SYSTEM DRAWINGS
34 10.01	AT-GRADE RAILROAD TRACK (A±150 LF)

APPROVED
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ARCHITECTURAL SITE PLAN - NORTHEAST QUADRANT

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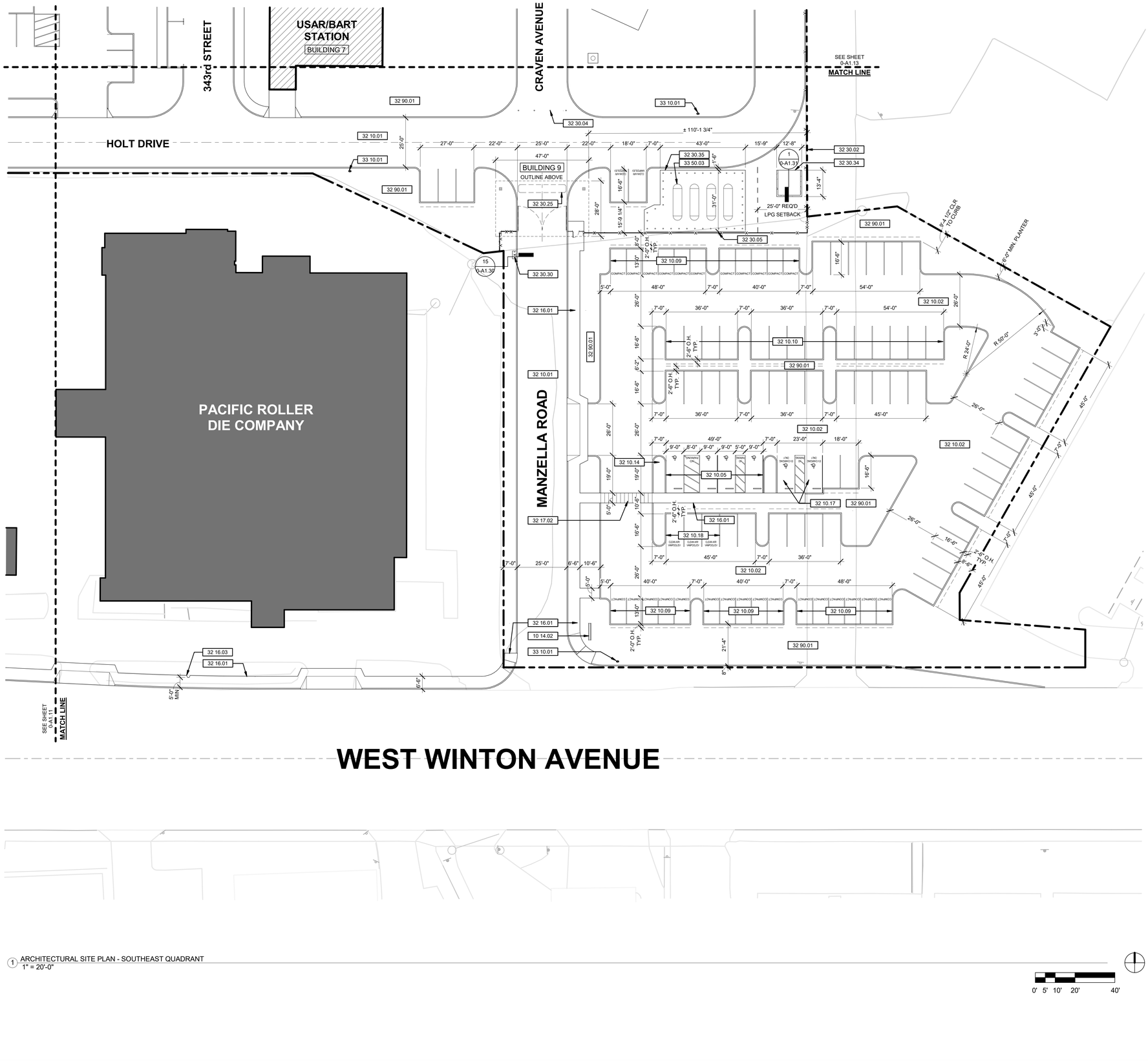
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1 ARCHITECTURAL SITE PLAN - SOUTHEAST QUADRANT
1" = 20'-0"

0' 5' 10' 20' 40'

GENERAL SHEET NOTES

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SITE PLAN LEGEND

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- OUTLINE OF EXISTING BUILDING, TO BE DEMOLISHED AND REMOVED
- PROJECT MATCH LINE
- LEED BOUNDARY LINE
- ZONING ORDINANCE BUILDING SETBACK LINE
- EXISTING BUILDING, TO REMAIN
- NEW BUILDING FOOTPRINT COLLEGE-OWNED BUILDING
- NEW BUILDING FOOTPRINT CITY-OWNED BUILDING
- FIRE ACCESS LANE, TYPICAL

SHEET KEYNOTE LEGEND

10 14.02	PARKING MONUMENT SIGN, SEE VOLUME 8 SIGNAGE DRAWINGS, SHEET AG215.2
32 10.01	CONCRETE PAVING, SEE CIVIL DRAWINGS
32 10.02	AC PAVING, SEE CIVIL DRAWINGS
32 10.05	ACCESSIBLE PARKING STALLS W/ SURFACE STRIPING AND POLE-MOUNTED SIGNAGE. SEE CIVIL DRAWINGS FOR STRIPING; GRAPHICS PACKAGE FOR DETAILS & LOCATIONS
32 10.09	8' X 15' COMPACT STALL, TYP.
32 10.14	TOW-AWAY SIGN PER CBC 11B-502.8. SEE VOLUME 8 GRAPHICS PACKAGE FOR DETAILS AND LOCATIONS
32 10.17	EV CHARGING ONLY PARKING SPACE W/ 12" TALL LETTERING PER CBC 11B-812.9 AND IDENTIFICATION SIGNS PER 11B-812.8
32 10.18	CLEAN AIR/VANPOOL/EV PARKING SPACE W/ 12" TALL LETTERING PER CBC 11B-812.9 AND IDENTIFICATION SIGNS PER 11B-812.8
32 16.01	NEW CONCRETE SIDEWALK, SEE CIVIL PLANS
32 16.03	PROVIDE BEVEL-SHAPED CUT-OUT IN NEW SIDEWALK AS REQUIRED TO AVOID CONFLICT WITH (E) UTILITIES. NEW SIDEWALK SHALL NOT BE REDUCED BELOW 5-FOOT MINIMUM WIDTH. SEE CIVIL PLANS
32 17.02	PAINTED PEDESTRIAN CROSSWALK, WITH 4 INCH STRIPING @ 2'-0" O.C.
32 30.02	4-FOOT HIGH CHAIN-LINK SECURITY FENCE ALONG COMMON LINE WITH AIRPORT PROPERTY. SEE DETAIL 14B/0-A1.30
32 30.04	(4) REMOVABLE PIPE BOLLARDS @ EA. END OF STREET PER DETAIL 3/0-A1.22
32 30.05	8' HIGH DECORATIVE METAL SECURITY FENCE PER DETAIL 13/0-A1.30
32 30.25	EXIT LOOP GATE SENSOR ENCASED IN CONCRETE PAVING
32 30.30	POST-MOUNTED GATE ACCESS CARD READER WITH KNOX KEY OVERRIDE
32 30.34	CONCRETE EQUIPMENT PAD WITH 6-FOOT HIGH CIP CONCRETE SCREEN WALLS ON 3-SIDES. SEE KEYNOTE 03 30.28 FOR WALL CONSTRUCTION INFORMATION
32 30.35	CONCRETE PAD WITH PROTECTIVE BOLLARDS FOR LPG STORAGE TANKS. SEE FUEL SYSTEM DRAWINGS. NOTE THAT LPG SYSTEM IS NOT SUBJECT TO DSA REVIEW AND APPROVAL
32 90.01	LANDSCAPE AREA, SEE CIVIL AND LANDSCAPE DRAWINGS
33 10.01	FIRE HYDRANT, S.C.D.
33 50.03	2,000-GALLON LPG STORAGE TANK (TYPICAL 1 OF 4). NOTE THAT LPG SYSTEM IS NOT SUBJECT TO DSA REVIEW AND APPROVAL

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, DIR. OF PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	INC 01_ADD_01_V1	12/06/2019

PERMIT SUBMITTAL V3 - INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
2/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

ARCHITECTURAL SITE PLAN - SOUTHEAST QUADRANT

Drawn By: EW
Checked By: EW

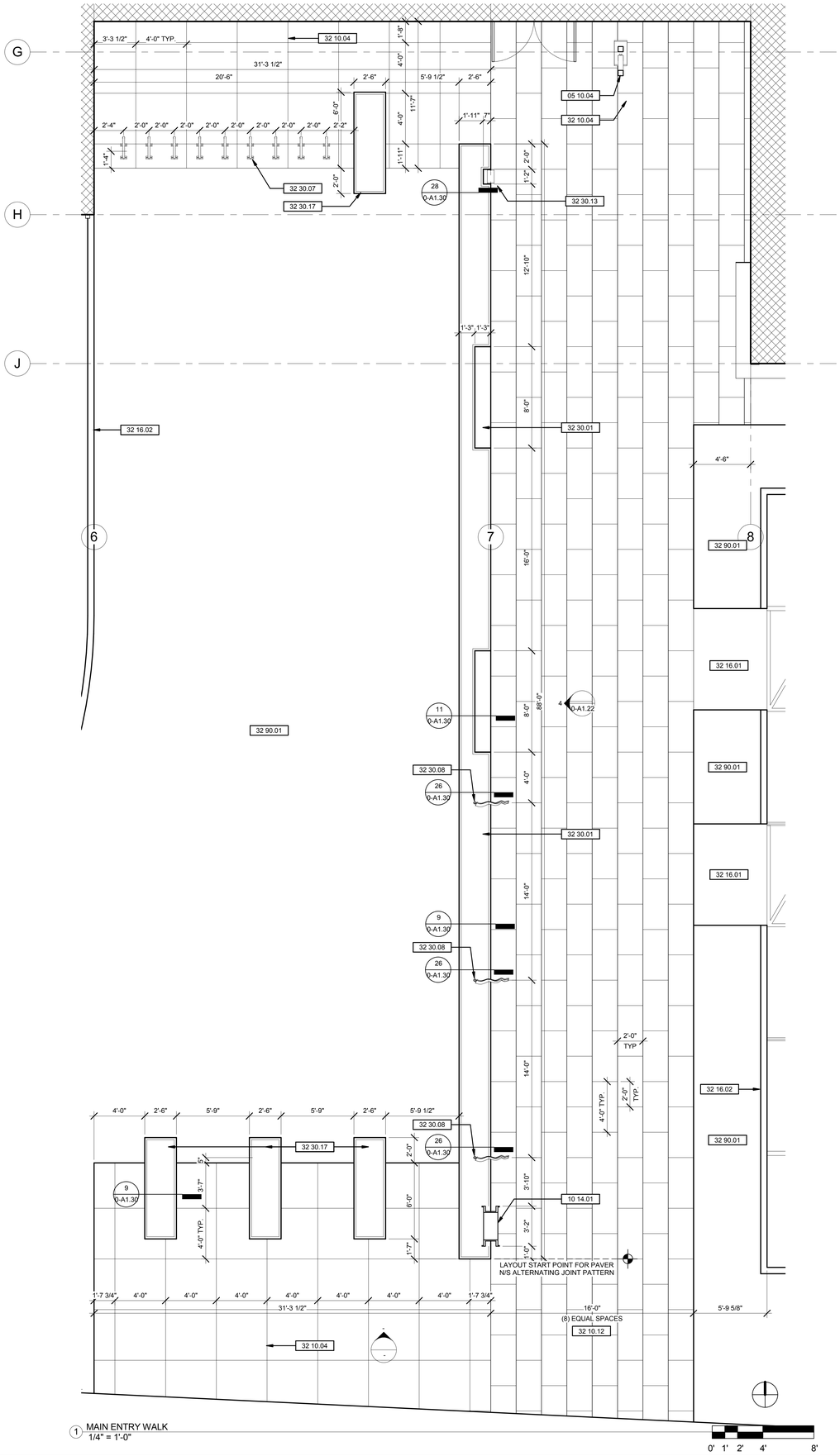
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Date: **October 4, 2019**

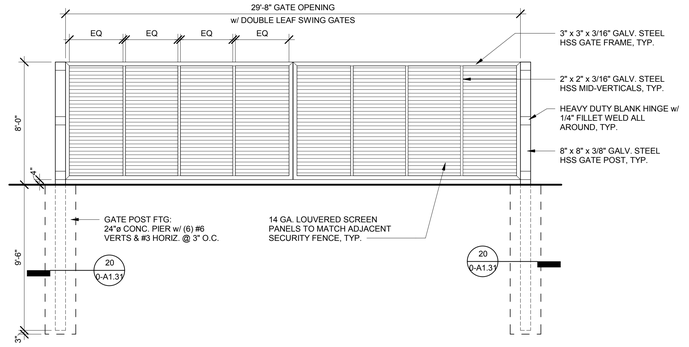
Project No. 2016039

0-A1.14
Drawing No.

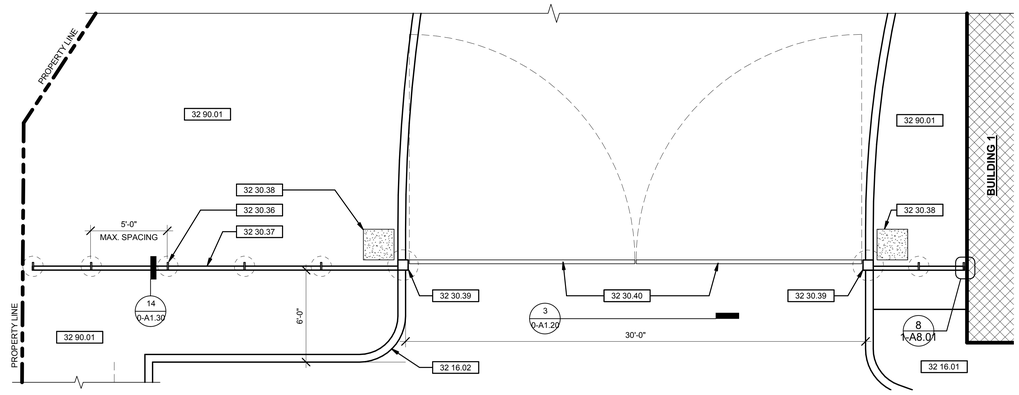
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1 MAIN ENTRY WALK
1/4" = 1'-0"



3 VEHICLE GATE - ELEVATION
1/4" = 1'-0"



2 WEST SITE FENCE & VEHICLE GATE
1/4" = 1'-0"

GENERAL SHEET NOTES

1. THE EXISTING SITE INFORMATION AND FEATURES SHOWN HEREIN ARE BASED UPON AN AERIAL SURVEY PERFORMED BY GEOTERRA ON APRIL 4, 2016 AND SUPPLIMENTAL FIELD SURVEY PERFORMED BY BKF ENGINEERS ON APRIL 27, 2016.
2. SEE CIVIL AND LANDSCAPE DRAWINGS FOR ADDITIONAL SITE IMPROVEMENT PLANS AND DETAILS.

SHEET KEYNOTE LEGEND

05 10.04	PAINTED STEEL COLUMNS ON RAISED CONCRETE PEDESTAL, S.S.D.
10 14.01	MAIN ENTRY MONUMENT SIGN WITH LIGHTING, SEE SIGNAGE DRAWINGS
32 10.04	SPECIAL JOINT PATTERN IN CONCRETE PAVING, SEE LANDSCAPE DRAWINGS
32 10.12	PERMEABLE PAVERS AT MAIN ENTRY WALK, SEE CIVIL AND LANDSCAPE DRAWINGS
32 16.01	NEW CONCRETE SIDEWALK, SEE CIVIL PLANS
32 16.02	NEW CONCRETE CURB, SEE CIVIL PLANS
32 30.01	CIP CONCRETE SITE BENCH WITH DEPRESSED SEATING AREAS LINED WITH COMPOSITE DECKING MATERIAL. PROVIDE STEEL ANGLE PROTECTION AT ALL EXPOSED TOP EDGES. REFER TO 11/0-A1.30
32 30.07	BICYCLE RACK (1 OF 9), SEE LANDSCAPE PLANS FOR DETAILS
32 30.08	FLAGPOLE
32 30.13	64" TALL STEEL W-SHAPE INSTALLED VERTICALLY WITH TOP PLATE CAP. INSTALL KNOX BOX, EMERGENCY PHONE, LIGHT, MAIN ENTRY DOOR ACTUATOR, AND FIRE STATION DOOR BELL TO WEB
32 30.17	CIP CONCRETE SITE BENCH. PROVIDE STEEL ANGLE PROTECTION AT ALL EXPOSED TOP EDGES. REFER TO 9/0-A1.30
32 30.36	6" X 1" STEEL FENCE POST WITH CONCRETE FOOTING @ MAXIMUM 5' O.C. SPACING
32 30.37	DECORATIVE METAL LOUVERED FENCE PANEL WITH POWDER-COAT PAINT FINISH, TYPICAL
32 30.38	CONCRETE MOUNTING PAD FOR GATE OPERATOR, TYPICAL. VERIFY SIZE AND LOCATION WITH OPERATOR MANUFACTURER
32 30.39	8" X 8" X 3/8" HSS GATE POST WITH CAP PLATE, EMBEDDED MINIMUM 8'-6" IN CONCRETE FOOTING PER DETAILS 20 & 26/0-A1.31. PROVIDE POWDER-COAT PAINT FINISH TO MATCH FENCE PANELS.
32 30.40	8-FOOT TALL SWINGING GATE LEAF WITH 3" X 3" X 3/16" HSS PERIMETER FRAME, 2" X 2" HSS MID-VERTICALS, AND LOUVERED FENCE PANEL INFILL
32 90.01	LANDSCAPE AREA, SEE CIVIL AND LANDSCAPE DRAWINGS

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: **KATHY GARCIA** DEP. DIR. PUBLIC WORKS	**ALEX AMERI** DIR. OF PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3 - INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
9/30/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

ENLARGED PLANS

Drawn By: EW
Checked By: EW

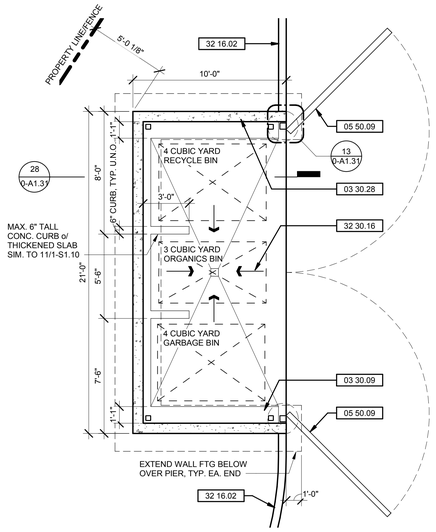
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1/4" = 1'-0"

Date:
October 4, 2019

Project No. 2016039

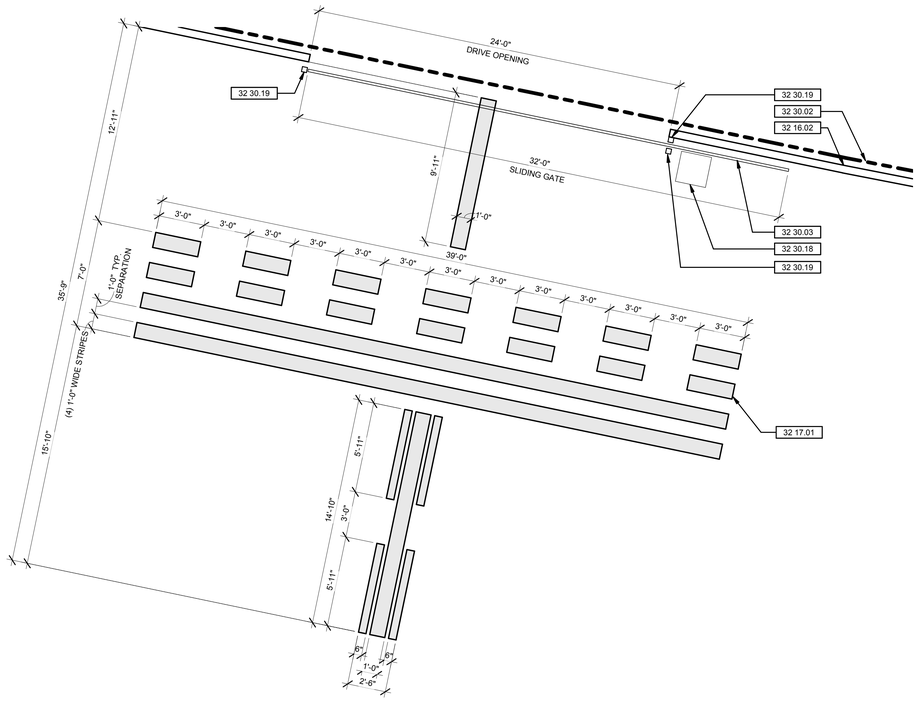
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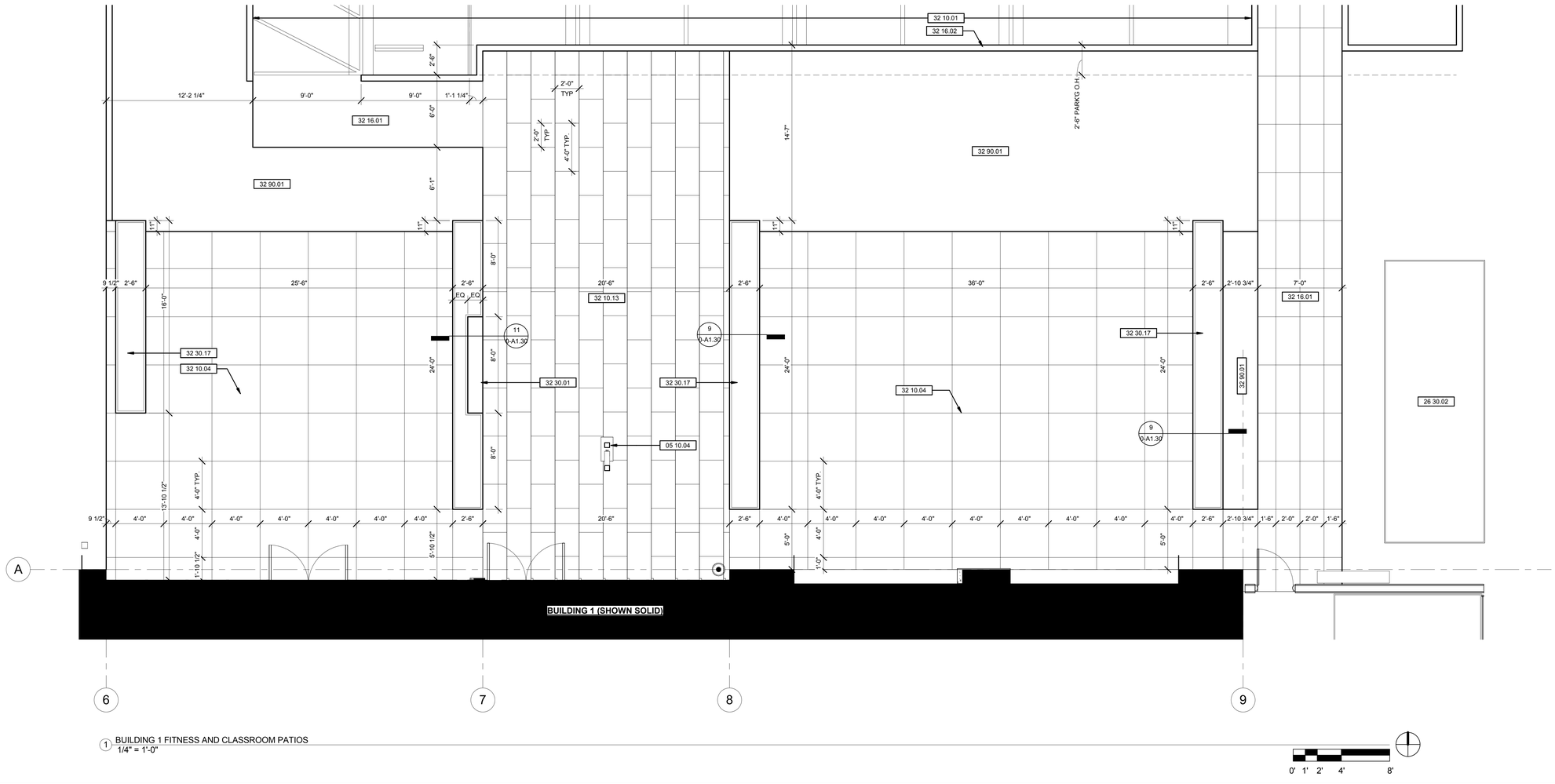
2 TRASH ENCLOSURE PLAN
1/4" = 1'-0"

0' 1' 2' 4' 8'



3 RUNWAY ACCESS GATE & TRAINING DESIGNATOR MARKINGS
1/4" = 1'-0"

0' 1' 2' 4' 8'



1 BUILDING 1 FITNESS AND CLASSROOM PATIOS
1/4" = 1'-0"

0' 1' 2' 4' 8'

GENERAL SHEET NOTES

1. THE EXISTING SITE INFORMATION AND FEATURES SHOWN HEREIN ARE BASED UPON AN AERIAL SURVEY PERFORMED BY GEOTERRA ON APRIL 4, 2016 AND SUPPLIMENTAL FIELD SURVEY PERFORMED BY BKF ENGINEERS ON APRIL 27, 2016.
2. SEE CIVIL AND LANDSCAPE DRAWINGS FOR ADDITIONAL SITE IMPROVEMENT PLANS AND DETAILS.

SHEET KEYNOTE LEGEND

03 30.09	6" HIGH CONCRETE BUMPER CURB, WIDTH AS DIMENSIONED
03 30.28	8" THICK CAST-IN-PLACE CONCRETE WALL WITH #6 VERTICAL REBAR @ 12" O.C. E.W. CENTERED IN WALL. SEE SHEET 28/0-A1.31 FOR ADDITIONAL INFORMATION
05 10.04	PAINTED STEEL COLUMNS ON RAISED CONCRETE PEDESTAL, S.S.D.
05 50.09	METAL GATE WITH MINIMUM 135-DEGREE SWING
26 30.02	EMERGENCY GENERATOR ON CONCRETE HOUSEKEEPING PAD, S.E.D.
32 10.01	CONCRETE PAVING, SEE CIVIL DRAWINGS
32 10.04	SPECIAL JOINT PATTERN IN CONCRETE PAVING, SEE LANDSCAPE DRAWINGS
32 10.13	PERMEABLE PAVERS AT WALK OUT FROM BUILDING 1 LOBBY, SEE CIVIL AND LANDSCAPE DRAWINGS
32 16.01	NEW CONCRETE SIDEWALK, SEE CIVIL PLANS
32 16.02	NEW CONCRETE CURB, SEE CIVIL PLANS
32 17.01	PAINTED RUNWAY DESIGNATOR MARKINGS FOR TRAINING PURPOSES, CENTERED ON DRIVE. ALL MARKING LINE WIDTHS AND PAINT COLORS SHALL COMPLY WITH FAA STANDARDS.
32 30.01	CIP CONCRETE SITE BENCH WITH DEPRESSED SEATING AREAS LINED WITH COMPOSITE DECKING MATERIAL. PROVIDE STEEL ANGLE PROTECTION AT ALL EXPOSED TOP EDGES. REFER TO 11/0-A1.30
32 30.02	4-FOOT HIGH CHAIN-LINK SECURITY FENCE ALONG COMMON LINE WITH AIRPORT PROPERTY. SEE DETAIL 14B/0-A1.30
32 30.03	4-FOOT HIGH CHAIN-LINK SLIDING GATE WITH V-GROOVE WHEELS AND ELECTRIC OPERATOR. VERIFY OVERALL GATE LEAF LENGTH WITH OPERATOR SUPPLIER TO PROVIDE REQUIRED "TAIL" AND ROLLBACK DISTANCE. SEE DETAIL 3/0-A1.21
32 30.16	CONCRETE SLAB WITH MAXIMUM 2% SLOPE TO CENTER DRAIN, S.C.D.
32 30.17	CIP CONCRETE SITE BENCH. PROVIDE STEEL ANGLE PROTECTION AT ALL EXPOSED TOP EDGES. REFER TO 9/0-A1.30
32 30.18	GATE OPERATOR
32 30.19	PAINTED 4" SQ. HSS GATE POST WITH CONCRETE PIER FOOTING PER 14A/0-A1.30
32 90.01	LANDSCAPE AREA, SEE CIVIL AND LANDSCAPE DRAWINGS

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542
ARCHITECTURE

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: **KATHY GARCIA** DEP. DIR. PUBLIC WORKS	**ALEX AMERI** DIR. OF PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3 - INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
9/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

ENLARGED PLANS

Drawn By: SF Checked By: EW

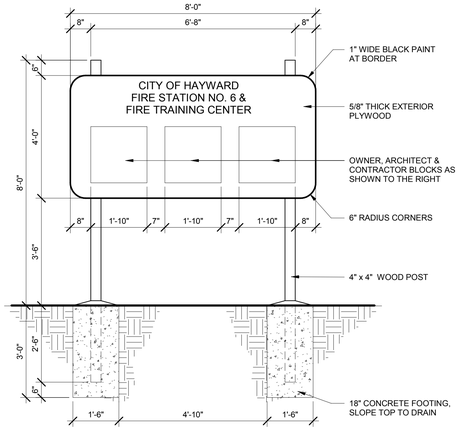
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Date: **October 4, 2019**

Project No. 2016039

0-A1.21
Drawing No.

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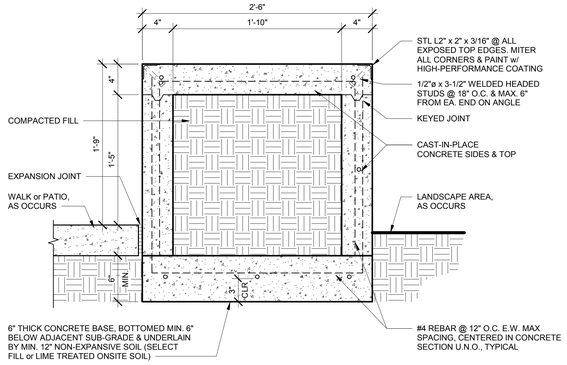


CITY OF HAYWARD CITY COUNCIL	ARCHITECT RossDrulisCusenbery Architecture Inc.	HAYWARD FIRE DEPARTMENT
Name Name Name Name Name	CONTRACTOR NAME	DIVISION CHIEF NAME
CITY MANAGER Name	CONSTRUCTION MANAGER KITCHELL CEM	FIRE CHIEF GARRETT CONTRERAS
	COMPLETION DATE	

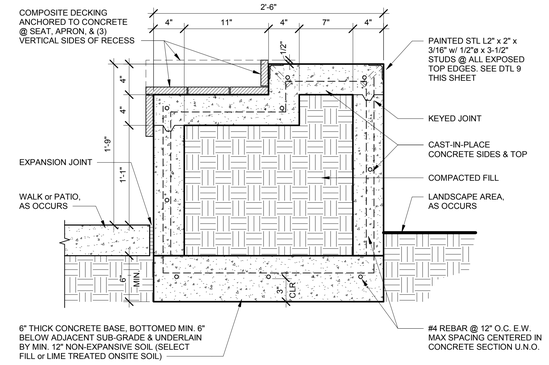
NOTES:

1. PLYWOOD BACKGROUND AND POSTS TO BE PAINTED WHITE
2. ALL LETTERS & GRAPHICS TO BE BLACK, MAINTAIN PROPORTIONS AS SHOWN
3. LETTERS TO BE OPTIMA
4. VERIFY ALL NAMES WITH THE ARCHITECT

7 CONSTRUCTION SIGN
1/2" = 1'-0"



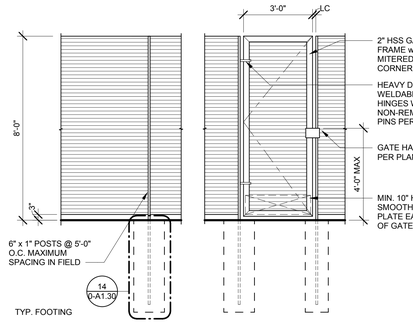
9 CONCRETE BENCH SEAT
1 1/2" = 1'-0"



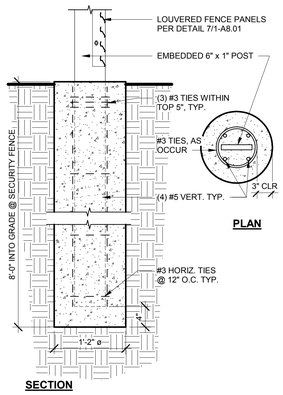
11 CONCRETE BENCH SEAT @ RECESS
1 1/2" = 1'-0"

NOTES:
1. FENCE INFILL MATERIAL TO BE 14 GA. LOUVERED SCREEN PANELS (BARNETTBATES "ORSOGRIL TALIA 100") BOLTED TO POSTS.
2. ALL FENCE MATERIALS TO BE GALVANIZED STEEL w/ EPOXY PRIMER & POWDER-COAT PAINT FINISH.
3. SEE SHEET 1-A8.01 FOR ADDITIONAL NOTES AND DETAILS.

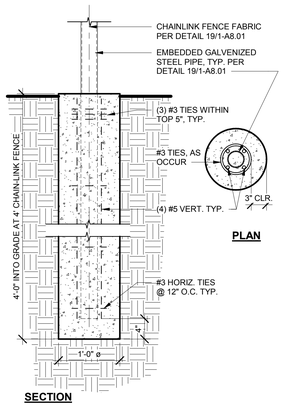
LC = LATCH CLEARANCE, VARIES ACCORDING TO HARDWARE
HC = HINGE CLEARANCE, VARIES ACCORDING TO HARDWARE



13 SECURITY FENCE & MAN-GATE
3/8" = 1'-0"

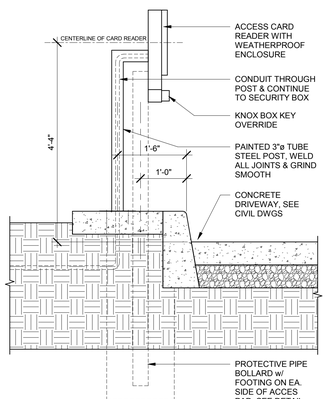


A. PANELIZED FENCE FOOTING

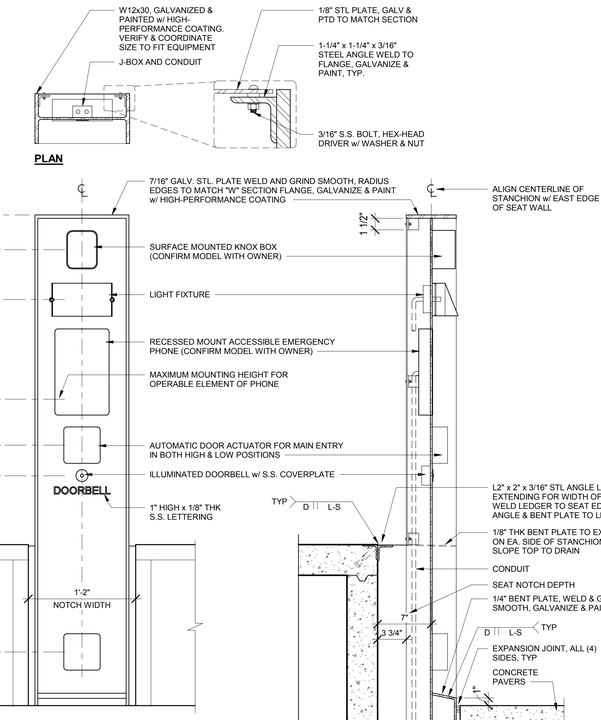


B. SITE CHAINLINK FENCE FOOTING

14 FENCE POST FOOTING
1" = 1'-0"



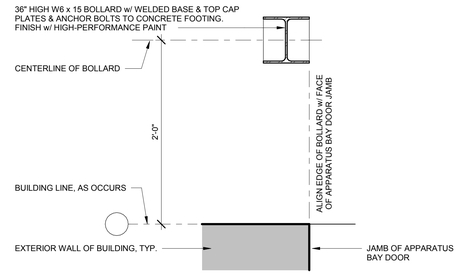
15 SECURITY GATE ACCESS CARD READER
3/4" = 1'-0"



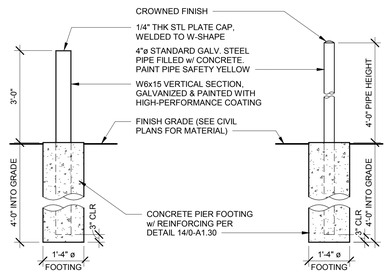
28 ENTRY STANCHION
1 1/2" = 1'-0"

19 PROTECTIVE BOLLARDS
1/2" = 1'-0"

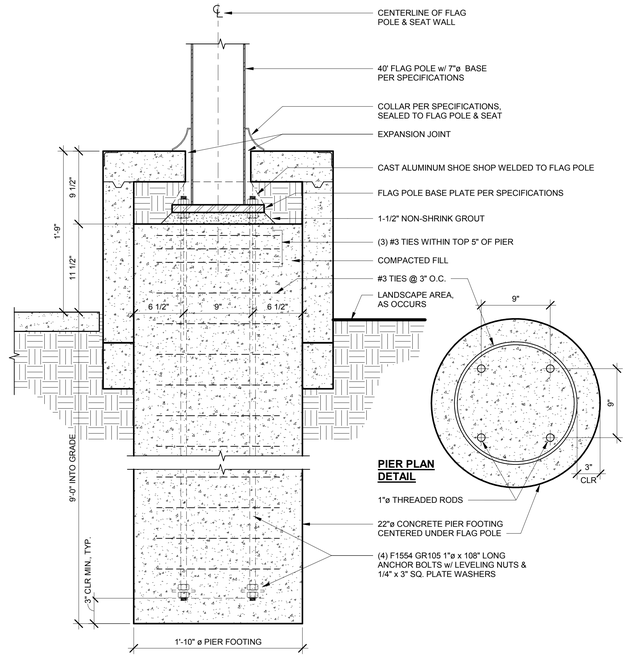
NOTE:
PROVIDE BOLLARD AT EACH JAMB OF APPARATUS BAY DOOR IN LOCATIONS INDICATED ON PLAN



25 PROTECTIVE BOLLARD @ APPARATUS BAY DOOR JAMB
1 1/2" = 1'-0"



26 FLAG POLE
1 1/2" = 1'-0"



RossDrulisCusenbery
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542
ARCHITECTURE

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CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY: **KATHY GARCIA** DEP. DIR. PUBLIC WORKS	**ALEX AMERI** DIR. OF PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

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LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
9/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

ARCHITECTURAL SITE DETAILS

Drawn By: EW
Checked By: EW

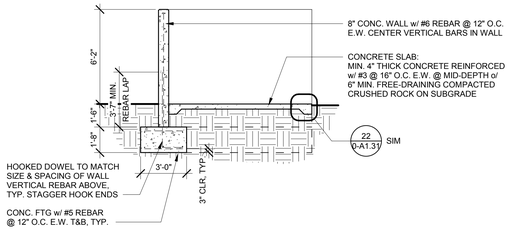
Scale:
As indicated

Date:
October 4, 2019

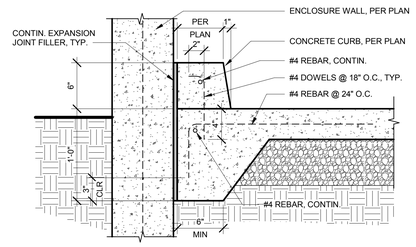
Project No. 2016039

0-A1.30
Drawing No.

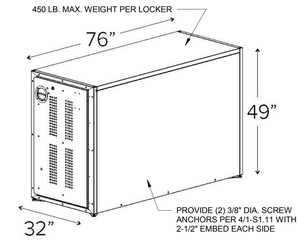
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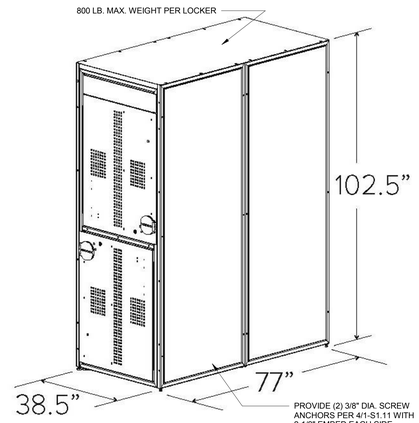
1 ELECTRICAL ENCLOSURE SECTION
1/4" = 1'-0"



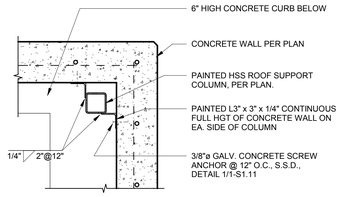
2 TRASH ENCLOSURE CURB
1 1/2" = 1'-0"



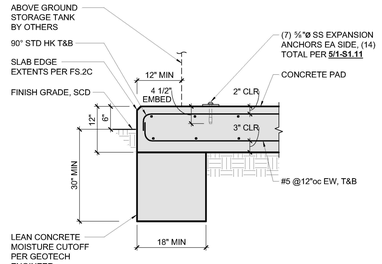
3 SINGLE TIER BIKE LOCKER
3/8" = 1'-0"



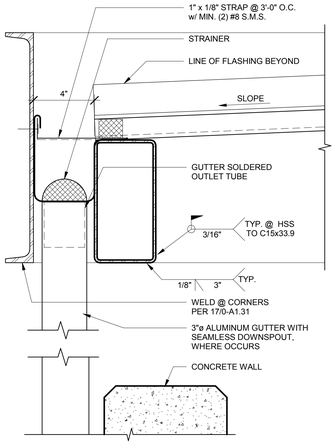
4 DOUBLE TIER BIKE LOCKER
3/8" = 1'-0"



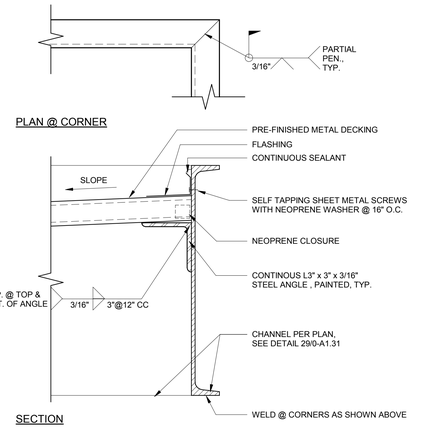
7 TRASH ENCLOSURE COLUMN ANCHORAGE
1" = 1'-0"



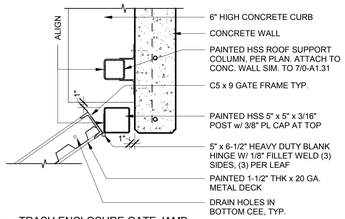
8 AST CONCRETE MOUNTING PAD EDGE
3/4" = 1'-0"



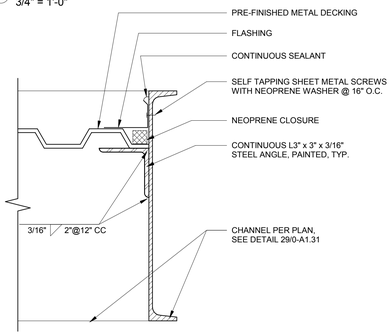
16 ENCLOSURE ROOF EAVE GUTTER
3" = 1'-0"



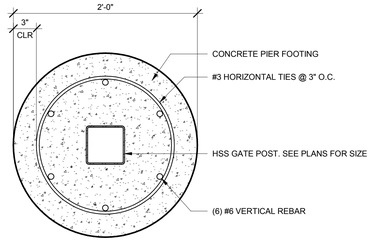
17 ENCLOSURE ROOF EAVE
3" = 1'-0"



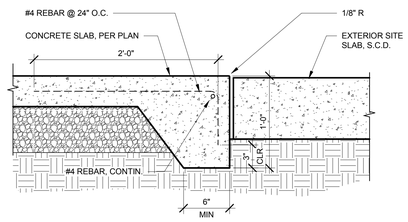
13 TRASH ENCLOSURE GATE JAMB
1" = 1'-0"



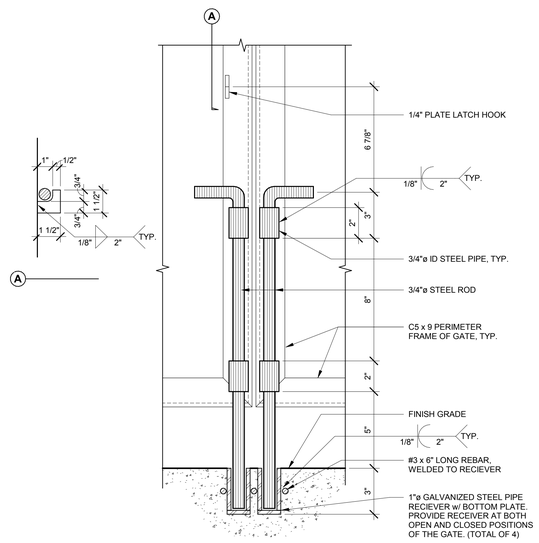
14 ENCLOSURE ROOF RAKE
3" = 1'-0"



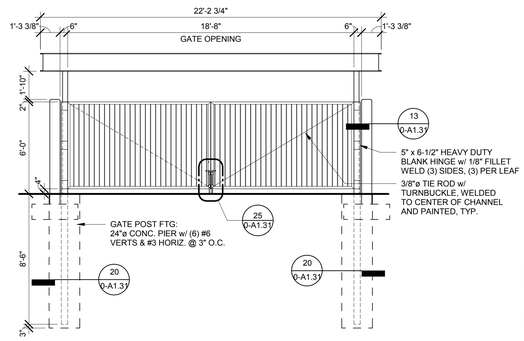
20 GATE POST PIER FOOTING
1 1/2" = 1'-0"



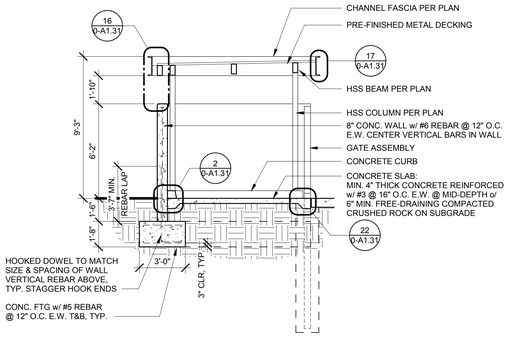
22 TRASH ENCLOSURE EDGE OF SLAB
1 1/2" = 1'-0"



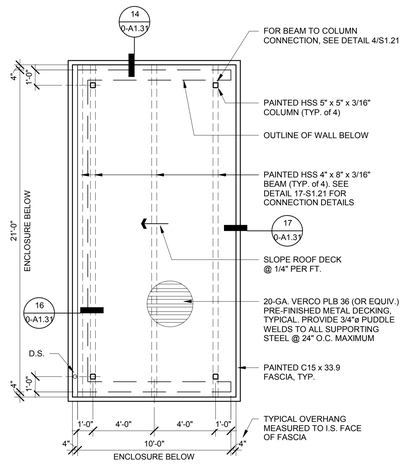
25 TRASH ENCLOSURE GATE LATCH
3" = 1'-0"



26 TRASH ENCLOSURE GATE - ELEVATION
1/4" = 1'-0"



28 TRASH ENCLOSURE SECTION
1/4" = 1'-0"



29 TRASH ENCLOSURE ROOF FRAMING PLAN
1/4" = 1'-0"

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION	
DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA	ALEX AMERI
DEP. DIR. PUBLIC WORKS	DIR. OF PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3 - INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
9/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

TRASH ENCLOSURE PLANS, ELEVATIONS, SECTION, & DETAILS

Drawn By: EW Checked By: EW

Scale: **As indicated**

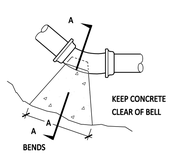
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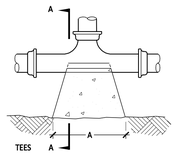
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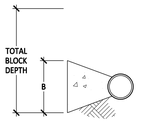
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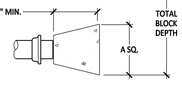
If this drawing is not 30" x 42", it is a reduced print - scale accordingly. All rights reserved. Material may not be reproduced in any form without permission from RossDrulisCusenbery Architecture, Inc.

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SOIL BEARING CAPACITY 2000 PSF FOR SILTY CLAY SOILS. TYPE IN ACCORDANCE WITH NFPA 13 TABLE A.10.6.1(c). SEE ROCKRIDGE GEOTECH REPORT BORING SUMMARY.

THRUST BLOCK CALCULATIONS PER NFPA 13: TABLE A.10.6.1(b)

6" - 90 BEND AREA = (7.9 S.F.)(225 PSI/100 PSI)(1000 PSF/2000 PSF) = 8.9 S.F.
6" - 45 BEND AREA = 8.9 S.F. x 0.541 = 4.8 S.F.
6" - 22.5 BEND AREA = 8.9 S.F. x 0.276 = 2.5 S.F.
6" - DEAD END AREA = (5.6 S.F.)(225 PSI/100 PSI)(1000 PSF/2000 PSF) = 6.3 S.F.

PIPE SIZE	90° BENDS			45° BENDS			22.5° BENDS			TEES and PLUGS		
	SIZE SQ. FT.	"A"	"B"	SIZE SQ. FT.	"A"	"B"	SIZE SQ. FT.	"A"	"B"	SIZE SQ. FT.	"A"	"B"
6"	8.9	53"	24"	4.8	39"	18"	2.5	30"	12"	6.3	43"	21"

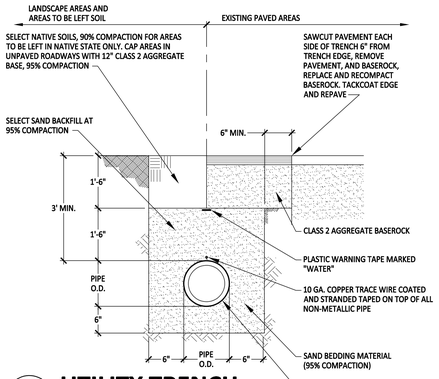
BASED ON A WATER PRESSURE OF 225 POUNDS PER SQUARE INCH AND A SOIL RESISTANCE OF 2000 POUNDS PER SQUARE FOOT, PER NFPA TABLE A.10.6.1(b).

TOTAL BLOCK DEPTH SHALL BE AT LEAST TWICE THE BLOCK DEPTH "B" IN ACCORDANCE WITH NFPA 24.

JOINT RESTRAINT SHALL UTILIZE BOTH THRUST BLOCKS AND MEGALUG JOINT RESTRAINT FITTINGS

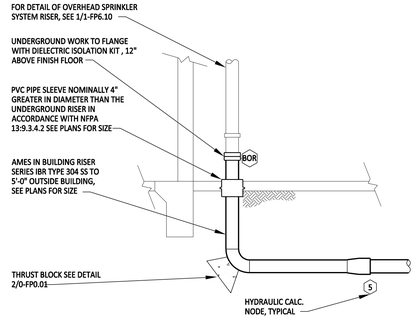
2 / 0-FP0.01 THRUST BLOCKS

NO SCALE



3 / 0-FP0.01 UTILITY TRENCH

NO SCALE



1 / 0-FP0.01 UNDERGROUND RISER

NO SCALE

DSA GENERAL NOTES

1. THE INTENT OF THE CONTRACT DOCUMENTS IS TO ADD A NEW FIRE STATION TRAINING CENTER AND APPARATUS BUILDING. SHOULD ANY CONDITIONS DEVELOP NOT COVERED BY THE CONTRACT DOCUMENTS, A CONSTRUCTION CHANGE DOCUMENT DETAILING AND SPECIFYING THE REQUIRED WORK SHALL BE SUBMITTED TO AND APPROVED BY DSA BEFORE PROCEEDING WITH THE WORK.
2. ALL HANGERS AND SEISMIC SWAY BRACING SHALL BE DESIGNED AND INSTALLED PER NFPA 13 AND CHAPTER 16A CALIFORNIA BUILDING CODE.
3. WHERE ANCHORAGE DETAILS ARE NOT SHOWN ON THE DRAWINGS, THE FIELD INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE STRUCTURAL ENGINEER AND THE FIELD REPRESENTATIVE OF THE DIVISION OF THE STATE ARCHITECT.

FIRE DEPARTMENT CONNECTIONS:

NFPA 13 (2016) SEC. 8.17.2.5.1 CHECK-VALVE SHALL BE PROVIDED AT FIRE DEPARTMENT CONNECTION ASSEMBLY (FDC) TO PREVENT WATER (PRESSURE) AT INLET OF FDC VALVE.

TITLE 19 ARTICLE 906 (A) A LABEL OF THE SELF-ADHESIVE TYPE SHALL BE PLACED ON THE FIRE DEPARTMENT CONNECTION OR ON THE RISER FOR FIRE SPRINKLER SYSTEMS WITH THE DATE OF SERVICE AND/OR DATE INSTALLATION WAS PERFORMED AND LICENSE NUMBER OF PERSON PERFORMING SERVICE WORK.

FIRE DEPARTMENT SIGNAGE:

CONTRACTOR SHALL PROVIDE SIGNS AT FIRE DEPARTMENT CONNECTIONS SERVING THIS SYSTEM. SIGNS SHALL INDICATE BUILDINGS SERVED BY FIRE DEPARTMENT CONNECTIONS.

CONTRACTOR SHALL PROVIDE SIGNS AT EXISTING BACKFLOW PREVENTER. SIGNS SHALL INDICATE BUILDINGS AND HYDRANTS SERVED BY BACKFLOW PREVENTER.

SEE SITE PLAN FOR BUILDING AND HYDRANT MARKS/IDENTIFICATIONS.

LIST OF GOVERNING CODES:

2016 BUILDING STANDARDS ADMINISTRATIVE CODE, PART 1, TITLE 24, C.C.R.
2016 CALIFORNIA BUILDING CODE (CBC), PART 2, TITLE 24, C.C.R.
2016 CALIFORNIA ELECTRICAL CODE, PART 3, TITLE 24, C.C.R.
2016 CALIFORNIA MECHANICAL CODE (CMC), PART 4, TITLE 24, C.C.R.
2016 CALIFORNIA PLUMBING CODE (CPC), PART 5, TITLE 24, C.C.R.
2016 CALIFORNIA ENERGY CODE (CEC), PART 6, TITLE 24, C.C.R.
2016 CALIFORNIA FIRE CODE (CFC), PART 9, TITLE 24, C.C.R.
2016 CALIFORNIA REFERENCED STANDARDS CODE, PART 12, TITLE 24, C.C.R.
TITLE 19, C.C.R., PUBLIC SAFETY, STATE FIRE MARSHAL REGULATIONS.
2016 NFPA 13 AS AMENDED
2016 NFPA 24 AS AMENDED

ALL SECTION NUMBERS BELOW REFER TO GROUP 1, CHAPTER 4, PART 1, TITLE 24, C.C.R.

1. ADDENDA, CHANGE ORDERS PER SECTION 4-338.
2. INSPECTOR APPROVED BY DSA. INSPECTOR AND CONTINUOUS INSPECTION OF WORK PER SECTION 4-333(b) AND 4-342.
3. TESTS AND TESTING LABORATORY PER SECT. 4-335.
4. SPECIAL INSPECTION PER SECT. 4-333(c).
5. CONTRACTOR SHALL SUBMIT VERIFIED REPORTS PER SECT. 4-336 AND 4-343(c).
6. ADMINISTRATION OF CONSTRUCTION PER PART 1, TITLE 24, C.C.R. - DUTIES OF ARCHITECT, STRUCTURAL ENGINEER OR PROFESSIONAL ENGINEER PER SECT. 4-333(a) AND 4-341.
7. GOVERNING CODES: TITLE 24.
8. A COPY OF PARTS 1, 2, 3, 4, AND 5 OF TITLE 24 SHALL BE KEPT AVAILABLE IN THE FIELD DURING CONSTRUCTION.
9. DSA SHALL BE NOTIFIED OF START OF CONSTRUCTION PER SECT. 4-331.
10. SUPERVISION BY THE OFFICE OF REGULATION SERVICE PER SECT. 4-334.

FIRE WATER STORAGE TANK

MARK	DESCRIPTION	OPERATING PRESSURE	MATERIAL	HEAD THICKNESS	SHELL THICKNESS	GALLONS	DIA	LENGTH	REMARKS
FWST-1	UG FIRE PROTECTION WATER STORAGE TANK	ATMOSPHERIC	MILD CARBON STEEL	5/16"	3/8"	30,000	10'-6"	46'-6"	1 2 3 4 5 6 7 8

1. INTERIOR FINISH - SSPC SPIG BLAST HIGH DRO-LINER PLUS FOR NFPA 22 APPLICATIONS
2. EXTERIOR FINISH - SPIG BLAST, 75 MILS POLYURETHANE
3. LABEL - UL-1746 HIGH GUARD
4. 36" H20 MANWAY WITH 16" INTERNAL WIDE LADDER
5. 12" C110 COMPATIBLE FLANGED OUTLET WITH ANTIVORTEX PLATE
6. CAPPED 6" RISER WITH ANTIVORTEX PLATE
7. 24" H20 MANWAY ACCESS WITH 4" CLA VAL 624-01 ANGLE
8. FLOAT VALVE WITH 6" AIR GAP , 10 DEADMAN (ITT-CD4-45) WITH POLYESTER HOLDOWN

PUMPS

MARK	DESCRIPTION	GPM	DISCHARGE PRESSURE (PSI)	ELECTRICAL HZ	HP	V/PH	RPM	WT LBS	MAKE & MODEL	REMARKS
FP-1	FIRE PUMP	500	100	60	40	460/3	1770	2100	PENTAIR 11FGM	1 2 4 5 6
JP-1	JOCKEY PUMP	7.5	100	60	1.5	460/3	3500	89	PENTAIR PVM1-9	2 3 5 7

1. COMPLETE WITH SOFT START CONTROLLER WITH INTEGRAL TRANSFER SWITCH, 2 POINT LEVEL PROBE. UNIT WEIGHT 235 LBS
2. UL/FM APPROVED
3. COMPLETE WITH ACROSS THE LINE TORNATECH JP3 CONTROLLER. UNIT WEIGHT 30 LBS
4. CUSTOM PUMP LENGTH DETERMINED BY FINAL FIELD SETTING
5. SEE ENLARGED PLANS 1-FP2.30 FOR DIMENSIONS
6. SEE DETAIL 8/1-FP6.20 FOR PUMP MOUNT DETAIL
7. SEE DETAIL 9/1-FP6.20 FOR ANCHOR MOUNT DETAIL

UNDERGROUND FIRE SERVICE GENERAL NOTES:

NFPA 24 (2016) SEC. 10.1.6 ALL FERROUS METAL PIPE SHALL BE LINED, AND STEEL PIPE SHALL BE COATED AND WRAPPED WITH JOINTS FIELD-COATED AND WRAPPED AFTER ASSEMBLY. FOR BURIED PIPE, GALVANIZING, INTERNALLY OR EXTERNALLY, DOES NOT MEET THE REQUIREMENTS OF THIS SECTION.

NFPA 24 (2016) SEC. 10.3.6.2 ALL BOLTED JOINT ACCESSORIES SHALL BE CLEANED AND THOROUGHLY COATED WITH ASPHALT OR OTHER CORROSION-RETARDING MATERIAL AFTER INSTALLATION.

NFPA 24 (2016) SEC. 10.8.3.5 AFTER INSTALLATION, RODS, NUTS, BOLTS, WASHERS, CLAMPS, AND OTHER RESTRAINING DEVICES, EXCEPT THRUST BLOCKS, SHALL BE CLEANED AND THOROUGHLY COATED WITH A BITUMINOUS OR OTHER ACCEPTABLE CORROSION-RETARDING MATERIAL.

NFPA 24 (2016) SEC. 10.8.2 THRUST BLOCKS SHALL BE OF A CONCRETE MIX NOT LEANER THAN ONE PART CEMENT, TWO AND ONE-HALF PARTS SAND, AND FIVE PARTS STONE WITH A MINIMUM COMPRESSIVE STRENGTH (Fc) OF 2500 PSI. THRUST BLOCKS SHALL BE PLACED BETWEEN UNDISTURBED EARTH AND THE FITTING TO BE RESTRAINED, AND SHALL BE OF SUCH BEARING AS TO ENSURE ADEQUATE RESISTANCE TO THE THRUST TO BE ENCOUNTERED IN GENERAL, THRUST BLOCKS SHALL BE SO PLACED THAT THE JOINTS WILL BE ACCESSIBLE FOR INSPECTION AND REPAIR.

NFPA 24 (2016) SEC. 10.10.2.1 UNDERGROUND MAINS SHALL BE COMPLETELY FLUSHED TO REMOVE FOREIGN MATERIALS THAT MIGHT HAVE ENTERED THE MAIN DURING THE COURSE OF THE INSTALLATION PER TABLE 10.10.2.1.3 TO PRODUCE A VELOCITY OF 10 FEET PER SECOND IN PIPES. LOCAL FIRE JURISDICTION SHALL BE NOTIFIED OF DATE AND TIME OF TESTING SO THEY MAY OBSERVE TESTING

NFPA 24 (2016) SEC. 10.10.2.2 ALL NEW PRIVATE UNDERGROUND FIRE SERVICE MAINS SHALL BE TESTED HYDROSTATICALLY AT NOT LESS THAN 200-PSI PRESSURE FOR A MINIMUM OF TWO HOURS. LOCAL FIRE JURISDICTION SHALL BE NOTIFIED OF DATE AND TIME OF TESTING AND SHALL OBSERVE AND/OR AND/OR ASSIST IOR WHENEVER POSSIBLE.

THE AMOUNT OF LEAKAGE IN BURIED PIPING SHALL BE MEASURED AT THE SPECIFIED TEST PRESSURE BY PUMAPING FROM A CALIBRATED CONTAINER. FOR NEW PIPE, THE AMOUNT OF LEAKAGE AT THE JOINTS SHALL NOT EXCEED TWO QUARTS PER HOUR PER 100 GASKETS OR JOINTS IRRESPECTIVE OF PIPE DIAMETER. NO VISIBLE LEAKAGE SHALL BE ALLOWED IN ABOVEGROUND PIPING. (ALSO SEE SEC. 10.10.2.2.6 FOR ALLOWABLE LEAKAGE)

HYDROSTATIC TESTS SHALL BE MADE BEFORE THE JOINTS ARE COVERED SO THAT ANY LEAKS MAY BE READILY DETECTED.

NFPA 24 (2016) SEC. 10.10 BEFORE ASKING FINAL APPROVAL OF AN INSTALLATION BY THE INSPECTOR OF RECORD, THE INSTALLING COMPANY SHALL FURNISH A CONTRACTOR'S MATERIAL AND TEST CERTIFICATE TO BE SUBMITTED TO THE OWNER. A TYPICAL CERTIFICATE IS SHOWN IN FIGURE 10.10.1. THIS FORM SHALL BE GIVEN TO THE APPROVING AUTHORITY, OWNER, AND CONTRACTOR.

NFPA 24 (2016) SEC. 10.4 THE DEPTH OF COVER OVER WATER PIPES SHALL BE NOT LESS THAN 2'-6" TO PREVENT MECHANICAL DAMAGE AND SHALL BE BURIED A MINIMUM OF 3'-0" UNDER DRIVEWAYS.

* THE METHOD USED FOR UNDERGROUND FIRE-LINES WHEN ENTERING BUILDINGS UNDER CONCRETE FOOTINGS SHALL HAVE THE STRUCTURAL ENGINEER OF RECORD APPROVAL. NFPA 24 (2016) SEC. 12.2.6 NFPA 13 (2016) SEC. 9.3.4.2 REQUIRES A CLEARANCE BY A PIPE SLEEVE WITH A NOMINAL DIAMETER 4 IN. LARGER THAN THE NOMINAL DIAMETERS OF THE SUPPLY PIPING 4 IN. NOMINAL AND LARGER. (I.E.: FIRE-LINES NOMINAL 6 IN. REQUIRES 10 IN. SLEEVE)

CPC SEC. 604.1 (2016) PVC PIPING MAY BE INSTALLED TO 5 FEET OUTSIDE THE FOUNDATION OF ANY BUILDING OR STRUCTURE OR PARTS THEREOF. IT SHALL BE BURIED IN THE GROUND FOR ITS ENTIRE LENGTH. IT SHALL NOT BE INSTALLED WITHIN OR UNDER ANY BUILDING OR STRUCTURE. (DUCTILE PIPE SHALL BE INSTALLED WITHIN 5 FEET OF BUILDING)

OVERHEAD FIRE SPRINKLER SYSTEM GENERAL NOTES:

NFPA 13 (2016) SEC. 9.2.1.3.3.4 WHERE FLEXIBLE SPRINKLER HOSE FITTINGS ARE USED TO CONNECT SPRINKLERS TO BRANCH LINES IN SUSPENDED CEILINGS, A LABEL LIMITING RELOCATION OF THE SPRINKLER SHALL BE PROVIDED ON THE ANCHORING COMPONENT.

NFPA 13 (2016) SEC. 10.10.2.1 UNDERGROUND MAINS AND LEAD-IN CONNECTION MADE TO OVERHEAD SPRINKLER PIPING SYSTEMS SHALL BE COMPLETELY FLUSHED.

NFPA 13 (2016) SEC. 10.10.2.2 ALL INTERIOR PIPING AND APPURTENANCES SUBJECTED TO SYSTEM WORKING PRESSURE SHALL BE HYDROSTATIC ALLY TESTED AT 200 PSI AND SHALL MAINTAIN THAT PRESSURE WITHOUT LOSS FOR 2 HOURS. LOCAL FIRE DEPARTMENT SHOULD BE NOTIFIED OF DATE AND TESTING SO THEY MAY OBSERVE TESTING.

NFPA 13 (2016) SEC. 6.2.9 PROVIDE SPARE SPRINKLER HEAD CABINET, SPRINKLER WRENCH, AND NO FEWER THAT A TOTAL OF 6 SPARE HEADS MATCHING THE TYPES AND TEMPERATURE RATINGS IN EACH PROTECTED BUILDING FOR SYSTEMS LESS THAN 300 SPRINKLERS AND FEWER THAN 12 FOR SYSTEMS HAVING 300 TO 1000 SPRINKLERS.

NFPA 13 (2016) SEC. 9.3.6.1 PROVIDE RESTRAINT OF BRANCH LINES BY USING ONE OF THE FOLLOWING:
(1) LISTED SWAY BRACE ASSEMBLY
(2) WRAPAROUND U-HOOK SATISFYING THE REQUIREMENTS OF 9.3.5.5.11
(3) NO. 12, 440LB (200KG) WIRE INSTALLED AT LEAST 45 DEGREES FROM THE VERTICAL PLANE AND ANCHORED ON BOTH SIDES OF THE PIPE.
(4) CPVC HANGERS LISTED TO PROVIDE RESTRAINT
(5) HANGER NOT LESS THAN 45 DEGREES FROM VERTICAL INSTALLED WITHIN 6IN. OF THE VERTICAL HANGER ARRANGED FOR RESTRAINT AGAINST UPWARD MOVEMENT, PROVIDED IT IS UTILIZED SUCH THAT L/R DOES NOT EXCEED 400, WHERE THE ROD EXTENDS TO THE PIPE OR A SURGE CLIP HAS BEEN INSTALLED.

NFPA 72 (2016) SEC. 17.12.2 SPRINKLER FLOW SWITCH SHALL BE TESTED BY IOR TO CONFIRM THAT WHEN THE INSPECTOR'S TEST VALVE IS ACTIVATED AN ALARM WILL SOUND IN NOT MORE THAN 90 SECONDS.

NFPA 13 (2016) SEC. 6.8.3 FLOW SWITCH SHALL BE CONNECTED TO AN OUTSIDE ALARM BELL FOR EACH RISER. APPROVED IDENTIFICATION SIGN SHALL BE PROVIDED FOR OUTSIDE ALARM BELL "SPRINKLER FIRE ALARM - WHEN BELL RINGS CALL 911/FIRE DEPARTMENT".

NFPA 13 (2016) SEC. 25.5 FIGURE A25.5 HYDRAULIC CALCULATIONS DESIGN DATA PLACARD SHALL BE ATTACHED TO RISER. SHALL INCLUDE: 1) LOCATION OF DESIGN AREA(S). 2) DISCHARGE DENSITIES. 3) REQUIRED FLOW AND RESIDUAL PRESSURE DEMAND AT BASE OF RISER. 4) OCCUPANCY CLASSIFICATION. 5) HOSE STREAM DEMAND INCLUDED IN ADDITION TO SPRINKLER DEMAND. 6) THE NAME OF THE INSTALLING CONTRACTOR.

NFPA 13 (2016) SEC. 25.1 (3) SPRINKLER CONTRACTOR (C16) SHALL COMPLETE AND SIGN CONTRACTOR'S MATERIAL AND TEST CERTIFICATE FOR THE OVERHEAD SPRINKLER SYSTEM USING FORM IN FIGURE 25.1. THIS COMPLETED FORM SHALL BE GIVEN TO THE APPROVING AUTHORITY, OWNER, AND CONTRACTOR.

NFPA 13 (2016) SEC. 25.2.3.4.1 THE MAIN DRAIN VALVE SHALL BE OPENED AND REMAIN OPENED UNTIL THE SYSTEM PRESSURE STABILIZES. THE STATIC AND RESIDUAL PRESSURES SHALL BE RECORDED ON THE CONTRACTOR'S TEST CERTIFICATE.

TITLE 19 ARTICLE (A) A LABEL OF SELF-ADHESIVE TYPE SHALL BE PLACED ON THE FIRE DEPARTMENT CONNECTION OR ON THE RISER FOR THE FIRE SPRINKLER SYSTEM WITH THE DATE OF SERVICE AND/OR DATE OF INSTALLATION WAS PREFORMED AND LICENSE NUMBER OF PERSON PERFORMING SERVICE WORK.

THE SPRINKLER CONTRACTOR SHALL HAVE A REPRESENTATIVE PRESENT AT THE ROUGH-IN/HYDRO INSPECTION.

NFPA 13 (2016) SEC. 9.3.4.2 WHERE PIPE PASSES THROUGH HOLES IN PLATFORMS, FOUNDATIONS, WALLS, OR FLOORS, THE HOLES SHALL BE SIZED SUCH THAT THE DIAMETER OF THE HOLE IS NOMINALLY 2" LARGER THAN THE PIPE FOR PIPE 1" NOMINAL TO 3 1/2" NOMINAL AND 4" LARGER THAN PIPE FOR PIPE 4" NOMINAL AND LARGER.

FIRE PROTECTION LEGEND

SYMBOL	ABBRV.	IDENTIFICATION	ABBRV.	IDENTIFICATION
F	F	FIRE WATER	(E)	EXISTING
SPKR	SPKR	SPRINKLER	ELEC	ELECTRICAL
●		PENDENT ON 401 EXTENSION	ELEV	ELEVATION
◉		RECESSED PENDENT	EQUIP	EQUIPMENT
⊖		UPRIGHT W/ 1" OUTLET BELOW	FFE	FINISHED FLOOR ELEVATION
◎		UPRIGHT ON 1" SPRIG UP	FLA	FULL LOAD AMPS
○		UPRIGHT ON BRANCH LINE	FLEX	FLEXIBLE
◑		UPRIGHT OVER PENDENT	FLR	FLOOR
◁		SIDEWALL	FS	FLOOR SINK
▭		GROOVED COUPLING	FPM	FEET PER MINUTE
		EQ BRACE LOCATION	FT	FEET
		4WAY EQ BRACE LOCATION	FT HD	FEET HEAD
		HANGER LOCATION	GPM	GALLONS PER MINUTE
		BRANCH LINE RESTRAINT	HP	HORSEPOWER
X		HYDRAULIC CALCULATION NODE	HZ	HERTZ
	CHVA	CHECK VALVE	IE	INVERT ELEVATION
		GATE VALVE	IN	INCH
	T&PRV	TEMP & PRESS RELIEF VALVE	INV	INVERT
	DCDA	DOUBLE CHECK DETECTOR ASSEMBLY	KW	KILOWATTS
		UNION	LBS	POUNDS
P		PRESSURE GAUGE	MAX	MAXIMUM
	FC	FLEXIBLE CONNECTION	MBH	1000 BTU PER HOUR
	RPBP	REDUCE PRESS BACKFLOW PREVENTER	MFR	MANUFACTURER
			MIN	MINIMUM
	FH	FIRE HYDRANT	(N)	NEW
	PIV	POST INDICATING VALVE	NC	NORMALLY CLOSED
AD	AD	ACCESS DOOR	NIC	NOT IN CONTRACT
		BACK OF ELBOW	NO	NORMALLY OPEN
Ø	DIA	DIAMETER	OC	ON CENTER
	P.O.C.	POINT OF CONNECTION	PH	PHASE
℄		CENTERLINE	PRV	PRESSURE REDUCING VALVE
	&	AND	PSI	POUNDS PER SQUARE INCH
	@	AT	P/T	PRESSURE/TEMPERATURE
	°F	DEGREES FAHRENHEIT	QTY	QUANTITY
	AFF	ABOVE FINISH FLOOR	REQD	REQUIRED
	AMP	AMPERE	RLA	RATED/RUNNING LOAD AMPS
	APPROX	APPROXIMATE	RPM	REVOLUTIONS PER MINUTE
	BHP	BRAKE HORSEPOWER	SOV	SHUT-OFF VALVE
	BLDG	BUILDING	STD	STANDARD
	CFH	CUBIC FEET PER HOUR	STRUCT	STRUCTURAL
	CI	CAST IRON	TEMP	TEMPERATURE
	CIRC	CIRCULATING	TYP	TYPICAL
	CLG	CEILING	UL	UNDERWRITER'S LABORATORIES
	CONC	CONCRETE	UON	UNLESS OTHERWISE NOTED
	CONN	CONNECTION	V	VOLT
	CONT	CONTINUED	VTR	VENT THROUGH ROOF
	COORD	COORDINATE	W/	WITH
	CONST	CONSTRUCTION	WC	WATER COLUMN
	DN	DOWN	WT	WEIGHT
	DWGS	DRAWINGS		

FIRE FLOW CALCULATIONS:

CODE REQUIRED SITE FLOW:

CONSTRUCTION TYPE: II-B (WITH AUTOMATIC SPRINKLER SYSTEM)
FIRE FLOW CALCULATION AREA: 20,643 SF
2016 CFC FIRE FLOW(TABLE B8105.1): 3,000 GPM
2016 CFC MINIMUM FIRE FLOW: 1,500 GPM

AVAILABLE WATER SUPPLY:

HAYWARD WATER SYSTEMS NOVEMBER 19, 2018
STATIC PRESSURE: 100 PSI, SEE O-FP1.10 FOR LOCATION
RESIDUAL PRESSURE: 92 PSI
OBSERVED FLOW: 1,538 GPM
AVAILABLE FLOW: 5,332 GPM AT 20 PSI RESIDUAL

SEISMIC BRACING:

SPECTRAL RESPONSE:
LATITUDE: 37.6541° N
LONGITUDE: 121.1180° W
S_s = 1.985
SEE ROCKRIDGE GEOTECHNICAL REPORT, PAGE 35 SEISMIC COEFFICIENT:
C_p = 0.93 (2016 NFPA 13-TABLE 9.3.5.9.3)

USE C_p =0.93

SEE DRAWING 1-FP6.10, AND 2-FP6.10 FOR SPECIFIC SEISMIC BRACING DETAILS AND SHEET 1-FP6.30 AND 2-FP6.10 FOR CALCULATIONS.

TANK STORAGE CAPACITY:

HAZARD: APPARATUS BAY - ORDINARY HAZARD GROUP 1
DESIGN DENSITY: 0.15 GPM/OVER 1500 SQ. FT.
DURATION: 60 MIN. FOR ORDINARY HAZARD WITH CENTRAL OR REMOTE STATION WATERFLOW MONITORING
OUTSIDE HOSE FLOW: 0, 250 GPM FROM ANOTHER SOURCE, FIRE HYDRANT PRIVATE OR MUNICIPAL IN ACCORDANCE WITH NFPA 13-11.6.1.2
CAPACITY REQUIRED: = 0.15 GPM x 1500 SF x (1.2 OVERAGE) x 60 MINUTES = 16,200 GALLONS

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RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA DEP. DIR. PUBLIC WORKS	ALEX AMERI DIR. OF PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

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Sheet Title

LEGEND, NOTES, AND DETAILS - FIRE PROTECTION

Drawn By: CAD Checked By: SER

Scale: NONE

Date: OCTOBER 4, 2019

Project No. 2016039

0-FP0.01

Drawing No.

REGISTERED PROFESSIONAL ENGINEER STEVEN E. RAWSON MECHANICAL STATE OF CALIFORNIA
No. M30657
EXP. JUNE 30, 2020

ph. (831) 649-8000
fx. (831) 649-8038
www.axiomengineers.com
AXIOM ENGINEERS℠ CONSULTING ENGINEERS
AE Project # : 20180232
22 Lower Ragsdale Dr., Suite A
Monterey, California 93940-5788

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October 24, 2019 2:26:43 p.m.
Drawing: N:\PROJECTS\2016039\CAD\PERMIT\0-FP1.10.DWG
Xref: A1-FP1.10.DWG, A1-TITLE.DWG, A1-TEMPLATE.DWG

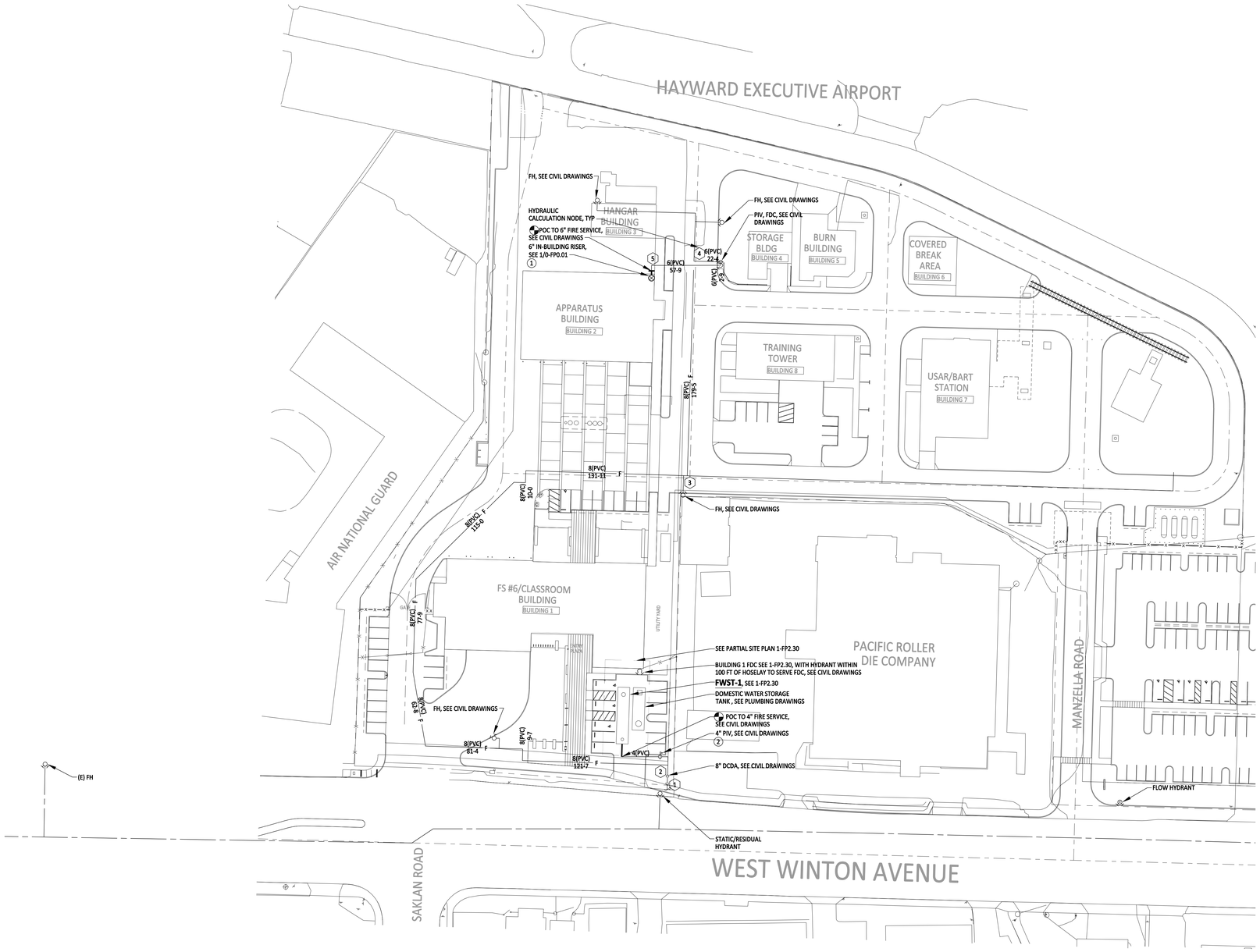
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NOTES

1. FIRE SERVICE PIPING IS SHOWN ON DRAWING 0-FP1.10 TO SHOW NODE LOCATIONS REQUIRED FOR OVERHEAD FIRE SPRINKLER HYDRAULIC CALCULATIONS. DESIGN AND SPECIFICATION NEW UNDERGROUND FIRE SERVICE PIPING IS BY THE PROJECT CIVIL ENGINEER, SEE CIVIL DRAWINGS AND SPECIFICATIONS.

KEY NOTES

1. FIRE RISER WITH CONTROL VALVE AND FLOW SWITCH THAT REQUIRES MONITORING BY THE FIRE ALARM SYSTEM
2. FIRE WATER STORAGE TANK CONTROL VALVE/PIV THAT REQUIRES MONITORING BY THE FIRE ALARM SYSTEM



SITE PLAN - FIRE PROTECTION

SCALE: 1" = 40'-0"

NORTH

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RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, DIR. OF PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

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SITE PLAN - FIRE PROTECTION

Drawn By: CAD Checked By: SER

Scale: **1" = 40' - 0"**

Date: **OCTOBER 4, 2019**

Project No. 2016039

0-FP1.10
Drawing No.

REGISTERED PROFESSIONAL ENGINEER
STEVEN E. RAWSON
No. M30657
EXP. JUNE 30, 2020
MECHANICAL
STATE OF CALIFORNIA

ph. (831) 649-8000
fx. (831) 649-8038
www.axiomengineers.com
AXIOM ENGINEERS℠
CONSULTING ENGINEERS
AE Project #: 20180232
22 Lower Ragsdale Dr., Suite A
Monterey, California 93940-5788

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SYMBOL

DA, N.C.	DAMPER WITH DAMPER ACTUATOR WITH END SWITCH
BDD	BACKDRAFT DAMPER
	THREE CONTROL WAY VALVE
CT	CURRENT TRANSDUCER
VFD, PWR	VARIABLE FREQUENCY DRIVE FOR MOTOR
	TWO WAY CONTROL VALVE
H, L	FILTER WITH DIFFERENTIAL PRESSURE SENSOR
H/C, D/X	HOT WATER HEATING COIL / DIRECT EXPANSION COOLING COIL
M	METER OR MOTOR ACTUATOR
DA	DAMPER
SD	SMOKE DETECTOR, DUCT MOUNTED
	SUMP TANK
SF	SUPPLY FAN
RF	RETURN FAN
EF	EXHAUST FAN
RTS	SPACE TEMPERATURE SENSOR RTS (ROOM TEMPERATURE SENSOR)
CO2	CO2 SENSOR
T	WATER TEMPERATURE SENSOR WITH WELL
MS	MOTOR STARTER
DP	DIFFERENTIAL PRESSURE SENSOR
	PUMP
H	OUTSIDE AIR HUMIDITY
H	ROOM HUMIDITY SENSOR
T, T, T	TEMPERATURE SENSOR
	WATER FLOW MEASUREMENT
H, L, H, L	AIR PRESSURE SENSOR
	RELAY
AO, P	LIQUID PRESSURE SENSOR
M	MEASUREMENT METER (TYPE)
FM	FLOW METER
FS	WATER FLOW SWITCH
HPS	HIGH PRESSURE SWITCH (DUCT)
DPT	DPT (ROOM DIFFERENTIAL PRESSURE TRANSMITTER)
NETWORK CONNECT	BACNET NETWORK CONNECTION
	WALL INDICATING LIGHT
G	COMBUSTIBLE GAS DETECTOR

ABBREVIATION

ALM	Alarm
AFMS	Air Flow Monitoring Station
ASC	Application-Specific Controller
BPDP	Bypass Differential Pressure
CCV	Cooling Coil Valve
CH	Chiller
DMP	Damper
DP	Duct Pressure
FDP	Filter Differential Pressure
GFE	Government-Furnished Equipment
GPM	Water Flow
HCV	Heating Coil Valve
HPS	High Pressure Switch
IV	Isolation Valve
LLT	Freeze Protect Sensor
LWT	Leaving Water Tempurature
MAD	Mixed Air Damper Control
MAT	Mixed Air Tempurature
MOAD	Minimum Outside Air Damper Control
MOAF	Minimum Outside Air Flow CFM
MV	Mixing Valve
NIC	Not In Contract
OAF	Outside Air Flow CFM
RAF	Return Fan Flow CFM
RAT	Return Air Tempurature
RCO2	Return CO2
RCWT	Return Cooling Water Tempurature
RF	Return Fan Status
RFKW	Return Fan kW
RFRPM	Return Fan Speed
RFSS	Return Fan Start/Stop
RH	Relative Humidity
RHWT	Return Heating Water Tempurature
RSD	Return Smoke Detector
RPBP	Reduced Pressure Backflow Preventor
RT	Room Temperature
RWT	Return Water Tempurature
SAF	Supply Fan Flow CFM
SAT	Supply Air Tempurature
SF	Supply Fan Status
SFKW	Supply Fan kW
SFRPM	Supply Fan Speed
SFSP	Supply Fan Static Pressure
SFSS	Supply Fan Start/Stop
SPF	Spill Air Fan
SSD	Supply Smoke Detector
SWT	Supply Water Tempurature
SWTSP	Temperature Adjust

System
followed by numeric suffix (X) if applicable

Partial list of common identifiers:

RTUx	Roof Top Unit #
CW	Domestic Cold Water System #
DHW	Domestic Hot Water System
HHW	Heating Water System
Sfx	Supply Fan #
SPx	Spill Fan #
Rfx	Return Fan #
Efx	Exhaust Fan #

GENERAL NOTES:

1. MOUNTING HEIGHTS FOR WALL-MOUNTED TEMPERATURE SENSORS AND C02 DETECTORS SHALL BE 42 INCHES (1050mm) AFF UON.

POINT LIST
DEVICE LEGEND

ADTS	AVERAGING DUCT TEMPERATURE SENSOR. SIZE TO FIT DUCT FOR SPECIFIED TEMPERATURE ACCURACY
AFMS	AIR FLOW MONITORING STATION
AV	ANALOG VALVE
BV	BINARY VALVE
CO2S	CO~y2~Y DUCT TYPE SENSOR COMPLETE
CS	CURRENT SWITCH TO DETERMINE MOTOR STATUS
CT	CURRENT TRANSDUCER TO MEASURE MOTOR CURRENT
DRAW	
DHS	DUCT HUMIDITY SENSOR
DPS	DIFFERENTIAL PRESSURE SENSOR
DPSW	DIFFERENTIAL PRESSURE SWITCH
DPT	SPACE DIFFERENTIAL PRESSURE SENSOR
DHS	DUCT HUMIDITY SENSOR
DTS	DUCT TEMPERATURE SENSOR - PROBE TYPE
EDA	ELECTRIC DAMPER ACTUATOR. SIZE TO FIT FULL TORQUE AND ROTATIONAL REQUIREMENTS. SELECT SPEED FOR SMOOTH CONTROL
FSW	FLOW SWITCH
GCO~y	GLOBAL OUTSIDE AIR CO ~y SENSOR
GT	GLOBAL OUTSIDE AIR TEMPERATURE ~y SENSOR
GH~y	GLOBAL OUTSIDE AIR RH ~y SENSOR
HPS	HIGH PRESSURE SENSOR (DUCT STATIC LOCKOUT)
LD	LEAK DETECTOR
NONE	NO INPUT OR OUTPUT DEVICE IS REQUIRED. CONNECT SIGNAL WIRE DIRECTLY TO SYSTEM NOTED
OAHS	OUTSIDE AIR HUMIDITY SENSOR
OATS	OUTSIDE AIR TEMPERATURE SENSOR WITH SHIELD
PT	PRESSURE TRANSDUCER
RHS	ROOM RHS SENSOR
RLY	RELAY RHS ROOM HUMIDITY SENSOR
RTS	ROOM TEMPERATURE SENSOR
VFDS	VFD START/STOP
VFDA	VFD ALARM/FAULT
VFDRPM	VFD RPM.
VFDHZ	VFD HERTZ
VM#	MOTORIZED VALVE (AHU'S/EQUIP)/ NUMBER
VF#	MOTORIZED VALVE (REHEAT COIL/FAN COIL UNITS)/ NUMBER
VOCS	VOC DUCT TYPE SENSOR COMPLETE
WFM	IN-LINE ELECTROMAGNETIC WATER FLOW METER
WTS	WATER TEMPERATURE SENSOR COMPLETE WITH WELL

INPUT/OUTPUT TYPE

AI	Analog Input
AO	Analog Output
BI	Binary Input
BO	Binary Output

INTERFACE DEVICE

See Device Legend for type of interface component.

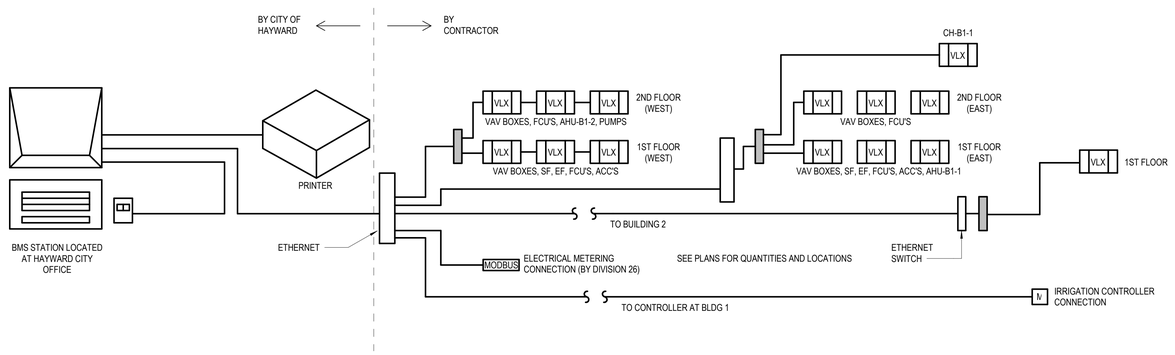
Indicates serial communication with device, system, or unit using Bac Net Protocol. Provide and install all equipment necessary for proper operation. Map points as noted in points list or as required for proper control and monitoring. Points list indicates minimum points, and is not intended to be comprehensive Map points.

NETWORK CONNECTION

DEVICE

MECHANICAL SITE DRAWING LIST

SHEET NUMBER	SHEET NAME
0-M0.01	MECHANICAL LEGEND, ABBREVIATIONS AND DRAWING LIST
0-M0.02	MECHANICAL CONTROLS
0-M0.03	MECHANICAL CONTROLS



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RossDrulisCusenbery ARCHITECTURE
18294 Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

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DESIGNED BY:	CHECKED BY:
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APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
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WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
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TODD M SEE
No. M30765
MECHANICAL
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MECHANICAL LEGEND, ABBREVIATIONS AND DRAWING LIST

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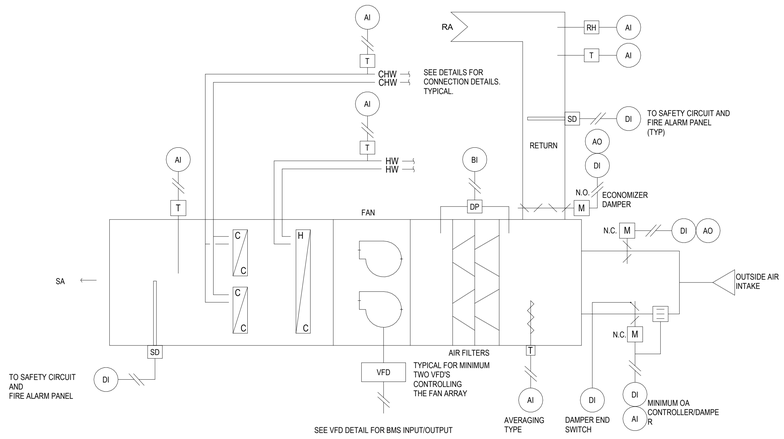
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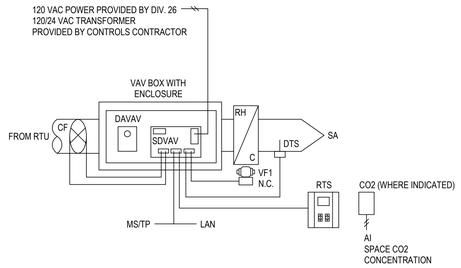
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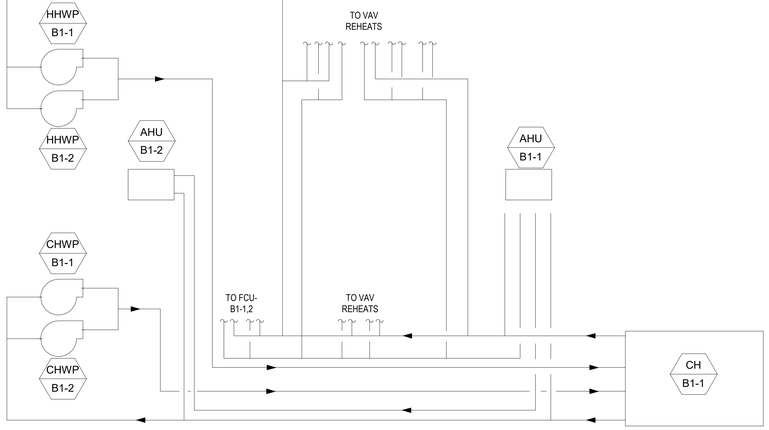


MULTI-ZONE AIR-HANDLING UNIT AHU-B1-1 AND AHU-B1-2

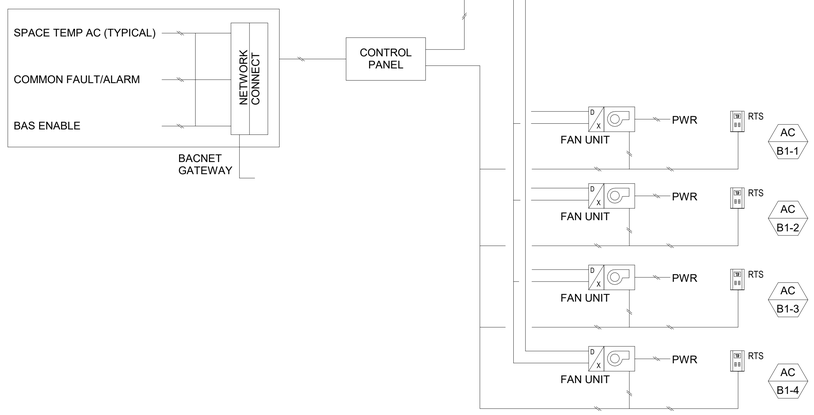


REHEAT VAV BOX CONTROL DIAGRAM

SCALE : NONE



HEATER/CHILLER UNIT CH-B1-1



VARIABLE REFRIGERANT VOLUME DX UNITS

(TYPICAL FOR BUILDING 1 AND BUILDING 2 SYSTEMS)

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ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

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DRAWN BY:	APPROVAL REC'D:
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WSP USA Buildings Inc.
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TODD M. SAE
No. M30765
MECHANICAL
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MECHANICAL CONTROLS

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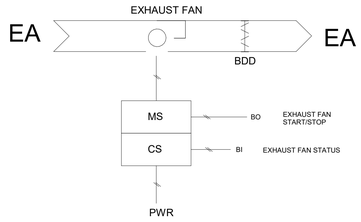
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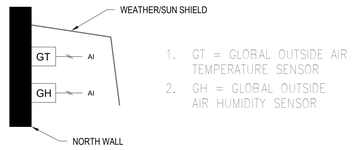
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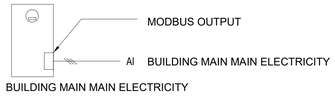
INLINE FAN - LOCAL CONTROL

SCALE : NONE



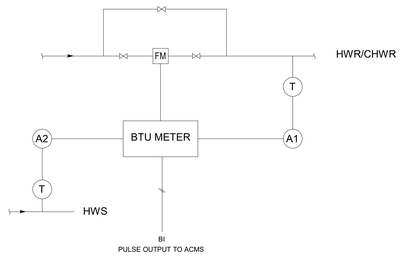
OUTSIDE AIR SENSORS

NONE



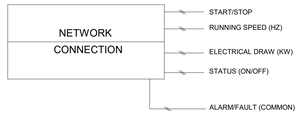
ELECTRIC METERING

1. ELECTRICAL METERING PANEL BY DIVISION 26 (TYPICAL ONE CONNECTION)



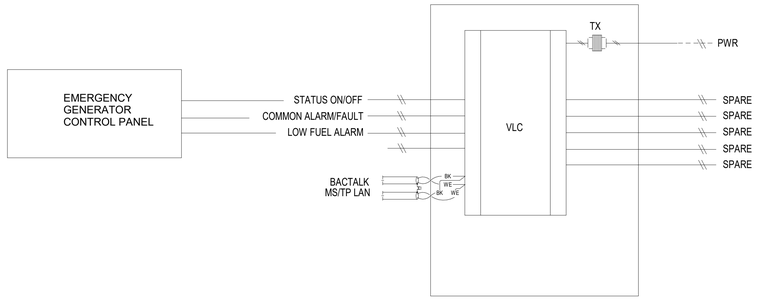
HEATING HOT WATER/CHILLED WATER BTU/FLOW METERING

TWO FOR HEATING HOT WATER AND CHILLED WATER



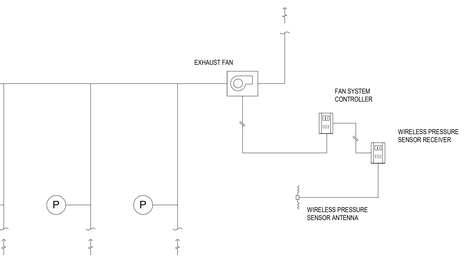
VFD MONITORING

TYPICAL FOR ALL



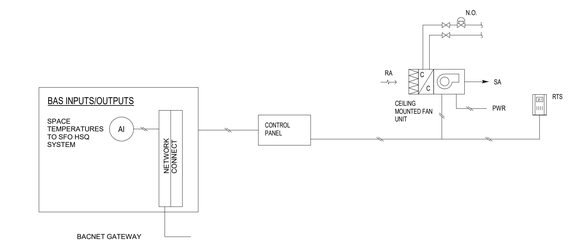
EMERGENCY GENERATOR MONITORING

1. EMERGENCY GENERATOR CONTROL PANEL BY DIVISION 26



VECHICLE EXHAUST SYSTEM

(TYPICAL FOR BUILDING 1 AND BUILDING 2 SYSTEMS)



HEATING ONLY - HOT WATER FAN COIL UNIT

(TYPICAL FOR FCU-1, 2, AND 3)

RossDrulisCusenbery ARCHITECTURE
18294 Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC: 01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

**1401 W. WINTON AVE.
HAYWARD, CA 94545**

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER
TODD M SEE
No. M30765
MECHANICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

MECHANICAL CONTROLS

Drawn By: MCE Checked By: TMS

Scale: **NTS**

Date: **October 4, 2019**

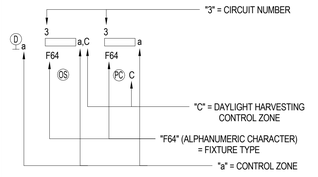
Project No. B17.07369

0-M0.03
Drawing No.

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ELECTRICAL LEGEND AND ABBREVIATIONS

LIGHTING & CONTROL DEVICE SUBSCRIPT LEGEND



NOTE: OCCUPANCY SENSOR TYPICALLY CONTROLS ALL LIGHTS IN ROOM, UON.

CONTROL ZONE SUBSCRIPT KEY

a-z =	ZONE CONTROLLED BY MANUAL DEVICES AND OCCUPANCY SENSORS INDICATED
A-Z =	DAYLIGHT HARVESTING ZONE CONTROLLED BY PHOTOCELL INDICATED

EQUIPMENT NAMING LEGEND

E O U S - ATS BUS DPH DPL DSH DSL LP LPH LRC MCC MP MS PDU T TB TC - B 2 A / 1,3,5

- 1,3,5 = CIRCUIT NUMBER(S)
- A = FIRST OF THIS TYPE ON FLOOR
- 2 = BUILDING NUMBER
- B = BUILDING

ATS	AUTOMATIC TRANSFER SWITCH
BUS	BUSWAY
DPH	DISTRIBUTION PANEL 277/480V
DPL	DISTRIBUTION PANEL 120/208V
DSH	DISTRIBUTION SWITCHBOARD 277/480V
DSL	DISTRIBUTION SWITCHBOARD 120/208V
LP	BRANCH CIRCUIT PANELBOARD 120/208V
LPH	BRANCH CIRCUIT PANELBOARD 277/480V
LRC	LIGHTING RELAY CABINET
MCC	MOTOR CONTROL CENTER
MP	MECHANICAL EQUIPMENT PANELBOARD
MS	MAIN SWITCHBOARD
PDU	POWER DISTRIBUTION UNIT
T	TRANSFORMER
TB	TELECOM BACKBOARD
TC	TELECOM CABINET

E	EMERGENCY LIFE SAFETY
O	POWER OPTIONAL STANDBY
U	UPS POWER
S	LEGALLY REQUIRED STANDBY

WIRING DEVICE LEGEND

	SINGLE RECEPTACLE OUTLET: 125V; WALL MOUNTED
	DUPLEX RECEPTACLE OUTLET: 125V; WALL MOUNTED
	DUPLEX RECEPTACLE OUTLET: 125V TOP HALF SWITCHED
	DUPLEX RECEPTACLE OUTLET: 125V, DEDICATED; WALL MOUNTED
	DOUBLE DUPLEX RECEPTACLE OUTLET: 125V; WALL MOUNTED
	TRIPLE DUPLEX RECEPTACLE OUTLET: 125V
	SPECIAL PURPOSE RECEPTACLE OUTLET: RATING AS INDICATED; WALL MOUNTED
	CLOCK RECEPTACLE OUTLET: 125V, 15A
	DUPLEX RECEPTACLE OUTLET: 125V; CEILING MOUNTED
	DUPLEX RECEPTACLE OUTLET: 125V, DEDICATED; CEILING MOUNTED
	DOUBLE DUPLEX RECEPTACLE OUTLET: 125V; CEILING MOUNTED
	SPECIAL PURPOSE RECEPTACLE OUTLET: RATING AS INDICATED; CEILING MOUNTED
	PUSH BUTTON
	POWER TYPE PLUGSTRIP OR SURFACE RACEWAY, LENGTH APPROXIMATELY AS SHOWN
	POWER/TELECOM TYPE PLUGSTRIP OR SURFACE RACEWAY, LENGTH APPROXIMATELY AS SHOWN
	TELECOM OUTLET
S	SINGLE POLE SWITCH
$_2$	DOUBLE POLE SWITCH
$_3$	THREE WAY SWITCH
$_4$	FOUR WAY SWITCH
$_F$	FAN SWITCH
$_H$	ILLUMINATED HANDLE SWITCH
$_K$	KEY SWITCH
D	WALL DIMMER
LV	LOW VOLTAGE SWITCH
PC	PHOTOCELL
OS	OCCUPANCY SENSOR; WALL MOUNTED
OS	2 WAY OCCUPANCY SENSOR; CEILING MOUNTED
OS	1 WAY OCCUPANCY SENSOR; CEILING MOUNTED
OS	CORRIDOR OCCUPANCY SENSOR; CEILING MOUNTED

WIRING DEVICE SUBSCRIPT LEGEND

AC	AC = ABOVE COUNTER
GFI	GFI = GROUND FAULT INTERRUPTER
IG	IG = ISOLATED GROUND
WP	WP = WEATHERPROOF
a	a = LOWER CASE LETTER INDICATES SWITCH CONTROL
6	6 = NUMBER INDICATES CIRCUIT NUMBER
IG	IG = ISOLATED GROUND (ONE OF DOUBLE DUPLEX)
$_a$	a = LOWER CASE INDICATES SWITCH CONTROL
D	FOR WALL DIMMER DEVICES INDICATING MULTIPLE ZONES, PROVIDE CAPABILITY TO DIM EACH ZONE SEPARATELY. PROVIDE BUTTONS/DEVICE QUANTITY AS REQUIRED TO MEET INTENT.

FIRE ALARM LEGEND

P	MANUAL PULL STATION
2	AREA SMOKE DETECTOR, CEILING MOUNTED (SMOKE DETECTOR, SEMI-FLUSH MOUNTED IN CEILING)
2	AREA SMOKE DETECTOR, WALL MOUNTED
2	DUCT TYPE SMOKE DETECTOR
I	HEAT DETECTOR, CEILING MOUNTED
W	SPRINKLER WATER FLOW SWITCH
T	SPRINKLER TAMPER SWITCH
H	FIRE ALARM HORN; CEILING MOUNTED
H	FIRE ALARM HORN; WALL MOUNTED
H	COMBINATION FIRE ALARM HORN/VISUAL ALARM; WALL MOUNTED
	VISUAL ALARM; CEILING MOUNTED
	VISUAL ALARM; WALL MOUNTED
H	MAGNETIC DOOR HOLDER
	FIRE ALARM BELL
FSD	FIRE/SMOKE DAMPER
SD	SMOKE DAMPER
FACP	FIRE ALARM AND CONTROL PANEL
FARP	FIRE ALARM REMOTE PANEL
FATC	FIRE ALARM TERMINAL CABINET
FARA	FIRE ALARM REMOTE ANNUNCIATOR
FTS	FIREFIGHTER'S TELEPHONE SYSTEM
VCS	VOICE COMMUNICATION SYSTEM
FCP	FIREFIGHTER'S CONTROL AND INDICATING PANEL
FPSP	FIRE PUMP REMOTE STATUS PANEL
GSP	GENERATOR REMOTE STATUS PANEL

PROGRAMMABLE LIGHTING & RECEPTACLE CONTROL SYSTEM DEVICE LEGEND

S	SWITCH
D	DIMMER
PC	PHOTOCELL
OS	OCCUPANCY SENSOR; WALL MOUNTED
OS	2 WAY OCCUPANCY SENSOR; CEILING MOUNTED
OS	1 WAY OCCUPANCY SENSOR; CEILING MOUNTED
OS	CORRIDOR OCCUPANCY SENSOR; CEILING MOUNTED
#B	MULTI-BUTTON KEYPAD, # INDICATES QTY OF BUTTONS
#S	MULTI-BUTTON PRESET SCENE CONTROLLER WITH MASTER RAISE/LOWER, # INDICATES QTY OF SCENE BUTTONS
C	GRAPHICAL INTERFACE CONTROLLER

POWER LEGEND

P	ATS, CPC, DPH, DPL, DSH, DSL, MCC OR MS: SIZE APPROXIMATELY AS SHOWN. DOUBLE LINE INDICATES FRONT.
	SURFACE MOUNTED LPH, LRC, MP OR TC: SIZE APPROXIMATELY AS SHOWN
	RECESSED MOUNTED LPH, LRC, MP OR TC: SIZE APPROXIMATELY AS SHOWN
	SURFACE MOUNTED LP: SIZE APPROXIMATELY AS SHOWN
	RECESSED MOUNTED LP: SIZE APPROXIMATELY AS SHOWN
	TB: LENGTH APPROXIMATELY AS SHOWN
T/F	STEP DOWN TRANSFORMER
G	GENERATOR IN WP ENCLOSURE
	AUTOMATIC TRANSFER SWITCH
	HEAVY DUTY DISCONNECT SWITCH
	HEAVY DUTY DISCONNECT SWITCH WITH FUSE
	MOTOR STARTER
	MOTOR STARTER, NOT PROVIDED UNDER ELECTRICAL SCOPE
	COMBINATION MOTOR STARTER/DISCONNECT SWITCH
	COMBINATION MOTOR STARTER/DISCONNECT SWITCH, NOT PROVIDED UNDER ELECTRICAL SCOPE
VFD	VFD WITH DISCONNECT, NOT PROVIDED UNDER ELECTRICAL SCOPE
VFD	VFD WITHOUT DISCONNECT, NOT PROVIDED UNDER ELECTRICAL SCOPE
EPO	EMERGENCY POWER OFF BUTTON
$_{MD}$	MOTORIZED DOOR CONTROLLER (FURNISHED WITH DOOR)
$_{MS}$	MOTORIZED SHADE CONTROLLER (FURNISHED WITH SHADES)
$_T$	THERMAL OVERLOAD/DISCONNECT SWITCH
M	MOTOR CONNECTION
	JUNCTION BOX, CEILING MOUNTED
	JUNCTION BOX, WALL MOUNTED
P/B	PULL BOX
G	GROUND BUS CABINET
	GROUND ROD
	GROUND TEST WELL
	CIRCUIT BREAKER
	SWITCH AND FUSE
	CIRCUIT BREAKER IN ENCLOSURE
M	CURRENT TRANSFORMER COMPARTMENT AND KWH METER
GFR	GROUND FAULT RELAY
	NORMALLY OPEN CONTACT
	NORMALLY CLOSED CONTACT
	TRANSFORMER
CT 1-1	EQUIPMENT DESIGNATION — EQUIPMENT TYPE; NUMERICAL DESIGNATION. REFER TO EQUIPMENT CONNECTION SCHEDULE FOR CONNECTION DETAILS

LIGHTING LEGEND

	LIGHTING FIXTURE; CEILING MOUNTED
	LIGHTING FIXTURE; WALL MOUNTED
	LIGHTING FIXTURE, SIZE APPROXIMATELY AS SHOWN; CEILING MOUNTED
	LIGHTING FIXTURE, SIZE APPROXIMATELY AS SHOWN; WALL MOUNTED
	LIGHTING FIXTURE CONNECTED TO EMERGENCY POWER SYSTEM
	LIGHTING FIXTURE, CONTINUOUS ROW; CEILING MOUNTED
	LIGHTING FIXTURE, WALL WASHER; CEILING MOUNTED
	LIGHTING FIXTURE(S); POLE MOUNTED
2 a A	LIGHTING FIXTURE SUBSCRIPTIONS: NUMBER INDICATES CIRCUIT, LOWERCASE LETTER INDICATES SWITCH CONTROL UPPERCASE LETTER INDICATES FIXTURE TYPE
EXIT SIGNS	ARROWS AS SHOWN, ILLUMINATED FACE AS INDICATED BY SHADING, CONNECT TO EMERGENCY POWER SYSTEM
	EXIT SIGN; WALL MOUNTED
	EXIT SIGN; CEILING MOUNTED
R	EXIT SIGN; RECESSED IN WALL
P	EXIT SIGN; PENDENT MOUNTED
L	EXIT SIGN, LOW LEVEL; RECESSED IN WALL

ABBREVIATIONS

℄	CENTER LINE
AFF	ABOVE FINISHED FLOOR
AIC	AMPERES INTERRUPTING CAPACITY
AF/AS	AMPERE RATING OF FUSE/SWITCH
AT/AF	AMPERE RATING OF CIRCUIT, BREAKER TRIP/FRAME
A/V	AUDIO/VISUAL
BMS	BUILDING MANAGEMENT SYSTEM
CKT	CIRCUIT
COPS	CRITICAL OPERATIONS POWER SYSTEM
DPDT	DOUBLE POLE DOUBLE THROW
DPST	DOUBLE POLE SINGLE THROW
EC	EMPTY CONDUIT
ELEV	ELEVATOR
EMT	ELECTRICAL METALLIC TUBING
FCC	FIRE CONTROL CENTER
GFI	GROUND FAULT INTERRUPTOR
GND	GROUND
IDF	INTERMEDIATE DISTRIBUTION FRAME ROOM
IG	ISOLATED GROUND
MCP	MOTOR CIRCUIT PROTECTOR
MDF	MAIN DISTRIBUTION FRAME ROOM
MIC	MINERAL INSULATED CABLE
MS	MAIN SWITCHBOARD
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
NTS	NOT TO SCALE
PVC	POLYVINYL CHLORIDE CONDUIT
RAC	RIGID ALUMINUM CONDUIT
RSC	RIGID STEEL CONDUIT
SCC	SECURITY CONTROL CENTER
SPDT	SINGLE POLE DOUBLE THROW
SPST	SINGLE POLE SINGLE THROW
TEL	TELECOM
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSION
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
UPS	UNINTERRUPTIBLE POWER SUPPLY
WP	WEATHERPROOF
WT	WATERTIGHT
XP	EXPLOSION PROOF

HAYWARD FIRE TRAINING FACILITY

SITE - ELECTRICAL DRAWING LIST

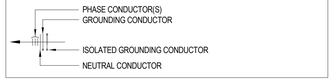
7/19/2019

WSP PROJECT: B17.07369.000

DRAWING NUMBER	DRAWING NAME	SCALE	50%CD	90%CD	100% CD
			1/17/2018	11/2/2018	7/19/2019
0-E0.01	ELECTRICAL LEGEND, ABBREVIATIONS AND DRAWING LIST	NTS	X	X	X
0-E0.02	ELECTRICAL SCHEDULES	NTS	X	X	X
0-E0.10	ELECTRICAL SITE LIGHT FIXTURE SCHEDULE	NTS	X	X	X
0-E0.11	ELECTRICAL SITE LIGHT FIXTURE SCHEDULES	NTS		X	X
0-E0.20	ELECTRICAL TITLE 24	NTS		X	X
0-E0.21	ELECTRICAL TITLE 24	NTS		X	X
0-E0.22	ELECTRICAL TITLE 24	NTS		X	X
0-E2-00	ELECTRICAL OVERALL SITE PLAN	1" = 30'-0"		X	X
0-E2.01	ELECTRICAL ENLARGED SITE PLAN	AS NOTED	X	X	X
0-E2.02	ELECTRICAL ENLARGED SITE PLAN	1" = 20'-0"	X	X	X
0-E2.03	ELECTRICAL ENLARGED SITE PLAN	1" = 20'-0"	X	X	X
0-E2.04	ELECTRICAL ENLARGED SITE PLAN	1" = 20'-0"	X	X	X
0-E5.01	ELECTRICAL RISER DIAGRAM	NTS	X	X	X
0-E5.02	ELECTRICAL GROUNDING DIAGRAM	NTS	X	X	X
0-E6.01	ELECTRICAL DETAILS	NTS	X	X	X

RACEWAY LEGEND

	CONDUIT CONCEALED ABOVE CEILING OR WITHIN WALL
	CONDUIT BELOW GRADE OR EMBEDDED WITHIN SLAB
	CONDUIT UP
	CONDUIT DOWN
	CONDUIT STUBBED OUT WITH BUSHING NOTE: PROVIDE PULLSTRING IN EACH EMPTY RACEWAY
	CONDUIT STUBBED OUT AND CAPPED NOTE: PROVIDE PULLSTRING IN EACH EMPTY RACEWAY
AV	AUDIO/VISUAL SYSTEM RACEWAY
E	ELECTRICAL SYSTEM RACEWAY
G	GROUNDING SYSTEM RACEWAY
FA	FIRE ALARM SYSTEM RACEWAY
S	SECURITY SYSTEM RACEWAY NOTE: PROVIDE PULLSTRING IN EACH EMPTY RACEWAY
T	TELECOM SYSTEM RACEWAY NOTE: PROVIDE PULLSTRING IN EACH EMPTY RACEWAY
	CONDUIT HOMERUN, MAXIMUM OF (3) BRANCH CIRCUITS, UON NOTE: MAXIMUM OF THREE BRANCH CIRCUITS FOR EACH HOMERUN, UON



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APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY:	
KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER
AMANDA J. BROWNLEE
No. E17387
ELECTRICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

ELECTRICAL LEGEND, ABBREVIATIONS, AND DRAWING LIST

Drawn By: ELW Checked By: AJB

Scale: **NTS**

Date: **October 4, 2019**

Project No. B17.07369

0-E0.01
Drawing No.

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BUSSING: 225A, 10,000 AIC SYMMETRICAL
MAIN CB: 150A/3P

LP-B9B

LOCATION:ELECTRICAL ROOM
MOUNTING: SURFACE

120/208V, 3 PHASE, 4 WIRE
100% RATED NEUTRAL + GROUND

TYPE	DESCRIPTION	LOAD	DEVICE	CKT	A	B	C	CKT	DEVICE	LOAD	DESCRIPTION	TYPE
E	EV CHARGING	3328	40/2	1	●			2	20/1	0	SPARE	
E		3328		3		●		4	20/1	0	SPARE	
E	EV CHARGING	3328	40/2	5			●	6	20/1	0	SPARE	
E		3328		7	●			8	20/1	0	SPARE	
	SPARE	0	20/1	9		●		10	20/1	0	SPARE	
	SPARE	0	20/1	11			●	12	20/1	0	SPARE	
	SPARE	0	20/1	13	●			14	20/1	0	SPARE	
	SPARE	0	20/1	15		●		16	20/1	0	SPARE	
	SPARE	0	20/1	17			●	18	20/1	0	SPARE	
	SPARE	0	20/1	19	●			20	20/1	0	SPARE	
	SPARE	0	20/1	21		●		22	20/1	0	SPARE	
	SPARE	0	20/1	23			●	24	20/1	0	SPARE	
	SPARE	0	20/1	25	●			26	20/1	0	SPARE	
	SPARE	0	20/1	27		●		28	20/1	0	SPARE	
	SPARE	0	20/1	29			●	30	20/1	0	SPARE	
	SPARE	0	20/1	31	●			32	20/1	0	SPARE	
	SPARE	0	20/1	33		●		34	20/1	0	SPARE	
	SPARE	0	20/1	35			●	36	20/1	0	SPARE	
	SPACE	0		37	●			38		0	SPACE	
	SPACE	0		39		●		40		0	SPACE	
	SPACE	0		41			●	42		0	SPACE	
	TOTAL ALL PHASES (VA)	PHASE A (VA)		PHASE B (VA)			PHASE C (VA)				TOTAL ALL PHASES (AMPS)	
	13312	6656		3328			3328				37	

LOAD SUMMARY BY TYPE	CONN. LOAD	DEMAND FACTOR	NEC LOAD
E = EQUIPMENT	13312 VA	1.00	13312 VA
H = ELECTRIC HEAT	0 VA	1.00	0 VA
K = KITCHEN EQUIPMENT	0 VA	1.00	0 VA
L = LIGHTING	0 VA	1.25	0 VA
M = MOTOR	0 VA	1.00	0 VA
M = LARGEST MOTOR		1.25	0 VA
R = RECEPTACLE	0 VA	NEC DEMAND	0 VA

CONNECTED LOAD SUMMARY
13312 VA
37 AMPS

NEC LOAD SUMMARY
13312 VA
37 AMPS

BUSSING: 100A 14,000 AIC SYMMETRICAL
MAIN CB: MLO

LPH-B1A

LOCATION:ELECTRICAL ROOM
MOUNTING: SURFACE

277/480V, 3 PHASE, 4 WIRE
100% RATED NEUTRAL + GROUND

TYPE	DESCRIPTION	LOAD	DEVICE	CKT	A	B	C	CKT	DEVICE	LOAD	DESCRIPTION	TYPE
L	LEVEL 1 LIGHTING	495	20/1	1	●			2	20/1	1615	SITE LIGHTING	L
L	LEVEL 2 LIGHTING	2531	20/1	3		●		4	20/1	0	SPARE	
L	EXTERIOR LIGHTING	976	20/1	5			●	6	20/1	536	LEVEL 2 LIGHTING	L
	SPARE		20/1	7	●			8	20/1	0	SPARE	
	SPARE		20/1	9		●		10	20/1	0	SPARE	
L	SITE LIGHTING	510	20/1	11			●	12	20/1	0	SPARE	
	SPARE	0	20/1	13	●			14	20/1	0	SPARE	
	SPARE	0	20/1	15		●		16	20/1	0	SPARE	
	SPARE	0	20/1	17			●	18	20/1	0	SPARE	
	SPARE	0	20/1	19	●			20	20/1	0	SPARE	
	SPARE	0	20/1	21		●		22	20/1	0	SPARE	
	SPARE	0	20/1	23			●	24	20/1	0	SPARE	
	SPARE	0	20/1	25	●			26	20/1	0	SPARE	
	SPARE	0	20/1	27		●		28	20/1	0	SPARE	
	SPARE	0	20/1	29			●	30	20/1	0	SPARE	
	SPARE	0	20/1	31	●			32	20/1	0	SPARE	
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	SPACE	0		37	●			38		0	SPACE	
	SPACE	0		39		●		40		0	SPACE	
	SPACE	0		41			●	42		0	SPACE	
	TOTAL ALL PHASES (VA)	PHASE A (VA)		PHASE B (VA)			PHASE C (VA)				TOTAL ALL PHASES (AMPS)	
	6663.2	2109.7		2531.4			2022.1				8	

LOAD SUMMARY BY TYPE	CONN. LOAD	DEMAND FACTOR	NEC LOAD
E = EQUIPMENT	0 VA	1.00	0 VA
H = ELECTRIC HEAT	0 VA	1.00	0 VA
K = KITCHEN EQUIPMENT	0 VA	1.00	0 VA
L = LIGHTING	6663 VA	1.25	8329 VA
M = MOTOR	0 VA	1.00	0 VA
M = LARGEST MOTOR		1.25	0 VA
R = RECEPTACLE	0 VA	NEC DEMAND	0 VA

CONNECTED LOAD SUMMARY
6663 VA
8 AMPS

NEC LOAD SUMMARY
8329 VA
10 AMPS

120V, 1-PHASE COPPER WIRE

MAXIMUM LENGTH OF CONDUCTOR IN FT TO BE USED PER VA AND WIRE SIZE

kVA	CONDUCTOR SIZE						
	#12	#10	#8	#6	#4	#2	#1
0.4	280ft	446ft	694ft	1,100ft	1,753ft	2,784ft	3,506ft
0.8	140ft	223ft	347ft	550ft	877ft	1,392ft	1,753ft
1.2	93ft	149ft	231ft	367ft	584ft	928ft	1,169ft
1.6	70ft	112ft	174ft	275ft	438ft	696ft	877ft
2.0	56ft	89ft	139ft	220ft	351ft	557ft	701ft
2.4	47ft	74ft	116ft	183ft	292ft	464ft	584ft
2.8	-	64ft	99ft	157ft	250ft	398ft	501ft
3.2	-	56ft	87ft	137ft	219ft	348ft	438ft
3.6	-	50ft	77ft	122ft	195ft	309ft	390ft
4.0	-	-	69ft	110ft	175ft	278ft	351ft
4.4	-	-	63ft	100ft	159ft	253ft	319ft
4.8	-	-	58ft	92ft	146ft	232ft	292ft
5.2	-	-	-	85ft	135ft	214ft	270ft
5.6	-	-	-	79ft	125ft	199ft	250ft
6.0	-	-	-	73ft	117ft	186ft	234ft
6.4	-	-	-	69ft	110ft	174ft	219ft
6.8	-	-	-	-	103ft	164ft	206ft
7.2	-	-	-	-	97ft	155ft	195ft
7.6	-	-	-	-	92ft	147ft	185ft
8.0	-	-	-	-	88ft	139ft	175ft
8.4	-	-	-	-	83ft	133ft	167ft
8.8	-	-	-	-	-	127ft	159ft
9.2	-	-	-	-	-	121ft	152ft
9.6	-	-	-	-	-	116ft	146ft
10.0	-	-	-	-	-	111ft	140ft
10.4	-	-	-	-	-	107ft	135ft
10.8	-	-	-	-	-	103ft	130ft
11.2	-	-	-	-	-	99ft	125ft
11.6	-	-	-	-	-	-	121ft
12.0	-	-	-	-	-	-	117ft
12.4	-	-	-	-	-	-	113ft
12.8	-	-	-	-	-	-	110ft
13.2	-	-	-	-	-	-	106ft
13.6	-	-	-	-	-	-	-
14.0	-	-	-	-	-	-	-
14.4	-	-	-	-	-	-	-
14.8	-	-	-	-	-	-	-
15.2	-	-	-	-	-	-	-
15.6	-	-	-	-	-	-	-
16.0	-	-	-	-	-	-	-

BASED ON 3% VOLTAGE DROP ALLOWED FOR BRANCH CIRCUITS PER TITLE 24 2016.

VOLTAGE DROP = (CIRCUIT AMPS) X (TWICE THE LENGTH OF CONDUCTOR) X (WIRE RESISTANCE)

208V, 1-PHASE COPPER WIRE

MAXIMUM LENGTH OF CONDUCTOR IN FT TO BE USED PER VA AND WIRE SIZE

kVA	CONDUCTOR SIZE						
	#12	#10	#8	#6	#4	#2	#1
0.7	480ft	766ft	1,192ft	1,888ft	3,010ft	4,779ft	6,020ft
1.4	240ft	383ft	596ft	944ft	1,505ft	2,389ft	3,010ft
2.1	160ft	255ft	397ft	629ft	1,003ft	1,593ft	2,007ft
2.8	120ft	192ft	298ft	472ft	753ft	1,195ft	1,505ft
3.5	96ft	153ft	238ft	378ft	602ft	956ft	1,204ft
4.2	80ft	128ft	199ft	315ft	502ft	796ft	1,003ft
4.9	-	109ft	170ft	270ft	430ft	683ft	860ft
5.6	-	96ft	149ft	236ft	376ft	597ft	753ft
6.3	-	85ft	132ft	210ft	334ft	531ft	669ft
7.0	-	-	119ft	189ft	301ft	478ft	602ft
7.7	-	-	108ft	172ft	274ft	434ft	547ft
8.4	-	-	99ft	157ft	251ft	398ft	502ft
9.1	-	-	-	145ft	232ft	368ft	463ft
9.8	-	-	-	135ft	215ft	341ft	430ft
10.5	-	-	-	126ft	201ft	319ft	401ft
11.2	-	-	-	118ft	188ft	299ft	376ft
11.9	-	-	-	-	177ft	281ft	354ft
12.6	-	-	-	-	167ft	265ft	334ft
13.3	-	-	-	-	158ft	252ft	317ft
14.0	-	-	-	-	151ft	239ft	301ft
14.7	-	-	-	-	-	228ft	287ft
15.4	-	-	-	-	-	217ft	274ft
16.1	-	-	-	-	-	208ft	262ft
16.8	-	-	-	-	-	199ft	251ft
17.5	-	-	-	-	-	191ft	241ft
18.2	-	-	-	-	-	184ft	232ft
18.9	-	-	-	-	-	177ft	223ft
19.6	-	-	-	-	-	171ft	215ft
20.3	-	-	-	-	-	-	208ft
21.0	-	-	-	-	-	-	201ft
21.7	-	-	-	-	-	-	194ft
22.4	-	-	-	-	-	-	188ft
23.1	-	-	-	-	-	-	-
23.8	-	-	-	-	-	-	-
24.5	-	-	-	-	-	-	-
25.2	-	-	-	-	-	-	-
25.9	-	-	-	-	-	-	-
26.6	-	-	-	-	-	-	-
27.3	-	-	-	-	-	-	-
28.0	-	-	-	-	-	-	-

BASED ON 3% VOLTAGE DROP ALLOWED FOR BRANCH CIRCUITS PER TITLE 24 2016.

VOLTAGE DROP = (CIRCUIT AMPS) X (TWICE THE LENGTH OF CONDUCTOR) X (WIRE RESISTANCE)

277V, 1-PHASE COPPER WIRE

MAXIMUM LENGTH OF CONDUCTOR IN FT TO BE USED PER VA AND WIRE SIZE

kVA	CONDUCTOR SIZE						
	#12	#10	#8	#6	#4	#2	#1
0.9	663ft	1,057ft	1,644ft	2,605ft	4,152ft	6,592ft	8,304ft
1.8	331ft	528ft	822ft	1,302ft	2,076ft	3,296ft	4,152ft
2.7	221ft	352ft	548ft	868ft	1,384ft	2,197ft	2,768ft
3.6	166ft	264ft	411ft	651ft	1,038ft	1,648ft	2,076ft
4.5	133ft	211ft	329ft	521ft	830ft	1,318ft	1,661ft
5.4	110ft	176ft	274ft	434ft	692ft	1,099ft	1,384ft
6.3	-	151ft	235ft	372ft	593ft	942ft	1,186ft
7.2	-	132ft	205ft	326ft	519ft	824ft	1,038ft
8.1	-	117ft	183ft	289ft	461ft	732ft	923ft
9.0	-	-	164ft	260ft	415ft	659ft	830ft
9.9	-	-	149ft	237ft	377ft	599ft	755ft
10.8	-	-	137ft	217ft	346ft	549ft	692ft
11.7	-	-	-	200ft	319ft	507ft	639ft
12.6	-	-	-	186ft	297ft	471ft	593ft
13.5	-	-	-	174ft	277ft	439ft	554ft
14.4	-	-	-	163ft	260ft	412ft	519ft
15.3	-	-	-	153ft	244ft	388ft	488ft
16.2	-	-	-	-	231ft	366ft	461ft
17.1	-	-	-	-	219ft	347ft	437ft
18.0	-	-	-	-	208ft	330ft	415ft
18.9	-	-	-	-	198ft	314ft	395ft
19.8	-	-	-	-	-	300ft	377ft
20.7	-	-	-	-	-	287ft	361ft
21.6	-	-	-	-	-	275ft	346ft
22.5	-	-	-	-	-	264ft	332ft
23.4	-	-	-	-	-	254ft	319ft
24.3	-	-	-	-	-	244ft	308ft
25.2	-	-	-	-	-	235ft	297ft
26.1	-	-	-	-	-	227ft	286ft
27.0	-	-	-	-	-	-	277ft
27.9	-	-	-	-	-	-	268ft
28.8	-	-	-	-	-	-	260ft
29.7	-	-	-	-	-	-	252ft
30.6	-	-	-	-	-	-	-
31.5	-	-	-	-	-	-	-
32.4	-	-	-	-	-	-	-
33.3	-	-	-	-	-	-	-
34.2	-	-	-	-	-	-	-
35.1	-	-	-	-	-	-	-
36.0	-	-	-	-	-	-	-

BASED ON 3% VOLTAGE DROP ALLOWED FOR BRANCH CIRCUITS PER TITLE 24 2016.

VOLTAGE DROP = (CIRCUIT AMPS) X (TWICE THE LENGTH OF CONDUCTOR) X (WIRE RESISTANCE)

BUSSING: 400A, 14,000 AIC SYMMETRICAL
MAIN CB: 400A/3P

LPH-B2A

LOCATION:ELECTRICAL ROOM
MOUNTING: SURFACE

277/480V, 3 PHASE, 4 WIRE
100% RATED NEUTRAL + GROUND

TYPE	DESCRIPTION	LOAD	DEVICE	CKT	A	B	C	CKT	DEVICE	LOAD	DESCRIPTION	TYPE
L	EQUIP. ELEC, MEN'S LOCKER - LTS	3946	20/1	1	●			2		10004		M
L	APPARATUS BAY - LTS	1500	20/1	3		●		4	40/3	10004	CU-B2-1	M
L	EXTERIOR - LTS	544	20/1	5			●	6		10004		M
	SPARE	0	20/1	7	●			8		3048		M
L	SITE LIGHTING	2059	20/1	9		●		10	20/3	3048	EF-B2-1	M
L	SITE LIGHTING	897	20/1	11			●	12		3048		M
M		2106		13	●			14		582		M
M	4CA-1-1	2106	20/3	15		●		16	20/3	582	CF-B2-1	M
M		2106		17			●	18		582		M
	SPARE	0	20/1	19	●			20		582		M
	SPARE	0	20/1	21		●		22	20/3	582	CF-B2-2	M
	SPARE	0	20/1	23			●	24		582		M
	SPARE	0	20/1	25	●			26		582		M
	SPARE	0	20/1	27		●		28	20/3	582	CF-B2-3	M
	SPARE	0	20/1	29			●	30		582		M
	SPARE	0	20/1	31	●			32		1801		M
	SPARE	0	20/1	33		●		34	20/3	1801	ECV-B2-1	M
	SPARE	0	20/1	35			●	36		1801		M
		38881.0		37	●			38		0		
	DPL-B2A VIA T-B2A	38881.0	175/3	39		●		40	175/3	0	LPH-B2B	
		38881.0		41			●	42		0		
	TOTAL ALL PHASES (VA)	PHASE A (VA)		PHASE B (VA)			PHASE C (VA)				TOTAL ALL PHASES (AMPS)	
	181703.9	61531.9		61145			59027				219	

LOAD SUMMARY BY TYPE	CONN. LOAD	DEMAND FACTOR	NEC LOAD
E = EQUIPMENT	40196 VA	1.00	40196 VA
H = ELECTRIC HEAT	0 VA	1.00	0 VA
K = KITCHEN EQUIPMENT	0 VA	1.00	0 VA
L = LIGHTING	9586 VA	1.25	11982 VA
M = MOTOR	56264 VA	1.00	56264 VA
M = LARGEST MOTOR	30002 VA	1.25	37503 VA
R = RECEPTACLE	45656 VA	NEC DEMAND	27828 VA

CONNECTED LOAD SUMMARY
181704 VA
219 AMPS

NEC LOAD SUMMARY
173773 VA
209 AMPS

BUSSING: 400A 14,000 AIC SYMMETRICAL
MAIN CB: 400A/3P

LPH-B9A

LOCATION:ELECTRICAL ROOM
MOUNTING: SURFACE

277/480V, 3 PHASE, 4 WIRE
100% RATED NEUTRAL + GROUND

TYPE	DESCRIPTION	LOAD	DEVICE	CKT	A	B	C	CKT	DEVICE	LOAD	DESCRIPTION	TYPE
L	SITE LIGHTING	760	20/1	1	●			2		26259		E
L	SITE LIGHTING	1664	20/1	3		●		4	125/3	26259	LPG VAPORIZER	E
	SPARE	0	20/1	5			●	6		26259		E
	SPARE	0	20/1	7	●			8	20/1	0	SPARE	
	SPARE	0	20/1	9		●		10	20/1	0	SPARE	
	SPARE	0	20/1	11			●	12	20/1	0	SPARE	
	SPARE	0	20/1	13	●			14	20/1	0	SPARE	
	SPARE	0	20/1	15		●		16	20/1	0	SPARE	
	SPARE	0	20/1	17			●	18	20/1	0	SPARE	
	SPARE	0	20/1	19	●			20	20/1	0	SPARE	
	SPARE	0	20/1	21		●		22	20/1	0	SPARE	
	SPARE	0	20/1	23			●	24	20/1	0	SPARE	
	SPARE	0	20/1	25	●			26		0		
	SPARE	0	20/1	27		●		28	15/3	0	B9 PV METER	E
	SPARE	0	20/1	29			●	30		0		E
E		0		31	●			32		0		E
E	B6 PV METER	0	15/3	33		●		34	60/3	0	B9 PV INVERTERS	E
E		0		35			●	36		0		E
E		0		37	●			38		34470		E
E	B6 PV INVERTERS	0	25/3	39		●		40	450/3	34470	DPL-B9A (VIA T-B9A)	E
E		0		41			●	42		34470		E
	TOTAL ALL PHASES (VA)	PHASE A (VA)		PHASE B (VA)			PHASE C (VA)				TOTAL ALL PHASES (AMPS)	
	184609.9	61488.63333		62392.63333			60728.63333				222	

LOAD SUMMARY BY TYPE	CONN. LOAD	DEMAND FACTOR	NEC LOAD
E = EQUIPMENT	155325 VA	1.00	155325 VA
H = ELECTRIC HEAT	6240 VA	1.00	6240 VA
K = KITCHEN EQUIPMENT	0 VA	1.00	0 VA
L = LIGHTING	3609 VA	1.25	4511 VA
M = MOTOR	16016 VA	1.00	16016 VA
M = LARGEST MOTOR		1.25	0 VA
R = RECEPTACLE	3420 VA	NEC DEMAND	3420 VA

CONNECTED LOAD SUMMARY
184610 VA
222 AMPS

NEC LOAD SUMMARY
185512 VA
223 AMPS

EQUIPMENT CONNECTION DESIGNATIONS LEGEND

DESIGNATION	DESCRIPTION	DESIGNATION	DESCRIPTION	DESIGNATION	DESCRIPTION
AC	AIR CONDITIONING UNIT	FCU	FAN COIL UNIT	OH	OIL HEATER
ACC	AIR COOLED CONDENSER	FOA	FUEL OIL ALARM PANEL	P	PUMP
AHU	AIR HANDLING UNIT	FOP	FUEL OIL PUMP	PS	PROJECTION SCREEN
BC	BATTERY CHARGER	FMS	FMS PANEL	REF	REFRIGERATOR
BMS	BMS PANEL	FP	FIRE PUMP	RF	RETURN FAN
CH	CHILLER	FPB	FAN POWER BOX	RTU	ROOF TOP UNIT
COMP	COMPRESSOR	FSD	FIRE/SMOKE DAMPER	SD	SMOKE DAMPER
COP	COPIER	GD	GARBAGE DISPOSAL	SE	SEWAGE EJECTOR
CP	CIRCULATING PUMP	GS	GRAPHIC SIGNAGE	SF	SUPPLY FAN
CU	CONDENSING UNIT	HP	HEAT PUMP	SP	SUMP PUMP
DF	DUCT FURNACE	HV	HEATING/VENTILATING UNIT	UH	UNIT HEATER
DWBP	DOMESTIC WATER BOOSTER PUMP	IH	INSTANT HOT WATER HEATER	VAV	VAV BOX ELECTRIC HEAT
ECH	ELECTRIC CABINET HEATER	JP	JOCKEY PUMP	VM	VENDING MACHINE
EDH	ELECTRIC DUCT HEATER	JWH	JACKET WATER HEATER	VFD	VARIABLE FREQUENCY DRIVE
EF	EXHAUST FAN	LPG	LOW PRESSURE GAS	TYPE DP	DUPLEX PUMP
EHC	ELECTRIC HEATING COIL	MCS	MOTOR CONNECTION SCHEDULE	TYPE FR	FRACTIONAL HP MOTOR
ELEV	ELEVATOR	MD	MOTORIZED DOOR OR GATE	TYPE FWS	FURNISHED WITH STARTER
EUH	ELECTRIC UNIT HEATER	MS	MOTORIZED SHADE	TYPE M	MOTOR WITH STARTER
EWC	ELECTRIC WATER COOLER	MUA	MAKE UP AIR UNIT	TYPE SPC	SINGLE POINT CONNECTION
EWH	ELECTRIC WATER HEATER	MW	MICROWAVE OVEN	TYPE VFD	VARIABLE FREQUENCY DRIVE

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY:	
KATHY GARCIA DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER
AMRICH J. BROWNE
No. E17287
ELECTRICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

ELECTRICAL SCHEDULES

Drawn By: ELW Checked By: AJB

Scale:
NTS

Date:
October 4, 2019

Project No. B17.07369

0-E0.02
Drawing No.

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LIGHTING FIXTURE SCHEDULE

PROJECT: HAYWARD FIRE TRAINING CENTER
ISSUE: PERMIT SUBMITTAL V3 - INCREMENT #1
DATE: 10/16/2019

FIXTURE TYPE	DESCRIPTION	LOCATION	LIGHT SOURCE	COLOR TEMPERATURE (K)	INPUT WATTS (W)	UNIT	BALLAST / TRANSFORMER / DRIVER	VOLTAGE	REFLECTOR	MOUNTING	SHIELDING	FINISH	MANUFACTURER / CATALOG #	REMARKS
FS1	POLE MOUNTED LED AREA LIGHT, TYPE 5 DISTRIBUTION, ONE FIXTURE HEAD PER POLE @17' AFG (SOME LOCATIONS ARE ON A RAISED CONCRETE FOOTER)	PARKING AND TRAINING AREA	WHITE LED MODULE, 8966 DELIEVERED LUMENS, L70 154,000 HOURS	4000K	70	EA	INTEGRAL, ELECTRONIC, 0-10V, DIMMABLE	277V	TYPE 5 DISTRIBUTION	POLE MOUNTED; PROVIDE NOMINAL 18' OR 15.5' TALL POLE SUCH THAT FIXTURE HEAD IS MOUNTED AT 17' AFG.	LENS	STANDARD FINISH, TBD	FIXTURE: PHILIPS GARDCO - PUREFORM P21-DIM-A1-1-5W-70LA-NW-277V-(FINISH)-OPTIONS POLE: PHILIPS GARDCO TRA-CB-(18' OR 15.5')(WIND LOAD)-D1-(FINISH)-(OPTIONS AS REQUIRED)	1. REFER TO RAISED CONCRETE BASE AND ANCHORAGE DETAIL SHOWN ON ELECTRICAL DETAIL SHEET #0-E6 SERIES. 2. PROVIDE POLE TO MEET LOCAL AND AASHTO REQUIREMENTS FOR EPA OF FIXTURE CONFIGURATION. ARCHITECT / CIVIL ENGINEER SHALL COORDINATE FINAL POLE ANCHORAGE DETAIL. 3. PROVIDE DETAILED SHOP DRAWINGS NOTING BASE AND ANCHORAGE DETAIL, POLE SPECIFICATIONS CONFORMING TO ALL APPLICABLE CODES, ELECTRICAL REQUIREMENTS, AND PHOTOMETRIC CHARACTERISTICS.
FS1R	POLE MOUNTED LED AREA LIGHT, TYPE 5 DISTRIBUTION, ONE FIXTURE HEAD PER POLE @17'AFF (SOME LOCATIONS ARE ON A RAISED CONCRETE FOOTER)	PARKING, PATIO	WHITE LED MODULE, 8966 DELIEVERED LUMENS, L70 154,000 HOURS	4000K	70	EA	INTEGRAL, ELECTRONIC, 0-10V, DIMMABLE	277V	TYPE 5 DISTRIBUTION	POLE MOUNTED; PROVIDE NOMINAL 18' OR 15.5' TALL POLE SUCH THAT FIXTURE HEAD IS MOUNTED AT 17' AFG.	LENS	CUSTOM RED RAL# TBD	FIXTURE: PHILIPS GARDCO - PUREFORM P21-DIM-A1-1-5W-70LA-NW-277V-(CUSTOM RED FINISH)-OPTIONS POLE: PHILIPS GARDCO TRA-CB-(18' OR 15.5')(WIND LOAD)-D1-(CUSTOM RED FINISH)-(OPTIONS AS REQUIRED)	1. REFER TO RAISED CONCRETE BASE AND ANCHORAGE DETAIL SHOWN ON ELECTRICAL DETAIL SHEET #0-E6 SERIES. 2. PROVIDE POLE TO MEET LOCAL AND AASHTO REQUIREMENTS FOR EPA OF FIXTURE CONFIGURATION. ARCHITECT / CIVIL ENGINEER SHALL COORDINATE FINAL POLE ANCHORAGE DETAIL. 3. PROVIDE DETAILED SHOP DRAWINGS NOTING BASE AND ANCHORAGE DETAIL, POLE SPECIFICATIONS CONFORMING TO ALL APPLICABLE CODES, ELECTRICAL REQUIREMENTS, AND PHOTOMETRIC CHARACTERISTICS. 4. CUSTOM COLOR RAL # TO BE PROVIDED BY ARCHITECT.
FS1B	POLE MOUNTED LED AREA LIGHT, TYPE 3 DISTRIBUTION, ONE FIXTURE HEAD PER POLE @17'AFF (SOME LOCATIONS ARE ON A RAISED CONCRETE FOOTER)	DRIVEWAY	WHITE LED MODULE, 7354 DELIEVERED LUMENS, L70 154,000 HOURS	4000K	69	EA	INTEGRAL, ELECTRONIC, 0-10V, DIMMABLE	277V	TYPE 3 DISTRIBUTION	POLE MOUNTED; PROVIDE NOMINAL 18' TALL POLE SUCH THAT FIXTURE HEAD IS MOUNTED AT 17' AFG.	LENS	STANDARD FINISH, TBD	FIXTURE: PHILIPS GARDCO - PUREFORM P21-DIM-A1-1-3-70LA-NW-277V-(FINISH)-OPTIONS POLE: PHILIPS GARDCO TRA-CB-18'(WIND LOAD)-D1-(FINISH)-(OPTIONS AS REQUIRED)	1. REFER TO RAISED CONCRETE BASE AND ANCHORAGE DETAIL SHOWN ON ELECTRICAL DETAIL SHEET #0-E6 SERIES. 2. PROVIDE POLE TO MEET LOCAL AND AASHTO REQUIREMENTS FOR EPA OF FIXTURE CONFIGURATION. ARCHITECT / CIVIL ENGINEER SHALL COORDINATE FINAL POLE ANCHORAGE DETAIL. 3. PROVIDE DETAILED SHOP DRAWINGS NOTING BASE AND ANCHORAGE DETAIL, POLE SPECIFICATIONS CONFORMING TO ALL APPLICABLE CODES, ELECTRICAL REQUIREMENTS, AND PHOTOMETRIC CHARACTERISTICS.
FS1BR	POLE MOUNTED LED AREA LIGHT, TYPE 3 DISTRIBUTION, ONE FIXTURE HEAD PER POLE @17'AFF (SOME LOCATIONS ARE ON A RAISED CONCRETE FOOTER)	PARKING AND LARGE PARKING	WHITE LED MODULE, 7354 DELIEVERED LUMENS, L70 154,000 HOURS	4000K	69	EA	INTEGRAL, ELECTRONIC, 0-10V, DIMMABLE	277V	TYPE 3 DISTRIBUTION	POLE MOUNTED; PROVIDE NOMINAL 18' OR 15.5' TALL POLE SUCH THAT FIXTURE HEAD IS MOUNTED AT 17' AFG.	LENS	CUSTOM RED RAL# TBD	FIXTURE: PHILIPS GARDCO - PUREFORM P21-DIM-A1-1-3-70LA-NW-277V-(CUSTOM RED FINISH)-OPTIONS POLE: PHILIPS GARDCO TRA-CB-(18' OR 15.5')(WIND LOAD)-D1-(CUSTOM RED FINISH)-(OPTIONS AS REQUIRED)	1. REFER TO RAISED CONCRETE BASE AND ANCHORAGE DETAIL SHOWN ON ELECTRICAL DETAIL SHEET #0-E6 SERIES. 2. PROVIDE POLE TO MEET LOCAL AND AASHTO REQUIREMENTS FOR EPA OF FIXTURE CONFIGURATION. ARCHITECT / CIVIL ENGINEER SHALL COORDINATE FINAL POLE ANCHORAGE DETAIL. 3. PROVIDE DETAILED SHOP DRAWINGS NOTING BASE AND ANCHORAGE DETAIL, POLE SPECIFICATIONS CONFORMING TO ALL APPLICABLE CODES, ELECTRICAL REQUIREMENTS, AND PHOTOMETRIC CHARACTERISTICS. 4. CUSTOM COLOR RAL # TO BE PROVIDED BY ARCHITECT.
FS1E	POLE MOUNTED LED AREA LIGHT, TYPE 2 DISTRIBUTION, ONE FIXTURE HEAD PER POLE @17'AFF	DRIVEWAY	WHITE LED MODULE, 8252 DELIEVERED LUMENS, L70 154,000 HOURS	4000K	69	EA	INTEGRAL, ELECTRONIC, 0-10V, DIMMABLE	277V	TYPE 2 DISTRIBUTION	POLE MOUNTED; PROVIDE NOMINAL 18' TALL POLE SUCH THAT FIXTURE HEAD IS MOUNTED AT 17' AFG.	LENS	STANDARD FINISH, TBD	FIXTURE: PHILIPS GARDCO - PUREFORM P21-DIM-A1-1-2-70LA-NW-277V-(FINISH)-OPTIONS POLE: PHILIPS GARDCO TRA-CB-17'(WIND LOAD)-D1-(FINISH)-(OPTIONS AS REQUIRED)	1. REFER TO BASE AND ANCHORAGE DETAIL SHOWN ON ELECTRICAL DETAIL SHEET #0-E6 SERIES. 2. PROVIDE POLE TO MEET LOCAL AND AASHTO REQUIREMENTS FOR EPA OF FIXTURE CONFIGURATION. ARCHITECT / CIVIL ENGINEER SHALL COORDINATE FINAL POLE ANCHORAGE DETAIL. 3. PROVIDE DETAILED SHOP DRAWINGS NOTING BASE AND ANCHORAGE DETAIL, POLE SPECIFICATIONS CONFORMING TO ALL APPLICABLE CODES, ELECTRICAL REQUIREMENTS, AND PHOTOMETRIC CHARACTERISTICS.
FS1ER	POLE MOUNTED LED AREA LIGHT, TYPE 2 DISTRIBUTION, ONE FIXTURE HEAD PER POLE @17'AFF CUSTOM RED FINISH	DRIVEWAY	WHITE LED MODULE, 8252 DELIEVERED LUMENS, L70 154,000 HOURS	4000K	69	EA	INTEGRAL, ELECTRONIC, 0-10V, DIMMABLE	277V	TYPE 2 DISTRIBUTION	POLE MOUNTED; PROVIDE NOMINAL 18' TALL POLE SUCH THAT FIXTURE HEAD IS MOUNTED AT 17' AFG.	LENS	CUSTOM RED RAL# TBD	FIXTURE: PHILIPS GARDCO - PUREFORM P21-DIM-A1-1-2-70LA-NW-277V-(CUSTOM RED FINISH)-OPTIONS POLE: PHILIPS GARDCO TRA-CB-17'(WIND LOAD)-D1-(CUSTOM RED FINISH)-(OPTIONS AS REQUIRED)	1. REFER TO BASE AND ANCHORAGE DETAIL SHOWN ON ELECTRICAL DETAIL SHEET #0-E6 SERIES. 2. PROVIDE POLE TO MEET LOCAL AND AASHTO REQUIREMENTS FOR EPA OF FIXTURE CONFIGURATION. ARCHITECT / CIVIL ENGINEER SHALL COORDINATE FINAL POLE ANCHORAGE DETAIL. 3. PROVIDE DETAILED SHOP DRAWINGS NOTING BASE AND ANCHORAGE DETAIL, POLE SPECIFICATIONS CONFORMING TO ALL APPLICABLE CODES, ELECTRICAL REQUIREMENTS, AND PHOTOMETRIC CHARACTERISTICS. 4. CUSTOM COLOR RAL # TO BE PROVIDED BY ARCHITECT.
FS1FR	POLE MOUNTED LED AREA LIGHT, TYPE 4 DISTRIBUTION, ONE FIXTURE HEAD PER POLE @17'AFF CUSTOM RED FINISH	PARKING	WHITE LED MODULE, 7284 DELIEVERED LUMENS, L70 154,000 HOURS	4000K	69	EA	INTEGRAL, ELECTRONIC, 0-10V, DIMMABLE	277V	TYPE 4 DISTRIBUTION	POLE MOUNTED; PROVIDE NOMINAL 18' TALL POLE SUCH THAT FIXTURE HEAD IS MOUNTED AT 17' AFG.	LENS	CUSTOM RED RAL# TBD	FIXTURE: PHILIPS GARDCO - PUREFORM P21-DIM-A1-1-4-70LA-NW-277V-(CUSTOM RED FINISH)-OPTIONS POLE: PHILIPS GARDCO TRA-CB-17'(WIND LOAD)-D1-(CUSTOM RED FINISH)-(OPTIONS AS REQUIRED)	1. REFER TO BASE AND ANCHORAGE DETAIL SHOWN ON ELECTRICAL DETAIL SHEET #0-E6 SERIES. 2. PROVIDE POLE TO MEET LOCAL AND AASHTO REQUIREMENTS FOR EPA OF FIXTURE CONFIGURATION. ARCHITECT / CIVIL ENGINEER SHALL COORDINATE FINAL POLE ANCHORAGE DETAIL. 3. PROVIDE DETAILED SHOP DRAWINGS NOTING BASE AND ANCHORAGE DETAIL, POLE SPECIFICATIONS CONFORMING TO ALL APPLICABLE CODES, ELECTRICAL REQUIREMENTS, AND PHOTOMETRIC CHARACTERISTICS. 4. CUSTOM COLOR RAL # TO BE PROVIDED BY ARCHITECT.
FS3	4' HT. SURFACE MOUNTED LED BOLLARD FIXTURE CUSTOM RED FINISH	PATHWAYM BIKE LOCK	WHITE LED MODULE, 584 DELIVERED LUMENS,	4000K	10	EA	INTEGRAL, ELECTRONIC, 0-10V	277V	ALUMINUM	BOLLARD MOUNT WITH ANCHOR BOLTS	CLEAR SAFETY GLASS	CUSTOM RED RAL# TBD	BEGA 88659-K4-RAL(CUCTOM RED FINISH)	1. ARCHITECT / CIVIL ENGINEER SHALL COORDINATE BOLLARD ANCHORAGE DETAIL. 2. CUSTOM COLOR RAL # TO BE PROVIDED BY ARCHITECT.
FS4	POLE MOUNTED LED PROJECTOR, TWO FIXTURE HEAD PER POLE @24' AFF (SOME LOCATIONS ARE ON A RAISED CONCRETE FOOTER)	DRIVEWAY, YARD	WHITE LED MODULE, 13813 DELIVERED LUMENS, L70 60,000 HOURS	4000K	230 (115W /PER HEAD)	EA	INTEGRAL, ELECTRONIC, 0-10V, DIMMABLE	120V OR 277V	WIDE BEAM	POLE MOUNTED; PROVIDE NOMINAL 25' OR 22.5' TALL POLE SUCH THAT FIXTURE HEAD IS MOUNTED AT 24' AFG.	SAFETY GLASS LENS	STANDARD FINISH, TBD	FIXTURE: WE-EF - FLC240LED (2)667-4425-667-9244 TA2 MOUNTING: 667-9316 POLE: WE-EF 693-3300-(FINISH)- CONTRACTOR TO DETERMIN POLE HEIGHT WITH CONCRETE FOOTTER DETAIL	1. REFER TO RAISED CONCRETE BASE AND ANCHORAGE DETAIL SHOWN ON ELECTRICAL DETAIL SHEET #0-E6 SERIES. 2. PROVIDE POLE TO MEET LOCAL AND AASHTO REQUIREMENTS FOR EPA OF FIXTURE CONFIGURATION. ARCHITECT / CIVIL ENGINEER SHALL COORDINATE FINAL POLE ANCHORAGE DETAIL. 3. PROVIDE DETAILED SHOP DRAWINGS NOTING BASE AND ANCHORAGE DETAIL, POLE SPECIFICATIONS CONFORMING TO ALL APPLICABLE CODES, ELECTRICAL REQUIREMENTS, AND PHOTOMETRIC CHARACTERISTICS.
FS4R	POLE MOUNTED LED PROJECTOR, TWO FIXTURE HEAD PER POLE @24' AFF CUSTOM RED FINISH	YARD	WHITE LED MODULE, 13813 DELIVERED LUMENS, L70 60,000 HOURS	4000K	230 (115W /PER HEAD)	EA	INTEGRAL, ELECTRONIC, 0-10V, DIMMABLE	120V OR 277V	WIDE BEAM	POLE MOUNTED; PROVIDE NOMINAL 25' OR 22.5' TALL POLE SUCH THAT FIXTURE HEAD IS MOUNTED AT 24' AFG.	SAFETY GLASS LENS	CUSTOM RED RAL# TBD	FIXTURE: WE-EF - FLC240LED (2)667-4425-667-9244 -CUSTOM RED FINISH TA2 MOUNTING: 667-9316 - CUSTOM RED FINISH POLE: WE-EF 693-3300-CUSTOM RED FINISH	1. REFER TO GRADE LEVEL POLE BASE AND ANCHORAGE DETAIL SHOWN ON ELECTRICAL DETAIL SHEET #0-E6 SERIES. 2. PROVIDE POLE TO MEET LOCAL AND AASHTO REQUIREMENTS FOR EPA OF FIXTURE CONFIGURATION. ARCHITECT / CIVIL ENGINEER SHALL COORDINATE FINAL POLE ANCHORAGE DETAIL. 3. PROVIDE DETAILED SHOP DRAWINGS NOTING BASE AND ANCHORAGE DETAIL, POLE SPECIFICATIONS CONFORMING TO ALL APPLICABLE CODES, ELECTRICAL REQUIREMENTS, AND PHOTOMETRIC CHARACTERISTICS.
FS4AR	POLE MOUNTED LED PROJECTOR, TWO FIXTURE HEAD PER POLE @17' AFF IP66 CUSTOM RED FINISH	DRIVEWAY, YARD	WHITE LED MODULE, 13813 DELIVERED LUMENS, L70 60,000 HOURS	4000K	230 (115W /PER HEAD)	EA	INTEGRAL, ELECTRONIC, 0-10V, DIMMABLE	120V OR 277V	WIDE BEAM	POLE MOUNTED; PROVIDE NOMINAL 18' TALL POLE SUCH THAT FIXTURE HEAD IS MOUNTED AT 17' AFG.	SAFETY GLASS LENS	CUSTOM RED RAL# TBD	FIXTURE: WE-EF - FLC240LED (2)667-4425-667-9244-CUSTOM RED FINISH TA2 MOUNTING: 667-9316-CUSTOM RED FINISH POLE: WE-EF 693-3327-(CUSTOM RED FINISH)	1. REFER TO BASE AND ANCHORAGE DETAIL SHOWN ON ELECTRICAL DETAIL SHEET #0-E6 SERIES. PROVIDE POLE TO MEET LOCAL AND AASHTO REQUIREMENTS FOR EPA OF FIXTURE CONFIGURATION. ARCHITECT / CIVIL ENGINEER SHALL COORDINATE FINAL POLE ANCHORAGE DETAIL. 2. PROVIDE DETAILED SHOP DRAWINGS NOTING BASE AND ANCHORAGE DETAIL, POLE SPECIFICATIONS CONFORMING TO ALL APPLICABLE CODES, ELECTRICAL REQUIREMENTS, AND PHOTOMETRIC CHARACTERISTICS. 3. CUSTOM COLOR RAL # TO BE PROVIDED BY ARCHITECT.
FS4BR	POLE MOUNTED LED PROJECTOR, ONE FIXTURE HEAD PER POLE @17' AFF IP66 CUSTOM RED FINISH	ENTRY PLAZA	WHITE LED MODULE, 13813 DELIVERED LUMENS, L70 60,000 HOURS	4000K	115	EA	INTEGRAL, ELECTRONIC, 0-10V, DIMMABLE	120V OR 277V	WIDE BEAM	POLE MOUNTED; PROVIDE NOMINAL 18' TALL POLE SUCH THAT FIXTURE HEAD IS MOUNTED AT 17' AFG.	SAFETY GLASS LENS	CUSTOM RED RAL# TBD	FIXTURE: WE-EF - FLC240LED (1)667-4425-667-9244-CUSTOM RED FINISH TA1 MOUNTING: 667-9315-CUSTOM RED FINISH POLE: WE-EF 693-3327-(CUSTOM RED FINISH)	1. REFER TO BASE AND ANCHORAGE DETAIL SHOWN ON ELECTRICAL DETAIL SHEET #0-E6 SERIES. PROVIDE POLE TO MEET LOCAL AND AASHTO REQUIREMENTS FOR EPA OF FIXTURE CONFIGURATION. ARCHITECT / CIVIL ENGINEER SHALL COORDINATE FINAL POLE ANCHORAGE DETAIL. 2. PROVIDE DETAILED SHOP DRAWINGS NOTING BASE AND ANCHORAGE DETAIL, POLE SPECIFICATIONS CONFORMING TO ALL APPLICABLE CODES, ELECTRICAL REQUIREMENTS, AND PHOTOMETRIC CHARACTERISTICS. 3. CUSTOM COLOR RAL # TO BE PROVIDED BY ARCHITECT.
FS4C	POLE MOUNTED LED PROJECTOR WTH EXTENDED ARM, ONE FIXTURE HEAD PER POLE @17' AFF	FUEL PUMP AREA	WHITE LED MODULE, 13813 DELIVERED LUMENS, L70 60,000 HOURS, L70 60,000 HOURS	4000K	115	EA	INTEGRAL, ELECTRONIC, 0-10V, DIMMABLE	120V OR 277V	MEDIUM BEAM	POLE MOUNTED; PROVIDE NOMINAL 18' TALL POLE SUCH THAT FIXTURE HEAD IS MOUNTED AT 17' AFG.	SAFETY GLASS LENS	STANDARD FINISH, TBD	FIXTURE: WE-EF - FLC240LED 667-4325-667-9244 (1) CUSTOM POLE 4' LONG ARM MOUNT BRACKET FOR SINGLE LUMINAIRE HEAD- BY WE-EF POLE: WE-EF 693-3327	1. REFER TO BASE AND ANCHORAGE DETAIL SHOWN ON ELECTRICAL DETAIL SHEET #0-E6 SERIES. PROVIDE POLE TO MEET LOCAL AND AASHTO REQUIREMENTS FOR EPA OF FIXTURE CONFIGURATION. ARCHITECT / CIVIL ENGINEER SHALL COORDINATE FINAL POLE ANCHORAGE DETAIL. 2. PROVIDE DETAILED SHOP DRAWINGS NOTING BASE AND ANCHORAGE DETAIL, POLE AND BRACKET SPECIFICATIONS CONFORMING TO ALL APPLICABLE CODES, ELECTRICAL REQUIREMENTS, AND PHOTOMETRIC CHARACTERISTICS.
FS5	7.5" SQUARE RECESSED LED STEP LIGHT	B01 MAIN & BACK ENTRANCE	WHITE LED MODULE, 80CRI, 862 DELIVERED LUMENS	4000K	7.7	EA	INTEGRAL, ELECTRONIC, 0-10V, DIMMABLE	120-277V	ALUMINUM, ASYMETRIC	WALL RECESSED	CLEAR TEMPERED GLASS	STANDARD FINISH, TBD	BEGA 22249-4K-(FINISH)	1. FINISH TO BE SELECTED BY ARCHITECT. 2. REFER TO DRAWINGS FOR MOUNTING HEIGHTS.
FS8	INGRADE LED UPLIGHT IP66	BUILDING 01 MONUMENT SIGN	WHITE LED MODULE, 80CRI, 440 DELIVERED LUMENS,L 70, 50,000 HOURS	4000K	7	EA	REMOTE, ELECTRONIC, NON DIM	PRIMARY 105-300VAC, SECONDARY 12V	16° BEAM SPREAD	RECESSED TO SIGNAGE BASE	SOLITE LENS	STANDARD FINISH, TBD	BK LIGHTING ARTISTAR RECESSED UPLIGH UL-S-AR-LED-E66-SP-A6-(FINISH-12 REMOTE DRIVER : TRE20	1. FIXTURE FACTORY SETTING TO BE WITH OUTPUT INTENSITY "A6" TO REDUCE OUTPUT APPROXIMATELY DOWN TO 86%. 2. FINISH TO BE SELECTED BY ARCHITECT OR SIGNAGE CONSULTANT. 3. LOCATE REMOTE TRANSFORMER IN A SECURE, CONCEALED, ACCESSIBLE AND WELL VENTILATED LOCATION IN COMPLIANCE WITH MANUFACTURER'S RECOMMENDATIONS. CONTRACTOR TO SELECT WATTAGE AND QUANTITY OF REMOTE DRIVER AS REQUIRED FOR COMPLETE INSTALLATIONS.

GENERAL NOTES:
1. REFER TO SPECIFICATION SECTION 26 51 00 ARCHITECTURAL LIGHTING FOR ADDITIONAL REQUIREMENTS.
2. REFER TO SPECIFICATION SECTION 26 09 26 FOR NETWORKED LIGHTING CONTROL.
3. FIXTURE SHALL BE ORDERED WITH NECESSARY POWER SUPPLIES, DRIVERS, LEADER CABLES, JUMPER CABLES, POWER FEEDS, TERMINATORS AND CONTROL INTERFACES FOR INSTALLATION OF A COMPLETE WORKING SYSTEM.

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	INC 01_ADD_01_V1	12/06/2019

REGISTERED PROFESSIONAL ENGINEER
AMANDA J. BROWNEE
No. E17267
ELECTRICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

ELECTRICAL SITE LIGHT FIXTURE SCHEDULE

Drawn By: ELW
Checked By: AJB

Scale:
12" = 1'-0"

Date:
October 4, 2019

Project No. B17.07369

0-E0.10
Drawing No.

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LIGHTING CONTROL INTENT MATRIX AND SEQUENCE OF OPERATIONS

SPACE TYPE	AUTOMATIC CONTROL																					
	LED DIMMING				OCCUPANCY SENSOR				PHOTOCELL		CONTROL DEVICE LOCATION		NORMAL BUSINESS HOURS		AFTER HOURS		OVERRIDE			EMERGENCY LTG STRATEGY	AUTOMATIC DEMAND RESPONSE
	MINIMUM AS REQUIRED BY TITLE-24 (2016)	MINIMUM AS REQUIRED BY LEED BD+C V4	DIMMING PERCENTAGE DOWN TO	WSP RECOMMENDATION	MINIMUM AS REQUIRED BY TITLE-24 (2016)	SENSOR DELAY SETPOINT	WSP RECOMMENDATION	AS REQUIRED BY T-24	PHOTOCELL SETPOINT	REMARKS	MINIMUM AS REQUIRED BY LEED BD+C V4	WSP RECOMMENDATION	LIGHTING	RECEPTACLES	LIGHTING	RECEPTACLES	LIGHTING	RECEPTACLES	DURATION	LIGHTING	
SITE LIGHTING																					
PARKING LOT AT BLDG.1	EXEMPT	N/A	--	SUGGEST NO DIMMING IF NOT REQUIRED BY CODE	N/A	NO SENSORS	NOT REQUIRED	YES OR TIMECLOCK	PHOTOCELL/ TIMECLOCK	DAYLIGHT ON/OFF RESPONSE	N/A	N/A	ON/OFF PER ASTRONOMICAL TIMECLOCK	NA	ON/OFF PER ASTRONOMICAL TIMECLOCK	NA	N/A	NA	NA	N/A	NOT REQUIRED
PARKING LOT AT BLDG 9	EXEMPT	N/A	--	SUGGEST NO DIMMING IF NOT REQUIRED BY CODE	N/A	NO SENSORS	NOT REQUIRED	YES OR TIMECLOCK	PHOTOCELL/ TIMECLOCK	DAYLIGHT ON/OFF RESPONSE	N/A	N/A	ON/OFF PER ASTRONOMICAL TIMECLOCK	NA	ON/OFF PER ASTRONOMICAL TIMECLOCK	NA	N/A	NA	NA	N/A	NOT REQUIRED
FLAG	EXEMPT	N/A	--	SUGGEST NO DIMMING IF NOT REQUIRED BY CODE	N/A	NO SENSORS	NOT REQUIRED	YES OR TIMECLOCK	PHOTOCELL/ TIMECLOCK	DAYLIGHT ON/OFF RESPONSE	N/A	N/A	ON/OFF PER ASTRONOMICAL TIMECLOCK	NA	ON/OFF PER ASTRONOMICAL TIMECLOCK	NA	N/A	NA	NA	N/A	NOT REQUIRED
FIRE STATION ENTRY PLAZA	EXEMPT	N/A	--	SUGGEST NO DIMMING IF NOT REQUIRED BY CODE	N/A	NO SENSORS	NOT REQUIRED	YES OR TIMECLOCK	PHOTOCELL/ TIMECLOCK	DAYLIGHT ON/OFF RESPONSE	N/A	N/A	ON/OFF PER ASTRONOMICAL TIMECLOCK	NA	ON/OFF PER ASTRONOMICAL TIMECLOCK	NA	N/A	NA	NA	N/A	NOT REQUIRED
SERVICE YARD AT BLDG.1	CONTINUOUS DIMMING 40-90%	N/A	40%	SUGGEST NO DIMMING IF NOT REQUIRED BY CODE	AUTO ON AUTO OFF	15 MINUTES	AUTO ON AUTO OFF	YES OR TIMECLOCK	PHOTOCELL/ TIMECLOCK	DAYLIGHT ON/OFF RESPONSE	N/A	N/A	ON/OFF PER ASTRONOMICAL TIMECLOCK	NA	ON/OFF PER ASTRONOMICAL TIMECLOCK	NA	N/A	NA	NA	N/A	NOT REQUIRED
TRAINING ZONES	EXEMPT	N/A	--	SUGGEST NO DIMMING IF NOT REQUIRED BY CODE	N/A	NO SENSORS	NOT REQUIRED	YES OR TIMECLOCK	PHOTOCELL/ TIMECLOCK	DAYLIGHT ON/OFF RESPONSE	N/A	N/A	ON/OFF PER ASTRONOMICAL TIMECLOCK (DURING TRAINING: LOCAL OVERRIDE SWITCH CONTROL)	NA	ON/OFF PER ASTRONOMICAL TIMECLOCK (DURING TRAINING: LOCAL OVERRIDE SWITCH CONTROL)	NA	N/A	NA	NA	N/A	NOT REQUIRED
SECURE NON TRAINING AREA	CONTINUOUS DIMMING 40-90%	N/A	40%	SUGGEST NO DIMMING IF NOT REQUIRED BY CODE	N/A	NO SENSORS	NOT REQUIRED	YES OR TIMECLOCK	PHOTOCELL/ TIMECLOCK	DAYLIGHT ON/OFF RESPONSE	N/A	N/A	ON/OFF PER ASTRONOMICAL TIMECLOCK	NA	ON/OFF PER ASTRONOMICAL TIMECLOCK	NA	N/A	NA	NA	N/A	NOT REQUIRED
INTERNALLY ILLUMINATED SIGNAGE	EXEMPT	N/A	--	SUGGEST NO DIMMING IF NOT REQUIRED BY CODE	N/A	NO SENSORS	NOT REQUIRED	YES OR TIMECLOCK	PHOTOCELL/ TIMECLOCK	DAYLIGHT ON/OFF RESPONSE	N/A	N/A	ON/OFF PER ASTRONOMICAL TIMECLOCK	NA	ON/OFF PER ASTRONOMICAL TIMECLOCK	NA	N/A	NA	NA	N/A	NOT REQUIRED
EXTERNALLY ILLUMINATED SIGNAGE (FIRE STATION 6)	EXEMPT	N/A	--	CONTINUOUS DIMMING TO 10%	N/A	NO SENSORS	NOT REQUIRED	YES OR TIMECLOCK	PHOTOCELL/ TIMECLOCK	DAYLIGHT ON/OFF RESPONSE	PROGRAMMING VIA TIMECLOCK	PROGRAMMING VIA TIMECLOCK	ON/OFF PER ASTRONOMICAL TIMECLOCK	NA	DIMMED TO 40% LIGHT OUTPUT FROM MIDNIGHT TO 6AM PER LEED REQUIREMENTS	NA	N/A	NA	NA	UL 924 DEVICE REQUIRED TO BRING EGRESS LIGHTING UP TO FULL BRIGHTNESS UPON LOSS OF NORMAL POWER OR FIRE ALARM SIGNAL	NOT REQUIRED
EXTERNALLY ILLUMINATED SIGNAGE (VERTICAL MONUMENT SIGN)	EXEMPT	N/A	--	SUGGEST NO DIMMING IF NOT REQUIRED BY CODE	N/A	NO SENSORS	NOT REQUIRED	YES OR TIMECLOCK	PHOTOCELL/ TIMECLOCK	DAYLIGHT ON/OFF RESPONSE	N/A	N/A	ON/OFF PER ASTRONOMICAL TIMECLOCK	NA	ALWAYS ON	NA	N/A	NA	NA	N/A	NOT REQUIRED
EXTERNALLY ILLUMINATED SIGNAGE (FIRE TRAINING)	EXEMPT	N/A	--	CONTINUOUS DIMMING TO 10%	N/A	NO SENSORS	NOT REQUIRED	YES OR TIMECLOCK	PHOTOCELL/ TIMECLOCK	DAYLIGHT ON/OFF RESPONSE	PROGRAMMING VIA TIMECLOCK	PROGRAMMING VIA TIMECLOCK	ON/OFF PER ASTRONOMICAL TIMECLOCK	NA	OFF FROM MIDNIGHT TO 6AM PER LEED REQUIREMENTS	NA	N/A	NA	NA	N/A	NOT REQUIRED
PATIO (FITNESS & CLASSROOM)	EXEMPT	N/A	--	SUGGEST NO DIMMING IF NOT REQUIRED BY CODE	N/A	NO SENSORS	NOT REQUIRED	YES OR TIMECLOCK	PHOTOCELL/ TIMECLOCK	DAYLIGHT ON/OFF RESPONSE	N/A	N/A	ON/OFF PER ASTRONOMICAL TIMECLOCK	NA	ON/OFF PER ASTRONOMICAL TIMECLOCK	NA	N/A	NA	NA	N/A	NOT REQUIRED

NOTES:

1. THE INTENT OF THIS SCHEDULE IS TO CLARIFY THE PROGRAMMING AND FUNCTION OF CONTROLS THAT MAY BE LOCATED IN EACH SPACE TYPE.
2. THIS SCHEDULE IS NOT INTENDED TO DEFINE WHICH CONTROLS ARE TO BE INSTALLED IN EACH SPACE TYPE.
3. FOR ACTUAL CONTROL DEVICES TO BE INSTALLED IN EACH SPACE, REFER TO PLANS.
4. ALL SETPOINTS AND TIME SCHEDULES TO BE VERIFIED WITH OWNER PRIOR TO PROGRAMMING.
5. FOOTCANDLE LEVELS ARE BASED ON THE IESNA LIGHTING STANDARDS AND ARE TO BE USED AS A BASELINE DEFAULT FOR PROGRAMMING. LEVELS SUBJECT TO CHANGE PER ENERGY CODE COMPLIANCE AND OWNER REQUEST.
6. PER TITLE 24, BUILDING LIGHTING CONTROL SYSTEM TO BE DEMAND RESPONSE CAPABLE AND ABLE TO REDUCE TOTAL LIGHTING POWER BY AT LEAST 15%.
7. NA = NOT APPLICABLE WITH CONTROL DESIGN.

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY:	
KATHY GARCIA DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

**1401 W. WINTON AVE.
HAYWARD, CA 94545**

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER
AMANDA J. BROWN, CE
No. E17287
ELECTRICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

ELECTRICAL SITE LIGHT FIXTURE SCHEDULES

Drawn By: ELW Checked By: AJB

Scale: **NTS**

Date: **October 4, 2019**

Project No. B17.07369

0-E0.11
Drawing No.

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STATE OF CALIFORNIA
OUTDOOR LIGHTING
CEC-NRCC-LTO-01-E (Revised 02/16) — CALIFORNIA ENERGY COMMISSION — NRCC-LTO-01-E

CERTIFICATE OF COMPLIANCE	
Outdoor Lighting	(Page 3 of 4)
Project Name: Hayward Fire Training Center - Building 0	Date Prepared: 7/16/2019

I. Outdoor Lighting Schedule and Field Inspection Energy Checklist

Luminaire Schedule		Installed Watts					Location	Cutoff	Field Inspector	
01	02	03	04		05	06	07	08	09	
Name or Item Tag	Complete Luminaire Description	Watts per Luminaire	How wattage was determined: CEC Default from NA8	How wattage was determined: According to §130.0(c)	Number of Luminaires	Total Installed Watts in this area (3 x 5)	Primary Function area in which the luminaires are installed (Outdoor Lighting Zone)	BUG Rating	Pass	Fail
FS3	FS3	20.0	☐	☑	17	340	Walkway < 10' wide	UH: n/a UL: n/a FVH: n/a BVH: n/a FH: n/a BH: n/a	☐	☐
			☐	☐				UH: UL: FVH: BVH: FH: BH:	☐	☐
			☐	☐				UH: UL: FVH: BVH: FH: BH:	☐	☐
INSTALLED WATTS PAGE TOTAL:						340	Enter sum total of all pages (**Sum Total INSTALLED** Outdoor lighting wattage) into NRCC-LTO-01-E, page 1.		7,431	

STATE OF CALIFORNIA
OUTDOOR LIGHTING
CEC-NRCC-LTO-01-E (Revised 02/16) — CALIFORNIA ENERGY COMMISSION — NRCC-LTO-01-E

CERTIFICATE OF COMPLIANCE	
Outdoor Lighting	(Page 3 of 4)
Project Name: Hayward Fire Training Center - Building 0	Date Prepared: 7/16/2019

I. Outdoor Lighting Schedule and Field Inspection Energy Checklist

Luminaire Schedule		Installed Watts					Location	Cutoff	Field Inspector	
01	02	03	04		05	06	07	08	09	
Name or Item Tag	Complete Luminaire Description	Watts per Luminaire	How wattage was determined: CEC Default from NA8	How wattage was determined: According to §130.0(c)	Number of Luminaires	Total Installed Watts in this area (3 x 5)	Primary Function area in which the luminaires are installed (Outdoor Lighting Zone)	BUG Rating	Pass	Fail
FS1BR	FS1BR	69.0	☐	☑	18	1,242	Automotive Hardscape	UH: n/a UL: n/a FVH: n/a BVH: n/a FH: n/a BH: n/a	☐	☐
FS1E	FS1E	69.0	☐	☑	24	1,656	Automotive Hardscape	UH: n/a UL: n/a FVH: n/a BVH: n/a FH: n/a BH: n/a	☐	☐
FS1ER	FS1ER	69.0	☐	☑	1	69	Automotive Hardscape	UH: n/a UL: n/a FVH: n/a BVH: n/a FH: n/a BH: n/a	☐	☐
INSTALLED WATTS PAGE TOTAL:						2,967	Enter sum total of all pages (**Sum Total INSTALLED** Outdoor lighting wattage) into NRCC-LTO-01-E, page 1.		7,431	

CA Building Energy Efficiency Standards - 2016 Nonresidential Compliance — April 2016

STATE OF CALIFORNIA
OUTDOOR LIGHTING
CEC-NRCC-LTO-01-E (Revised 02/16) — CALIFORNIA ENERGY COMMISSION — NRCC-LTO-01-E

CERTIFICATE OF COMPLIANCE	
Outdoor Lighting	(Page 1 of 4)
Project Name: Hayward Fire Training Center - Building 0	Date Prepared:

A. General Information
Project Address: 1401 W. Winton Ave. Hayward, CA 94545
Total Illuminated Hardscape Area: 177,081
Phase of Construction: ☐ Addition ☐ Alteration
Outdoor Lighting Zone (LZ): ☐ LZ-1 ☑ LZ-2 ☐ LZ-3 ☐ LZ-4
I have confirmed with the AHJ which LZ applies to this site. For default lighting zone designations, see Title 24 Part 6, §100.114

B. Lighting Compliance Documents (check box for each document included)
For detailed instructions on the use of this and all Energy Efficiency Standards compliance documents, refer to the Nonresidential Manual published by the California Energy Commission.
☑ NRCC-LTO-01-E — Outdoor Lighting Certificate of Compliance
☐ NRCC-LTO-02-E — Outdoor Lighting Controls Certificate of Compliance
☐ NRCC-LTO-03-E — Outdoor Lighting Power Allowance Certificate of Compliance
☐ NRCC-LTO-04-E — Outdoor Lighting Existing Conditions Certificate of Compliance

C. Summary of Allowed Outdoor Lighting Power

		Watts
	Sum Total ALLOWED Outdoor Lighting Wattage from NRCC-LTO-03-E, page 1	
01	Alterations with NO increase of connected lighting load may instead use the allowed wattage from NRCC-LTO-04, page 2	9,919
	Complies ONLY if **Installed** (Box 02) ≤ **Allowed** (Box 01)	
02	**Sum Total INSTALLED** Outdoor Lighting Wattage from NRCC-LTO-01-E, page 3.	7,431

D. Declaration of Required Installation Certificates
Declare by checking all installation Certificates that will be submitted. (Retain copies and verify compliance documents are completed and signed.)
☑ NRCI-LTO-01-E - Must be submitted for all buildings — ☐ Field Inspector
☑ NRCI-LTO-02-E - Must be submitted for a lighting control system, or for an Energy Management Control System (EMCS), to be recognized for compliance. — ☐ Field Inspector

E. Declaration of Required Certificates of Acceptance
Declare by checking all of the Certificates of Acceptance that will be submitted. (Retain copies and verify compliance documents are completed and signed.)
☑ NRCA-LTO-02-A - Must be submitted for outdoor lighting controls. — ☐ Field Inspector

F. Schedule of Luminaires Exempt from the Outdoor Lighting Power Requirements in §140.7

01	02
Name or Symbol	Description of exempt luminaire in accordance with the exemptions

STATE OF CALIFORNIA
OUTDOOR LIGHTING
CEC-NRCC-LTO-01-E (Revised 02/16) — CALIFORNIA ENERGY COMMISSION — NRCC-LTO-01-E

CERTIFICATE OF COMPLIANCE	
Outdoor Lighting	(Page 4 of 4)
Project Name: Hayward Fire Training Center - Building 0	Date Prepared: 7/16/2019

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT
1. I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name:	Hayley Vero	Documentation Author Signature:	Hayley Vero
Company:	WSP	Signature Date:	7/16/2019
Address:	425 Market Street, 17th floor	CEA Certification Identification (if applicable):	
City/State/Zip:	San Francisco, CA 94105	Phone:	415-243-4600

RESPONSIBLE PERSON'S DECLARATION STATEMENT
I certify the following under penalty of perjury, under the laws of the State of California:
1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer).
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name:	Amanda Brownlee	Responsible Designer Signature:	Amanda Brownlee
Company:	WSP	Date Signed:	7/16/2019
Address:	425 Market Street, 17th Floor	License:	E17287
City/State/Zip:	San Francisco, CA 94105	Phone:	415-243-4600

STATE OF CALIFORNIA
OUTDOOR LIGHTING
CEC-NRCC-LTO-01-E (Revised 02/16) — CALIFORNIA ENERGY COMMISSION — NRCC-LTO-01-E

CERTIFICATE OF COMPLIANCE	
Outdoor Lighting	(Page 3 of 4)
Project Name: Hayward Fire Training Center - Building 0	Date Prepared: 7/16/2019

I. Outdoor Lighting Schedule and Field Inspection Energy Checklist

Luminaire Schedule		Installed Watts					Location	Cutoff	Field Inspector	
01	02	03	04		05	06	07	08	09	
Name or Item Tag	Complete Luminaire Description	Watts per Luminaire	How wattage was determined: CEC Default from NA8	How wattage was determined: According to §130.0(c)	Number of Luminaires	Total Installed Watts in this area (3 x 5)	Primary Function area in which the luminaires are installed (Outdoor Lighting Zone)	BUG Rating	Pass	Fail
FS1FR	FS1FR	69.0	☐	☑	1	69	Automotive Hardscape	UH: n/a UL: n/a FVH: n/a BVH: n/a FH: n/a BH: n/a	☐	☐
FS4	FS4	230.0	☐	☑	8	1,840	Automotive Hardscape	UH: UL: FVH: BVH: FH: BH:	☐	☐
FS4AR	FS4AR	230.0	☐	☑	3	690	Automotive Hardscape	UH: UL: FVH: BVH: FH: BH:	☐	☐
INSTALLED WATTS PAGE TOTAL:						2,599	Enter sum total of all pages (**Sum Total INSTALLED** Outdoor lighting wattage) into NRCC-LTO-01-E, page 1.		7,431	

CA Building Energy Efficiency Standards - 2016 Nonresidential Compliance — April 2016

STATE OF CALIFORNIA
OUTDOOR LIGHTING
CEC-NRCC-LTO-01-E (Revised 02/16) — CALIFORNIA ENERGY COMMISSION — NRCC-LTO-01-E

CERTIFICATE OF COMPLIANCE	
Outdoor Lighting	(Page 2 of 4)
Project Name: Hayley Training Center - Building 0	Date Prepared: 7/16/2019

G. Schedule of Luminaires Exempt from the Cutoff Requirements in §130.2(b)

01	02
Name or Symbol	Description of exempt luminaire in accordance with the exemptions

H. Schedule of Luminaires Exempt from the Outdoor Lighting Control Requirements in §130.2(c)

01	02
Name or Symbol	Description of exempt luminaire in accordance with the exemptions

CA Building Energy Efficiency Standards - 2016 Nonresidential Compliance — April 2016

STATE OF CALIFORNIA
OUTDOOR LIGHTING CONTROLS
CEC-NRCC-LTO-02-E (Revised 08/16) — CALIFORNIA ENERGY COMMISSION — NRCC-LTO-02-E

CERTIFICATE OF COMPLIANCE	
Outdoor Lighting Controls	(Page 1 of 3)
Project Name: Hayward Fire Training Center - Building 0	Date Prepared: 7/16/2019

A. Mandatory Outdoor Lighting Control Declaration Statements
Check all that apply:
- ☑ Lighting shall be controlled by self-contained lighting control devices which are certified to the Energy Commission according to the Title 20 Appliance Efficiency Regulations in accordance with §110.9(a).
- ☑ Lighting shall be controlled by a lighting control system or energy management control system in accordance with §110.9. An Installation Certificate shall be submitted in accordance with §130.4(b).
- ☑ All lighting controls and equipment shall comply with the applicable requirements in §110.9 and shall be installed in accordance with the manufacturer's instructions in accordance with §130.0(d).
- ☐ Part-Night Outdoor Lighting Controls, as defined in Section 100.1(b), shall meet the requirements in Section 110.9(b)5.
- ☐ All outdoor incandescent luminaires rated over 100 watts, determined in accordance with Section 130.0(c), shall be controlled by a motion sensor.
- ☑ All outdoor luminaires rated for use with lamps greater than 150 lamp watts, determined in accordance with Section 130.0(c), shall comply with Uplight and Glare requirements in accordance with Section 130.2(b).
- ☑ All installed outdoor lighting shall be controlled by a photocontrol or outdoor astronomical time-switch control, or other control capable of automatically switching OFF in accordance with Section 130.2(c)1.
- ☑ All installed outdoor lighting shall be independently controlled from other electrical loads by an automatic scheduling control in accordance with Section 130.2(c)2.
- ☑ All installed outdoor lighting, where the bottom of the luminaire is mounted 24 feet or less above the ground, shall be controlled with automatic lighting controls in accordance with Section 130.2(c)3.
- ☐ For Outdoor Sales Frontage, an automatic lighting control shall be installed in accordance with Section 130.2(c)4.
- ☐ For Building Facade, Ornamental Hardscape and Outdoor Dining lighting, an automatic lighting control shall be installed in accordance with Section 130.2(c)5.
- ☑ Before an occupancy permit is granted for the newly constructed building or for the addition, or for any altered outdoor lighting, the outdoor lighting controls shall be certified as meeting the Acceptance Requirements for Code Compliance in accordance with §130.4.(a). Outdoor lighting controls shall comply with the applicable requirements of Section 130.2(c) and Reference Nonresidential Appendix NA7.8.

STATE OF CALIFORNIA
OUTDOOR LIGHTING
CEC-NRCC-LTO-01-E (Revised 02/16) — CALIFORNIA ENERGY COMMISSION — NRCC-LTO-01-E

CERTIFICATE OF COMPLIANCE	
Outdoor Lighting	(Page 3 of 4)
Project Name: Hayward Fire Training Center - Building 0	Date Prepared: 7/16/2019

I. Outdoor Lighting Schedule and Field Inspection Energy Checklist

Luminaire Schedule		Installed Watts					Location	Cutoff	Field Inspector	
01	02	03	04		05	06	07	08	09	
Name or Item Tag	Complete Luminaire Description	Watts per Luminaire	How wattage was determined: CEC Default from NA8	How wattage was determined: According to §130.0(c)	Number of Luminaires	Total Installed Watts in this area (3 x 5)	Primary Function area in which the luminaires are installed (Outdoor Lighting Zone)	BUG Rating	Pass	Fail
FS4BR	FS4BR	115.0	☐	☑	1	115	Automotive Hardscape	UH: n/a UL: n/a FVH: n/a BVH: n/a FH: n/a BH: n/a	☐	☐
FS4CR	FS4CR	115.0	☐	☑	1	115	Automotive Hardscape	UH: n/a UL: n/a FVH: n/a BVH: n/a FH: n/a BH: n/a	☐	☐
FS5	FS5	7.7	☐	☑	41	316	Walkway < 10' wide	UH: n/a UL: n/a FVH: n/a BVH: n/a FH: n/a BH: n/a	☐	☐
INSTALLED WATTS PAGE TOTAL:						546	Enter sum total of all pages (**Sum Total INSTALLED** Outdoor lighting wattage) into NRCC-LTO-01-E, page 1.		7,431	

CA Building Energy Efficiency Standards - 2016 Nonresidential Compliance — April 2016

STATE OF CALIFORNIA
OUTDOOR LIGHTING
CEC-NRCC-LTO-01-E (Revised 02/16) — CALIFORNIA ENERGY COMMISSION — NRCC-LTO-01-E

CERTIFICATE OF COMPLIANCE	
Outdoor Lighting	(Page 3 of 4)
Project Name: Hayward Fire Training Center - Building 0	Date Prepared: 7/16/2019

I. Outdoor Lighting Schedule and Field Inspection Energy Checklist

Luminaire Schedule		Installed Watts					Location	Cutoff	Field Inspector	
01	02	03	04		05	06	07	08	09	
Name or Item Tag	Complete Luminaire Description	Watts per Luminaire	How wattage was determined: CEC Default from NA8	How wattage was determined: According to §130.0(c)	Number of Luminaires	Total Installed Watts in this area (3 x 5)	Primary Function area in which the luminaires are installed (Outdoor Lighting Zone)	BUG Rating	Pass	Fail
FS1	FS1	70.0	☐	☑	1	70	Automotive Hardscape	UH: n/a UL: n/a FVH: n/a BVH: n/a FH: n/a BH: n/a	☐	☐
FS1R	FS1R	70.0	☐	☑	12	840	Automotive Hardscape	UH: n/a UL: n/a FVH: n/a BVH: n/a FH: n/a BH: n/a	☐	☐
FS1B	FS1B	69.0	☐	☑	1	69	Automotive Hardscape	UH: n/a UL: n/a FVH: n/a BVH: n/a FH: n/a BH: n/a	☐	☐
INSTALLED WATTS PAGE TOTAL:						979	Enter sum total of all pages (**Sum Total INSTALLED** Outdoor lighting wattage) into NRCC-LTO-01-E, page 1.		7,431	

CA Building Energy Efficiency Standards - 2016 Nonresidential Compliance — April 2016

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER
AMANDA J. BROWNLEE
No. E17287
ELECTRICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title
ELECTRICAL TITLE 24

Drawn By: ELW — Checked By: AJB

Scale: **NTS**

Date: **October 4, 2019**

Project No. B17.07369

0-E0.20
Drawing No.

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STATE OF CALIFORNIA
SIGN LIGHTING
CEC-NRCC-LTS-01-E (Revised 08/16)
CALIFORNIA ENERGY COMMISSION
NRCC-LTS-01-E
CERTIFICATE OF COMPLIANCE
(Page 1 of 5)
Sign Lighting
Project Name: Hayward Fire Training Center - Building 0
Date Prepared: 7/16/2019

A. General Information
Project Address: 1401 W. Winton Ave. Hayward, CA 94545

Location of Sign: ☐ Outdoor Signs ☐ Indoor Signs
Phase of Sign Construction: ☑ New Signs ☐ Sign Alterations
Type of Lighting Control: ☑ New Lighting Controls ☐ Replaced Lighting Controls ☐ Not Installing Lighting Controls
This Certificate of Compliance includes the following components (check all that apply):
☑ Mandatory Measures (Lighting Controls) ☑ Maximum Allowed Lighting Power ☐ Specific Lighting Sources

1. Mandatory Sign Lighting Controls.
NOTES:
1. *The same responsible person may install both the sign lighting power and the sign lighting controls, or a different responsible person may install the sign lighting controls than the responsible person installing the sign lighting power.*
2. *The Mandatory Measures (sign lighting controls) are required for compliance with the sign lighting Standards. If the person responsible for installing the sign lighting power is not also responsible for the sign lighting controls, then the owner of the sign, or the owner's agent, is responsible for the sign lighting controls.*
3. *If more than one person has responsibility for compliance, each responsible person shall prepare and sign a Certificate of Compliance and an Installation Certificate applicable to the portion of construction for which they are responsible; alternatively, the person with chief responsibility for construction shall prepare and sign the Certificate of Compliance Declaration Statement (Item 1 of Section A of NRCC-LTS-01-E) and shall identify all responsible persons who have signed Certificates of Compliance. A responsible contractor may complete parts 2a and 2b on a separate compliance document – the Responsible Designer shall submit the two compliance documents together for the same complete installation).*

1a. I have responsibility for installing the sign lighting controls:
☑ Yes, I have responsibility for the sign lighting controls and will complete parts 1a and 1b of this compliance document. ☐ No, I do not have responsibility for installing the sign lighting controls. Someone else will complete parts 1a and 1b of this compliance document.

1b. Check Yes or No for all of the following statements:

1. There are existing sign lighting controls that comply with the applicable provisions of §110.9 and §130.3
   ☐ Yes ☑ No
2. There are no existing sign lighting controls and I will be installing sign lighting controls that comply with the applicable provisions of §110.9 and §130.3
   ☐ Yes ☑ No
3. There are existing sign lighting controls that do not comply with the applicable provisions of §110.9 and §130.3 and I will be installing sign lighting controls that comply with the applicable provisions of §110.9 and §130.3
   ☐ Yes ☑ No

STATE OF CALIFORNIA
SIGN LIGHTING
CEC-NRCC-LTS-01-E (Revised 08/16)
CALIFORNIA ENERGY COMMISSION
NRCC-LTS-01-E
CERTIFICATE OF COMPLIANCE
(Page 2 of 5)
Sign Lighting
Project Name: Hayward Fire Training Center - Building 0
Date Prepared: 7/16/2019

2. Mandatory Sign Lighting Measures
2a. I have responsibility for the sign lighting.
☑ Yes, I have responsibility for the sign lighting, and will complete parts 2a and 2b of this compliance document ☐ No, I do not have responsibility for installing the sign lighting. Someone else will complete parts 2a and 2b of this compliance document.

2a. Maximum Allowed Lighting Power Method of Compliance
Certificate of Compliance and Installation Certificate Responsibility
Complete this part if there are signs using the maximum allowed lighting power method of compliance. (Complete part 2b of this Certificate of Compliance if there are signs using the Specific Lighting Sources method of compliance).

A	B	C	D	E	F	G	H	I	J
Symbol or Code	Description of the Sign	OPTIONAL – Energy Verified Label Use: (Refer to Instructions below)	Sign Area (ft²)	Allotted Watts: Internally (I) or Externally (E) Illuminated	Allotted Watts: Allowed LPD (I = 12 W/ft²) (E = 2.3 W/ft²)	Allotted Watts: Allowed Watts (D x F)	Total Installed Watts for Sign	Design Watts	Complies Y/N	Field Inspector Check that Sign Complies
FS8	Sign		19	Ext	2.3	44	14		Y	☐
										☐
										☐
										☐
										☐
										☐
										☐
										☐

A Symbol or code used on the plans (when plans are required) and other documents.
B A description of the sign, or location of sign on the building, and the location of sign on construction documents.
C **Energy Verified Label Use:** (Refer to Instructions below) Check box if the sign is ENERGY VERIFIED and the Responsible Designer has signed this Certificate of Compliance, confirming that the sign complies with the Section 140.8 of the California 2016 Title 24, Part 6 Standards, using the Maximum Allowed Lighting Power method of compliance. The only labels that will be recognized for this purpose are ENERGY VERIFIED Certification Marks licensed by the California Energy Commission to a Type A Certification Body that is an ISO/IEC 17065 accredited conformity assessment body operating in accordance with International Standards Institute in accordance with ISO/IEC 17011. Surveillance by the Accredited Certification Body shall be an ongoing annual inspection program carried out by a Type A Inspection body in accordance with ISO/IEC 17020. For signs with such an ENERGY VERIFIED label, the Responsible Designer may choose to use the ENERGY VERIFIED label in an optional method to validate compliance. An ENERGY VERIFIED label is not needed for compliance.
D The sign area in square feet.
E Enter I if the sign is internally illuminated. List "E" if the sign is externally illuminated.
F Allowed watts per square foot. Enter 12 if the sign is listed as "I" in column E. Enter 2.3 if sign is listed as "E" in column E.
G Multiply the square footage in column D times the allowed Lighting Power Density (LPD - watts) in column F.
H Show the total installed watts the sign is determined according to the applicable provision of §130.1.
I Enter "Y" if the sign complies with §130.1. Enter "N" if the sign does not comply. If "N" is entered, corrections to the sign must be made before the sign complies.
J This page doubles as a Field inspection checklist.
Field Inspector Notes:

STATE OF CALIFORNIA
OUTDOOR LIGHTING POWER ALLOWANCES
CEC-NRCC-LTO-03-E (Revised 01/16)
CALIFORNIA ENERGY COMMISSION
NRCC-LTO-03-E
CERTIFICATE OF COMPLIANCE
(Page 2 of 4)
Outdoor Lighting Power Allowances
Project Name: Hayward Fire Training Center - Building 0
Date Prepared: 7/16/2019

C. ADDITIONAL "USE IT OR LOSE IT" OUTDOOR LIGHTING POWER ALLOWANCES FOR SPECIFIC APPLICATIONS
☐ The additional specific outdoor lighting power allowance shall be the smaller of the allowed lighting power or the actual lighting power used.
☐ Use Outdoor Lighting Zone (OLZ) that is documented on page 1 of NRCC-LTO-01-E to calculate the specific wattage allowances.

C-1. WATTAGE ALLOWANCE PER APPLICATION – Table 140.7-B
☐ Available only for qualifying locations, which include Building Entrances or Exits; Primary Entrances to Senior Care Facilities, Police Stations, Hospitals, Fire Stations, and Emergency Vehicle Facilities; Drive Up Windows; Vehicle Service Station Uncovered Fuel Dispenser, ATM Machine Lighting
☐ If more than one luminaire type is used per location, use multiple rows for that location

01	02	03	04	05	06	07	08	09	10
	ALLOTTED WATTS			DESIGN WATTS					
Name of Location for Which Allowance is Claimed	Number of Qualifying Locations	Wattage Allowance per Qualifying Location	Allotted Watts (02 x 03)	Luminaire Code or Symbol	Luminaire Description	Luminaire Quantity	Watts per Luminaire	Design Watts (07 x 08)	Allowed Watts (smaller of 04 or 09)
					Sum total allowance per application on this site:				0

C-2. WATTAGE ALLOWANCE PER UNIT LENGTH (Sales Frontage) from Table 140.7-B
☐ If more than one luminaire type is used per location, use multiple rows for that location

01	02	03	04	05	06	07	08	09	10
	ALLOTTED WATTS			DESIGN WATTS					
Name of Location for Which Allowance is Claimed	Linear Feet of Sales Frontage	Wattage Allowance per Linear Foot	Allotted Watts (02 x 03)	Luminaire Code or Symbol	Luminaire Description	Luminaire Quantity	Watts per Luminaire	Design Watts (07 x 08)	Allowed Watts (smaller of 04 or 09)
					Sum total allowance for sales frontage on the site:				0

STATE OF CALIFORNIA
OUTDOOR LIGHTING CONTROLS
CEC-NRCC-LTO-02-E (Revised 08/16)
CALIFORNIA ENERGY COMMISSION
NRCC-LTO-02-E
CERTIFICATE OF COMPLIANCE
(Page 2 of 3)
Outdoor Lighting Controls
Project Name: Hayward Fire Training Center - Building 0
Date Prepared: 7/16/2019

B. Mandatory Outdoor Lighting Control Schedule and Field Inspection Checklist

Outdoor Lighting Control Schedule		Standards Complying With (✓ all that apply, or enter 'E' if Exempted)							✓ if Acceptance Test Required	Field Inspector	
01	02	03	04	05	06	07	08	09	10	11	
Location and Application of Luminaires Being Controlled	Type/ Description of Lighting Control (i.e. outdoor motion sensor, outdoor photocontrol, outdoor astronomical time-switch control, automatic scheduling control, part-night outdoor lighting control)	# of Units	§130.2(a)	§130.2(c)1	§130.2(c)2	§130.2(c)3	§130.2(c)4	§130.2(c)5		Pass	Fail
PARKING/ROADWAY	OCCUPANCY SENSOR, ASTRONOMICAL TIMECLOCK	SEE PLANS	✓	✓	✓	✓	NA	NA	☐	☐	☐
WALKWAY	OCCUPANCY SENSOR, ASTRONOMICAL TIMECLOCK	SEE PLANS	NA	✓	✓	✓	NA	NA	☐	☐	☐
									☐	☐	☐
									☐	☐	☐
									☐	☐	☐
									☐	☐	☐
									☐	☐	☐
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									☐	☐	☐
									☐	☐	☐

STATE OF CALIFORNIA
OUTDOOR LIGHTING POWER ALLOWANCES
CEC-NRCC-LTO-03-E (Revised 01/16)
CALIFORNIA ENERGY COMMISSION
NRCC-LTO-03-E
CERTIFICATE OF COMPLIANCE
(Page 3 of 4)
Outdoor Lighting Power Allowances
Project Name: Hayward Fire Training Center - Building 0
Date Prepared: 7/16/2019

C-3. WATTAGE ALLOWANCE PER SQUARE FOOT OF HARDSCAPE AREA (Ornamental Lighting) – Table 140.7-B
☐ Allowance for the total site illuminated hardscape area. Luminaires qualifying for this allowance shall be rated for 100 watts or less as determined in accordance with Section 130.0(c), and shall be post-top luminaires, lanterns, pendant luminaires, or chandeliers.
☐ If more than one luminaire type is used per location, use multiple rows for that location

01	02	03	04	05	06	07	08	09	10
	ALLOTTED WATTS				DESIGN WATTS				
Name of area for which ornamental allowance is claimed	Square Feet of Hardscape	Wattage Allowance per Square Foot	Allotted Watts (02 x 03)	Luminaire Code or Symbol	Luminaire Description	Luminaire Quantity	Watts per Luminaire	Design Watts (07 x 08)	Allowed Watts (smaller of 04 or 09)
					Sum total allowance for ornamental lighting on the site:				0

C-4. WATTAGE ALLOWANCE PER SQUARE FOOT OF SPECIFIC AREA - Table 140.7-B
☐ Allowances for Building Facades; Outdoor Sales Lots; Vehicle Service Station Hardscape; Vehicle Service Station Canopies; Sales Canopies; Non-sales Canopies; Tunnels; Guard Stations; Student Pick-up/Drop-off zone: Outdoor Dining; Special Security Lighting for Retail Parking and Pedestrian Hardscape.
☐ If more than one luminaire type is used per location, use multiple rows for that location

01	02	03	04	05	06	07	08	09	10
	ALLOTTED WATTS				DESIGN WATTS				
Name of Location for Which Allowance is Claimed	Illuminated Area of Application	Wattage Allowance per square Foot	Allotted Watts (02 x 03)	Luminaire Code or Symbol	Luminaire Description	Luminaire Quantity	Watts per Luminaire	Design Watts (07 x 08)	Allowed Watts (smaller of 04 or 09)
					Sum total allowance for specific area on the site:				0

STATE OF CALIFORNIA
OUTDOOR LIGHTING CONTROLS
CEC-NRCC-LTO-02-E (Revised 08/16)
CALIFORNIA ENERGY COMMISSION
NRCC-LTO-02-E
CERTIFICATE OF COMPLIANCE
(Page 3 of 3)
Outdoor Lighting Controls
Project Name: Hayward Fire Training Center - Building 0
Date Prepared: 7/16/2019

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT
1. I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name:	Hayley Vero	Documentation Author Signature:	Hayley Vero
Company:	WSP	Signature Date:	7/16/2019
Address:	425 Market Street, 17th floor	CEA Certification Identification:	
City/State/Zip:	San Francisco, CA 94105	Phone:	415-243-4600

RESPONSIBLE PERSON'S DECLARATION STATEMENT
I certify the following under penalty of perjury, under the laws of the State of California:
1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer).
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name:	Amanda Brownlee	Responsible Designer Signature:	Amanda Brownlee
Company:	WSP	Date Signed:	7/16/2019
Address:	425 Market Street, 17th Floor	License:	E17287
City/State/Zip:	San Francisco, CA 94105	Phone:	415-243-4600

STATE OF CALIFORNIA
OUTDOOR LIGHTING POWER ALLOWANCES
CEC-NRCC-LTO-03-E (Revised 01/16)
CALIFORNIA ENERGY COMMISSION
NRCC-LTO-03-E
CERTIFICATE OF COMPLIANCE
(Page 4 of 4)
Outdoor Lighting Power Allowances
Project Name: Hayward Fire Training Center - Building 0
Date Prepared: 7/16/2019

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT
1. I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name:	Hayley Vero	Documentation Author Signature:	Hayley Vero
Company:	WSP	Signature Date:	7/16/2019
Address:	425 Market Street, 17th floor	CEA Certification Identification (if applicable):	
City/State/Zip:	San Francisco, CA 94105	Phone:	415-243-4600

RESPONSIBLE PERSON'S DECLARATION STATEMENT
I certify the following under penalty of perjury, under the laws of the State of California:
1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer).
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name:	Amanda Brownlee	Responsible Designer Signature:	Amanda Brownlee
Company:	WSP	Date Signed:	7/16/2019
Address:	425 Market Street, 17th Floor	License:	E17287
City/State/Zip:	San Francisco, CA 94105	Phone:	415-243-4600

STATE OF CALIFORNIA
OUTDOOR LIGHTING POWER ALLOWANCES
CEC-NRCC-LTO-03-E (Revised 01/16)
CALIFORNIA ENERGY COMMISSION
NRCC-LTO-03-E
CERTIFICATE OF COMPLIANCE
(Page 1 of 4)
Outdoor Lighting Power Allowances
Project Name: Hayward Fire Training Center - Building 0
Date Prepared: 7/16/2019

A. OUTDOOR LIGHTING POWER ALLOWANCE SUMMARY

1. General Hardscape Lighting Power Allowance (Site Total from Section B of NRCC-LTO-03-E)	1.	9,919
2. Additional Specific "use it or lose it" Lighting Power Allowances listed in each of these cells shall be identical to total allowed watts determined in Section C-1 to C-4 of NRCC-LTO-03-E.		
PER APPLICATION from Section C-1: 0 + PER UNIT LENGTH (SALES FRONTAGE) from Section C-2: 0 + PER HARDSCAPE AREA (ORNAMENTAL LIGHTING) from Section C-3: 0 + PER SPECIFIC AREA from Section C-4: 0 =	2.	0
3. **Sum Total ALLOWED** Outdoor Lighting Wattage (add rows 1 and 2)	3.	9,919

B. GENERAL HARDSCAPE LIGHTING POWER ALLOWANCE FROM TABLE 140.7-A

Area Wattage Allowance (AWA)				Linear Wattage Allowance (LWA)			Initial Wattage Allowance (IWA)	Total General Hardscape Lighting Allowance
01	02	03	04	05	06	07	08	09
Name of Area	Illuminated Hardscape Area	AWA Per Square Foot	AWA (B02 x B03)	Perimeter Length of General Hardscape	LPA per Linear Foot	LWA (B05 x B06)	IWA (Watts)	B04 + B07 + B08
AUTOMOTIVE HARDSCAP	168,018	0.040	6,721	4,809	0.350	1,683	520	8,924
WALKWAY	9,063	0.040	363	1,808	0.350	633	0	995
							TOTAL	9,919

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SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY
DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY:	
KATHY GARCIA DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER
AMADA J. BROWNLEE
No. E17287
ELECTRICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title
ELECTRICAL TITLE 24

Drawn By: ELW Checked By: AJB

Scale: **NTS**

Date: **October 4, 2019**

Project No. B17.07369

0-E0.21
Drawing No.

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STATE OF CALIFORNIA
SIGN LIGHTING
CERTIFICATE OF COMPLIANCE
(Document to be printed in black)

CALIFORNIA ENERGY COMMISSION NRCC-LTI-E (Page 3 of 5)

Project Name: Sign Lighting | Date Prepared: 7/16/2019
Project Address: Hayward Fire Training Center - Building 0

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT
I certify that this Certificate of Compliance documentation is accurate and complete.

	Documentation Author Name:	Documentation Author Signature:
Company:	Hayley Velo	Hayley Velo
Address:	WSP	Signature Date: 7/16/2019
City/State/Zip:	425 Market Street, 17th floor	CEA Commission Certification Identification (if applicable):
Phone:	San Francisco, CA 94105	Phone: 415-243-4600

RESPONSIBLE PERSON'S DECLARATION STATEMENT
I certify the following under penalty of perjury, under the laws of the State of California:
1. I am responsible for the design of the lighting systems and/or components identified on this Certificate of Compliance.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the design of the lighting systems identified on this Certificate of Compliance (responsible designer).
3. The lighting systems and/or components specified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building features or system design features identified on this Certificate of Compliance conform to the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will provide certificates, declarations, worksheets, or other documentation as required by the Reference Nonresidential Manual to the building owner at occupancy.

	Responsible Designer Name:	Responsible Designer Signature:
Company:	Amanda Brownlee	Date Signed: 7/16/2019
Address:	WSP	License: E17287
City/State/Zip:	425 Market Street, 17th Floor	Phone: 415-243-4600
	San Francisco, CA 94105	

STATE OF CALIFORNIA
SIGN LIGHTING
CERTIFICATE OF COMPLIANCE
(Document to be printed in black)

CALIFORNIA ENERGY COMMISSION NRCC-LTI-E (Page 4 of 5)

Project Name: Sign Lighting | Date Prepared: 7/16/2019
Project Address: Hayward Fire Training Center - Building 0

2b. Specific Lighting Source Method of Compliance
Certificate of Compliance and Field Inspection Energy Checklist
Complete this part if there are signs using the Specific Lighting Source method of compliance. (Complete part 2 of this Certificate of Compliance if there are signs using the maximum allowed lighting power method of compliance)

A	B	C	D	E
Symbol or Code	Description	OPTIONAL ENERGY VERIFIED label (see instructions below)	Specific light source used for compliance Shall include only lighting technologies listed below (List all that apply)	Field Inspector Check that Sign Complies ✓
		☐		☐
		☐		☐
		☐		☐
		☐		☐
A	Symbol or code used on the plans (when plans are required) and other documents.			
B	A narrative description of the sign, or location of sign on construction documents.			

C — OPTIONAL - Check this box only if this sign has a permanent, pre-printed, factory-installed ENERGY VERIFIED label, confirming that this sign complies with the applicable requirements of Section 130.0(c) and 130.2(c) of the 2016 Building Energy Efficiency Standards. The ENERGY VERIFIED label must be issued by the Sign Industry Certification Program (SICP) or other Product Certification Body accredited to ISO/IEC Guide 65 by the American National Standards Institute in accordance with ISO/IEC 17011. Surveillance by the ISO/IEC 17020 Inspection Body shall be performed at least once every 12 months. A manufacturer that has received ENERGY VERIFIED certification from SICP may self-label signs that comply with the requirements listed in the ENERGY VERIFIED label specification. Note: Using an ENERGY VERIFIED label is an optional method to validate compliance. An ENERGY VERIFIED label is not needed for specific Light Source Compliance Method. The sign(s) identified above use only the following lighting technologies:
List all applicable numbers (1 through 9) that apply in column D above for each row.

D
1. High pressure sodium lamps
2. Metal halide lamps that are pulse start or ceramic served by a ballast that has a minimum efficiency of 88% or greater. Ballast efficiency is the measured output wattage to the lamp divided by the measured operating input wattage, when tested according to ANSI C82.6-2005.
3. Metal halide lamps that are pulse start that are 320 watts or smaller, are not 350 watt or 175 watt lamps, and are served by a ballast that has a minimum efficiency of 94%. Ballast efficiency is the measured output wattage to the lamp divided by the measured operating input wattage when tested according to ANSI C82.6-2005.
4. Neon or cold cathode lamps with transformer or power supply efficiency greater than or equal to a minimum efficiency of 75% when tested according to power supply rated output current less than 50 mA. The rated output wattage to the input wattage is at 100% tubing load.
5. Neon or cold cathode lamps with transformer or power supply efficiency greater than or equal to a minimum efficiency of 68% when tested according to power supply rated output current 50 mA or greater. The ratio of the output wattage to the input wattage is at 100% tubing load.
6. Fluorescent lighting systems meeting one of the following requirements: A.) Use only lamps with a minimum color rendering index (CRI) of 80 or greater. B.) Use only lamps with a correlated color temperature less than 4000 kelvin.
7. Light emitting diodes (LEDs) with a power supply having an efficiency of 88% or greater.
8. Single voltage external power supplies that are designed to convert 120 volt AC input into lower voltage DC or AC output, and have a nameplate output power less than or equal to 250 watts, shall comply with the applicable requirements of the Appliance Efficiency Regulations, Table 1b.
9. Compact fluorescent lamps that do not contain a medium screw base sockets (E24/E26).

E — This sign does not require a Field Inspection checklist.

Lighting Control Notes:

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DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY:	
KATHY GARCIA DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

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HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER
AMANDA J. BROWNLEE
No. E17287
ELECTRICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

ELECTRICAL TITLE 24

Drawn By: ELW | Checked By: AJB

Scale: **NTS**

Date: **October 4, 2019**

Project No. B17.07369

0-E0.22
Drawing No.

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SHEET NOTES:

A. PROVIDE CONDUIT AND WIRE FOR CIRCUITING AND SWITCHING SHOWN.

B. VERIFY EXACT LOCATION AND MOUNTING HEIGHT OF ALL DEVICES, SWITCHES, AND LIGHT FIXTURES WITH ARCHITECT.

C. CONFIRM AND COORDINATE ALL PG&E UTILITY ROUTING WITH PG&E PER PG&E STANDARDS AND REQUIREMENTS.

D. REFER TO RISER DIAGRAM 0-E5.01 FOR FEEDER DESIGNATIONS. FEEDER ROUTES SHOWN ARE APPROXIMATE.

E. REFER TO CIVIL PLANS AND DETAILS FOR LOCATIONS AND SITE COORDINATION WITH UTILITIES AND OTHER SERVICES. CONTRACTOR SHALL COORDINATE BURIAL DEPTHS WITH FINAL GRADING AND DRAINAGE PLANS TO ENSURE MINIMUM DEPTHS ARE ACHIEVED AS REQUIRED BY NEC ARTICLE 300.

F. FIELD COORDINATE EXACT ROUTING OF ALL FEEDERS AND BRANCH CIRCUITS. COORDINATE WITH CIVIL DRAWINGS FOR ELEVATIONS, RETAINING WALLS, DRY UTILITIES.

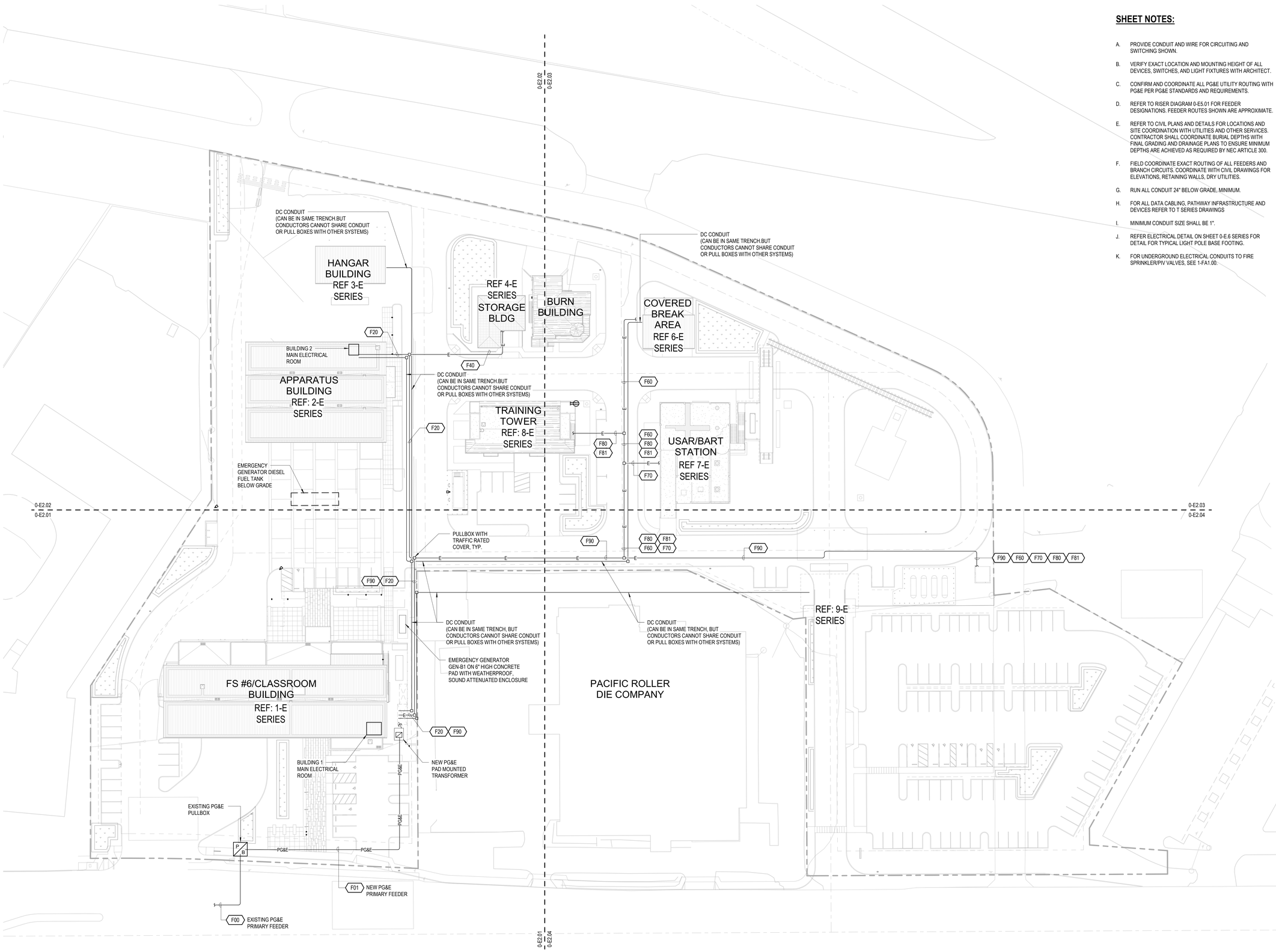
G. RUN ALL CONDUIT 24" BELOW GRADE, MINIMUM.

H. FOR ALL DATA CABLING, PATHWAY INFRASTRUCTURE AND DEVICES REFER TO T SERIES DRAWINGS

I. MINIMUM CONDUIT SIZE SHALL BE 1".

J. REFER ELECTRICAL DETAIL ON SHEET 0-E.6 SERIES FOR DETAIL FOR TYPICAL LIGHT POLE BASE FOOTING.

K. FOR UNDERGROUND ELECTRICAL CONDUITS TO FIRE SPRINKLER/PIV VALVES, SEE 1-FA1.00.



APPROVED
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APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY:	
KATHY GARCIA DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

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San Francisco, CA 94105
(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER
AMISHA J. BROWN, CE
No. E17287
ELECTRICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

ELECTRICAL OVERALL SITE PLAN

Drawn By: ELW Checked By: AJB

Scale: **1" = 30'-0"**

Date: **October 4, 2019**

Project No. B17.07369

0-E2.00
Drawing No.

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SHEET NOTES:

A. PROVIDE CONDUIT AND WIRE FOR CIRCUITING AND SWITCHING SHOWN.

B. VERIFY EXACT LOCATION AND MOUNTING HEIGHT OF ALL DEVICES, SWITCHES, AND LIGHT FIXTURES WITH ARCHITECT.

C. CONFIRM AND COORDINATE ALL PG&E UTILITY ROUTING WITH PG&E PER PG&E STANDARDS AND REQUIREMENTS.

D. MINIMUM SITE CONDUIT SIZE SHALL BE 1".

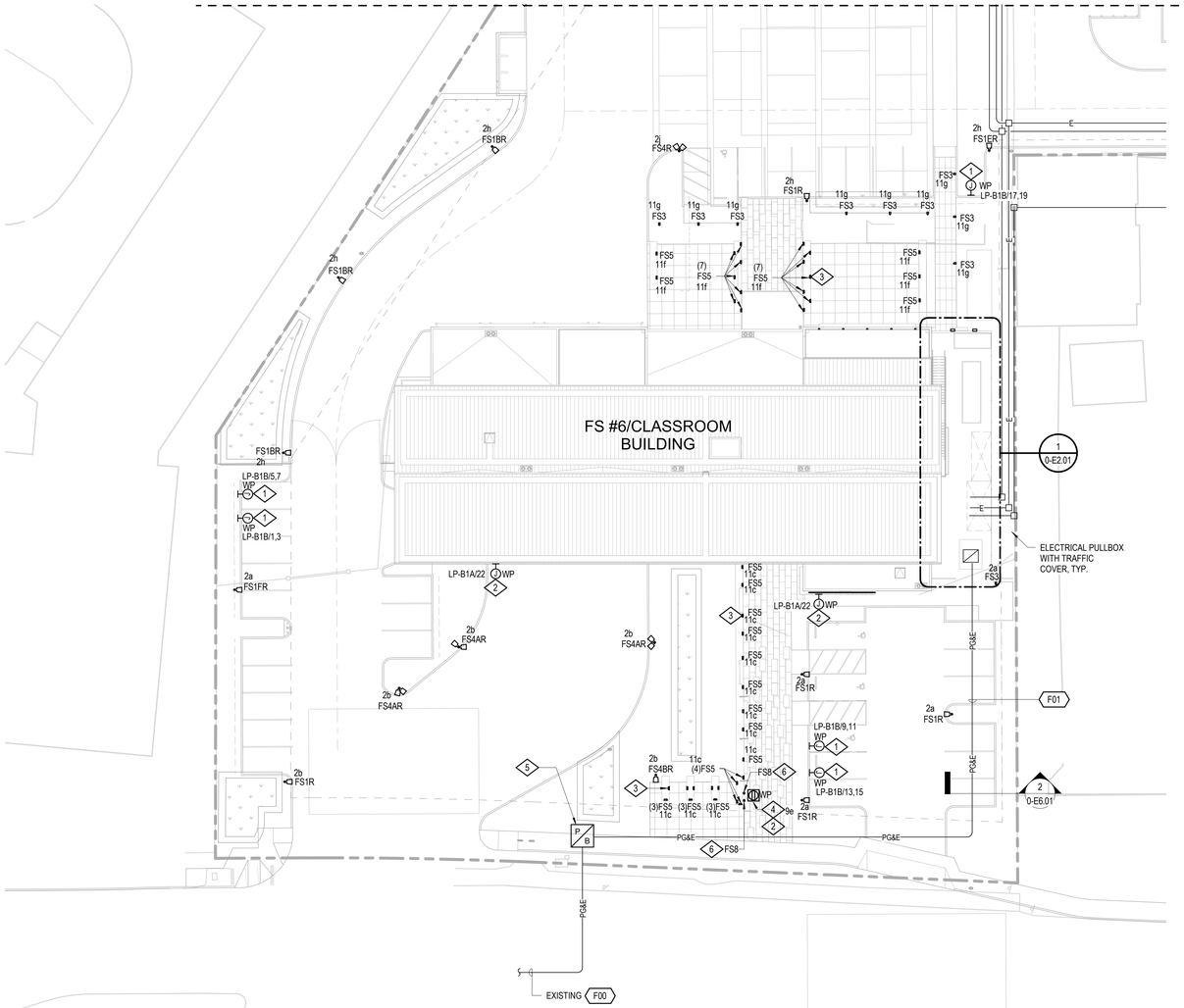
E. RUN ALL CONDUIT 24" BELOW GRADE, MINIMUM.

F. REFER ELECTRICAL DETAIL #4 ON SHEET 0-E.6.01 FOR TYPICAL LIGHT POLE BASE FOOTING.

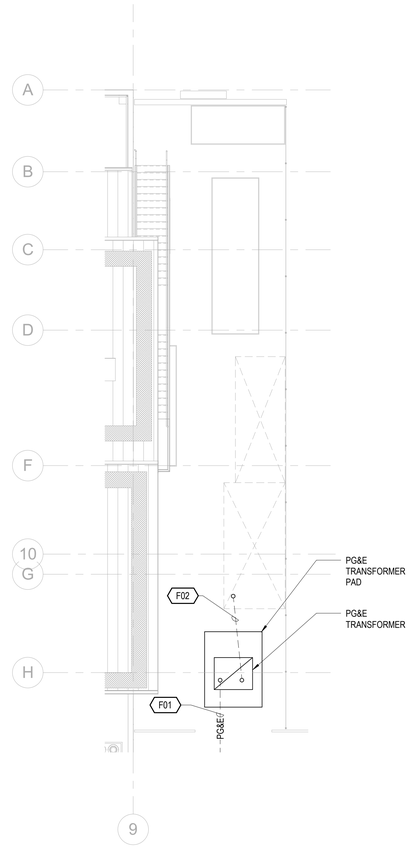
G. CONNECT ALL 277/480V LIGHTING TO PANEL LPH-B1A, UON.

NUMBERED NOTES:

1. PROVIDE NORMAL POWER CONNECTION FROM LP-B1B TO ELECTRIC VEHICLE CHARGING STATION.
2. PROVIDE POWER FOR SIGNAGE. COORDINATE CONNECTION TYPE, EXACT LOCATION AND MOUNTING HEIGHT WITH ARCHITECT AND EQUIPMENT MANUFACTURER PRIOR TO ROUGH-IN. PROVIDE DISCONNECTING MEANS WITHIN SIGHT OF SIGN. COORDINATE EXACT LOCATION WITH ARCHITECT AND SIGNAGE CONSULTANT PRIOR TO ROUGH-IN.
3. FIXTURE TYPE FS5 RECESSED IN SEAT WALL @ 12" AFG.
4. INTERNALLY ILLUMINATED SIGNAGE TO BE PROVIDED BY SIGN CONSULTANT.
5. EXISTING PG&E DISTRIBUTION PULL-BOX. PULL-BOX WILL BE LOCATED IN NEW SIDEWALK. ADJUST LID OF PULL-BOX TO MATCH NEW GRADE. EXISTING LID IS RATED FOR INTERMEDIATE TRAFFIC AND SHALL BE REUSED.
6. FIXTURE TYPE FS8 TO BE RECESSED TO MONUMENT SIGNS FOOTING DETAIL. REFER SIGNAGE DRAWING FOR MORE INFORMATION. CONNECT TO CIRCUIT ELPH-B1B/6.



2 00-ELEC POWER SITE PLAN QUADRANTS - 1
1" = 20'-0"



1 UTILITY YARD-ENLARGED PLAN
1/8" = 1'-0"

RossDruliCusenbery
ARCHITECTURE
18294 Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY:	
KATHY GARCIA DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

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wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	INC 01_ADD_01_V1	12/06/2019

REGISTERED PROFESSIONAL ENGINEER
AMANDA J. BROWNE
No. E17287
ELECTRICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

ELECTRICAL ENLARGED SITE PLAN

Drawn By: ELW
Checked By: AJB

Scale:
As indicated

Date:
October 4, 2019

Project No. B17.07369

0-E2.01
Drawing No.

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SHEET NOTES:

A. PROVIDE CONDUIT AND WIRE FOR CIRCUITING AND SWITCHING SHOWN.

B. VERIFY EXACT LOCATION AND MOUNTING HEIGHT OF ALL DEVICES, SWITCHES, AND LIGHT FIXTURES WITH ARCHITECT.

C. CONFIRM AND COORDINATE ALL PG&E UTILITY ROUTING WITH PG&E PER PG&E STANDARDS AND REQUIREMENTS.

D. MINIMUM SITE CONDUIT SIZE SHALL BE 1".

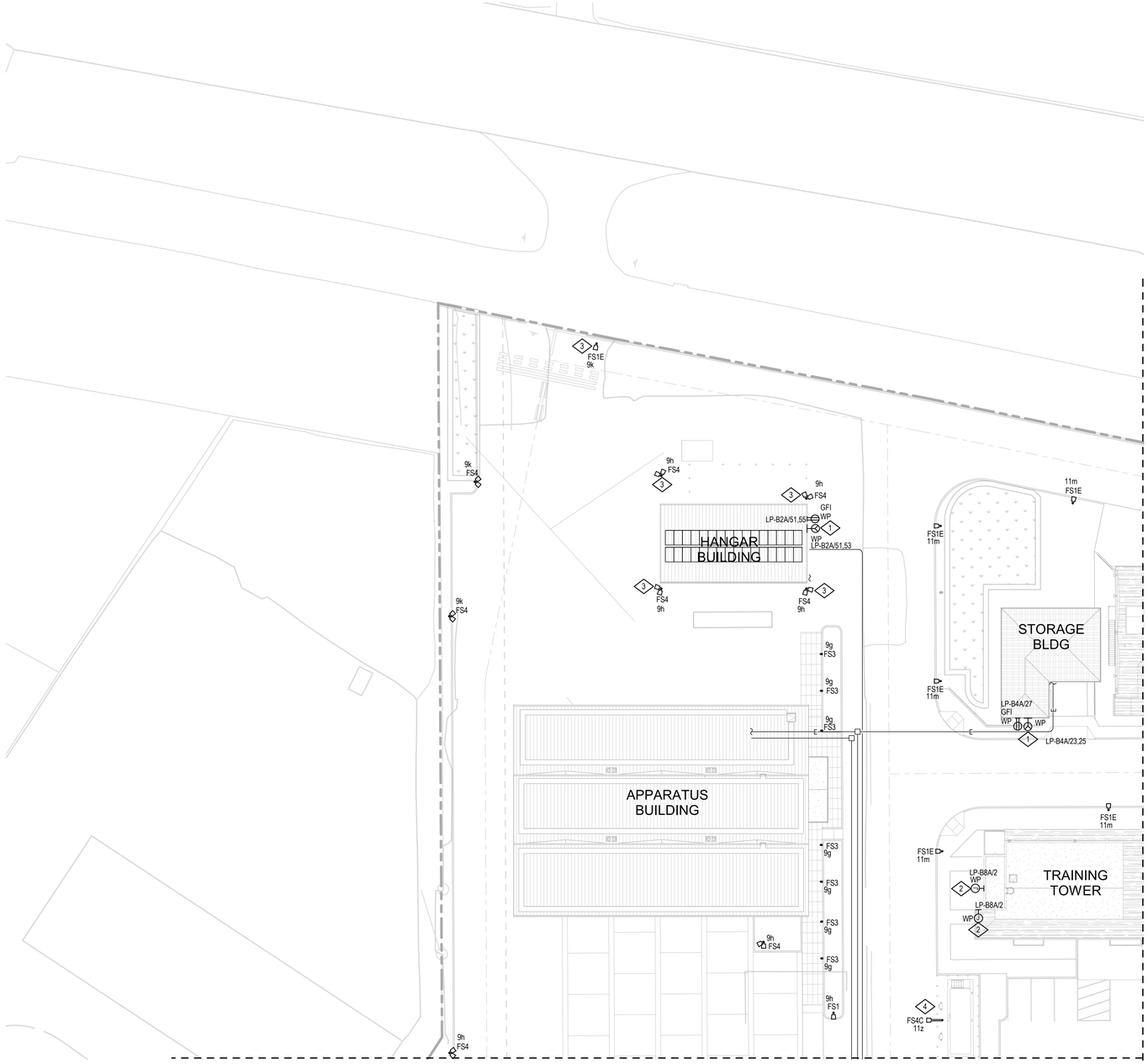
E. RUN ALL CONDUIT 24" BELOW GRADE, MINIMUM.

F. REFER ELECTRICAL DETAIL #4 ON SHEET 0-E.6.01 FOR TYPICAL LIGHT POLE BASE FOOTING.

G. CONNECT ALL 277/480V LIGHTING TO PANEL LPH-B2A, UON.

NUMBERED NOTES:

1. PROVIDE NEMA TYPE L5-30 RECEPTACLE, IN WEATHERPROOF ENCLOSURE WITHIN TELECOM EQUIPMENT CABINET. COORDINATE FINAL LOCATION WITH ARCHITECT AND LOW-VOLTAGE CONTRACTOR. REFER TO TELECOM DRAWINGS FOR MORE INFORMATION.
2. PROVIDE POWER FOR SIGNAGE. COORDINATE EXACT LOCATION AND MOUNTING HEIGHT WITH ARCHITECT AND EQUIPMENT MANUFACTURER PRIOR TO ROUGH-IN. PROVIDE DISCONNECTING MEANS WITHIN SIGHT OF SIGNAGE PER CEC600.6.
3. CONTRACTOR TO PROVIDE RAISED CONCRETE BASE FOR LIGHT POLE. REFER TO ELECTRICAL DETAIL ON SHEET 0-E.6 SERIES.
4. TYPE FS4C POLE LIGHT TO BE PROVIDED WITH 4' EXTENDED ARM. POLE ARM TO BE ORIENTED SUCH THAT LUMINAIRE HEAD IS ON DRIVEWAY SIDE OF DISPENSERS. CENTER OF LIGHTPOLE BASE TO BE CENTERED BETWEEN FUEL DISPENSERS. CENTER OF LIGHTPOLE BASE TO BE SETBACK 18' FROM WEST FACE FUEL DISPENSERS. LIGHTPOLE BASE TO ALSO BE LOCATED NO LESS THAN 18' CLEAR FROM FACE OF ABOVEGROUND STORAGE TANK. COORDINATE EXACT LOCATION WITH ARCHITECT, LIGHTING DESIGNER, AND FUEL SYSTEM CONSULTANT PRIOR TO ROUGH-IN. PROVIDE ALL NECESSARY SEALING OF CONDUITS AND REQUISITE FITTINGS FOR CONDUITS PASSING INTO AND THROUGH LIGHT POLE AS REQUIRED BY NEC ARTICLE 501.



1 00-ELEC POWER SITE PLAN QUADRANTS - 2
1" = 20'-0"

RossDrulisCusenbery
ARCHITECTURE
18294 Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION	
DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
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HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

**1401 W. WINTON AVE.
HAYWARD, CA 94545**

REVISIONS

No.	Description	Date
1	INC 01_ADD_01_V1	12/06/2019

REGISTERED PROFESSIONAL ENGINEER
AMANDA J. BROWNLEE
No. E17287
ELECTRICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

ELECTRICAL ENLARGED SITE PLAN

Drawn By: ELW
Checked By: AJB

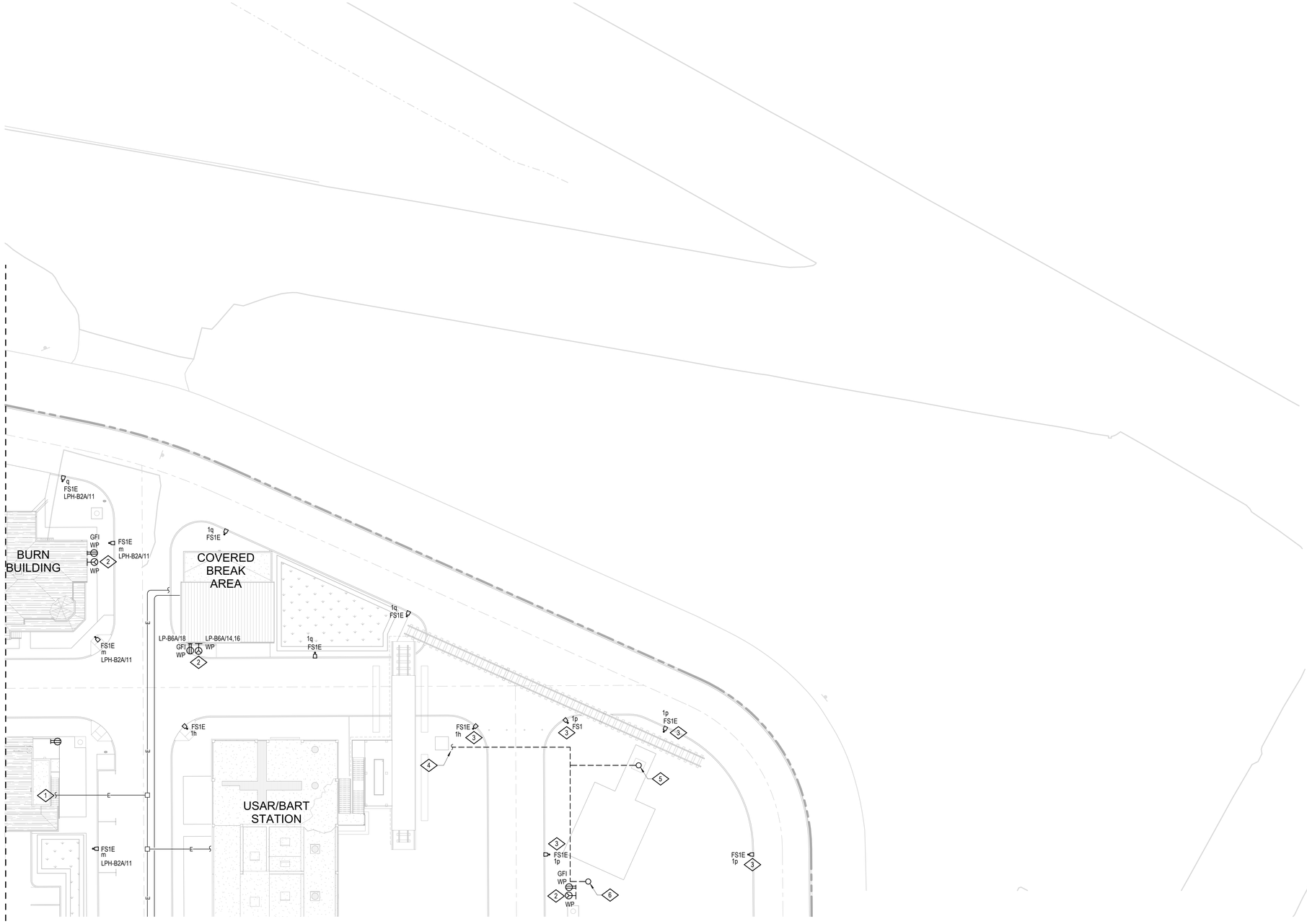
Scale: 1" = 20'-0"

Date: October 4, 2019

Project No. B17.07369

0-E2.02
Drawing No.

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1 00-ELEC POWER SITE PLAN QUADRANTS - 3
1" = 20'-0"

SHEET NOTES:

A. PROVIDE CONDUIT AND WIRE FOR CIRCUITING AND SWITCHING SHOWN.

B. VERIFY EXACT LOCATION AND MOUNTING HEIGHT OF ALL DEVICES, SWITCHES, AND LIGHT FIXTURES WITH ARCHITECT.

C. CONFIRM AND COORDINATE ALL PG&E UTILITY ROUTING WITH PG&E PER PG&E STANDARDS AND REQUIREMENTS.

D. MINIMUM SITE CONDUIT SIZE SHALL BE 1".

E. RUN ALL CONDUIT 24" BELOW GRADE, MINIMUM.

F. REFER ELECTRICAL DETAIL #4 ON SHEET 0-E.6.01 FOR TYPICAL LIGHT POLE BASE FOOTING.

G. CONNECT ALL 277/480V LIGHTING TO PANEL LPH-B9A, UON.

NUMBERED NOTES:

1. POWER TO CONTROL ROOMS.
2. PROVIDE NEMA TYPE L5-30 RECEPTACLE, IN WEATHERPROOF ENCLOSURE WITHIN TELECOM EQUIPMENT CABINET. COORDINATE FINAL LOCATION WITH ARCHITECT AND LOW-VOLTAGE CONTRACTOR. REFER TO TELECOM DRAWINGS FOR MORE INFORMATION.
3. CONTRACTOR TO PROVIDE RAISED CONCRETE BASE FOR LIGHT POLE. REFER TO ELECTRICAL DETAIL ON SHEET 0-E.6 SERIES.
4. REFER TO 7-E2.01 FOR CONTINUATION.
5. PROVIDE (1)1" EMPTY CONDUIT TO FIRE PROP IGNITER. STUB-UP CONDUIT AND CAP. COORDINATE STUB-UP LOCATION WITH FIRE PROP VENDOR PRIOR TO ROUGH-IN.
6. PROVIDE (3)1" EMPTY CONDUIT TO FIRE PROP CONTROL BOX. STUB-UP CONDUIT AND CAP. COORDINATE STUB-UP LOCATION WITH FIRE PROP VENDOR PRIOR TO ROUGH-IN.

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY:	
KATHY GARCIA DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

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REGISTERED PROFESSIONAL ENGINEER
AMANDA J. BROWN, P.E.
No. E17287
ELECTRICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

ELECTRICAL ENLARGED SITE PLAN

Drawn By: ELW Checked By: AJB

Scale:
1" = 20'-0"

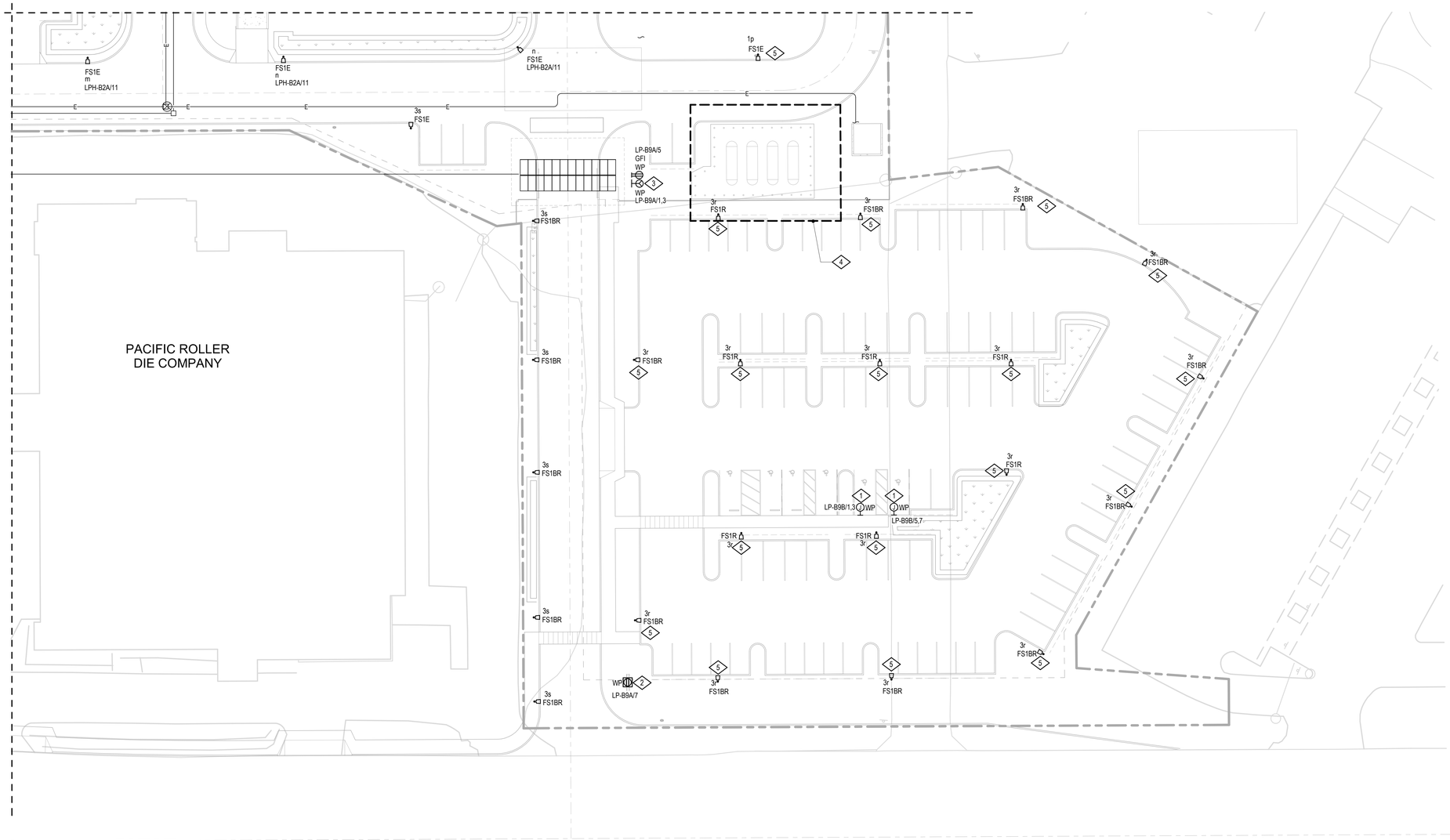
Date:
October 4, 2019

Project No. B17.07369

0-E2.03

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1 00-ELEC POWER SITE PLAN QUADRANTS - 4
1" = 20'-0"

SHEET NOTES:

A. PROVIDE CONDUIT AND WIRE FOR CIRCUITING AND SWITCHING SHOWN.

B. VERIFY EXACT LOCATION AND MOUNTING HEIGHT OF ALL DEVICES, SWITCHES, AND LIGHT FIXTURES WITH ARCHITECT.

C. CONFIRM AND COORDINATE ALL PG&E UTILITY ROUTING WITH PG&E PER PG&E STANDARDS AND REQUIREMENTS.

D. MINIMUM SITE CONDUIT SIZE SHALL BE 1".

E. RUN ALL CONDUIT 24" BELOW GRADE, MINIMUM.

F. REFER ELECTRICAL DETAIL #4 ON SHEET 0-E.6.01 FOR TYPICAL LIGHT POLE BASE FOOTING.

G. DO NOT ROUTE CONDUIT THROUGH CLASS 1, DIVISION 2 ZONE UNLESS CONDUIT SERVES EQUIPMENT WITHIN ZONE.

H. CONNECT ALL 277/480V LIGHTING TO PANEL LPH-B9A, UON.

NUMBERED NOTES:

1. PROVIDE NORMAL POWER CONNECTION TO ELECTRIC VEHICLE CHARGING STATION.
2. PROVIDE POWER FOR SIGNAGE. COORDINATE EXACT CONNECTION TYPE, LOCATION AND MOUNTING HEIGHT WITH ARCHITECT AND EQUIPMENT MANUFACTURER PRIOR TO ROUGH-IN.
3. PROVIDE NEMA TYPE L5-30 RECEPTACLE, IN WEATHERPROOF ENCLOSURE WITHIN TELECOM EQUIPMENT CABINET. COORDINATE FINAL LOCATION WITH ARCHITECT AND LOW-VOLTAGE CONTRACTOR. REFER TO TELECOM DRAWINGS FOR MORE INFORMATION.
4. CLASS 1 DIVISION 2 BOUNDARY AROUND LPG EQUIPMENT. PROVIDE ALL NECESSARY SEALING OF CONDUITS AND REQUISITE FITTINGS FOR CONDUITS PASSING INTO AND THROUGH THIS ZONE AS REQUIRED BY NEC ARTICLE 501. REFER TO FUEL SYSTEM CONSULTANT DRAWINGS FOR MORE INFORMATION.
5. CONTRACTOR TO PROVIDE RAISED CONCRETE BASE FOR LIGHT POLE. REFER TO ELECTRICAL DETAIL ON SHEET 0-E.6 SERIES.

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ALAN J. BROWNLEE
No. E17287
ELECTRICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

ELECTRICAL ENLARGED SITE PLAN

Drawn By: ELW Checked By: AJB

Scale: **1" = 20'-0"**

Date: **October 4, 2019**

Project No. B17.07369

0-E2.04

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WIRING SCHEDULE - COPPER CONDUCTORS (0-600V)

CIRCUIT RATING	CONDUIT SIZE (INCHES)							CONDUCTOR SIZE	
	NONE	G	N	NG	NGI	NNG	NNGI	PHASE/ NEUTRAL	GND/* IG
15	0.5	0.5	0.5	0.5	0.5	0.5	0.5	12	12
20	0.5	0.5	0.5	0.5	0.5	0.5	0.5	12	12
30	0.5	0.5	0.5	0.5	0.75	0.75	0.75	10	10
40	0.75	0.75	0.75	1	1	1	1	8	10
50	1	1	1	1.25	1.25	1.25	1.25	6	10
60	1	1.25	1.25	1.25	1.5	1.5	1.5	4	10
70	1	1.25	1.25	1.25	1.5	1.5	1.5	4	8
80	1.25	1.25	1.25	1.5	2	2	2	2	8
90	1.25	1.25	1.25	1.5	2	2	2	2	8
100	1.25	1.5	1.5	2	2	2	2.5	1	8
110	1.25	1.5	1.5	2	2	2	2.5	1	6
125	1.25	1.5	1.5	2	2	2	2.5	1	6
150	1.5	2	2	2	2.5	2.5	2.5	1/0	6
175	1.5	2	2	2	2.5	2.5	2.5	2/0	6
200	2	2	2	2.5	2.5	2.5	3	3/0	6
225	2	2.5	2.5	2.5	3	3	3	4/0	4
250	2.5	2.5	2.5	3	3	3	3.5	250	4
300	2.5	3	3	3.5	3.5	3.5	4	350	4
350	3	3.5	3.5	4	4	4	5	500	2
400	2@2	2@2	2@2	2@2.5	2@2.5	2@2.5	2@3	3/0	2
450	2@2	2@2.5	2@2.5	2@2.5	2@3	2@3	2@3	4/0	2
500	2@2.5	2@2.5	2@2.5	2@3	2@3	2@3	2@3.5	250	1
600	2@2.5	2@3	2@3	2@3.5	2@3.5	2@3.5	2@4	350	1
700	2@3	2@3.5	2@3.5	2@4	2@4	2@4	2@5	500	1/0
800	3@2.5	3@3	3@3	3@3	3@3.5	3@3.5	3@3.5	300	1/0
1000	3@3	3@3	3@3	3@3.5	3@4	3@4	3@4	400	2/0
1200	4@2.5	4@3	4@3	4@3.5	4@3.5	4@3.5	4@4	350	3/0
1600	5@3	5@3	5@3	5@3.5	5@4	5@4	5@4	400	4/0
2000	6@3.5	6@3.5	6@3.5	6@4	6@4	6@4	6@5	500	250
2500	7@3.5	7@3.5	7@3.5	7@4	7@4	7@4	7@4	500	350
3000	8@3.5	8@3.5	8@3.5	8@4	8@4	8@4	8@4	500	400

SUBSCRIPT KEY

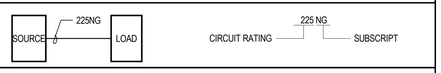
SUBSCRIPT	CONDUCTORS PER CONDUIT
NONE	3 PHASE CONDUCTORS, CONDUIT GROUND
G	3 PHASE CONDUCTORS, 1 GROUNDING CONDUCTOR
N	3 PHASE CONDUCTORS, 1 NEUTRAL CONDUCTOR, CONDUIT GROUND
NG	3 PHASE CONDUCTORS, 1 NEUTRAL CONDUCTOR, 1 GROUNDING CONDUCTOR
NGI	3 PHASE CONDUCTORS, 1 NEUTRAL CONDUCTOR, 1 GROUNDING CONDUCTOR, 1 ISOLATED GROUNDING CONDUCTOR
NNG	3 PHASE CONDUCTORS, 2 NEUTRAL CONDUCTORS*, 1 GROUNDING CONDUCTOR
NNGI	3 PHASE CONDUCTORS, 2 NEUTRAL CONDUCTORS*, 1 GROUNDING CONDUCTOR, 1 ISOLATED GROUNDING CONDUCTOR

* SINGLE NEUTRAL CONDUCTOR SIZES FOR CIRCUIT RATING 125 AND LESS

PARALLEL CONDUCTORS ARE NOT PERMITTED UNDER 1/0. WHERE DOUBLE NEUTRAL CONDUCTORS ARE INDICATED, PROVIDE AN OVERSIZED NEUTRAL CONDUCTOR IN ACCORDANCE WITH THE FOLLOWING TABLE:

CIRCUIT RATING	15	20	30	40	50	60
SINGLE NEUTRAL CONDUCOTR SIZE	10	8	4	2	1	1/0
CIRCUIT RATING	70	80	90	100	125	
SINGLE NEUTRAL CONDUCTOR SIZE	2/0	3/0	4/0	250	250	

EXAMPLES



NOTES

1. SCHEDULE IS BASED ON 3 CURRENT CARRYING CONDUCTORS IN RACEWAY, CABLE OR EARTH, AT AMBIENT AIR TEMPERATURE OF 30°C (86°F). CONDUIT SIZES BASED ON EMT.
2. MODIFY IF USE OF 600MCM CONDUCTORS ARE DESIRED CONFIRM LUG SIZES ARE AVAILABLE.

TRANSFORMER SCHEDULE

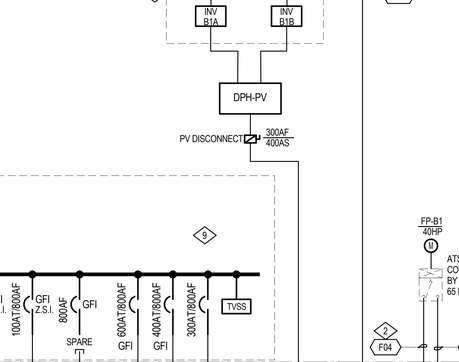
KVA	FEEDER AMPACITY			NEUTRAL GROUNDING ELECTRODE CONDUCTOR**
	PRIMARY 480V 3 PHASE-3 WIRE	SECONDARY 120/208V 3 PHASE-4 WIRE	SUPPLY SIDE BONDING JUMPER**	
3	15	15	#8	1/2"C-1#8
6	15	20	#8	1/2"C-1#8
9	15	30	#8	1/2"C-1#8
15	20	50	#8	1/2"C-1#8
30	50	100	#6	1/2"C-1#6
45	70	150	#6	1/2"C-1#6
75	110	250	#2	1/2"C-1#2
112 1/2	175	400	#1/0	3/4"C-1#3/0
150	225	500	#1/0	3/4"C-1#3/0
225	350	800	#2/0	3/4"C-1#3/0
300	450	1000	#2/0	3/4"C-1#3/0
500	800	1600	#4/0	3/4"C-1#3/0
750	1200	2500	#350	3/4"C-1#3/0

FEEDER KEY

TRANSFORMER IDENTIFICATION PREFIX	FEEDER CONFIGURATION	
	PRIMARY	SECONDARY
T	3 PHASE CONDUCTORS 1 GROUNDING CONDUCTOR (CIRCUIT SUBSCRIPT: G)	3 PHASE CONDUCTORS 1 NEUTRAL CONDUCTOR 1 GROUNDING CONDUCTOR (CIRCUIT SUBSCRIPT: NG***)
TK	3 PHASE CONDUCTORS 1 GROUNDING CONDUCTOR (CIRCUIT SUBSCRIPT: G)	3 PHASE CONDUCTORS 2 NEUTRAL CONDUCTORS 1 GROUNDING CONDUCTOR 1 ISOLATED GROUNDING CONDUCTOR (CIRCUIT SUBSCRIPT: NNGI***)

** = CONDUCTOR SIZES ARE BASED ON COPPER CONDUCTORS
*** = SUBSTITUTE GNDIG CONDUCTOR FROM FEEDER SCHEDULE WITH SUPPLY SIDE BONDING JUMPER NOTED ABOVE

EXAMPLES



UNDERGROUND FEEDER CONDUIT SCHEDULE

TAG DESIGNATION	TO	FROM	QUANTITY	SIZE	SPARE	DESIGN FEEDER	ESTIMATED LENGTH	VOLT DROP (%)	BUILDING PACKAGE	REMARKS
F00	PG&E P/B	STREET	2	5"		PER PG&E	66'	N/A	1	
F01	PG&E TRANSF	PG&E P/B	2	5"		PER PG&E	208'	N/A	1	
F02	MS-B1A	PG&E TRANSF	7	5"		PER PG&E	40'	0.60	1	
F03	DPH-B1A	MS-B1A	1	2.5"		225NG	57'	0.12	1	
F04	FP-B1	MS-B1A	1	2.5"		70G	54'	0.29	1	LRA = 302.8A, VD $_{all}$=1.7%
F05	ATS-E1B	MS-B1A	1	2"		100NG	31'	0.39	1	
F06	FP-B1	EDSH-B1A	1	2.5"		70G	138'	1.24	1	INCLUDE 1"C TO GENERATOR FOR GEN START LRA = 302.8A, VD $_{all}$=6.4%
F07	ATS-E1A	MS-B1A	1	2"		150NG	33'	0.52	1	
F08	ATS-E1C	MS-B1A	2	3"		500NG	34'	0.47	1	
F09	HBI-B1	MS-B1A	1	4"	2"	300G	60'	0.35	1	
F10	CH-1	EDPH-B1A	1	2.5"		ECS	67'	0.26	1	
F11	ELEV-1	EDPH-B1A	1	1"		ECS	101'	0.18	1	
F12	FUEL	ELP-B1A	1	2"		100NG	102'	0.56	1	
F13	DPH-PV	HBI-B1	1	4"	2"	300G	77'	0.44	1	
F14	PULLBOX	MS-B1A			(2) 4"	37'	37'	N/A	1	SPARE FOR FUTURE USE
F15										NOT USED
F16										NOT USED
F17										NOT USED
F18										NOT USED
F19										NOT USED
F20	LPH-B2A	MS-B1A	2	2.5"	(2) 2.5"	400G	358'	0.86	1 / 2	
F30										NOT USED
F40	LP-B4A	DPL-B2A	1	3"	(1) 2"	250NG	150'	1.85	4	FEEDER OVERSIZED FOR VOLTAGE DROP
F50										NOT USED
F60	LP-B6A	DPL-B9A	1	2.5"		200NG	413'	1.54	6	
F70	LP-B7A	DPL-B9A	2	2.5"	(1) 2.5"	400NG	318'	0.77	7	
F80	LP-B8A	DPL-B9A	2	2.5"	(1) 2.5"	400NG	362'	1.06	8	
F81	LP-B8B	DPL-B9A	2	2.5"	(1) 2.5"	400NG	449'	0.84	8	
F90	LPH-B9A	MS-B1A	2	3.5"	(2) 2.5"	600G	515'	0.66	1 / 9	
F91	T-B9A	LPH-B9A	2	2.5"		450G	22'	0.04	9	
F92	DPL-B9A	T-B9A	3	3.5"		1000NG	10'	0.04	9	
F93	LP-B9A	DPL-B9A	1	2.5"		225NG	17'	0.02	9	
F94	LP-B9B	DPL-B9A	1	2.5"	(1) 2.5"	175NG	19'	0.07	9	
FE1	EDSH-B1A	GEN-B1	2	4"		700NG	20'	0.05	1	
FE2	ATS-E1A	EDSH-B1A	1	2"		150NG	100'	0.61	1	INCLUDE 1"C TO GENERATOR FOR GEN START
FE3	ATS-E1C	EDSH-B1A	2	3"		500NG	102'	0.18	1	INCLUDE 1"C TO GENERATOR FOR GEN START
FE4	ELPH-B1A	ATS-E1A	1	2"		150NG	40'	0.24	1	
FE5	EDPH-B1A	ATS-E1C	2	4"		600NG	29'	0.04	1	
FE6	UPS-B1A	ELPH-B1A	1	1.5"		70NG	70'	0.14	1	
FE7	ELP-B1A	ET-B1A	2	2.5"		400NG	69'	1.15	1	
FE8	ULP-B1A	UPS-B1A	1	1.5"		50NNGI	97'	0.25	1	
FE9	ATS-E1B	EDSH-B1A	1	2"		100NG	90'	0.04	1	INCLUDE 1"C TO GENERATOR FOR GEN START
FE10	ELPH-B1A	ATS-E1B	1	2"		100NG	56'	0.02	1	
FE11	PULLBOX	EDSH-B1A			(1) 4"			N/A	1	SPARE FOR FUTURE USE
FE12	ELPH-B2A	ELPH-B1B	1	2"		100NG	350'	0.08	2	

SHEET NOTES

A. CONFIRM AND COORDINATE ALL PG&E UTILITY ROUTING WITH PG&E PER PG&E STANDARDS AND REQUIREMENTS.

B. REFER TO "0" SERIES OF DRAWINGS FOR SITE UTILITY AND INFRASTRUCTURE INFORMATION.

C. ALL OUTDOOR EQUIPMENT SHALL BE RATED NEMA 4X, UON.

D. ALL OVERCURRENT PROTECTIVE DEVICES ASSOCIATED WITH COPS SHALL BE SELECTIVELY COORDINATED.

E. RUN IN-GROUND CONDUIT 24" BELOW GRADE, MINIMUM .

F. WIRING FROM AN EMERGENCY SOURCE OR EMERGENCY SOURCE DISTRIBUTION OVERCURRENT PROTECTION TO EMERGENCY LOADS SHALL BE KEPT ENTIRELY INDEPENDENT OF ALL OTHER WIRING AND EQUIPMENT PER CEC ARTICLE 700.10.

G. ARC ENERGY REDUCTION PER CEC ARTICLE 240.87 WITH RESPECT TO DOCUMENTATION & METHOD TO REDUCE CLEARING TIES IS APPLICABLE.

NUMBERED NOTES

1. EQUIPMENT TO SERVE ELECTRIC VEHICLE CHARGERS. PROVIDE PROGRAMMABLE ELECTRONIC CIRCUIT BREAKER LEVEL SUB-METERS FOR OWNER THIRD PARTY MEASUREMENT/METERING IN THIS PANEL. CONNECT WITH 3/4"C TO NEAREST TELECOM ROOM.
2. PROVIDE 2-HR FIRE RATED ASSEMBLY FOR FEEDERS.
3. PROVIDE 2-SOCKET PG&E UTILITY METER, WITH NET METER CAPABILITY PER PG&E REQUIREMENTS.
4. REFER TO HYBRID POWER SYSTEM DRAWINGS FOR MORE INFORMATION.
5. REFER TO PHOTOVOLTAIC SYSTEM DRAWINGS FOR MORE INFORMATION.
6. PROVIDE SURGE PROTECTION DEVICE PER NEC ARTICLE 708.
7. FLOOR MOUNTED UPS WITH INTEGRAL TRANSFORMER. APC OR APPROVED EQUAL.
   INPUT VOLTAGE: 480V, 3Ø, 3W
   OUTPUT VOLTAGE: 120/208V, 3Ø, 4W
   BATTERY RUN TIME (MINIMUM): 20 MINUTES
8. PROTECT FEEDER SERVING DESIGNATED CRITICAL OPERATIONS AREA (DCOA) EQUIPMENT AS REQUIRED BY NEC ARTICLE 708.
9. PROVIDE GROUND FAULT PROTECTION FOR ALL NEXT LEVEL FEEDER DISCONNECTING MEANS IN COMPLIANCE WITH NEC ARTICLE 708.
10. GROUND FAULT INDICATION ONLY.
11. FEEDER OVERSIZED FOR VOLTAGE DROP.
12. SERVICE ENTRANCE SECTION FOR FIRE PUMP CONNECTION.
13. PROVIDE SURGE PROTECTION DEVICE PER NEC 700.
14. PROVIDE WEATHERPROOF SOUND ATTENUATING ENCLOSURE.
15. EQUIP SWITCHBOARD WITH CAM LOCK TYPE CONNECTORS FOR CONNECTION TO PORTABLE GENERATOR. 700A, 277/480V, 3Ø, 4W.
16. PROVIDE SEPARATE SECTIONS FOR BREAKERS SERVING DIFFERENT BRANCHES OF EMERGENCY POWER PER NEC.
17. PROVIDE THE FOLLOWING PROTECTIVE RELAYS:
    UNDER VOLTAGE
    PHASE ROTATION
18. PROVIDE FULLY RATED LSI BREAKER.
19. PROVIDE THE FOLLOWING RELAYS:
    SYNC CHECK
    UNDER VOLTAGE
    OVER VOLTAGE
    LOSS-OF-PHASE
20. PANEL PROVIDED UNDER BUILDING 2 SCOPE OF WORK.

Ross Drulis Cusenbery ARCHITECTURE
18294 Sonoma Highway Sonoma CA 95476
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FAX 707 996 8542

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REVISIONS

No.	Description	Date
1	INC 01_ADD_01_V1	12/06/2019

REGISTERED PROFESSIONAL ENGINEER AMANDA J. BROWNLEE No. E17287 ELECTRICAL STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

ELECTRICAL RISER DIAGRAM

Drawn By: ELW
Checked By: AJB

Scale: **NTS**

Date: **October 4, 2019**

Project No. B17.07369

0-E5.01
Drawing No.

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SHEET NOTES

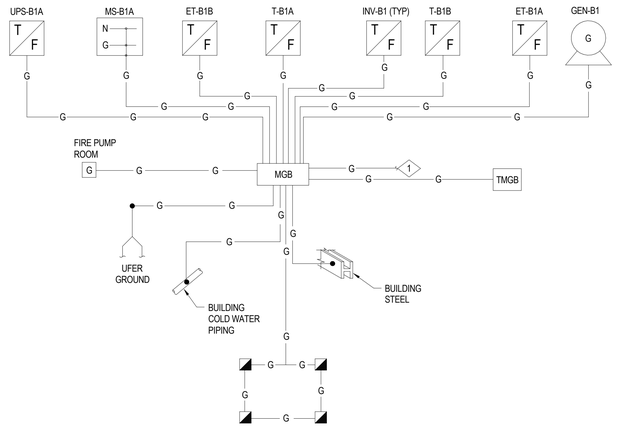
A. REFER SHEET E5.01 FOR TRANSFORMER SCHEDULE AND GROUNDING REQUIREMENTS.

B. CONTRACTOR TO COORDINATE EXACT LOCATION OF CONNECTIONS BETWEEN DIFFERENT CONSTRUCTION PACKAGES AND DIVISION OF WORK BETWEEN SUBCONTRACTORS.

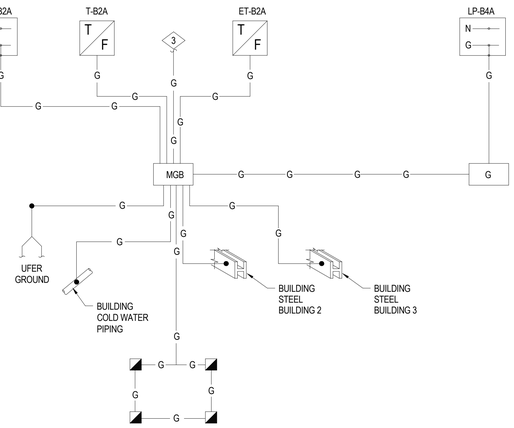
NUMBERED NOTES

1. PROVIDE CONNECTION TO HYBRID POWER SYSTEM. REFER TO SHEET 1-H5.01.
2. DIAGRAM IS FOR ILLUSTRATION OF OVERALL GROUNDING ELECTRODE SYSTEM. SEE RISER DIAGRAMS, GROUND BUS DETAILS AND SPECIFICATIONS FOR ADDITIONAL GROUNDING CONNECTIONS AND REQUIREMENTS.
3. PROVIDE CONNECTION TO PV SYSTEM. REFER TO SHEETS 2-PV5.01 AND 3-PV5.01.
4. PROVIDE CONNECTION TO PV SYSTEM. REFER TO SHEETS 6-PV5.01 AND 9-PV5.01.
5. DO NOT BOND NEUTRAL.

BUILDING 1

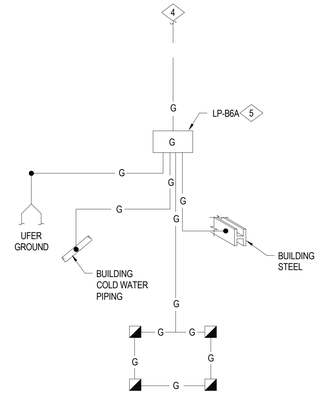


BUILDING 2

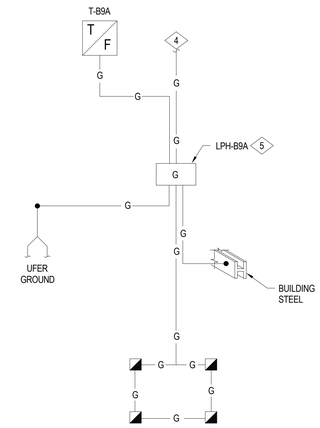


BUILDING 4

BUILDING 6



BUILDING 9



1 GROUNDING RISER DIAGRAM 2
NTS

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC: 01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION	
DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER
AMAHA J. BROWNLEE
No. E17287
ELECTRICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

ELECTRICAL GROUNDING DIAGRAM

Drawn By: ELW Checked By: AJB

Scale: **NTS**

Date: **October 4, 2019**

Project No. B17.07369

0-E5.02
Drawing No.

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chargepoint

CT4000 Level 2 Commercial Charging Stations

Specifications and Ordering Information

Ordering Information

Specify model number followed by the applicable code(s).
The order code sequence is: **Model-Options**. **Software**, **Services** and **Misc** are ordered as separate line items.

Hardware

Description		Order Code
Model	1830 mm (6') Single Port Bollard Mount 1830 mm (6') Dual Port Bollard Mount	CT4011 CT4021
	1830 mm (6') Single Port Wall Mount 1830 mm (6') Dual Port Wall Mount	CT4013 CT4023
	2440 mm (8') Dual Port Bollard Mount 2440 mm (8') Dual Port Wall Mount	CT4025 CT4027
Options	Integral Gateway Modem - USA Integral Gateway Modem - Canada	-GW1 -GW2
Misc	Power Management Kit Bollard Concrete Mounting Kit	CT4000-PMGMT CT4001-CCM

Software & Services

Description	Order Code
ChargePoint Commercial Service Plan	CTSW-SAS-COMM-n[1]
ChargePoint Service Provider Plan	CTSW-SAS-SP-n[1]
ChargePoint Assure	CT4000-ASSURE-n[2]
Station Activation and Configuration	CPSUPPORT-ACTIVE
ChargePoint Station Installation and Validation	CT4000-INSTALLVALID

Note: All CT4000 stations come with 1 year of ChargePoint Assure coverage at no charge for qualified installations. Other conditions apply. All CT4000 stations require a network service plan.

[1] Substitute *n* for desired years of service (1, 2, 3, 4, or 5 years).
[2] Substitute *n* for the duration of the additional coverage (1, 2, 3, or 4 years).

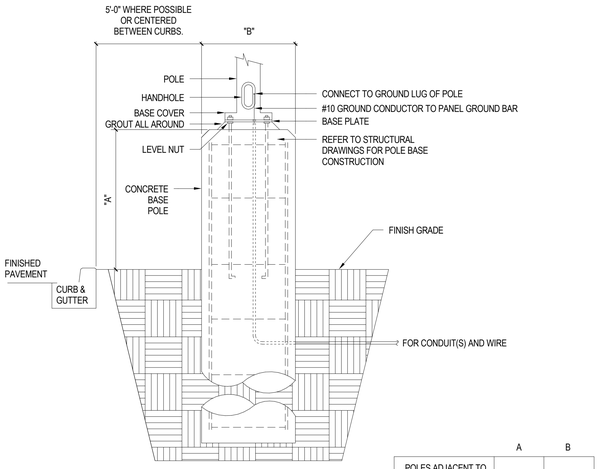
Order Code Examples

If ordering this	the order code is
1830 mm (6') Dual Port Bollard USA Gateway Station with Concrete Mounting Kit	CT4021-GW1 CT4001-CCM
ChargePoint Commercial Service Plan, 3 Year Subscription	CTSW-SAS-COMM-3
ChargePoint Station Installation and Validation	CT4000-INSTALLVALID
2 Additional Years of Assure Coverage	CT4000-ASSURE2
1830 mm (6') Single Port Wall Mount Station	CT4013
ChargePoint Commercial Service Plan, 5 Year Subscription	CTSW-SAS-COMM-5
4 Additional Years of Assure Coverage	CT4000-ASSURE4
Station Activation and Configuration	CPSUPPORT-ACTIVE



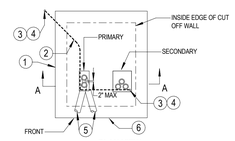
CT4021

5 EVSE CHARGING STATION
DETAIL — NO SCALE

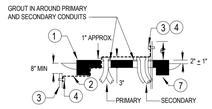


	A	B
POLES ADJACENT TO VEHICULAR TRAFFIC	MIN 2'-6"	MIN 2'-6"
ALL OTHERS AREAS	0'-6"	MIN 2'-6"

6 GRADE LEVEL LIGHTING POLE BASE DETAIL
DETAIL — NO SCALE



PLAN VIEW

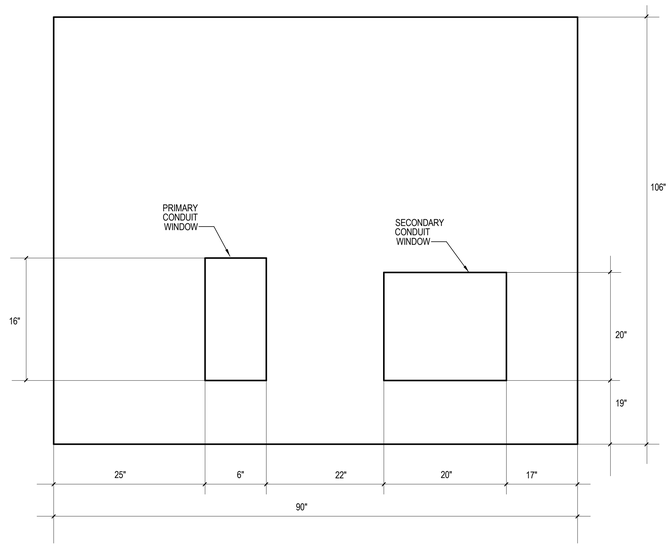


ABOVE PAD
SECTION A-A

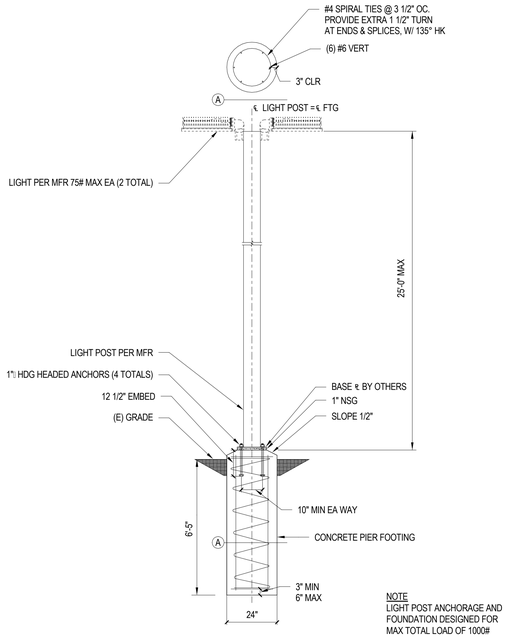
FIGURE 1
STYLE IIA, IIB,IIC,IIF AND IIH PAD ARRANGEMENT, POURED-IN-PLACE PAD SHOWN

ITEM	QUANTITY	DESCRIPTION
1	1	PAD, CONCRETE, REINFORCED (REFER TO 1S/1-S1.10)
2	AS REQUIRED	WIRE, #2 AWG, SOLID, SOFT DRAWN, BARE COPPER
3	2	GROUND ROD. 5/8" x 8' , COPPERCLAD
4	2	CLAMP, GROUND ROD, FOR ITEM 3
5	AS REQUIRED	CONDUIT, TYPE AND SIZE (AS REQUIRED)
6	AS REQUIRED	REINFORCING STEEL, NUMBER 4
7	AS REQUIRED	COMPACTED BACKFILL

3 TRANSFORMER PAD DETAIL
DETAIL — NO SCALE

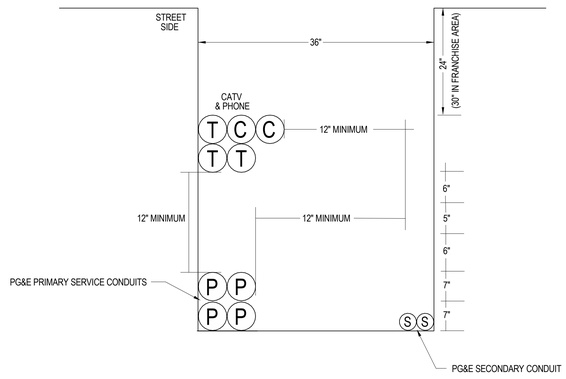


1 PG&E TRANSFORMER PAD
DETAIL — NO SCALE



NOTE
LIGHT POST ANCHORAGE AND FOUNDATION DESIGNED FOR MAX TOTAL LOAD OF 1000#

4 GRADE LEVEL LIGHTING POLE BASE DETAIL
DETAIL — NO SCALE



2 JOINT TRENCH SECTION
DETAIL — NO SCALE

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: **KATHY GARCIA** DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

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REGISTERED PROFESSIONAL ENGINEER
AMANDA J. BROWNLEE
No. E17287
ELECTRICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

ELECTRICAL DETAILS

Drawn By: ELW
Checked By: AJB

Scale:
NTS

Date:
October 4, 2019

Project No. B17.07369

0-E6.01
Drawing No.

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TECHNOLOGY LEGEND, ABBREVIATIONS AND DRAWING LIST

ABBREVIATIONS

AC	ABOVE COUNTER
ADA	AMERICANS WITH DISABILITIES ACT
AFC	ABOVE FINISHED CEILING
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
ALT	ALTERNATE
AMP, A	AMPERE
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
ATR	ALL THREADED ROD
AV	AUDIOVISUAL
AWG	AMERICAN WIRE GAUGE
BDA	BI-DIRECTIONAL ANTENNA
BFC	BELOW FINISHED CEILING
BFG	BELOW FINISHED GRADE
BICSI	BUILDING INDUSTRY CONSULTING SERVICES INTERNATIONAL
BMS	BUILDING MANAGEMENT SYSTEM
C	CONDUIT
CAT	CATEGORY
CATV	COMMUNITY ANTENNA TV (CABLE TV)
CLEC	COMPETITIVE LOCAL EXCHANGE CARRIER
CL	CLOSET
CLG	CEILING
CMP	COMMUNICATIONS PLENUM CABLE
CMR	COMMUNICATIONS RISER CABLE
CO	CENTRAL OFFICE
COAX	COAXIAL
CT	CABLE TRAY
DAS	DISTRIBUTED ANTENNA SYSTEM
DB	DECIBEL
DEMARC	DEMARCATION
DIA	DIAMETER
DWG	DRAWING
(E)	EXISTING TO REMAIN
E.G.	FOR EXAMPLE
EIA	ELECTRONICS INDUSTRY ALLIANCE
ELEC	ELECTRIC OR ELECTRICAL
ELEV	ELEVATOR
EMI	ELECTROMAGNETIC INTERFERENCE
EMT	ELECTRICAL METALLIC TUBING
EP	EXPLOSION PROOF
ERRCS	EMERGENCY RESPONDER RADIO COVERAGE SYSTEM
FACP	FIRE ALARM CONTROL PANEL
FBO	FURNISHED BY OTHERS
FCC	FEDERAL COMMUNICATIONS COMMISSION
FO	FIBER OPTIC
FR	FIRE RATED
FT	FOOT/FEET
GB	GIGABYTE
GBPS	GIGABITS PER SECOND
GC	GENERAL CONTRACTOR
GE	GROUNDING EQUALIZER
GMP	GUARANTEED MAXIMUM PRICE
GND	GROUND
GUI	GRAPHICAL USER INTERFACE
HC	HORIZONTAL CROSS-CONNECT
HVAC	HEATING, VENTILATING, AND AIR-CONDITIONING
ID	INSIDE DIAMETER
IDF	INTERMEDIATE DISTRIBUTION FRAME
IEC	INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEEE	INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC.
IG	ISOLATED GROUND
IMC	INTERMEDIATE METAL CONDUIT - SEE NEC ARTICLE 342
INT	INTERCOM
IP	INTERNET PROTOCOL
ISO	INTERNATIONAL ORGANIZATION OF STANDARDS
J-BOX, JB	JUNCTION BOX
KCMIL	THOUSANDS OF CIRCULAR MILLS
KM	KILOMETER
KVA	KILOVOLT AMPERES
KW	KILOWATT
LAN	LOCAL AREA NETWORK
LEC	LOCAL EXCHANGE CARRIER (OR SP)
LED	LIGHT-EMITTING DIODE
M	METER
MAG	MAGNETIC
MAN	METROPOLITAN AREA NETWORK
MAX	MAXIMUM
MB	MEGABYTE
MBPS	MEGABITS PER SECOND
MC	MAIN CROSS-CONNECT
MDF	MAIN DISTRIBUTION FRAME
MECH	MECHANICAL
MFR	MANUFACTURER
MH	MANHOLE
MI	MILE
MIN	MINIMUM
MM	MILLIMETER
MMFO	MULTIMODE FIBER OPTIC
MPOE	MAIN POINT OF ENTRY
NEC	NATIONAL ELECTRIC CODE - NFPA 70
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NIC	NETWORK INTERFACE CARD
NID	NETWORK INTERFACE DEVICE
NM	NANOMETER
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER

ABBREVIATIONS

OEM	ORIGINAL EQUIPMENT MANUFACTURER
OS	OPERATING SYSTEM
OSP	OUTSIDE PLANT
PA	PUBLIC ADDRESS
PABX	PRIVATE AUTOMATIC BRANCH EXCHANGE
PBX	PRIVATE BRANCH EXCHANGE
PB	PULL-BOX (SIZED PER BICSI TDMM)
PC	PERSONAL COMPUTER
PCN	PERSONAL COMMUNICATIONS NETWORK
PCS	PERSONAL COMMUNICATIONS SYSTEMS
PIR	PASSIVE INFRARED
POTS	PLAIN OLD TELEPHONE SERVICE
PR	PAIRS (NUMBER OF PAIRS IN COPPER CABLE)
PROX	PROXIMITY
PVC	POLYVINYL CHLORIDE
PWR	POWER
RCDD	REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER
RFI	RADIO FREQUENCY INTERFACE
RM	ROOM
RMC	RIGID METALLIC CONDUIT
RU	RACK UNIT; UNIT OF PATCH PANEL HEIGHT EQUAL TO 1.75 INCH
SCTP	SCREENED TWISTED PAIR
SMFO	SINGLEMODE FIBER OPTIC
SPOE	SECONDARY POINT OF ENTRY
SP	SERVICE PROVIDER
STD	STANDARD
STP	SHIELDED TWISTED PAIR
SW	SWITCH
TBB	TELECOMMUNICATIONS BONDING BACKBONE
TBD	TO BE DETERMINED
TCP/IP	TRANSMISSION CONTROL PROTOCOL W/ INTERNET PROTOCOL
TDMM	TELECOMMUNICATIONS DISTRIBUTION METHODS MANUAL
TEL	TELEPHONE
TELCO	TELEPHONE COMPANY (SP)
TELECOM	TELECOMMUNICATIONS
TEMP	TEMPERATURE
TGB	TELECOMMUNICATIONS GROUND BUS BAR
TIA	TELECOMMUNICATIONS INDUSTRY ASSOCIATION
TMGB	TELECOMMUNICATIONS MAIN GROUND BUS BAR
TR	TELECOMMUNICATIONS ROOM
TV	TELEVISION
TYP	TYPICAL
UC	UNDER COUNTER
UG	UNDERGROUND
UL	UNDERWRITER LABORATORIES
UON	UNLESS OTHERWISE NOTED
UPS	UNINTERRUPTIBLE POWER SUPPLY
UTP	UNSHIELDED TWISTED PAIR
V	VOLT
W	WATT
WAN	WIDE AREA NETWORK
WLAN	WIRELESS LOCAL AREA NETWORK
WP	WEATHERPROOF
(X)	EXISTING - TO BE DEMOLISHED

GENERAL SYMBOLS LEGEND

SYMBOL	DESCRIPTION
TC	TELECOMMUNICATIONS CONDUIT CONCEALED
TC	TELECOMMUNICATIONS CONDUIT SURFACE MOUNTED
TC	CONDUITS BELOW GRADE/SLAB OR EMBEDDED IN SLAB
J	J-HOOK PATHWAY
I	INNERDUCT PATHWAY
CAT	COPPER CATEGORY CABLE
FO	FIBER OPTIC CABLE
	CONDUIT UP
	CONDUIT DOWN
	CONDUIT CAPPED
	CONDUIT STUBBED OUT WITH BUSHING
	CONDUIT CROSS-SECTION
	TELECOMMUNICATIONS CABLE TRAY
	VERTICAL WALL MOUNTED CABLE LADDER
	TELECOMMUNICATIONS RACEWAY
P / B	PULL-BOX
TGB	TELECOMMUNICATIONS GROUNDING BUSBAR
TMGB	TELECOMMUNICATIONS MAIN GROUNDING BUSBAR
	TELECOMMUNICATIONS GROUNDING BUSBAR (PLAN VIEW)
	CABLE SERVICE LOOP # DENOTES LENGTH
	COPPER CABLE SPLICE
	FIBER OPTIC CABLE SPLICE
	COPPER CABLE TERMINATION
	FIBER OPTIC CABLE TERMINATION
X / Y	DETAIL REFERENCE "X" DENOTES DETAIL NUMBER "Y" DENOTES DRAWING NUMBER
X / Y	SECTION REFERENCE "X" DENOTES DETAIL NUMBER "Y" DENOTES DRAWING NUMBER
#	NUMBERED NOTE IDENTIFIER

TELECOMMUNICATIONS DEVICE LEGEND

SYMBOL	DESCRIPTION
	WALL MOUNTED DATA DEVICE WITH (2) CAT6.A U.O.N
TV	TELEVISION LOCATION, (1) SERIES-6 COAX & (2) CAT6.A
	RECESSED MOUNTED MULTIMEDIA PANEL (MMP)
W	WALLPHONE OUTLET, (1) CAT6.A CABLE
# E	TELECOMMUNICATIONS OUTLET/ CONNECTIVITY TO ELEVATOR CONTROL PANEL, U.O.N # DENOTES QUANTITY OF CAT6.A CABLES
AP	WALL-MOUNTED WI-FI ACCESS POINT LOCATION , (2) CAT6.A CABLES
#	WALL-MOUNTED TELECOMMUNICATIONS OUTLET, # DENOTES NUMBER OF CAT6.A CABLES
#	RECESSED FLOOR BOX TELECOMMUNICATIONS OUTLET, # DENOTES NUMBER OF CAT6.A CABLES
#	CEILING-MOUNTED TELECOMMUNICATIONS OUTLET MOUNTED WITHIN CEILING SPACE , U.O.N. # DENOTES NUMBER OF CAT6.A CABLES
AP	CEILING-MOUNTED DATA OUTLET AT WI-FI ACCESS POINT LOCATION, (2) CAT6.A CABLES
#	FLOOR POKE-TRU TELECOM DATA OUTLET, # DENOTES NUMBER OF CAT6.A CABLES
P	CEILING-MOUNTED TELECOMMUNICATIONS CONSOLIDATION POINT PATCH PANEL
P	CABINET-MOUNTED TELECOMMUNICATIONS CONSOLIDATION POINT PATCH PANEL
P	WALL-MOUNTED TELECOMMUNICATIONS CONSOLIDATION POINT PATCH PANEL
P	FLOOR-MOUNTED TELECOMMUNICATIONS CONSOLIDATION POINT PATCH PANEL TO BE PLACED WITHIN RAISED ACCESS FLOOR U.O.N.
#	TELECOMMUNICATIONS EQUIPMENT CONNECTION
	RECESSED WALL-MOUNTED SYSTEMS FURNITURE FEEDPOINT
	RECESSED FLOOR BOX SYSTEMS FURNITURE FEEDPOINT
	CEILING-MOUNTED SYSTEMS FURNITURE FEEDPOINT
	POKE-THRU SYSTEMS FURNITURE FEEDPOINT
MH #	UNDERGROUND MANHOLE WITH H20 COVER, (#) DENOTES IDENTIFIER
HH #	UNDERGROUND HANDHOLE, (#) DENOTES IDENTIFIER
P #	PEDESTAL, (#) DENOTES IDENTIFIER
U #	UNDERGROUND PULL BOX, (#) DENOTES IDENTIFIER
	THIS SYMBOL DENOTES A TELECOMMUNICATIONS OUTLET WITH (2) COPPER TWISTED PAIR CABLE.

ELECTRONIC SECURITY DEVICE LEGEND

SYMBOL	DESCRIPTION
	FIXED SECURITY CAMERA
	PTZ SECURITY CAMERA
ACU	ACCESS CONTROL PANEL
GE	GUEST ENTRY PHONE
CR	CARD READER
DC	DOOR CONTACT
EL	ELECTRIFIED LOCK
IC	INTERCOM
IOM	INTERCOM MASTER
KP	KEY PAD
MON	LCD DISPLAY MONITOR
MS	MOTION SENSOR, ARROW INDICATES DIRECTION OF SENSOR
NVR	NETWORK VIDEO RECORDER
PB	PANIC BUTTON
PLC	PROGRAMMABLE LOGIC CONTROLLER
REX	REQUEST TO EXIT
RF	RADIO FREQUENCY VEHICLE GATE CONTROLLER
SS	SECURITY SERVER
WR	WIRELESS DURESS REPEATER SECURITY
WS	WORKSTATION

TELECOMMUNICATIONS OUTLET CABLING LEGEND

DENOTES QUANTITY OF UTP COPPER CATEGORY 6 CABLES
DENOTES QUANTITY OF COAXIAL CABLES
X X
WALL MOUNTED

DENOTES QUANTITY OF UTP COPPER CATEGORY 6 CABLES
DENOTES QUANTITY OF COAXIAL CABLES
X X
FLOOR MOUNTED

DENOTES QUANTITY OF UTP COPPER CATEGORY 6 CABLES
DENOTES QUANTITY OF COAXIAL CABLES
X X
CEILING MOUNTED

AUDIOVISUAL SYSTEM DEVICE LEGEND

SYMBOL	DESCRIPTION - SEE LINE DIAGRAMS FOR COORDINATION REQUIREMENTS
LS AV	LOUDSPEAKER BACKBOX: PROVIDE 2-GANG JUNCTION BOX WITH CONDUIT TO EQUIPMENT HEADEND

TECHNOLOGY GENERAL NOTES

1. THE LOCATIONS AND ELEVATIONS OF TECHNOLOGY DEVICES SHOWN ON THESE DRAWINGS ARE SCHEMATIC UNLESS ACTUAL DIMENSIONS ARE SHOWN ON THE DRAWINGS. REFER TO THE ARCHITECTURAL PLANS AND OBTAIN THE APPROVAL OF THE ARCHITECT FOR THE ACTUAL LOCATIONS AND ELEVATIONS OF ALL DEVICES.
2. CONTRACTOR SHALL ENSURE THAT ALL MOUNTING HEIGHTS COMPLY WITH CURRENT ADA REQUIREMENTS.
3. ABOVE COUNTER DEVICES SHALL BE MOUNTED 8" ABOVE COUNTER OR A MAXIMUM OF 44" AFF (TO TOP OF DEVICE).
4. PROVIDE SUPPORTS AND ANCHORING FOR PIPING, CONDUIT, DUCTS, EQUIPMENT, AND OTHER NON-STRUCTURAL ELEMENTS. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
5. PROVIDE SOUND PUTTY PADS IN ALL BACK BOXES.
6. FIRESTOPPING: ALL PENETRATIONS THROUGH RATED WALLS AND FLOORS AND CONDUIT/SLEEVE OPENINGS SHALL BE SEALED WITH MATERIAL CAPABLE OF PREVENTING THE PASSAGE OF FLAMES, HOT GASSES AND SMOKE WHEN SUBJECTED TO THE REQUIREMENTS OF THE TEST STANDARD SPECIFIC FOR ALL APPLICABLE CODES.
7. ALL COMMUNICATIONS CONDUIT, CABLE TRAYS, LADDER RACKS AND EQUIPMENT RACKS SHALL BE BONDED TO BUILDING GROUND SYSTEM PER NEC 250 AND ANSI/TIA-607-B.
8. LABEL ALL CLOSETS, RACKS, FRAMES, CABINETS, TERMINATION BLOCKS, CABLES, TERMINATIONS, RACEWAYS, ETC. IN ACCORDANCE WITH ANSI/TIA-606-B.
9. ALL COMMUNICATIONS RACEWAYS AND PATHWAYS SHALL BE INSTALLED TO MINIMIZE UNNECESSARY CABLE LENGTHS AND MAINTAIN INDUSTRY STANDARD LENGTH LIMITATIONS FOR HORIZONTAL CABLE DISTRIBUTION (E.G. CAT6.A). BASIC LINK CABLE LENGTH SHALL NOT EXCEED 295-FT (90M) FOR UTP CABLE, 200-FT (60M) FOR SERIES-6 COAXIAL CABLE.
10. ALL COMMUNICATIONS CABLE SHALL BE PLENUM RATED (CMP), RISER RATED (CMR) AND UNDERGROUND RATED (WATERBLOCK) ACCORDING TO USE AND ENVIRONMENTAL CONDITIONS.
11. PROVIDE PROTECTIVE BUSHINGS ON ALL COMMUNICATIONS CONDUITS AND WHERE CABLING ROUTES THROUGH METAL STUDS.
12. ALL NON-ARMORED FIBER OPTIC CABLE SHALL BE INSTALLED IN APPROVED INNERDUCT.
13. ALWAYS INSTALL LOW-VOLTAGE CABLES IN CONDUITS, CABLE TRAYS, WIREWAYS OR OTHER APPROVED CABLE MANAGEMENT DEVICES OR SYSTEMS. NEVER INSTALL CABLES IN SUCH A MANNER THAT THEY ARE SUPPORTED BY CEILING SYSTEMS (CEILING TILE OR GRID, GYPSUM BOARD, LATH & PLASTER), HVAC DUCTS OR PIPES, LIGHTING FIXTURES, ELECTRICAL CONDUITS OR CABLES, PLUMBING/FIRE PROTECTION PIPES, OR ANY OTHER DEVICES NOT INTENDED FOR THE SUPPORT OF LOW-VOLTAGE CABLING.
14. PROVIDE WEATHERPROOF, IN-USE COVER FOR EXTERIOR DATA DEVICES.
15. ALL CABLE TRAY MOUNTING HEIGHTS INDICATED ON FLOOR PLANS ARE TO THE BOTTOM OF CABLE TRAY SUPPORTS.
16. SEISMIC BRACING FOR ALL CABLE TRAYS SHALL BE PROVIDED AS REQUIRED BY CODE, LOCAL GOVERNING JURISDICTION AND CABLE TRAY MANUFACTURER SPECIFICATIONS.
17. ALL CABLE TRAY ROUTING THROUGH ELECTRICAL ROOMS SHALL BE FULLY ENCLOSED. REFER TO CABLE TRAY DETAILS AND SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
18. REUSABLE VELCRO TIES SHALL BE USED TO BUNDLE OR MANAGE CABLES. PLASTIC ZIP TIES ARE NOT APPROVED FOR USE.
19. SIZE AND ORIENTATION OF ALL TELECOM PULL-BOXES SHALL MEET OR EXCEED THE SPECIFIED REQUIREMENTS.
20. PROVIDE PROTECTIVE BUSHINGS WHERE CABLING ROUTES THROUGH METAL STUDS.
21. ALL LOW-VOLTAGE CONDUIT LARGER THAN 2" SHALL HAVE A MINIMUM BEND RADIUS OF 10:1 OF THE INSIDE DIAMETER FOR ALL ELBOWS. ALL LOW-VOLTAGE CONDUIT 2" AND SMALLER SHALL HAVE A MINIMUM BEND RADIUS OF 6:1 OF THE INSIDE DIAMETER FOR ALL ELBOWS.
22. ALL CONDUITS SHALL BE INSTALLED WITH PULL-STRINGS.

TECHNOLOGY SITE PLAN DRAWING LIST

SHEET NUMBER	SHEET NAME	50% DD - 07/05/2017	100% DD - 08/25/2017
0-T0.01	TECHNOLOGY LEGEND, ABBREVIATIONS AND DRAWING LIST	X	X
0-T1.01	TECHNOLOGY UNDERGROUND SITE UTILITY PLAN	X	X
0-T6.01	TECHNOLOGY SITE OSP BACKBONE CABLING DISTRIBUTION DIAGRAM		
0-T6.02	SECURITY ONE-LINE DIAGRAM		
0-T7.01	TECHNOLOGY DETAILS		
0-T7.02	TECHNOLOGY DETAILS		
0-T7.03	TECHNOLOGY DETAILS		
0-T7.04	TECHNOLOGY DETAILS		
0-T7.05	SECURITY DETAILS		
0-T7.06	SECURITY DETAILS		

RossDrulisCusenbery ARCHITECTURE
18294 Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

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No.	Description	Date
1	INC 01_ADD_01_V1	12/06/2019

REGISTERED PROFESSIONAL ENGINEER
AMANDA J. BROWNLEE
No. E17287
ELECTRICAL
STATE OF CALIFORNIA

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Sheet Title

TECHNOLOGY LEGEND, ABBREVIATIONS AND DRAWING LIST

Drawn By: Author
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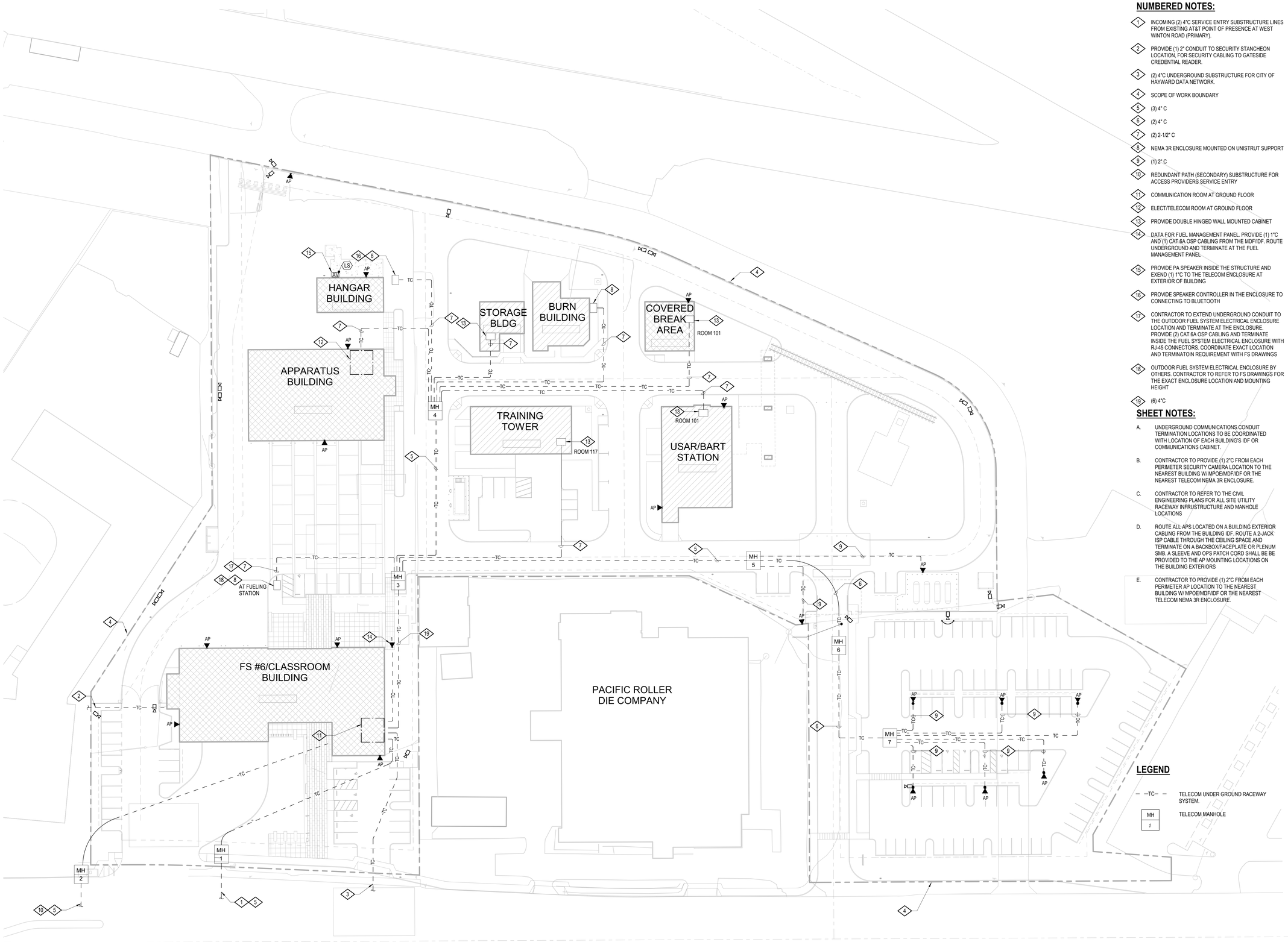
Scale: **12" = 1'-0"**

Date: **October 4, 2019**

Project No. B17.07369

0-T0.01
Drawing No.

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NUMBERED NOTES:

1. INCOMING (2) 4"C SERVICE ENTRY SUBSTRUCTURE LINES FROM EXISTING AT&T POINT OF PRESENCE AT WEST WINTON ROAD (PRIMARY).
2. PROVIDE (1) 2" CONDUIT TO SECURITY STANCHEON LOCATION, FOR SECURITY CABLING TO GATESIDE CREDENTIAL READER.
3. (2) 4"C UNDERGROUND SUBSTRUCTURE FOR CITY OF HAYWARD DATA NETWORK.
4. SCOPE OF WORK BOUNDARY
5. (3) 4" C
6. (2) 4" C
7. (2) 2-1/2" C
8. NEMA 3R ENCLOSURE MOUNTED ON UNISTRUT SUPPORT
9. (1) 2" C
10. REDUNDANT PATH (SECONDARY) SUBSTRUCTURE FOR ACCESS PROVIDERS SERVICE ENTRY
11. COMMUNICATION ROOM AT GROUND FLOOR
12. ELECT/TELECOM ROOM AT GROUND FLOOR
13. PROVIDE DOUBLE HINGED WALL MOUNTED CABINET
14. DATA FOR FUEL MANAGEMENT PANEL. PROVIDE (1) 1"C AND (1) CAT.6A OSP CABLING FROM THE MDF/IDF. ROUTE UNDERGROUND AND TERMINATE AT THE FUEL MANAGEMENT PANEL
15. PROVIDE PA SPEAKER INSIDE THE STRUCTURE AND EXEND (1) 1"C TO THE TELECOM ENCLOSURE AT EXTERIOR OF BUILDING
16. PROVIDE SPEAKER CONTROLLER IN THE ENCLOSURE TO CONNECTING TO BLUETOOTH
17. CONTRACTOR TO EXTEND UNDERGROUND CONDUIT TO THE OUTDOOR FUEL SYSTEM ELECTRICAL ENCLOSURE LOCATION AND TERMINATE AT THE ENCLOSURE. PROVIDE (2) CAT.6A OSP CABLING AND TERMINATE INSIDE THE FUEL SYSTEM ELECTRICAL ENCLOSURE WITH RJ-45 CONNECTORS. COORDINATE EXACT LOCATION AND TERMINATOIN REQUIREMENT WITH FS DRAWINGS
18. OUTDOOR FUEL SYSTEM ELECTRICAL ENCLOSURE BY OTHERS. CONTRACTOR TO REFER TO FS DRAWINGS FOR THE EXACT ENCLOSURE LOCATION AND MOUNTING HEIGHT
19. (6) 4"C

SHEET NOTES:

A. UNDERGROUND COMMUNICATIONS CONDUIT TERMINATION LOCATIONS TO BE COORDINATED WITH LOCATION OF EACH BUILDING'S IDF OR COMMUNICATIONS CABINET.

B. CONTRACTOR TO PROVIDE (1) 2"C FROM EACH PERIMETER SECURITY CAMERA LOCATION TO THE NEAREST BUILDING W/ MPOE/MDF/IDF OR THE NEAREST TELECOM NEMA 3R ENCLOSURE.

C. CONTRACTOR TO REFER TO THE CIVIL ENGINEERING PLANS FOR ALL SITE UTILITY RACEWAY INFRUSTRUCTURE AND MANHOLE LOCATIONS

D. ROUTE ALL APS LOCATED ON A BUILDING EXTERIOR CABLING FROM THE BUILDING IDF. ROUTE A 2-JACK ISP CABLE THROUGH THE CEILING SPACE AND TERMINATE ON A BACKBOX/FACEPLATE OR PLENUM SMB. A SLEEVE AND OPS PATCH CORD SHALL BE BE PROVIDED TO THE AP MOUNTING LOCATIONS ON THE BUILDING EXTERIORS

E. CONTRACTOR TO PROVIDE (1) 2"C FROM EACH PERIMETER AP LOCATION TO THE NEAREST BUILDING W/ MPOE/MDF/IDF OR THE NEAREST TELECOM NEMA 3R ENCLOSURE.

LEGEND

—TC— TELECOM UNDER GROUND RACEWAY SYSTEM.

MH 1 TELECOM MANHOLE

RossDrulisCusenbery
ARCHITECTURE
18294 Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

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DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

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AMANDA J. BROWNLEE
No. E17287
ELECTRICAL
STATE OF CALIFORNIA

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TECHNOLOGY UNDERGROUND SITE UTILITY PLAN

Drawn By: Author
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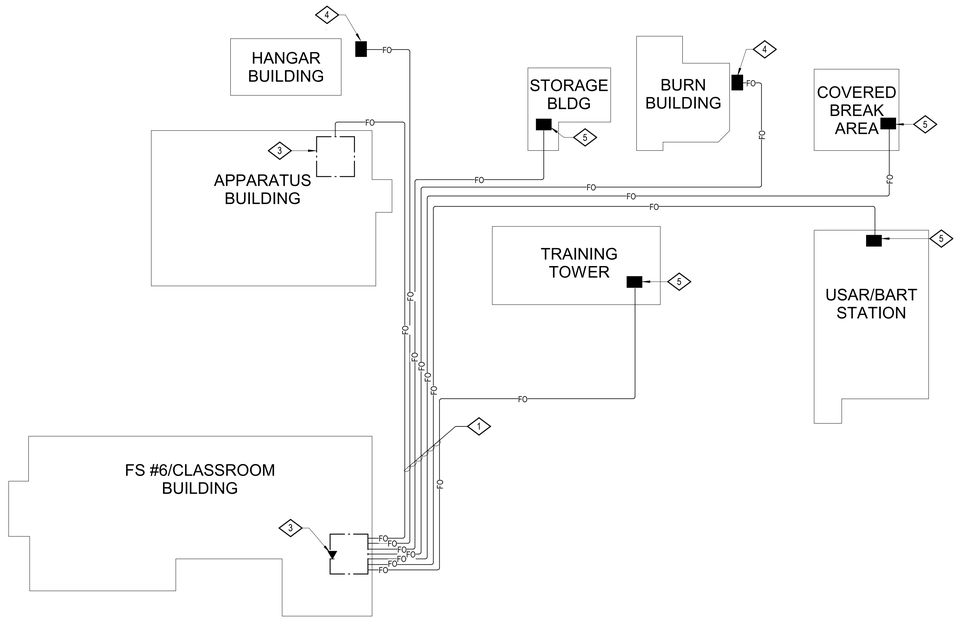
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Date: **October 4, 2019**

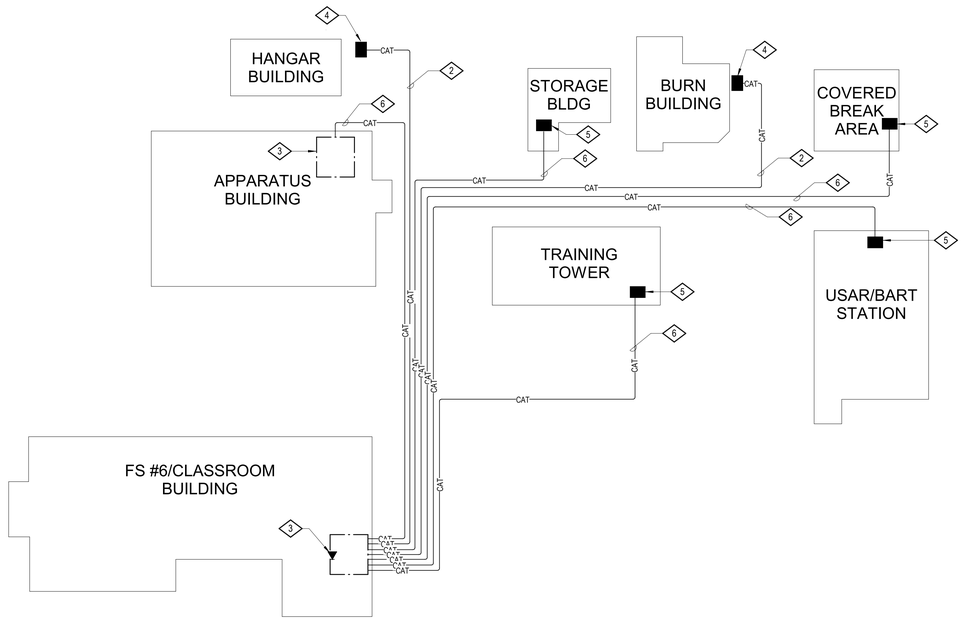
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1 CAMPUS OSP OPTICAL FIBER DISTRIBUTION DIAGRAM
NTS



2 CAMPUS OSP COPPER CABLING DISTRIBUTION DIAGRAM
NTS

NUMBERED NOTES:

1. PROVIDE 24 STRANDS SM OSP OPTICAL FIBER AND EXTEND FROM MPOE/MDF/IDF AT FS#6 BLDG AND TERMINATE AT OUTLYING BLDG MDF/NEMA 3R ENCLOSURE
2. PROVIDE (2) CAT-6A OSP CABLING AND EXTEND FROM MPOE/MDF/IDF AT FS#6 BLDG AND TERMINATE AT OUTLYING NEMA 3R ENCLOSURE
3. BLDG MDF/IDF
4. NEMA-3R ENCLOSURE
5. DOUBLE HINGED WALL MOUNTED CABINET
6. PROVIDE (1) 25PAIR CAT-5E OSP CABLING AND EXTEND FROM MPOE/MDF/IDF AT FS #6 BLDG AND TERMINATE ON EACH END OF THE BUILDING ENTRANCE PROTECTORS. SPLIT OUT 1-PAIR PER JACK TO PATCH PANELS

LEGEND

—FO— FIBER OPTIC CABLE

—CAT— COPPER CATEGORY CABLE

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DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

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HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION	
DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

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HAYWARD, CA 94545**

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AMANDA J. BROWN, CE
No. E17287
ELECTRICAL
STATE OF CALIFORNIA

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TECHNOLOGY SITE OSP BACKBONE CABLING DISTRIBUTION DIAGRAM

Drawn By: Author Checked By: Checker

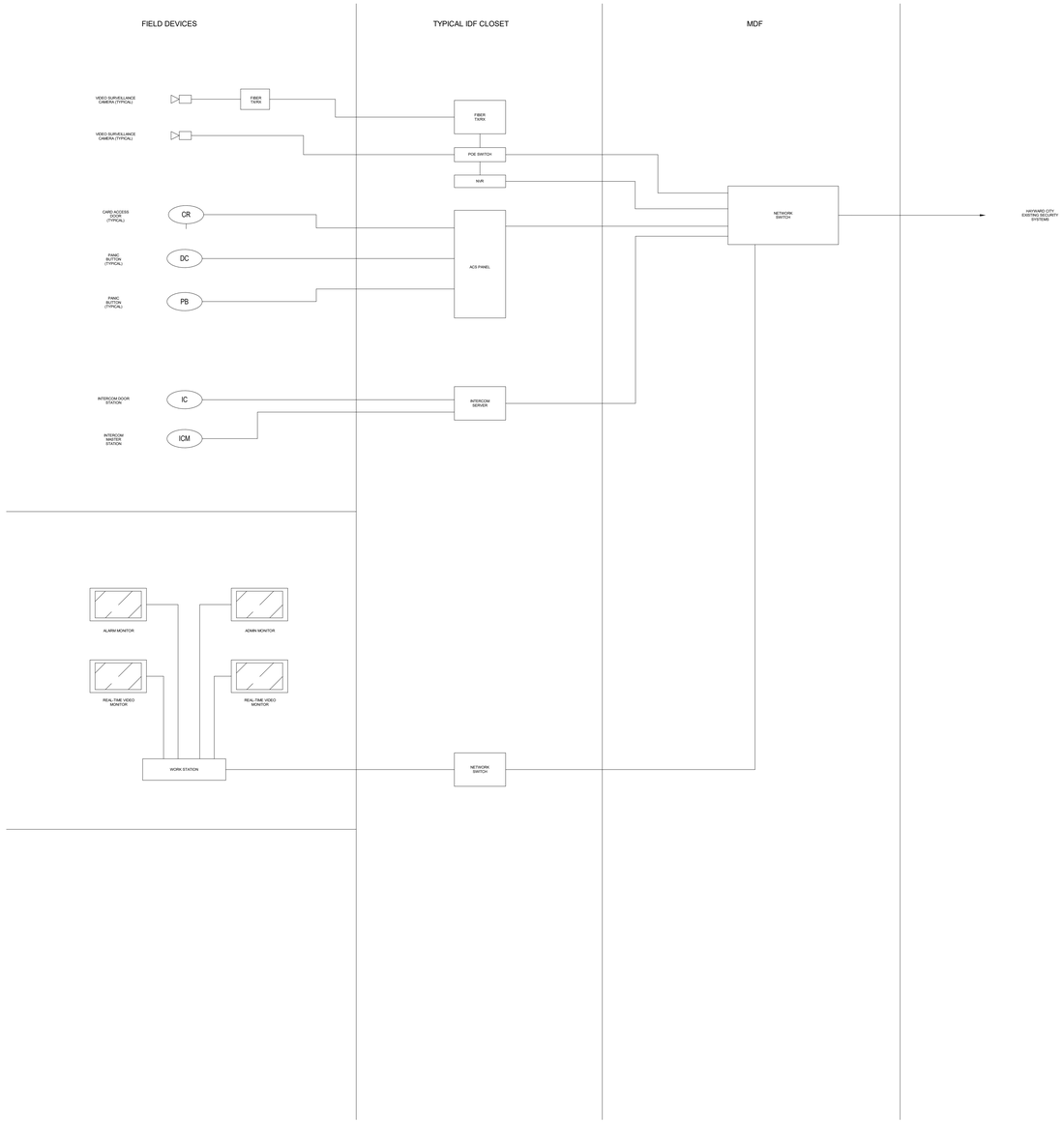
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ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

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No. E17387
ELECTRICAL
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SECURITY ONE-LINE DIAGRAM

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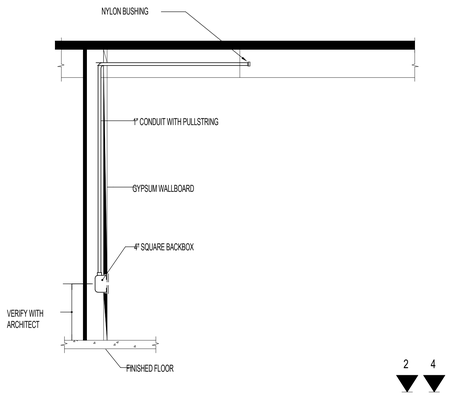
Date:
October 4, 2019

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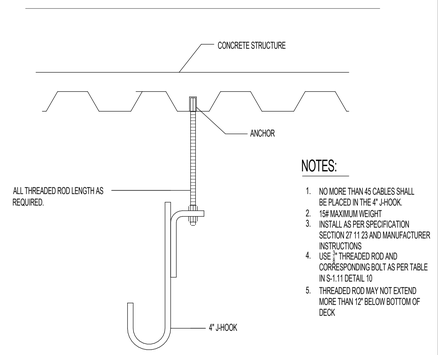
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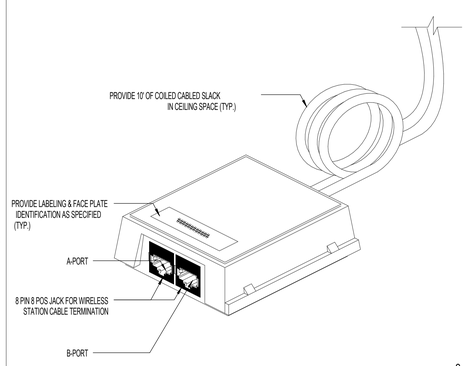
9 WALL MOUNTED SYSTEMS OUTLET — NO SCALE



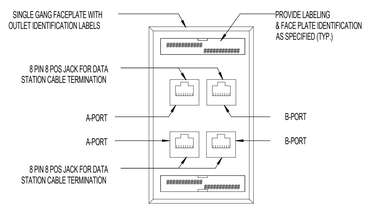
NOTES:

1. NO MORE THAN 45 CABLES SHALL BE PLACED IN THE 4" J-HOOK.
2. 15# MAXIMUM WEIGHT
3. INSTALL AS PER SPECIFICATION SECTION 27 11 23 AND MANUFACTURER INSTRUCTIONS
4. USE ¼" THREADED ROD AND CORRESPONDING BOLT AS PER TABLE IN S-1.11 DETAIL 10
5. THREADED ROD MAY NOT EXTEND MORE THAN 12" BELOW BOTTOM OF DECK

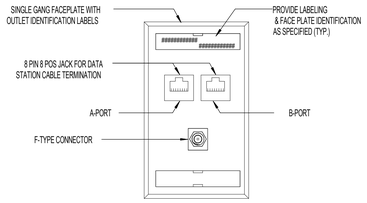
7 J-HOOK MOUNTED CEILING DETAIL — NO SCALE



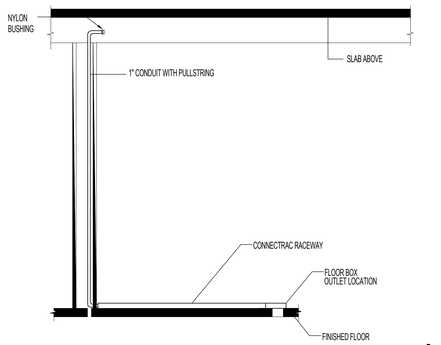
4 2-PORT CEILING OUTLET
(2) DATA — NO SCALE



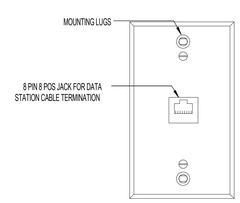
1 WALL MOUNTED OUTLET
(4) DATA — NO SCALE



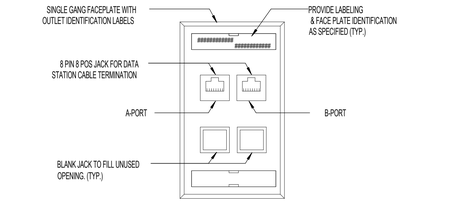
10 WALL MOUNTED OUTLET
(2) DATA (1) CO-AXIAL — NO SCALE



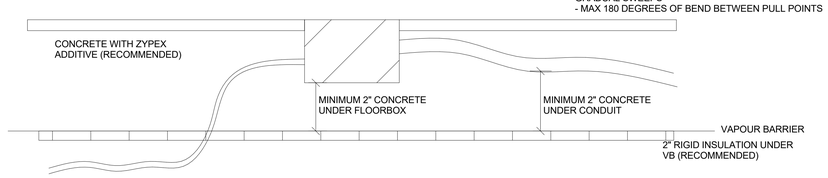
8 TELECOMMUNICATIONS SYSTEM OUTLET
CONNECTRAC — NO SCALE



5 UTILITY ROOM WALLPHONE
(1) VOICE — NO SCALE

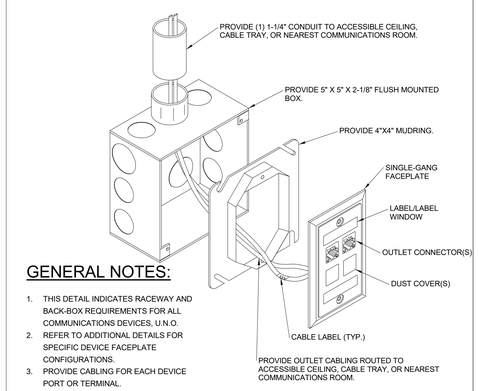


2 WALL MOUNTED OUTLET
(2) DATA — NO SCALE



- ELECTRICAL CONDUITS MAY PENETRATE WATER BARRIER TO ROUTE IN DIRT
- IF ELECTRICAL CONDUITS ARE ROUTED IN SLAB PARALLEL TO DATA CONDUITS. MAINTAIN 3" SEPARATION OF CONCRETE
- WHEN PVC CONDUITS STUB UP TO WALL SPACE MAINTAIN 12" SEPARATION BETWEEN ELECTRICAL AND TELECOM/AV CONDUITS IN WALLS. 12" SEPARATION NOT REQUIRED ONCE CONDUITS ARE TRANSITIONED TO EMT, IMC OR RIGID

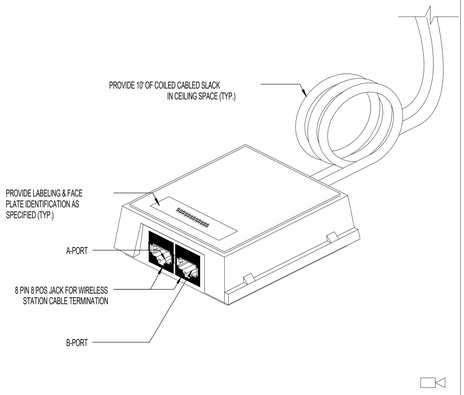
11 FLOORBOX DETAIL — NO SCALE



GENERAL NOTES:

1. THIS DETAIL INDICATES RACEWAY AND BACK-BOX REQUIREMENTS FOR ALL COMMUNICATIONS DEVICES, U.N.O.
2. REFER TO ADDITIONAL DETAILS FOR SPECIFIC DEVICE FACEPLATE CONFIGURATIONS.
3. PROVIDE CABLING FOR EACH DEVICE PORT OR TERMINAL.

6 TYPICAL COMMUNICATIONS OUTLET ROUGH-IN DETAIL — NO SCALE



3 2-PORT SURFACE MOUNTED CAMERA OUTLET
(2) DATA — NO SCALE

DETAILS ON THIS SHEET ARE GENERIC. PLEASE REFER TO OPM DETAILS FOR HANGAR AND ANCHOR INFORMATION FOR ALL SUPPORTS AND CONNECTION INFORMATION NOT INDICATED

RossDrulisCusenbery
ARCHITECTURE
18294 Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

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Sheet Title

TECHNOLOGY DETAILS

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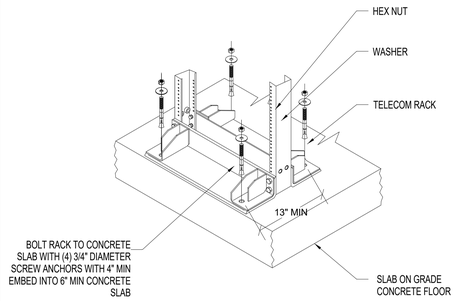
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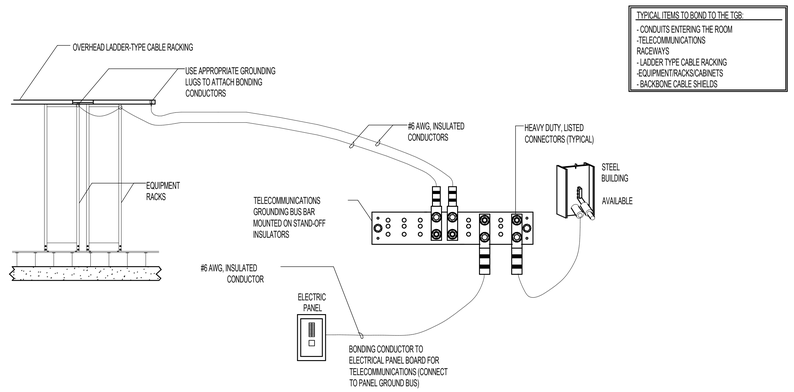
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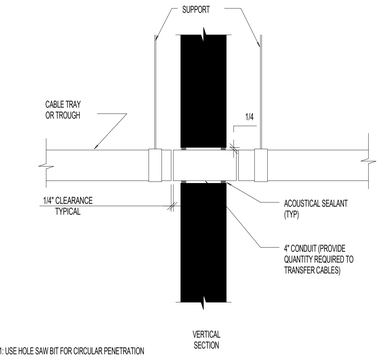
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6 CONCRETE RACK MOUNTED — NO SCALE



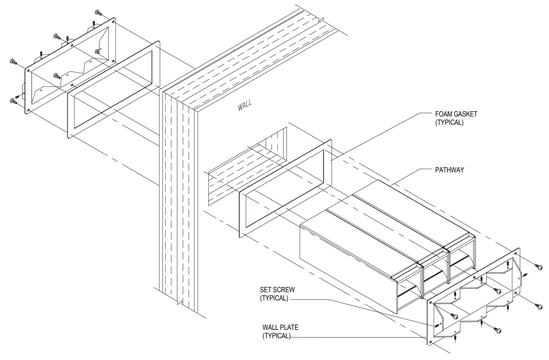
3 TELECOMMUNICATIONS GROUNDING DETAIL — NO SCALE



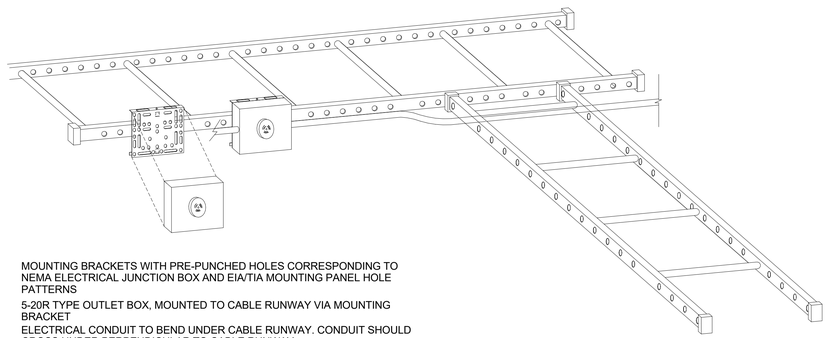
NOTE 1: USE HOLE SAW BIT FOR CIRCULAR PENETRATION

NOTE 2: AFTER CAPABLE PULL IS COMPLETE, FILL CONDUIT WITH SAFING INSULATION AND SEAL BOTH ENDS OF CONDUIT WITH FIRE-STOP FOAM SEALANT OR J.M. CLIPPER DUXSEAL

1 TYPICAL CABLE TRAY AND CONDUIT SLEEVES PENETRATION AT SOUND-RATED CONSTRUCTION — NO SCALE



4 RACEWAY WALL PENTRATION DETAIL — NO SCALE

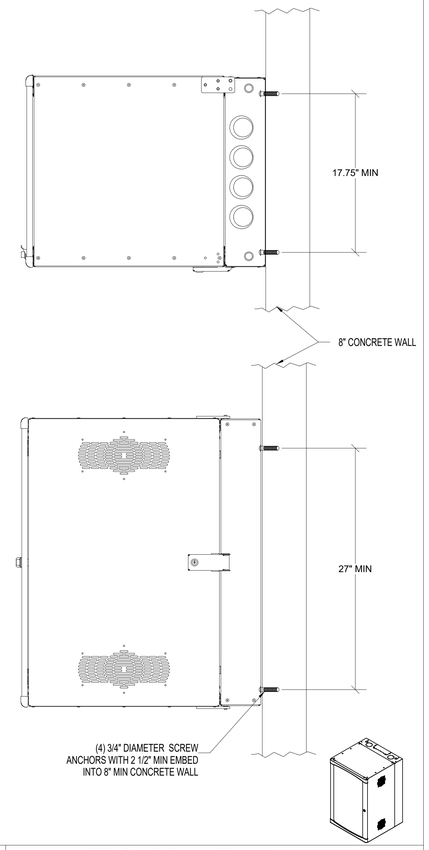


MOUNTING BRACKETS WITH PRE-PUNCHED HOLES CORRESPONDING TO NEMA ELECTRICAL JUNCTION BOX AND EIA/TIA MOUNTING PANEL HOLE PATTERNS

5-20R TYPE OUTLET BOX, MOUNTED TO CABLE RUNWAY VIA MOUNTING BRACKET

ELECTRICAL CONDUIT TO BEND UNDER CABLE RUNWAY. CONDUIT SHOULD CROSS UNDER PERPENDICULAR TO CABLE RUNWAY

5 ELECTRICAL BACKBOX MOUNTING TO CABLE RUNWAY DETAIL — NO SCALE



2 WALL-MOUNTED DOUBLE HINGED RACK
24" W x 30"D x 24"H CUBE-iT — NO SCALE

DETAILS ON THIS SHEET ARE GENERIC. PLEASE REFER TO OPM DETAILS FOR HANGAR AND ANCHOR INFORMATION FOR ALL SUPPORTS AND CONNECTION INFORMATION NOT INDICATED

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION	
DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

**1401 W. WINTON AVE.
HAYWARD, CA 94545**

REVISIONS

No.	Description	Date
1	INC 01_ADD_01_V1	12/06/2019

REGISTERED PROFESSIONAL ENGINEER — J M BACKHUS — No. M39285 — MECHANICAL — STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

TECHNOLOGY DETAILS

Drawn By: Author — Checked By: Checker

Scale: **NTS**

Date: **October 4, 2019**

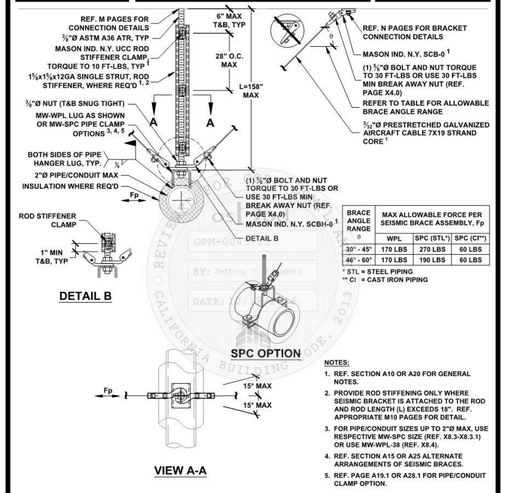
Project No. B17.07369

0-T7.02

Drawing No.

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HANGER ROD DIAMETER = ⅜"	PIPING/CONDUIT TRANSVERSE SEISMIC CABLE BRACING SYSTEM 2"Ø PIPE/CONDUIT MAX	KIT OPTIONS C0T



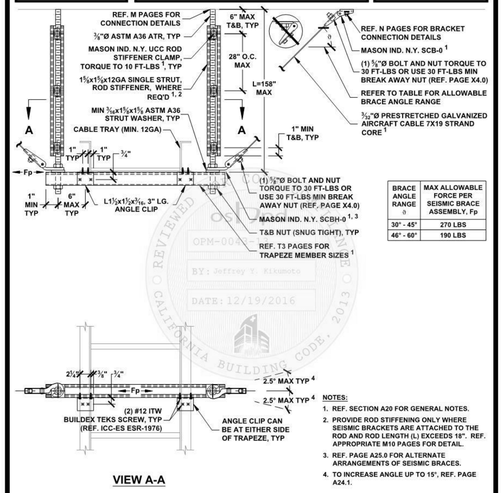
NOTES:
1. REF. SECTION A10 OR A20 FOR GENERAL NOTES.
2. PROVIDE ROD STIFFENING ONLY WHERE SEISMIC BRACKET IS ATTACHED TO THE ROD AND ROD LENGTH (L) EXCEEDS 18". REF. APPROPRIATE M10 PAGES FOR DETAIL.
3. FOR PIPE/CONDUIT SIZES UP TO 2"Ø MAX, USE RESPECTIVE MW-SPC SIZE (REF. X8.3-X8.3.1) OR USE MW-WPL-36 (REF. X8.4).
4. REF. SECTION A15 OR A25 ALTERNATE ARRANGEMENTS OF SEISMIC BRACES.
5. REF. PAGE A19.1 OR A28.1 FOR PIPE/CONDUIT CLAMP OPTION.

MASON WEST, INC.
1601 E. Miraloma Ave. Placentia, CA 92870
TEL (714) 630 - 0701, www.masonwest.com

Jiefu "Jeff" Zhang, SE
California SE No. S5270

PAGE **C2.10**

HANGER ROD DIAMETER = ⅜"	CABLE TRAY TRANSVERSE TRAPEZE SEISMIC CABLE BRACING SYSTEM 20 PLF MAX	KIT OPTIONS TC0T



BRACE ANGLE RANGE δ	MAX ALLOWABLE FORCE PER SEISMIC BRACE ASSEMBLY, Fp
30° - 45°	270 LBS
46° - 60°	190 LBS

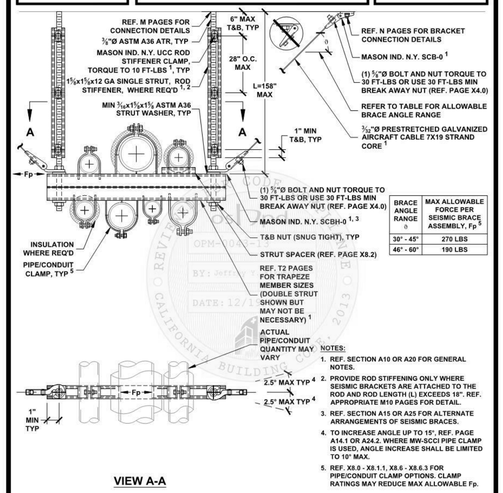
NOTES:
1. REF. SECTION A20 FOR GENERAL NOTES.
2. PROVIDE ROD STIFFENING ONLY WHERE SEISMIC BRACKETS ARE ATTACHED TO THE ROD AND ROD LENGTH (L) EXCEEDS 18". REF. APPROPRIATE M10 PAGES FOR DETAIL.
3. REF. PAGE A25.0 FOR ALTERNATE ARRANGEMENTS OF SEISMIC BRACES.
4. TO INCREASE ANGLE UP TO 15°, REF. PAGE A24.1.

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1601 E. Miraloma Ave. Placentia, CA 92870
TEL (714) 630 - 0701, www.masonwest.com

Jiefu "Jeff" Zhang, SE
California SE No. S5270

PAGE **E2.10**

HANGER ROD DIAMETER = ⅜"	PIPING/CONDUIT TRANSVERSE TRAPEZE SEISMIC CABLE BRACING SYSTEM 30 PLF MAX	KIT OPTIONS TC0T



BRACE ANGLE RANGE δ	MAX ALLOWABLE FORCE PER SEISMIC BRACE ASSEMBLY, Fp 5
30° - 45°	270 LBS
46° - 60°	190 LBS

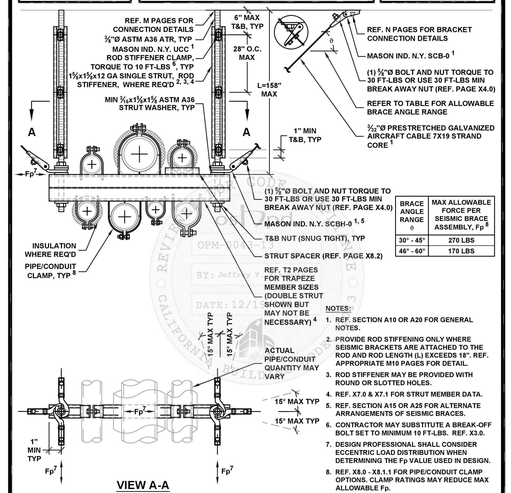
NOTES:
1. REF. SECTION A10 OR A20 FOR GENERAL NOTES.
2. PROVIDE ROD STIFFENING ONLY WHERE SEISMIC BRACKETS ARE ATTACHED TO THE ROD AND ROD LENGTH (L) EXCEEDS 18". REF. APPROPRIATE M10 PAGES FOR DETAIL.
3. REF. SECTION A15 OR A25 FOR ALTERNATE ARRANGEMENTS OF SEISMIC BRACES.
4. TO INCREASE ANGLE UP TO 15°, REF. PAGE A14.1 OR A24.2. WHERE MW-SCCI PIPE CLAMP IS USED, ANGLE INCREASE SHALL BE LIMITED TO 10° MAX.
5. REF. X8.0 - X8.1.1, X8.6 - X8.6.3 FOR PIPE/CONDUIT CLAMP OPTIONS. CLAMP RATINGS MAY REDUCE MAX ALLOWABLE Fp.

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1601 E. Miraloma Ave. Placentia, CA 92870
TEL (714) 630 - 0701, www.masonwest.com

Jiefu "Jeff" Zhang, SE
California SE No. S5270

PAGE **F2.10**

HANGER ROD DIAMETER = ⅜"	PIPING/CONDUIT ALL-DIRECTIONAL TRAPEZE SEISMIC CABLE BRACING SYSTEM 30 PLF MAX	KIT OPTIONS TC0A



BRACE ANGLE RANGE δ	MAX ALLOWABLE FORCE PER SEISMIC BRACE ASSEMBLY, Fp 5
30° - 45°	270 LBS
46° - 60°	170 LBS

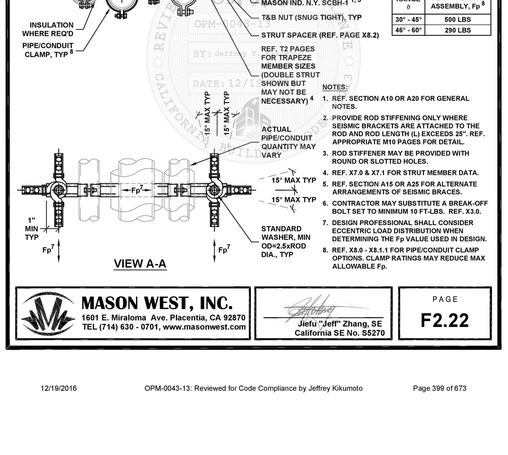
NOTES:
1. REF. SECTION A10 OR A20 FOR GENERAL NOTES.
2. PROVIDE ROD STIFFENING ONLY WHERE SEISMIC BRACKETS ARE ATTACHED TO THE ROD AND ROD LENGTH (L) EXCEEDS 18". REF. APPROPRIATE M10 PAGES FOR DETAIL.
3. ROD STIFFENER MAY BE PROVIDED WITH ROUND OR SLOTTED HOLES.
4. REF. X7.0 & X7.1 FOR STRUT MEMBER DATA.
5. REF. SECTION A15 OR A25 FOR ALTERNATE ARRANGEMENTS OF SEISMIC BRACES.
6. CONTRACTOR MAY SUBSTITUTE A BREAK-OFF BOLT SET TO MINIMUM 10 FT-LBS. REF. X3.0.
7. DESIGN PROFESSIONAL SHALL CONSIDER ECCENTRIC LOAD DISTRIBUTION WHEN DETERMINING THE Fp VALUE USED IN DESIGN.
8. REF. X8.0 - X8.1.1 FOR PIPE/CONDUIT CLAMP OPTIONS. CLAMP RATINGS MAY REDUCE MAX ALLOWABLE Fp.

MASON WEST, INC.
1601 E. Miraloma Ave. Placentia, CA 92870
TEL (714) 630 - 0701, www.masonwest.com

Jiefu "Jeff" Zhang, SE
California SE No. S5270

PAGE **F2.12**

HANGER ROD DIAMETER = ½"	PIPING/CONDUIT ALL-DIRECTIONAL TRAPEZE SEISMIC CABLE BRACING SYSTEM 60 PLF MAX	KIT OPTIONS TC1A



BRACE ANGLE RANGE δ	MAX ALLOWABLE FORCE PER SEISMIC BRACE ASSEMBLY, Fp 5
30° - 45°	500 LBS
46° - 60°	290 LBS

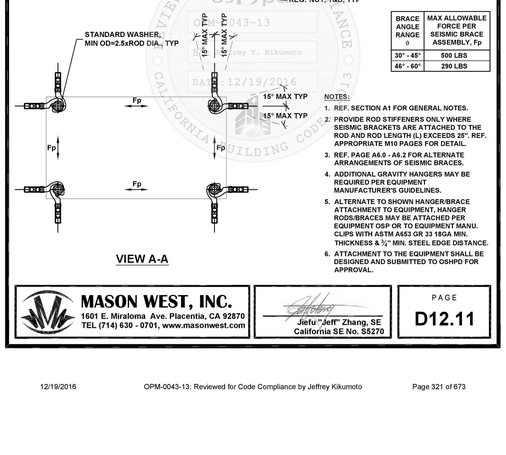
NOTES:
1. REF. SECTION A10 OR A20 FOR GENERAL NOTES.
2. PROVIDE ROD STIFFENING ONLY WHERE SEISMIC BRACKETS ARE ATTACHED TO THE ROD AND ROD LENGTH (L) EXCEEDS 25". REF. APPROPRIATE M10 PAGES FOR DETAIL.
3. ROD STIFFENER MAY BE PROVIDED WITH ROUND OR SLOTTED HOLES.
4. REF. X7.0 & X7.1 FOR STRUT MEMBER DATA.
5. REF. SECTION A15 OR A25 FOR ALTERNATE ARRANGEMENTS OF SEISMIC BRACES.
6. CONTRACTOR MAY SUBSTITUTE A BREAK-OFF BOLT SET TO MINIMUM 10 FT-LBS. REF. X3.0.
7. DESIGN PROFESSIONAL SHALL CONSIDER ECCENTRIC LOAD DISTRIBUTION WHEN DETERMINING THE Fp VALUE USED IN DESIGN.
8. REF. X8.0 - X8.1.1 FOR PIPE/CONDUIT CLAMP OPTIONS. CLAMP RATINGS MAY REDUCE MAX ALLOWABLE Fp.

MASON WEST, INC.
1601 E. Miraloma Ave. Placentia, CA 92870
TEL (714) 630 - 0701, www.masonwest.com

Jiefu "Jeff" Zhang, SE
California SE No. S5270

PAGE **F2.22**

HANGER ROD DIAMETER = ½"	SUSPENDED EQUIPMENT SEISMIC CABLE BRACING SYSTEM 375 LB MAX VERTICAL LOAD PER HANGER	KIT OPTIONS C1SE



BRACE ANGLE RANGE δ	MAX ALLOWABLE FORCE PER SEISMIC BRACE ASSEMBLY, Fp
30° - 45°	500 LBS
46° - 60°	290 LBS

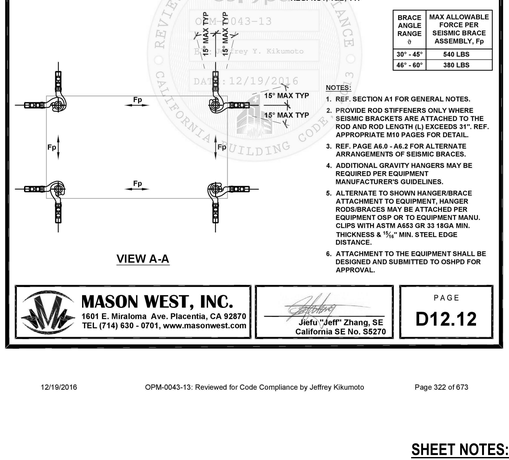
NOTES:
1. REF. SECTION A1 FOR GENERAL NOTES.
2. PROVIDE ROD STIFFENERS ONLY WHERE SEISMIC BRACKETS ARE ATTACHED TO THE ROD AND ROD LENGTH (L) EXCEEDS 25". REF. APPROPRIATE M10 PAGES FOR DETAIL.
3. REF. PAGE A6.0 - A6.2 FOR ALTERNATE ARRANGEMENTS OF SEISMIC BRACES.
4. ADDITIONAL GRAVITY HANGERS MAY BE REQUIRED PER EQUIPMENT MANUFACTURER'S GUIDELINES.
5. ALTERNATE TO SHOWN HANGER/BRACE ATTACHMENT TO EQUIPMENT, HANGER RODS/BRACES MAY BE ATTACHED PER EQUIPMENT OSP OR TO EQUIPMENT MANU. CLIPS WITH ASTM A653 GR 33 18GA MIN. THICKNESS & ½" MIN. STEEL EDGE DISTANCE.
6. ATTACHMENT TO THE EQUIPMENT SHALL BE DESIGNED AND SUBMITTED TO OSHPD FOR APPROVAL.

MASON WEST, INC.
1601 E. Miraloma Ave. Placentia, CA 92870
TEL (714) 630 - 0701, www.masonwest.com

Jiefu "Jeff" Zhang, SE
California SE No. S5270

PAGE **D12.11**

HANGER ROD DIAMETER = ⅝"	SUSPENDED EQUIPMENT SEISMIC CABLE BRACING SYSTEM 750 LB MAX VERTICAL LOAD PER HANGER	KIT OPTIONS C1SE



BRACE ANGLE RANGE δ	MAX ALLOWABLE FORCE PER SEISMIC BRACE ASSEMBLY, Fp
30° - 45°	540 LBS
46° - 60°	380 LBS

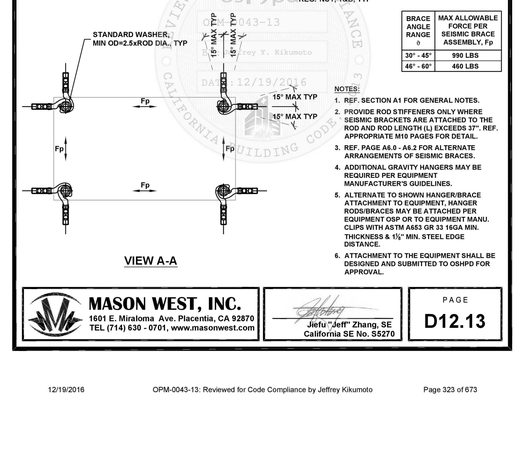
NOTES:
1. REF. SECTION A1 FOR GENERAL NOTES.
2. PROVIDE ROD STIFFENERS ONLY WHERE SEISMIC BRACKETS ARE ATTACHED TO THE ROD AND ROD LENGTH (L) EXCEEDS 31". REF. APPROPRIATE M10 PAGES FOR DETAIL.
3. REF. PAGE A6.0 - A6.2 FOR ALTERNATE ARRANGEMENTS OF SEISMIC BRACES.
4. ADDITIONAL GRAVITY HANGERS MAY BE REQUIRED PER EQUIPMENT MANUFACTURER'S GUIDELINES.
5. ALTERNATE TO SHOWN HANGER/BRACE ATTACHMENT TO EQUIPMENT, HANGER RODS/BRACES MAY BE ATTACHED PER EQUIPMENT OSP OR TO EQUIPMENT MANU. CLIPS WITH ASTM A653 GR 33 18GA MIN. THICKNESS & ⅝" MIN. STEEL EDGE DISTANCE.
6. ATTACHMENT TO THE EQUIPMENT SHALL BE DESIGNED AND SUBMITTED TO OSHPD FOR APPROVAL.

MASON WEST, INC.
1601 E. Miraloma Ave. Placentia, CA 92870
TEL (714) 630 - 0701, www.masonwest.com

Jiefu "Jeff" Zhang, SE
California SE No. S5270

PAGE **D12.12**

HANGER ROD DIAMETER = ¾"	SUSPENDED EQUIPMENT SEISMIC CABLE BRACING SYSTEM 1250 LB MAX VERTICAL LOAD PER HANGER	KIT OPTIONS C2SE



BRACE ANGLE RANGE δ	MAX ALLOWABLE FORCE PER SEISMIC BRACE ASSEMBLY, Fp
30° - 45°	990 LBS
46° - 60°	460 LBS

NOTES:
1. REF. SECTION A1 FOR GENERAL NOTES.
2. PROVIDE ROD STIFFENERS ONLY WHERE SEISMIC BRACKETS ARE ATTACHED TO THE ROD AND ROD LENGTH (L) EXCEEDS 37". REF. APPROPRIATE M10 PAGES FOR DETAIL.
3. REF. PAGE A6.0 - A6.2 FOR ALTERNATE ARRANGEMENTS OF SEISMIC BRACES.
4. ADDITIONAL GRAVITY HANGERS MAY BE REQUIRED PER EQUIPMENT MANUFACTURER'S GUIDELINES.
5. ALTERNATE TO SHOWN HANGER/BRACE ATTACHMENT TO EQUIPMENT, HANGER RODS/BRACES MAY BE ATTACHED PER EQUIPMENT OSP OR TO EQUIPMENT MANU. CLIPS WITH ASTM A653 GR 33 16GA MIN. THICKNESS & 1⅛" MIN. STEEL EDGE DISTANCE.
6. ATTACHMENT TO THE EQUIPMENT SHALL BE DESIGNED AND SUBMITTED TO OSHPD FOR APPROVAL.

MASON WEST, INC.
1601 E. Miraloma Ave. Placentia, CA 92870
TEL (714) 630 - 0701, www.masonwest.com

Jiefu "Jeff" Zhang, SE
California SE No. S5270

PAGE **D12.13**

SHEET NOTES:

A. REFER TO MASON OPM'S PER THE FOLLOWING:
M-ATR VERTICAL HANGARS
CONCRETE FILLED DECK- M2.10, M2.11, M2.12, M2.20, M2.21.1, M2.23, M2.70- DO NOT SPACE CLOSER THAN 5' OC EW
WIDE FLANGED STEEL- M3.10-MAX 1 CON PER BEAM UNLESS SPACED 13' OC
COLD FORMED STEEL- M6.10, 3/1-S4.31-DO NOT SPACE CLOSER THAN 9'6" OC EW
BARE METAL DECK- M7.10 M7.11, M7.12 - DO NOT SPACE CLOSER THAN 2' OC EW
N-SEISMIC BRACKET
CONCRETE FILLED DECK- N2.10, N2.11, N2.12, N2.20, N2.21 - DO NOT SPACE CLOSER THAN 3' OC EW
WID EFLANGED STEEL- N3.11, N3.15 - MAX 1 CON PER BEAM UNLESS SPACED 12' OC
COLD FORMED STEEL- 4/1-S4.31 - DO NOT SPACE CLOSER THAN 10' OC EW
BARE METAL DECK- N7.10 DO NOT SPACE CLOSER THAN 1'6" OC EW

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER
AMISHA J. BROWN
No. E17287
ELECTRICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

TECHNOLOGY DETAILS

Drawn By: Author Checked By: Checker

Scale: **NTS**

Date: **October 4, 2019**

Project No. B17.07369

0-T7.03
Drawing No.

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EXTRON ELECTRONICS
WMK 160 & PVM 220

Extron Electronics
INTERFACING, SWITCHING AND CONTROL

GENERAL NOTES:

1. THIS OSHPD PRE–APPROVAL OF MANUFACTURER'S CERTIFICATION (OPM) IS BASED ON THE CBC 2013. THE DEMAND (DESIGN FORCES) FOR USE WITH THIS OPM SHALL BE BASED ON THE CBC 2013.
2. IT IS THE RESPONSIBILITY OF THE STRUCTURAL ENGINEER OF RECORD FOR A SITE SPECIFIC PROJECT TO VERIFY:
   - A. THE ADEQUACY OF THE NEW OR EXISTING STRUCTURE TO RESIST THE FORCES AND WEIGHT SPECIFIED FOR EACH EQUIPMENT IN ADDITION TO ALL OTHER LOADS. PROVIDE AND DESIGN SUPPLEMENTARY MEMBERS AS REQUIRED.
   - B. THAT THE FLOOR AND WALL ANCHORS ARE LOCATED AT AN ADEQUATE DISTANCE FROM ANY SLAB OR WALL EDGES OR OPENINGS.
   - C. THAT THE FLOOR AND WALL ANCHORS ARE LOCATED AT AN ADEQUATE DISTANCE FROM ANY NEW OR EXISTING ANCHORS. THE SPACING SHOWN WITHIN THIS DOCUMENT IS THE REQUIRED MINIMUM SPACING OF THE INDICATED DIAMETER ANCHOR BOLTS. THE REQUIRED SPACING FROM ANCHORS OF OTHER DIAMETERS AND EMBEDMENTS MAY VARY AND SHALL BE EVALUATED BY THE SEOR.
   - D. THAT THE INSTALLATION IS IN CONFORMANCE WITH THE CBC 2013 AND WITH THE DETAILS SHOWN IN THIS PRE–APPROVAL.
   - E. THAT THE ACTUAL EQUIPMENT'S WEIGHT, CENTER OF GRAVITY (CG) LOCATION, ANCHOR LOCATIONS, ANCHOR DETAILS, AND THE MATERIAL AND GAUGE OF THE EQUIPMENT WHERE ATTACHMENTS ARE MADE, AGREE WITH THE INFORMATION SHOWN ON THE PRE–APPROVAL DOCUMENTS.
3A. EXPANSION ANCHORS INSTALLED IN NORMAL WEIGHT OR SAND–LIGHTWEIGHT CONCRETE SHALL BE CARBON STEEL HILTI KB–TZ EXPANSION ANCHORS COMPLYING WITH ESR–1917 REISSUED MAY 1, 2013.
   - B. INSTALLATION: INSTALL THE EXPANSION ANCHORS IN ACCORDANCE WITH THE REQUIREMENTS GIVEN IN THE ICC EVALUATION REPORT FOR THE SPECIFIC ANCHOR AND THE PARAMETERS GIVEN IN THE TABLE ON PAGE 3.
   - C. JOB TESTING: FOR VERIFYING SATISFACTORY INSTALLATION WORKMANSHIP, PERFORM JOB SITE TESTING IN ACCORDANCE WITH THE TORQUE LOAD TABLE PROVIDED IN THIS DOCUMENT. TEST 50% OF THE INSTALLED ANCHORS. THE TEST LOAD MAY BE APPLIED BY ANY METHOD THAT WILL EFFECTIVELY MEASURE THE TENSION IN THE ANCHOR SUCH AS CALIBRATED TORQUE WRENCH METHOD. ALL TESTS SHALL BE CONDUCTED IN THE PRESENCE OF THE INSPECTOR OF RECORD. REPORT OF TEST RESULTS SHALL BE SUBMITTED TO OSHPD. IF ANY ANCHOR FAILS THE TEST, TEST ALL ANCHORS. THE TEST SHALL BE PERFORMED 24 HOURS OR MORE AFTER INSTALLATION. TESTING MAY BE DONE PRIOR TO EQUIPMENT INSTALLATION. ALSO REFER TO CBC 1913A.7 "FIELD TESTS FOR POST–INSTALLED ANCHORS IN CONCRETE".
   - D. FAILURE/ACCEPTANCE CRITERIA: THE FOLLOWING CRITERIA APPLY FOR THE ACCEPTANCE OF INSTALLED ANCHORS:
     - TORQUE WRENCH METHOD: THE APPLICABLE TEST TORQUE MUST BE REACHED WITHIN THE FOLLOWING LIMITS: WEDGE TYPE: ONE–HALF (½) TURN OF THE NUT.

REGISTERED PROFESSIONAL ENGINEER DIETER T SIEBALT No. S4346 STRUCTURAL STATE OF CALIFORNIA

SHEET TITLE: GENERAL NOTES

CYS STRUCTURAL ENGINEERS, INC.
2495 NATOMAS PARK DRIVE, SUITE 650
SACRAMENTO, CA 95833
TEL (916) 920-2020
www.cyseng.com

Job No: 13127
Date: 06-30-2014
Page:

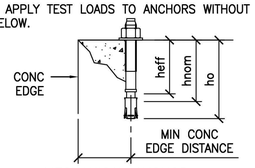
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EXTRON ELECTRONICS
WMK 160 & PVM 220

Extron Electronics
INTERFACING, SWITCHING AND CONTROL

GENERAL NOTES CONTINUED:

3E. TEST VALUES: APPLY TEST LOADS TO ANCHORS WITHOUT REMOVING THE NUT IF POSSIBLE, SEE TABLE BELOW.

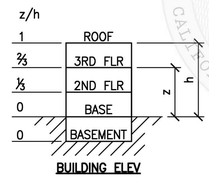


MECHANICAL ANCHOR

ANCHOR DIA (INCH) da	INSTALLATION EMBED (INCH) hnom	EFFECTIVE EMBED (INCH) heff	HOLE DEPTH (INCH) ho	MIN CONC THICKNESS (INCH) h	MIN CONC EDGE DISTANCE (INCH)	MIN AB SPACING (INCH)	TEST LOAD TORQUE (FT–LBS)	CONDITION OF ANCHORAGE
⅜	2 5/16	2	2 5/8	4*	6	6¾	25	CASE 1

* SI

4. A SINGLE CASE OF ANCHORAGE IS SPECIFIED AND PRESENTED IN THIS PRE–APPROVAL:



BUILDING ELEV

CASE 1: ANCHORAGE DETAILS LOCATED AT ANY LEVEL OF A BUILDING (z/h<=1.0), IT IS ASSUMED THAT THE FLOORS ARE BUILT OF A MINIMUM 3¼" SAND–LIGHT WEIGHT CONCRETE OR NORMAL WEIGHT CONCRETE TOPPING OVER METAL DECK OR 4" NORMAL WEIGHT CONCRETE SLAB (f'c = 3000 PSI, MINIMUM).

5. THIS PRE–APPROVAL MAY BE USED AT ANY GEOGRAPHICAL LOCATION IN THE STATE OF CALIFORNIA. WHERE S_{DS} IS LESS THAN OR EQ TO 2.50.

REGISTERED PROFESSIONAL ENGINEER DIETER T SIEBALT No. S4346 STRUCTURAL STATE OF CALIFORNIA

SHEET TITLE: GENERAL NOTES (CONTINUED)

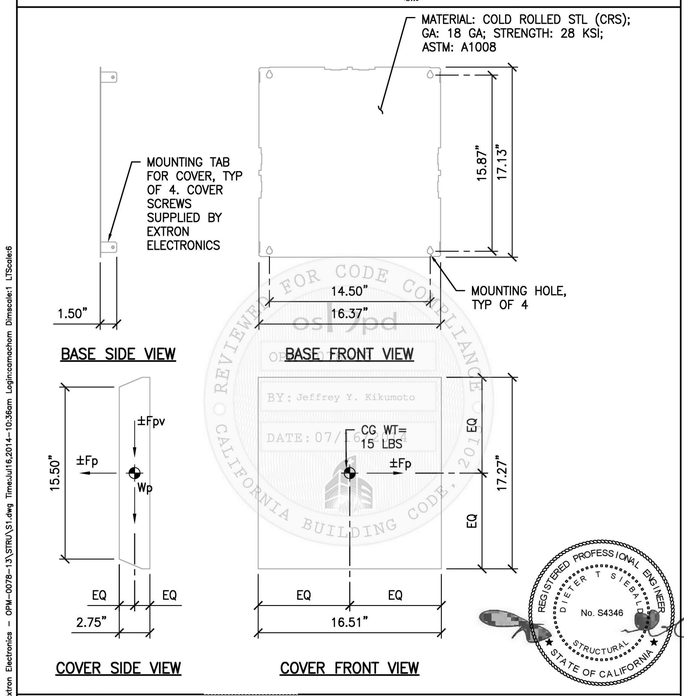
CYS STRUCTURAL ENGINEERS, INC.
2495 NATOMAS PARK DRIVE, SUITE 650
SACRAMENTO, CA 95833
TEL (916) 920-2020
www.cyseng.com

Job No: 13127
Date: 06-30-2014
Page:

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EXTRON ELECTRONICS
WMK 160 & PVM 220

Extron Electronics
INTERFACING, SWITCHING AND CONTROL



SHEET TITLE: WMK 160 ELEVATIONS

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Job No: 13127
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APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER AMANDA J. BROWN, CE No. E17287 ELECTRICAL STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

TECHNOLOGY DETAILS

Drawn By: Author
Checked By: Checker

Scale: NTS

Date: October 4, 2019

Project No. B17.07369

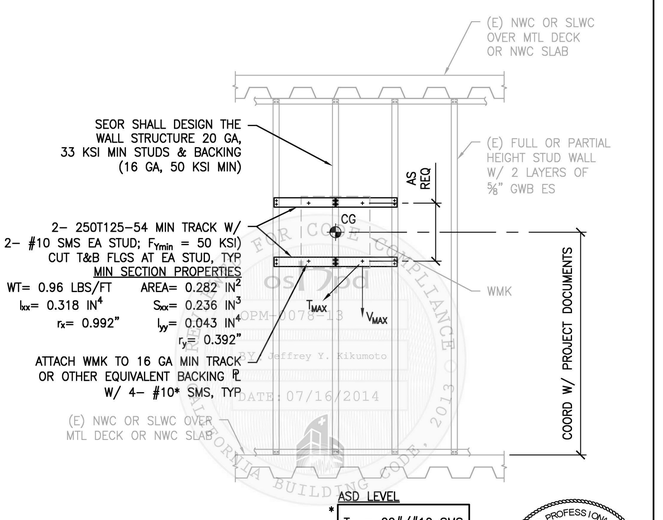
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Drawing No.

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EXTRON ELECTRONICS
WMK 160 & PVM 220

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NOTE:
AS AN ALTERNATE, THE WMK MAY BE ATTACHED DIRECTLY TO (E) WALL STUDS W/ 4– #10 SMS MIN IF THE UNIT ATTACHMENT HOLES ALIGN W/ THE ℄ OF THE STUD FLG, TYP

REGISTERED PROFESSIONAL ENGINEER DIETER T SIEBALT No. S4346 STRUCTURAL STATE OF CALIFORNIA

SHEET TITLE: WMK 160 STUD WALL ATTACHMENT

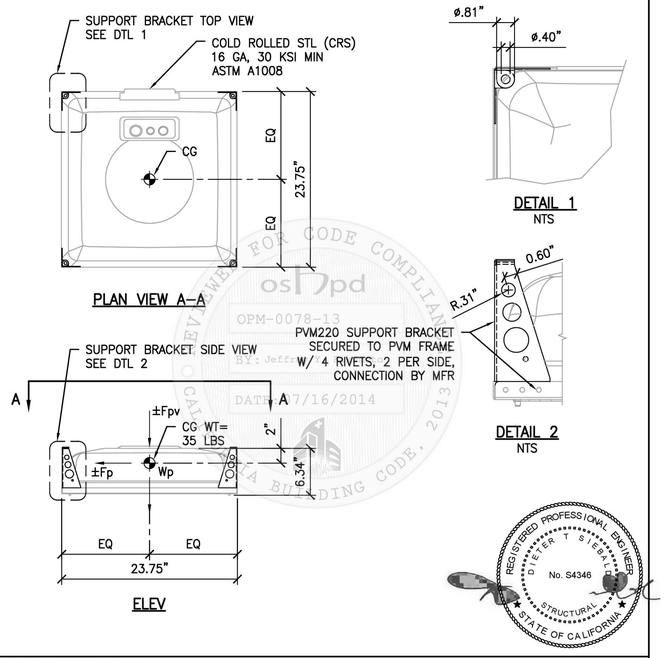
CYS STRUCTURAL ENGINEERS, INC.
2495 NATOMAS PARK DRIVE, SUITE 650
SACRAMENTO, CA 95833
TEL (916) 920-2020
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Job No: 13127
Date: 06-30-2014
Page:

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EXTRON ELECTRONICS
WMK 160 & PVM 220

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INTERFACING, SWITCHING AND CONTROL



REGISTERED PROFESSIONAL ENGINEER DIETER T SIEBALT No. S4346 STRUCTURAL STATE OF CALIFORNIA

SHEET TITLE: PVM 220 PLAN & ELEVATIONS

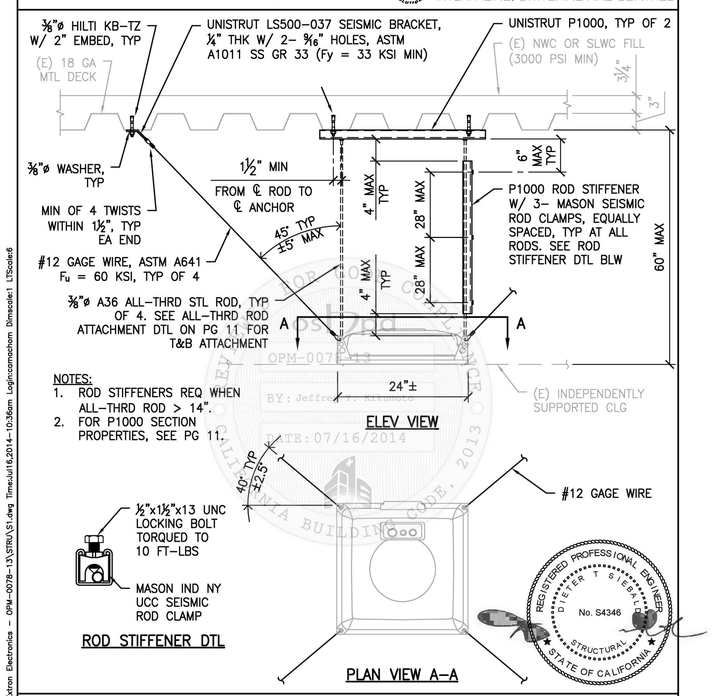
CYS STRUCTURAL ENGINEERS, INC.
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SACRAMENTO, CA 95833
TEL (916) 920-2020
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Job No: 13127
Date: 06-30-2014
Page:

L:\Jobs\13\13127 Extron Electronics – OPM–0078–13\STRU\S1.dwg Time:Jul/16,2014–10:35am Login:csmochom Dimscale:1 LTScale:6

EXTRON ELECTRONICS
WMK 160 & PVM 220

Extron Electronics
INTERFACING, SWITCHING AND CONTROL



NOTES:
1. ROD STIFFENERS REQ WHEN ALL–THRD ROD > 14".
2. FOR P1000 SECTION PROPERTIES, SEE PG 11.

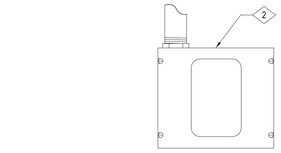
REGISTERED PROFESSIONAL ENGINEER DIETER T SIEBALT No. S4346 STRUCTURAL STATE OF CALIFORNIA

SHEET TITLE: PVM 220 - OPTION 1: UNDERSIDE OF METAL DECK SUPPORT & ATTACHMENT

CYS STRUCTURAL ENGINEERS, INC.
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Job No: 13127
Date: 06-30-2014
Page:

L:\Jobs\13\13127 Extron Electronics – OPM–0078–13\STRU\S1.dwg Time:Jul/16,2014–10:36am Login:csmochom Dimscale:1 LTScale:6



GENERAL NOTES:

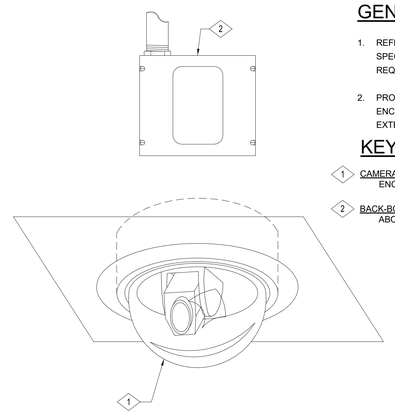
1. REFER TO SECURITY SCHEDULES AND WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
2. PROVIDE WEATHER PROOF/WATER RESISTANT ENCLOSURE WITH HEATER/BLOWER FOR ALL EXTERIOR CAMERAS.

KEYNOTES:

1 CAMERA: PROVIDE MINI-DOME TYPE CAMERA WITH ENCLOSURE.

2 BACK-BOX: CAMERA CABLE BACK-BOX MOUNTED FLUSH IN WALL.

4 FIXED WALL SURFACE MOUNT CCTV CAMERA — NO SCALE



GENERAL NOTES:

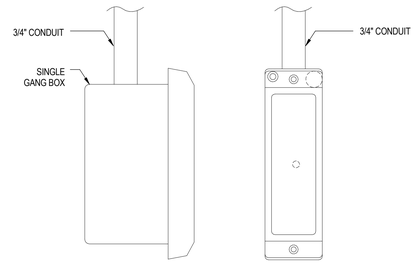
1. REFER TO SECURITY SCHEDULES AND WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
2. PROVIDE WEATHER PROOF/WATER RESISTANT ENCLOSURE WITH HEATER/BLOWER FOR ALL EXTERIOR CAMERAS.

KEYNOTES:

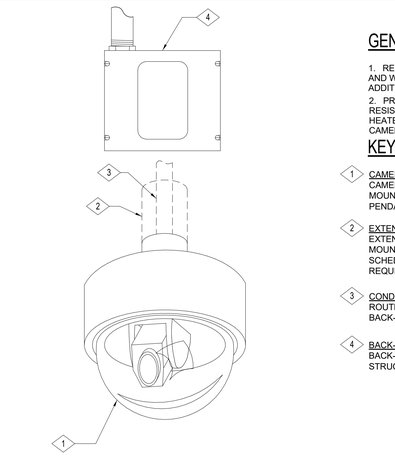
1 CAMERA: PROVIDE MINI-DOME TYPE CAMERA WITH ENCLOSURE.

2 BACK-BOX: CAMERA CABLE BACK-BOX MOUNTED ABOVE CEILING.

1 FIXED CEILING MOUNT CCTV CAMERA — NO SCALE



5 CARD READER DETAIL - MULLION — NO SCALE



GENERAL NOTES:

1. REFER TO SECURITY SCHEDULES AND WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
2. PROVIDE WEATHER PROOF/WATER RESISTANT ENCLOSURE WITH HEATER/BLOWER FOR ALL EXTERIOR CAMERAS.

KEYNOTES:

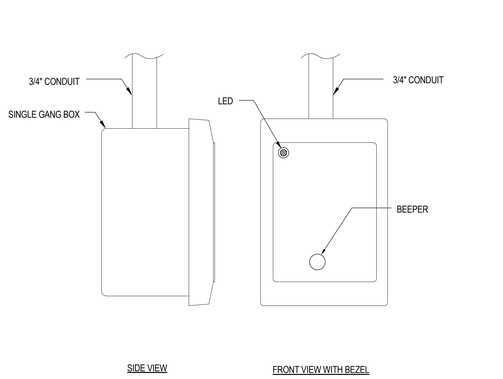
1 CAMERA: PROVIDE MINI-DOME TYPE CAMERA WITH ENCLOSURE SURFACE MOUNTED DIRECTLY TO BACK-BOX OR PENDANT MOUNTED FROM BACK-BOX.

2 EXTENSION: PROVIDE PENDANT MOUNT EXTENSION AS REQUIRED BASED ON CAMERA MOUNTING HEIGHT. REFER TO CAMERA SCHEDULES FOR MOUNTING HEIGHT REQUIREMENTS.

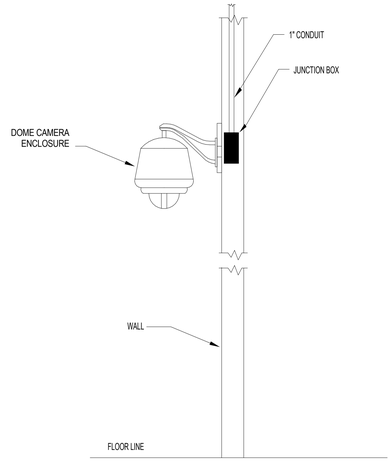
3 CONDUIT: PROVIDE (1) 1-INCH CONDUIT ROUTED FROM CAMERA TO DATA DEVICE BACK-BOX.

4 BACK-BOX: CAMERA CABLE BACK-BOX SURFACE MOUNTED TO STRUCTURE.

2 FIXED OVERHEAD MOUNT CCTV CAMERA — NO SCALE



6 CARD READER DETAIL — NO SCALE



3 WALL MOUNTED DOME CAMERA ENCLOSURE — NO SCALE

DETAILS ON THIS SHEET ARE GENERIC. PLEASE REFER TO OPM DETAILS FOR HANGER AND ANCHOR INFORMATION FOR ALL SUPPORTS AND CONNECTION INFORMATION NOT INDICATED

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY:	
KATHY GARCIA DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

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425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER
AMISHA J. BRONKLEE
No. E17287
ELECTRICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

SECURITY DETAILS

Drawn By: Author
Checked By: Checker

Scale:
NTS

Date:
October 4, 2019

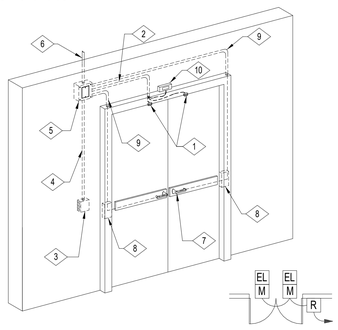
Project No. B17.07369

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Drawing No.

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GENERAL NOTES:

1. DOOR DETAIL INDICATES DOOR HANDLE OR CRASHBAR ON SECURED SIDE OF DOOR FOR REFERENCE ONLY. REFER TO DOOR HARDWARE DIVISION SPECIFICATIONS FOR ACTUAL HARDWARE INFORMATION.
2. LOCK POWER WILL VARY DEPENDING ON LOCK TYPE AND DOOR HARDWARE. REFER TO SECURITY SCHEDULES FOR COORDINATED POWER REQUIREMENTS. CONTRACTOR SHALL CROSS REFERENCE WITH OFFICIAL DOOR HARDWARE SCHEDULE/SPECIFICATIONS TO CONFIRM FINAL REQUIREMENTS.



CARD-IN WITH CONTACT, FREE EXIT, ELECTRIC LOCKS, PIR MOTION REX

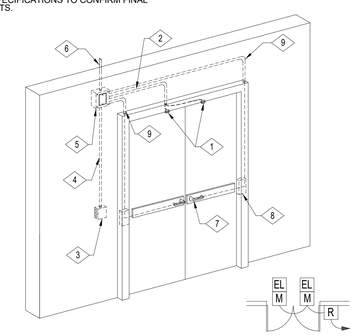
KEYNOTES:

1. DOOR MONITOR: PROVIDE FLUSH MOUNTED DOOR STATUS MONITOR.
2. DOOR MONITOR CONDUIT: PROVIDE 3/4"C. (19mm) FROM DOOR FRAME TO J-BOX.
3. READER/KEYPAD: PROVIDE 4"X4"X2-1/8" (1OOmmX100mmX 54mm) BACK-BOX AND SINGLE GANG MUD RING MOUNTED ON NON-SECURED SIDE OF DOOR AT 42" AFF.
4. READER/KEYPAD CONDUIT: PROVIDE 3/4"C. (19mm) TO J-BOX.
5. SECURITY J-BOX: PROVIDE 8"X8"X4" (200mmX200mmX100mm) J-BOX FLUSH MOUNTED ABOVE FINISHED ACCESSIBLE CEILING ON SECURED SIDE OF DOOR.
6. SECURITY J-BOX CONDUIT: PROVIDE 1"C. (25mm) TO NEAREST ACCESSIBLE CEILING, CABLE TRAY, OR COMM ROOM.
7. ELECTRIC LOCKSET: INTERNAL ELECTRIFIED LOCK, SHOWN FOR REFERENCE ONLY. (REFER TO DOOR HARDWARE DIVISION.)
8. ELECTRIFIED HINGE: HINGE WITH ISOLATED ELECTRICAL CONNECTIVITY, SHOWN FOR REFERENCE ONLY. (REFER TO DOOR HARDWARE DIVISION.)
9. LOCKING HARDWARE CONDUIT: PROVIDE 3/4"C. (19mm) FROM DOOR FRAME TO J-BOX. COORDINATE FRAME TIE-IN LOCATION WITH DOOR HARDWARE DIVISION.
10. PIR MOTION REX: PROVIDE MOTION REX DEVICE CENTERED AND MOUNTED TO TOP OF DOOR FRAME. ROUTE CABLING INTO DOOR FRAME AND UP TO J-BOX.

4 CARD ACCESS - DOUBLE DOOR TYPE 8 — NO SCALE

GENERAL NOTES:

1. DOOR DETAIL INDICATES DOOR HANDLE OR CRASHBAR ON SECURED SIDE OF DOOR FOR REFERENCE ONLY. REFER TO DOOR HARDWARE DIVISION SPECIFICATIONS FOR ACTUAL HARDWARE INFORMATION.
2. LOCK POWER WILL VARY DEPENDING ON LOCK TYPE AND DOOR HARDWARE. REFER TO SECURITY SCHEDULES FOR COORDINATED POWER REQUIREMENTS. CONTRACTOR SHALL CROSS REFERENCE WITH OFFICIAL DOOR HARDWARE SCHEDULE/SPECIFICATIONS TO CONFIRM FINAL REQUIREMENTS.



CARD-IN WITH CONTACTS, FREE EXIT, ELECTRIC LOCKS, INTEGRATED REX

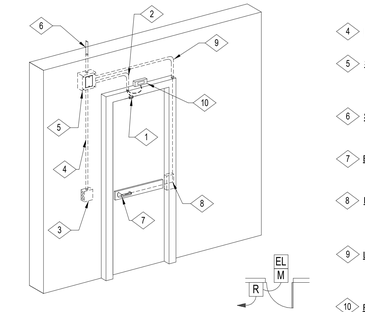
KEYNOTES:

1. DOOR MONITOR: PROVIDE FLUSH MOUNTED DOOR STATUS MONITOR.
2. DOOR MONITOR CONDUIT: PROVIDE 3/4"C. (19mm) FROM DOOR FRAME TO J-BOX.
3. READER/KEYPAD: PROVIDE 4"X4"X2-1/8" (1OOmmX100mmX 54mm) BACK-BOX AND SINGLE GANG MUD RING MOUNTED ON NON-SECURED SIDE OF DOOR AT 42" AFF.
4. READER/KEYPAD CONDUIT: PROVIDE 3/4"C. (19mm) TO J-BOX.
5. SECURITY J-BOX: PROVIDE 8"X8"X4" (200mmX200mmX100mm) J-BOX FLUSH MOUNTED ABOVE FINISHED ACCESSIBLE CEILING ON SECURED SIDE OF DOOR.
6. SECURITY J-BOX CONDUIT: PROVIDE 1"C. (25mm) TO NEAREST ACCESSIBLE CEILING, CABLE TRAY, OR COMM ROOM.
7. ELECTRIC LOCKSET: INTERNAL ELECTRIFIED LOCK, SHOWN FOR REFERENCE ONLY. (REFER TO DOOR HARDWARE DIVISION.)
8. ELECTRIFIED HINGE: HINGE WITH ISOLATED ELECTRICAL CONNECTIVITY, SHOWN FOR REFERENCE ONLY. (REFER TO DOOR HARDWARE DIVISION.)
9. LOCKING HARDWARE CONDUIT: PROVIDE 3/4"C. (19mm) FROM DOOR FRAME TO J-BOX. COORDINATE FRAME TIE-IN LOCATION WITH DOOR HARDWARE DIVISION.

1 CARD ACCESS - DOUBLE DOOR TYPE 5 — NO SCALE

GENERAL NOTES:

1. DOOR DETAIL INDICATES DOOR HANDLE OR CRASHBAR ON SECURED SIDE OF DOOR FOR REFERENCE ONLY. REFER TO DOOR HARDWARE DIVISION SPECIFICATIONS FOR ACTUAL HARDWARE INFORMATION.
2. LOCK POWER WILL VARY DEPENDING ON LOCK TYPE AND DOOR HARDWARE. REFER TO SECURITY SCHEDULES FOR COORDINATED POWER REQUIREMENTS. CONTRACTOR SHALL CROSS REFERENCE WITH OFFICIAL DOOR HARDWARE SCHEDULE/SPECIFICATIONS TO CONFIRM FINAL REQUIREMENTS.



CARD-IN WITH CONTACTS, FREE EXIT, ELECTRIC LOCK, PIR MOTION REX

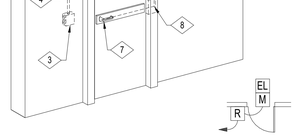
KEYNOTES:

1. DOOR MONITOR: PROVIDE FLUSH MOUNTED DOOR STATUS MONITOR.
2. DOOR MONITOR CONDUIT: PROVIDE 3/4"C. (19mm) FROM DOOR FRAME TO J-BOX.
3. READER/KEYPAD: PROVIDE 4"X4"X2-1/8" (1OOmmX100mmX 54mm) BACK-BOX AND SINGLE GANG MUD RING MOUNTED ON NON-SECURED SIDE OF DOOR AT 42" AFF.
4. READER/KEYPAD CONDUIT: PROVIDE 3/4"C. (19mm) TO J-BOX.
5. SECURITY J-BOX: PROVIDE 8"X8"X4" (200mmX200mmX100mm) J-BOX FLUSH MOUNTED ABOVE FINISHED ACCESSIBLE CEILING ON SECURED SIDE OF DOOR.
6. SECURITY J-BOX CONDUIT: PROVIDE 1"C. (25mm) TO NEAREST ACCESSIBLE CEILING, CABLE TRAY, OR COMM ROOM.
7. ELECTRIC LOCKSET: INTERNAL ELECTRIFIED LOCK, SHOWN FOR REFERENCE ONLY. (REFER TO DOOR HARDWARE DIVISION.)
8. ELECTRIFIED HINGE: HINGE WITH ISOLATED ELECTRICAL CONNECTIVITY, SHOWN FOR REFERENCE ONLY. (REFER TO DOOR HARDWARE DIVISION.)
9. LOCKING HARDWARE CONDUIT: PROVIDE 3/4"C. (19mm) FROM DOOR FRAME TO J-BOX. COORDINATE FRAME TIE-IN LOCATION WITH DOOR HARDWARE DIVISION.
10. PIR MOTION REX: PROVIDE MOTION REX DEVICE CENTERED AND MOUNTED TO TOP OF DOOR FRAME. ROUTE CABLING INTO DOOR FRAME AND UP TO J-BOX.

5 CARD ACCESS - SINGLE DOOR TYPE 6 — NO SCALE

GENERAL NOTES:

1. DOOR DETAIL INDICATES DOOR HANDLE OR CRASHBAR ON SECURED SIDE OF DOOR FOR REFERENCE ONLY. REFER TO DOOR HARDWARE DIVISION SPECIFICATIONS FOR ACTUAL HARDWARE INFORMATION.
2. LOCK POWER WILL VARY DEPENDING ON LOCK TYPE AND DOOR HARDWARE. REFER TO SECURITY SCHEDULES FOR COORDINATED POWER REQUIREMENTS. CONTRACTOR SHALL CROSS REFERENCE WITH OFFICIAL DOOR HARDWARE SCHEDULE/SPECIFICATIONS TO CONFIRM FINAL REQUIREMENTS.



CARD-IN WITH CONTACT, FREE EXIT, ELECTRIC LOCKSET, INTEGRATED REX

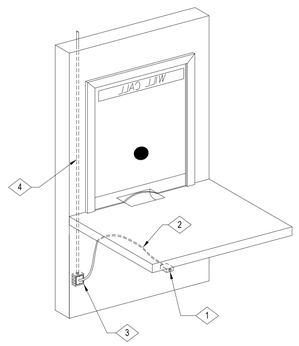
KEYNOTES:

1. DOOR MONITOR: PROVIDE FLUSH MOUNTED DOOR STATUS MONITOR.
2. DOOR MONITOR CONDUIT: PROVIDE 3/4"C. (19mm) FROM DOOR FRAME TO J-BOX.
3. READER/KEYPAD: PROVIDE 4"X4"X2-1/8" (1OOmmX100mmX 54mm) BACK-BOX AND SINGLE GANG MUD RING MOUNTED ON NON-SECURED SIDE OF DOOR AT 42" AFF.
4. READER/KEYPAD CONDUIT: PROVIDE 3/4"C. (19mm) TO J-BOX.
5. SECURITY J-BOX: PROVIDE 8"X8"X4" (200mmX200mmX100mm) J-BOX FLUSH MOUNTED ABOVE FINISHED ACCESSIBLE CEILING ON SECURED SIDE OF DOOR.
6. SECURITY J-BOX CONDUIT: PROVIDE 1"C. (25mm) TO NEAREST ACCESSIBLE CEILING, CABLE TRAY, OR COMM ROOM.
7. ELECTRIC LOCKSET: INTERNAL ELECTRIFIED LOCK WITH INTEGRATED REX SWITCH, SHOWN FOR REFERENCE ONLY. (REFER TO DOOR HARDWARE DIVISION.)
8. ELECTRIFIED HINGE: HINGE WITH ISOLATED ELECTRICAL CONNECTIVITY, SHOWN FOR REFERENCE ONLY. (REFER TO DOOR HARDWARE DIVISION.)
9. LOCKING HARDWARE CONDUIT: PROVIDE 3/4"C. (19mm) FROM DOOR FRAME TO J-BOX. COORDINATE FRAME TIE-IN LOCATION WITH DOOR HARDWARE DIVISION.

2 CARD ACCESS - SINGLE DOOR TYPE 3 — NO SCALE

GENERAL NOTES:

1. MILLWORK IS SHOWN HERE FOR REFERENCE ONLY. CONTRACTOR SHALL REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION AND TO COORDINATE FINAL DEVICE PLACEMENT PRIOR TO INSTALLATION.



KEYNOTES:

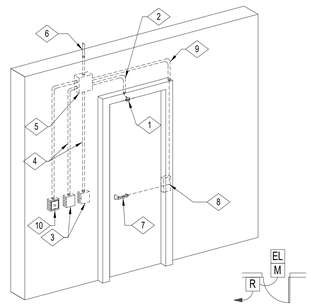
1. DURESS BUTTON: PROVIDE SURFACE MOUNTED DURESS BUTTON UNDER FRONT EDGE OF COUNTER.
2. FLEXIBLE CONDUIT WHIP: PROVIDE 3/4" FLEXIBLE WHIP FROM DURESS BUTTON TO J-BOX LOCATED BELOW COUNTER.
3. DURESS BUTTON J-BOX: PROVIDE 4"X4"X2-1/8" (1OOmmX100mmX 54mm) BACK-BOX AND SINGLE GANG FACE PLATE FLUSH MOUNTED IN WALL BELOW COUNTER AT 24" AFF.
4. DURESS BUTTON CONDUIT: PROVIDE 3/4"C. (19mm) FROM J-BOX TO NEAREST ACCESSIBLE CEILING, CABLE TRAY, OR COMM ROOM.

DETAILS ON THIS SHEET ARE GENERIC. PLEASE REFER TO OPM DETAILS FOR HANGER AND ANCHOR INFORMATION FOR ALL SUPPORTS AND CONNECTION INFORMATION NOT INDICATED

6 DURESS BUTTON - UNDER COUNTER — NO SCALE

GENERAL NOTES:

1. DOOR DETAIL INDICATES DOOR HANDLE OR CRASHBAR ON SECURED SIDE OF DOOR FOR REFERENCE ONLY. REFER TO DOOR HARDWARE DIVISION SPECIFICATIONS FOR ACTUAL HARDWARE INFORMATION.
2. LOCK POWER WILL VARY DEPENDING ON LOCK TYPE AND DOOR HARDWARE. REFER TO SECURITY SCHEDULES FOR COORDINATED POWER REQUIREMENTS. CONTRACTOR SHALL CROSS REFERENCE WITH OFFICIAL DOOR HARDWARE SCHEDULE/SPECIFICATIONS TO CONFIRM FINAL REQUIREMENTS.



CARD-IN WITH CONTACT, CARD-OUT, ELECTRIC LOCK, EMERGENCY EGRESS BUTTON

KEYNOTES:

1. DOOR MONITOR: PROVIDE FLUSH MOUNTED DOOR STATUS MONITOR.
2. DOOR MONITOR CONDUIT: PROVIDE 3/4"C. (19mm) FROM DOOR FRAME TO J-BOX.
3. READER/KEYPAD: PROVIDE 4"X4"X2-1/8" (1OOmmX100mmX 54mm) BACK-BOX AND SINGLE GANG MUD RING MOUNTED ON NON-SECURED SIDE OF DOOR AT 42" AFF.
4. READER/KEYPAD CONDUIT: PROVIDE 3/4"C. (19mm) TO J-BOX.
5. SECURITY J-BOX: PROVIDE 8"X8"X4" (200mmX200mmX100mm) J-BOX MOUNTED ABOVE FINISHED ACCESSIBLE CEILING ON SECURED SIDE OF DOOR.
6. SECURITY J-BOX CONDUIT: PROVIDE 1"C. (25mm) TO NEAREST ACCESSIBLE CEILING, CABLE TRAY, OR COMM ROOM.
7. ELECTRIC LOCKSET: INTERNAL ELECTRIFIED LOCK, SHOWN FOR REFERENCE ONLY. (REFER TO DOOR HARDWARE DIVISION.)
8. ELECTRIFIED HINGE: HINGE WITH ISOLATED ELECTRICAL CONNECTIVITY, SHOWN FOR REFERENCE ONLY. (REFER TO DOOR HARDWARE DIVISION.)
9. LOCKING HARDWARE CONDUIT: PROVIDE 3/4"C. (19mm) FROM DOOR FRAME TO J-BOX. COORDINATE FRAME TIE-IN LOCATION WITH DOOR HARDWARE DIVISION.
10. DOOR RELEASE BUTTON REX: PROVIDE 4"X4"X2-1/8" (1OOMMX100MMX 54MM) BACK-BOX, SINGLE GANG FACE PLATE, AND PUSH BUTTON, MOUNTED ON SECURED SIDE OF DOOR AT 42" AFF. ADDITIONALLY, PROVIDE 3/4"C. (19MM) TO SECURITY J-BOX.

3 CARD ACCESS - DOUBLE DOOR TYPE 20 — NO SCALE

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY:	
KATHY GARCIA DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER
AMISHA J. BROWNLEE
No. E17387
ELECTRICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

SECURITY DETAILS

Drawn By: Author — Checked By: Checker

Scale: **NTS**

Date: **October 4, 2019**

Project No. B17.07369

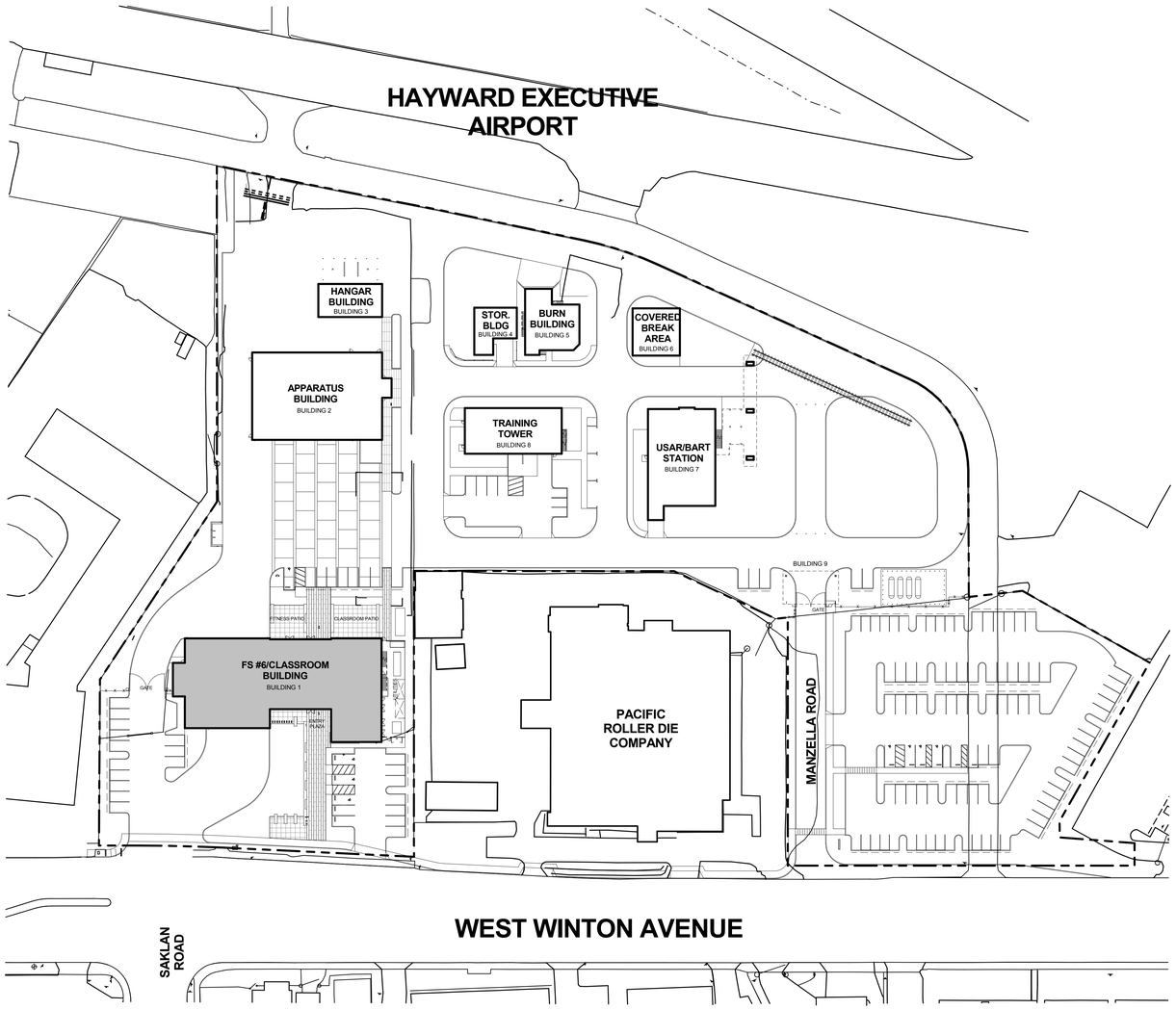
0-T7.06
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HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

BUILDING 1

PERMIT SUBMITTAL - INCREMENT #1



1 SITE LOCATION PLAN
1" = 50'-0"

SHEET INDEX - INCREMENT #1

NUMBER	NAME
ARCHITECTURAL	
1-A0.10	BUILDING 1 SHEET INDEX, PROJECT INFORMATION & SCOPE
1-A0.11	BILDING 1 ACCESSIBILITY STANDARDS
1-A0.12	BUILDING 1 EXTERIOR AXONOMETRIC VIEW
1-A0.13	BUILDING 1 DESIGN ILLUSTRATION
1-A0.14	BUILDING 1 ACOUSTICAL SEPARATION DIAGRAM
1-A0.21	BUILDING 1 EGRESS PLAN - FIRST LEVEL
1-A0.22	BUILDING 1 EGRESS PLAN - SECOND LEVEL
1-A0.23	BUILDING 1 CODE ANALYSIS
1-A0.24	BUILDING 1 CODE ANALYSIS
1-A0.30	BUILDING 1 ENVELOPE TITLE-24 ENERGY COMPLIANCE
1-A0.31	BUILDING 1 ENVELOPE TITLE-24 ENERGY COMPLIANCE
1-A0.41	BUILDING 1 PLUMBING FIXTURE ANALYSIS
1-A2.10	BUILDING 1 FIRST LEVEL FLOOR PLAN
1-A2.11	BUILDING 1 FIRST LEVEL SLAB EDGE PLAN
1-A2.12	BUILDING 1 ENLARGED SCALE FIRST LEVEL FLOOR PLAN - WEST HALF
1-A2.13	BUILDING 1 ENLARGED SCALE FIRST LEVEL FLOOR FINISH PLAN - EAST HALF
1-A2.14	BUILDING 1 ENLARGED SCALE UTILITY YARD FLOOR PLAN
1-A2.20	BUILDING 1 SECOND LEVEL FLOOR PLAN
1-A2.21	BUILDING 1 SECOND LEVEL SLAB EDGE PLAN
1-A2.22	BUILDING 1 ENLARGED SCALE SECOND LEVEL FLOOR PLAN - WEST HALF
1-A2.23	BUILDING 1 ENLARGED SCALE SECOND LEVEL FLOOR PLAN - EAST HALF
1-A2.30	BUILDING 1 CLERESTORY PLAN
1-A2.60	BUILDING 1 ROOF PLAN
1-A2.70	BUILDING 1 FINISH DOOR & EQUIPMENT SCHEDULES
1-A2.71	BUILDING 1 WINDOW SCHEDULE
1-A2.72	BUILDING 1 WINDOW SCHEDULE
1-A2.80	BUILDING 1 ENLARGED SCALE FIRST LEVEL FLOOR FINISH PLAN - WEST HALF
1-A2.81	BUILDING 1 ENLARGED SCALE FIRST LEVEL FLOOR FINISH PLAN - EAST HALF
1-A2.82	BUILDING 1 ENLARGED SCALE SECOND LEVEL FLOOR FINISH PLAN - WEST HALF
1-A2.83	BUILDING 1 ENLARGED SCALE SECOND LEVEL FLOOR FINISH PLAN - EAST HALF
1-A3.10	BUILDING 1 EXTERIOR ELEVATIONS
1-A3.11	BUILDING 1 EXTERIOR ELEVATIONS
1-A3.40	BUILDING 1 BUILDING CROSS SECTIONS
1-A3.41	BUILDING 1 BUILDING CROSS SECTIONS
1-A3.50	BUILDING 1 WALL SECTIONS
1-A3.51	BUILDING 1 WALL SECTIONS
1-A3.52	BUILDING 1 WALL SECTIONS
1-A3.53	BUILDING 1 WALL SECTIONS
1-A3.54	BUILDING 1 WALL SECTIONS
1-A3.55	BUILDING 1 WALL SECTIONS
1-A5.10	BUILDING 1 ENLARGED RESTROOM PLANS & INTERIOR ELEVATIONS
1-A5.11	BUILDING 1 ENLARGED RESTROOM PLANS & INTERIOR ELEVATIONS
1-A5.12	BUILDING 1 INTERIOR ELEVATIONS
1-A5.13	BUILDING 1 INTERIOR ELEVATIONS
1-A5.14	BUILDING 1 INTERIOR ELEVATIONS
1-A5.15	BUILDING 1 INTERIOR ELEVATIONS
1-A5.16	BUILDING 1 INTERIOR ELEVATIONS
1-A5.17	BUILDING 1 INTERIOR ELEVATIONS
1-A5.18	ENLARGED RECEPTION DESK & INTERIOR ELELVATIONS
1-A6.10	BUILDING 1 FIRST FLOOR REFLECTED CEILING PLAN
1-A6.20	BUILDING 1 SECOND FLOOR REFLECTED CEILING PLAN
1-A7.10	BUILDING 1 STAIR SECTIONS & DETAILS
1-A7.11	BUILDING 1 STAIR SECTIONS & DETAILS
1-A7.12	BUILDING 1 STAIR DETAILS
1-A8.00	BUILDING 1 WALL TYPES
1-A8.01	BUILDING 1 EXTERIOR FENCE DETEAILS
1-A8.02	BUILDING 1 EXTERIOR DETAILS
1-A8.03	BUILDING 1 EXTERIOR DETAILS
1-A8.04	BUILDING 1 EXTERIOR DETAILS
1-A8.05	BUILDING 1 EXTERIOR DETAILS
1-A8.06	BUILDING 1 EXTERIOR DETAILS
1-A8.07	BUILDING 1 EXTERIOR DETAILS
1-A8.10	BUILDING 1 EXTERIOR WINDOW DETAIL
1-A8.11	BUILDING 1 EXTERIOR WINDOW DETAIL
1-A8.15	BUILDING 1 ROOF DETAILS
1-A8.16	BUILDING 1 ROOF DETAILS
1-A8.17	BUILDING 1 ROOF DETAILS
1-A8.19	BUILDING 1 APPARATUS BAY DOOR DETAILS
1-A9.01	BUILDING 1 INTERIOR DETAILS
1-A9.02	BUILDING 1 INTERIOR DETAILS
1-A9.03	BUILDING 1 CEILING DETAILS
1-A9.04	BUILDING 1 CEILING DETAILS
1-A9.05	BUILDING 1 CEILING DETAILS
1-A9.06	BUILDING 1 FIRE-RATED WALL TERMINATION DETAILS
1-A9.09	BUILDING 1 CASEWORK DETAILS
1-A9.10	BUILDING 1 CASEWORK DETAILS
1-A9.11	BUILDING 1 CASEWORK DETAILS
1-A9.12	BUILDING 1 CASEWORK DETAILS
STRUCTURAL	
1-S0.10	BUILDING 1 GENERAL NOTES AND SPECIFICATIONS
1-S0.11	BUILDING 1 GENERAL NOTES AND KEY PLANS
1-S1.10	BUILDING 1 TYPICAL CONCRETE DETAILS
1-S1.11	BUILDING 1 TYPICAL CONCRETE WALL DETAILS
1-S1.20	BUILDING 1 STEEL FRAMING DETAILS
1-S1.21	BUILDING 1 STEEL FRAMING DETAILS
1-S1.30	BUILDING 1 TYPICAL METAL STUD ELEVATION AND CONNECTION DETAILS
1-S1.31	BUILDING 1 TYPICAL METAL STUD SOFFIT & MISCELLANEOUS DETAILS
1-S1.50	BUILDING 1 TYPICAL METAL DECKING DETAILS
1-S1.51	BUILDING 1 TYPICAL METAL DECKING DETAILS
1-S1.60	BUILDING 1 ELEVATOR ELEVATION AND DETAILS
1-S2.10	BUILDING 1 FOUNDATION PLAN
1-S2.20	BUILDING 1 SECOND FLOOR PLAN
1-S2.30	BUILDING 1 ROOF PLAN
1-S3.10	BUILDING 1 ELEVATIONS
1-S3.20	BUILDING 1 SECTIONS
1-S3.21	BUILDING 1 SECTIONS
1-S3.22	BUILDING 1 SECTIONS
1-S4.10	BUILDING 1 FOUNDATION AND PODIUM DETAILS
1-S4.11	BUILDING 1 FOUNDATION DETAILS
1-S4.12	BUILDING 1 CONCRETE WALL DETAILS
1-S4.20	BUILDING 1 SECOND FLOOR DETAILS
1-S4.21	BUILDING 1 SECOND FLOOR DETAILS
1-S4.30	BUILDING 1 ROOF DETAILS
1-S4.31	BUILDING 1 ROOF DETAILS
1-S5.10	BUILDING 1 CANOPIES AND STAIR
1-S7.10	BUILDING 1 STAIR PLAN AND STAIR ELEVATION
1-S7.20	BUILDING 1 STAIR DETAILS
PLUMBING	
1-P0.01	BUILDING 1 PLUMBING LEGEND AND ABBREVIATION, DRAWING LIST
1-P0.02	BUILDING 1 PLUMBING EQUIPMENT SCHEDULE
1-P0.03	BUILDING 1 PLUMBING TITLE 24
1-P2.00	BUILDING 1 PLUMBING FS#6- CLASSROOM UNDERSLAB PLAN
1-P2.01	BUILDING 1 PLUMBING FS#6 - CLASSROOM FIRST FLOOR PLAN
1-P2.02	BUILDING 1 PLUMBING FS#6 - CLASSROOM SECOND FLOOR PLAN
1-P2.03	BUILDING 1 PLUMBING FS#6 - CLASSROOM ROOF PLAN
1-P3.01	BUILDING 1 PLUMBING FS#6- CLASSROOM ENLARGED PLAN
1-P3.02	BUILDING 1 PLUMBING SITE ENLARGED PLAN- TANK & PUMP
1-P4.02	BUILDING 1 GAS RISER DIAGRAM
1-P5.01	BUILDING 1 PLUMBING DETAILS
1-P5.02	BUILDING 1 PLUMBING DETAILS
FIRE PROTECTION	
1-FP2.10	BUILDING 1 FIRST LEVEL PIPING PLAN - FIRE PROTECTION
1-FP2.20	BUILDING 1 SECOND LEVEL PIPING PLAN - FIRE PROTECTION
1-FP2.30	BUILDING 1 FIRST LEVEL PIPING PLAN - FIRE PROTECTION
1-FP3.10	BUILDING 1 FIRST LEVEL CEILING PLAN - FIRE PROTECTION
1-FP3.20	BUILDING 1 SECOND LEVEL CEILING PLAN - FIRE PROTECTION
1-FP4.10	BUILDING 1 SECTIONS - FIRE PROTECTION
1-FP4.20	BUILDING 1 LONGITUDINAL SECTION - FIRE PROTECTION
1-FP6.10	BUILDING 1 DETAILS - FIRE PROTECTION
1-FP6.20	BUILDING 1 DETAILS - FIRE PROTECTION
1-FP6.30	BUILDING 1 SEISMIC BRACING CALCULATIONS
MECHANICAL	
1-M0.01	BUILDING 1 MECHANICAL LEGEND, ABBREVIATIONS AND DRAWING LIST
1-M0.02	BUILDING 1 MECHANICAL SCHEDULES
1-M0.03	BUILDING 1 MECHANICAL SCHEDULES
1-M0.04	BUILDING 1 MECHANICAL TITLE 24
1-M0.05	BUILDING 1 MECHANICAL TITLE 24
1-M0.06	BUILDING 1 MECHANICAL TITLE 24
1-M2.01	BUILDING 1 MECHANICAL FS#6-CLASSROOM FIRST FLOOR PLAN
1-M2.02	BUILDING 1 MECHANICAL FS#6-CLASSROOM SECOND FLOOR PLAN
1-M2.03	BUILDING 1 MECHANICAL FS#6-CLASSROOM ROOF PLAN
1-M3.01	BUILDING 1 MECHANICAL ENLARGED PLANS AND SECTIONS
1-M3.02	BUILDING 1 MECHANICAL ENLARGED PLANS
1-M4.01	BUILDING 1 MECHANICAL AIR RISER DIAGRAM
1-M4.02	BUILDING 1 MECHANICAL WATER RISER DIAGRAM
1-M4.03	BUILDING 1 MECHANICAL VRF DIAGRAM
1-M5.01	BUILDING 1 MECHANICAL DETAILS
1-M5.02	BUILDING 1 MECHANICAL DETAILS
1-M5.03	BUILDING 1 MECHANICAL DETAILS
1-M5.04	BUILDING 1 MECHANICAL DETAILS
1-M5.05	BUILDING 1 MECHANICAL DETAILS
ELECTRICAL	
1-E0.01	BUILDING 1 ELECTRICAL LEGEND, ABBREVIATIONS AND DRAWING LIST
1-E0.02	BUILDING 1 ELECTRICAL SCHEDULES
1-E0.03	BUILDING 1 ELECTRICAL SCHEDULES
1-E0.04	BUILDING 1 ELECTRICAL SCHEDULES
1-E0.10	BUILDING 1 ELECTRICAL LIGHT FIXTURE SCHEDULE
1-E0.11	BUILDING 1 ELECTRICAL LIGHT FIXTURE SCHEDULE
1-E0.12	BUILDING 1 ELECTRICAL LIGHT FIXTURE SCHEDULE
1-E0.13	BUILDING 1 ELECTRICAL LIGHT FIXTURE SCHEDULE
1-E0.14	BUILDING 1 ELECTRICAL LIGHT FIXTURE SCHEDULE
1-E0.20	BUILDING 1 ELECTRICAL TITLE 24
1-E0.21	BUILDING 1 ELECTRICAL TITLE 24
1-E0.22	BUILDING 1 ELECTRICAL TITLE 24
1-E0.23	BUILDING 1 ELECTRICAL TITLE 24
1-E0.24	BUILDING 1 ELECTRICAL TITLE 24
1-E0.25	BUILDING 1 ELECTRICAL TITLE 24
1-E2.01	BUILDING 1 ELECTRICAL FS#6-CLASSROOM FIRST FLOOR PLAN
1-E2.02	BUILDING 1 ELECTRICAL FS#6-CLASSROOM SECOND FLOOR PLAN
1-E2.03	BUILDING 1 ELECTRICAL FS#6-CLASSROOM ROOF PLAN
1-E4.01	BUILDING 1 ELECTRICAL ENLARGED PLAN
1-E5.01	BUILDING 1 ELECTRICAL SINGLE LINE DIAGRAM
1-E5.02	BUILDING 1 ELECTRICAL GROUNDING DIAGRAM
1-E5.03	BUILDING 1 ELECTRICAL LIGHTING CONTROL SINGLE LINE DIAGRAM
1-E6.01	BUILDING 1 ELECTRICAL DETAILS
1-E6.02	BUILDING 1 ELECTRICAL DETAILS
1-E6.03	BUILDING 1 ELECTRICAL DETAILS
1-E6.04	BUILDING 1 ELECTRICAL DETAILS
1-E6.05	BUILDING 1 ELECTRICAL DETAILS
1-E6.06	BUILDING 1 ELECTRICAL DETAILS
1-E6.07	BUILDING 1 ELECTRICAL DETAILS
FIRE ALARM	
1-FA0.00	FIRE ALARM COVER SHEET
1-FA1.00	FIRE ALARM SITE PLAN
1-FA1.01	BUILDING 1 FIRST FLOOR FIRE ALARM PLAN
1-FA1.02	BUILDING 1 SECOND FLOOR FIRE ALARM PLAN
1-FA2.01	FIRE ALARM RISER DIAGRAM
1-FA3.01	FIRE ALARM CALCULATIONS
1-FA4.01	FIRE ALARM FACU AND ANNUNCIATOR DETAILS
1-FA4.02	FIRE ALARM FIELD DEVICE WIRING DETAILS
1-FA4.03	FIRE ALARM FIELD DEVICE WIRING DETAILS
TECHNOLOGY	
1-T0.01	BUILDING 1 TECHNOLOGY LEGEND, ABBREVIATIONS AND DRAWING LIST
1-T2.01	BUILDING 1 TECHNOLOGY FS#6-CLASSROOM FIRST FLOOR PLAN
1-T2.02	BUILDING 1 TECHNOLOGY FS#6-CLASSROOM SECOND FLOOR PLAN
1-T2.03	BUILDING 1 TECHNOLOGY FS#6-CLASSROOM ROOF PLAN
1-T4.01	BUILDING 1 TECHNOLOGY ENLARGED BDF PLAN
1-T4.02	BUILDING 1 TECHNOLOGY ENLARGED IDF PLAN
1-T5.01	BUILDING 1 TECHNOLOGY FUNCTIONAL DIAGRAMS
1-T7.01	BUILDING 1 TECHNOLOGY DETAILS
1-T7.02	BUILDING 1 TECHNOLOGY DETAILS
1-T7.03	BUILDING 1 TECHNOLOGY DETAILS
1-T7.04	BUILDING 1 TECHNOLOGY DETAILS
1-T7.05	BUILDING 1 TECHNOLOGY DETAILS
1-T7.06	BUILDING 1 SECURITY DETAILS
1-T7.07	BUILDING 1 SECURITY DETAILS

PROJECT INFORMATION

APN:	432-124-1-4 (PORTION)
PROJECT:	HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER BUILDING 1 1401 WEST WINTON AVENUE, HAYWARD, CA 94545
DESCRIPTION:	FIRE STATION, CLASSROOMS, ADMINISTRATIVE OFFICES, & EMERGENCY OPERATIONS CENTER (BUILDING 1)
BUILDING AREAS:	39,156 SF SITE COVERAGE 66,278 SF GROSS FLOOR AREA
TOTAL BUILDING AREA FOR THIS PERMIT:	20,678 SF (1ST FLOOR - 12,604 SF , 2ND FLOOR - 8,074 SF)
SITE:	293,364 SF (6.73 ACRES) SITE DEVELOPMENT AREA 13% LOT COVERAGE (TOTAL DEVELOPMENT)
BUILDING FLOOR AREA RATIO:	23% (TOTAL DEVELOPMENT)
FIRE SPRINKLERED:	YES (BUILDING 1)
BUILDING USE/OCCUPANCY:	A-3 (ASSEMBLY), B (OFFICE), R-2 (RESIDENTIAL), S-2 (STORAGE)
CONSTRUCTION TYPE:	II-B
ZONING:	AT/AC
TOTAL BUILDING STORIES:	2
DEFERRED SUBMITTALS:	STOREFRONTS and CURTAIN WALLS ELEVATOR GUIDE RAILS AND SUPPORT BRACKET ANCHORAGE GLAZED APPARATUS BAY DOORS & SUPPORT FRAME (DOOR TYPE "F") HORIZONTAL BI-FOLDING APPARATUS BAY DOORS (DOOR TYPE "G") FABRICATION AND INSTALLATION OF DEFERRED SUBMITTAL ITEMS SHALL NOT BE STARTED UNTIL CONTRACTOR'S DRAWINGS, SPECIFICATIONS, AND ENGINEERING CALCULATIONS FOR THE ACTUAL SYSTEMS TO BE INSTALLED HAVE BEEN ACCEPTED AND SIGNED BY THE ARCHITECT OR STRUCTURAL ENGINEER AND APPROVED BY THE DSA.

BUILDING 1 SCOPE OF WORK

The general scope of work covered under this contract includes but is not limited to:

Structure
- New concrete slab, cast-in-place concrete walls, and structual steel framing.
- New interior cast-in-place structural concrete walls and non-bearing light gauge metal stud walls.
- New Second Level exterior patios with traffic membrane.
- New standing seam metal and membrane roofs.
- New Lobby with multiple occupancy restrooms, all-gender single occupancy restoom, Break Area, and elevator with equipment room.
- New Classrooms for fire fighter and student use - no turn outs allowed.
- New Exercise Room for fire fighter use.
- New building support rooms including janitor closet, storage, mechanical, electrical, and communications.
- New 3.5-bay Apparatus Bay for the parking of active fire apparatus with accessory shop, extractor, and Cascade air tank areas.
- New fire station with Day Room, Kitchen, Office, Locker Rooms, restrooms with showers, and Dormitory.
- New administrative office areas.
- Required signage.

Plumbing
- New multiple occupancy restroom fixtures, single occupancy restrooms, shower fixtures, and water cooler.
- New Break Area fixtures.
- New extractors and service sink in Shop.
- New Kitchen in fire station with sinks, dishwashers, and natural gas range/oven.
- Roof drains/overflows with interior drain lines.
- Domestic water and compressed air piping in Apparatus Bay.

Mechanical
- New HVAC system.
- New vehicle exhaust and air circulation systems in Apparatus Bay.
- Range hood.

Electrical
- New power, voice, data and lighting systems.
- New roof-mounted photovoltaic system, including inverters. (Reviewed and approved under DSA Increment #2)
- New audio visual equipment and connections.

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY:	
KATHY GARCIA DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3- INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
12/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 1
SHEET INDEX, PROJECT INFORMATION & SCOPE

Drawn By: EW Checked By: EW

Scale:
As indicated

Date:
October 4, 2019

Project No. 2016039

1-A0.10
Drawing No.

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APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC: 01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION	
DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3-INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
9/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 1 ACCESSIBLITY STANDARDS

Drawn By: EW Checked By: EW

Scale: 1/4" = 1'-0"

Date: October 4, 2019

Project No. 2016039

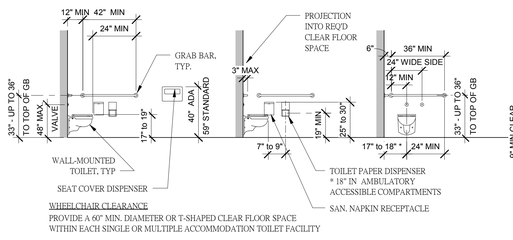
1-A0.11
Drawing No.

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MOUNTING HEIGHTS AND CLEARANCES

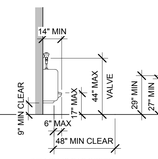
NOTES: 1. DIMENSIONS FROM FLOOR ARE MEASURED FROM FLOOR FINISH

WATER CLOSETS IN WHEELCHAIR-ACCESSIBLE LOCATIONS



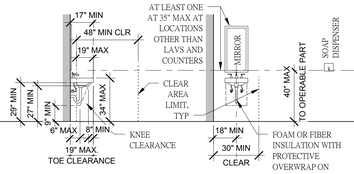
WHEELCHAIR CLEARANCE
PROVIDE A 60" MIN. DIAMETER OR T-SHAPED CLEAR FLOOR SPACE WITHIN EACH SINGLE OR MULTIPLE ACCOMMODATION TOILET FACILITY

URINALS



30" MIN CLEAR WIDTH

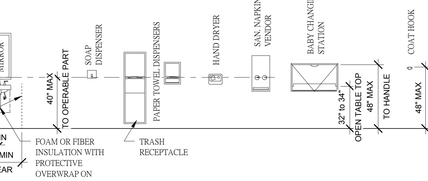
LAVATORIES



IF WHEELCHAIR TURNING AREA EXTENDS UNDER LAVATORY, THEN 8" MAX ENCROACHMENT UNDER LAVATORY UP TO 27" ABOVE THE FLOOR IS ALLOWED

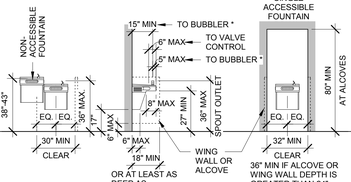
FOAM OR FIBER INSULATION WITH PROTECTIVE OVERWRAP ON DRAIN, HOT WATER SUPPLY AND SHARP OBJECTS WHERE EXPOSED TO USER CONTACT

TOILET ROOM ACCESSORIES

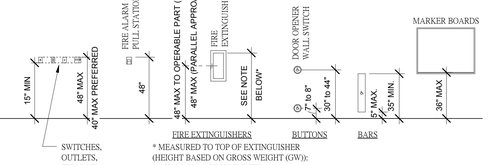


TRASH RECEPTACLE

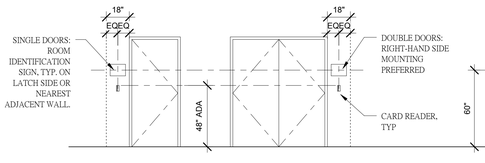
DRINKING FOUNTAINS



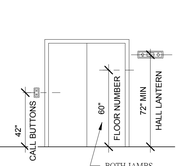
CONTROLS, OUTLETS, VISUAL & AUDIBLE ALARMS, FECs, . . .



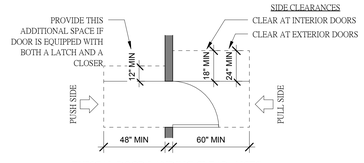
MOUNTING HEIGHTS AT DOORS*



ELEVATOR ENTRANCES



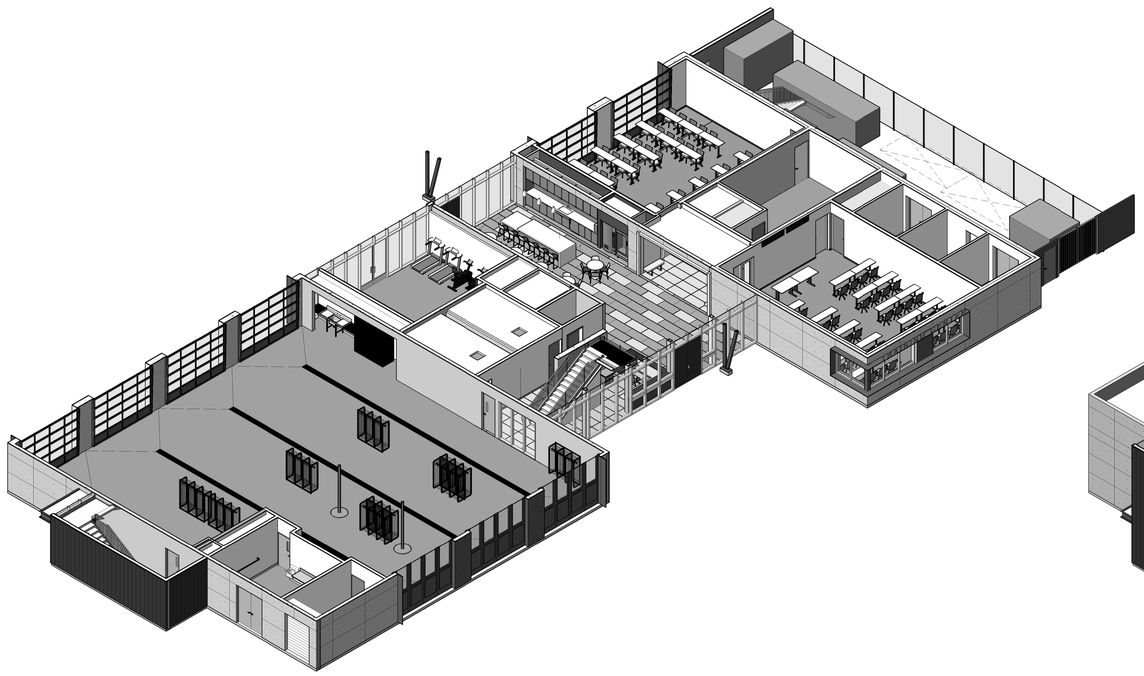
DOOR CLEARANCES



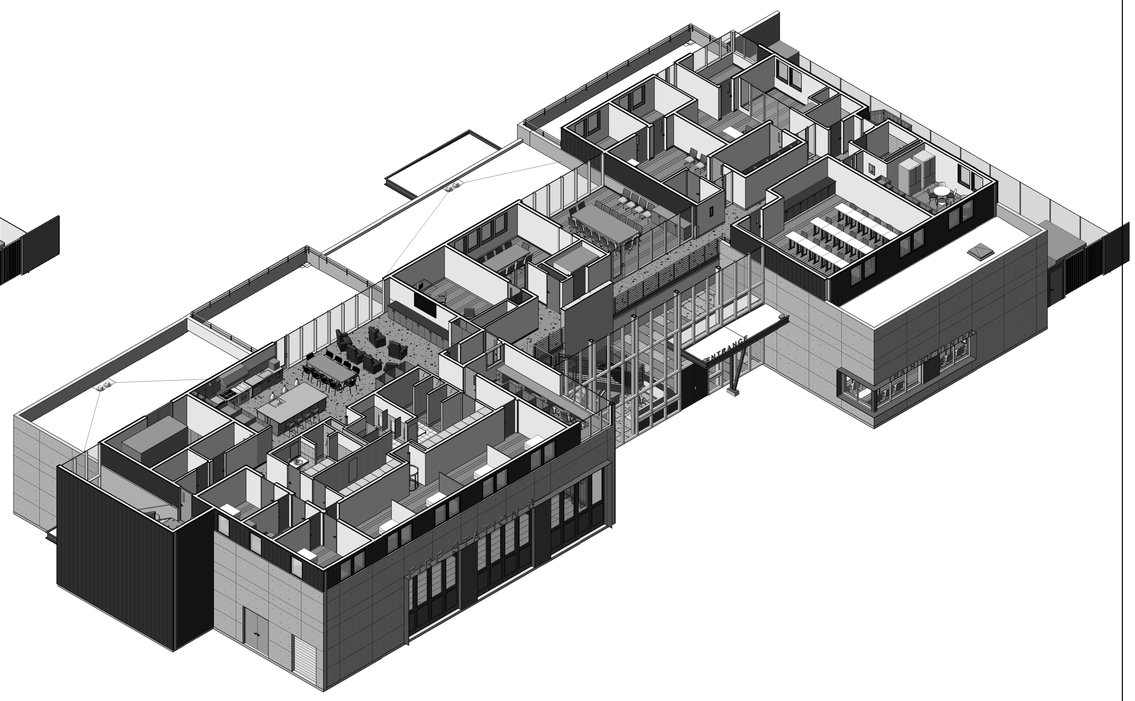
TYPICAL DOOR LANDING CLEARANCES

SIGNAGE SAMPLES (NOT TO SCALE) - *REFER TO GRAPHICS PACKAGE FOR SIGNAGE*

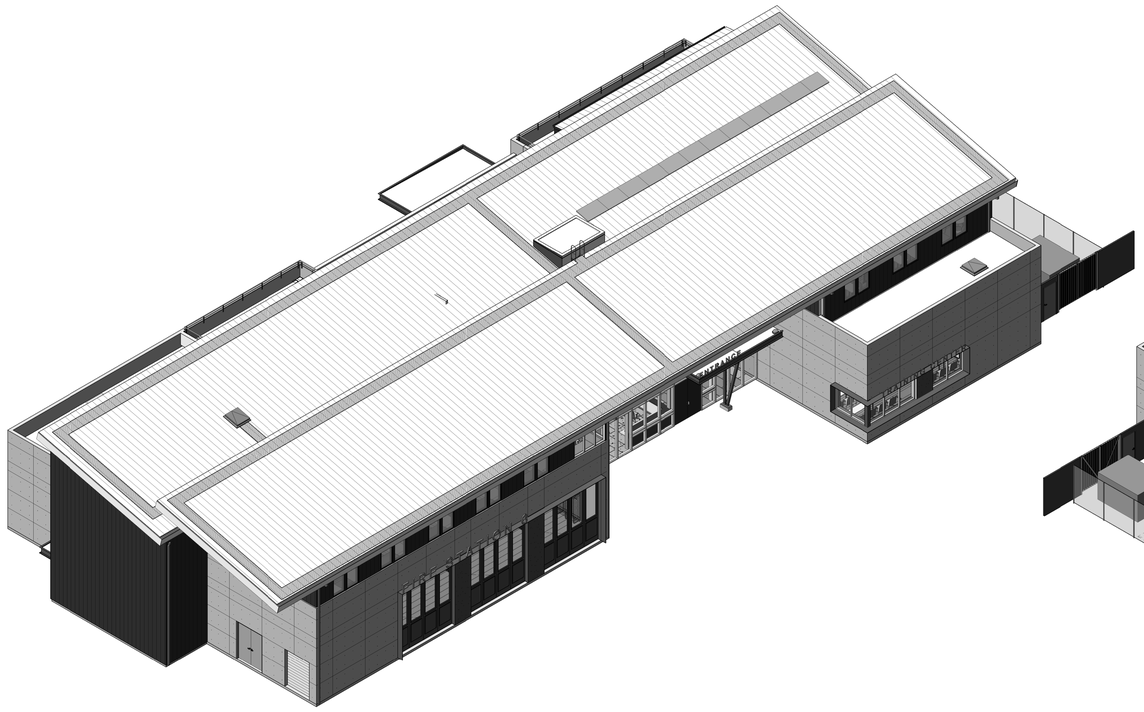




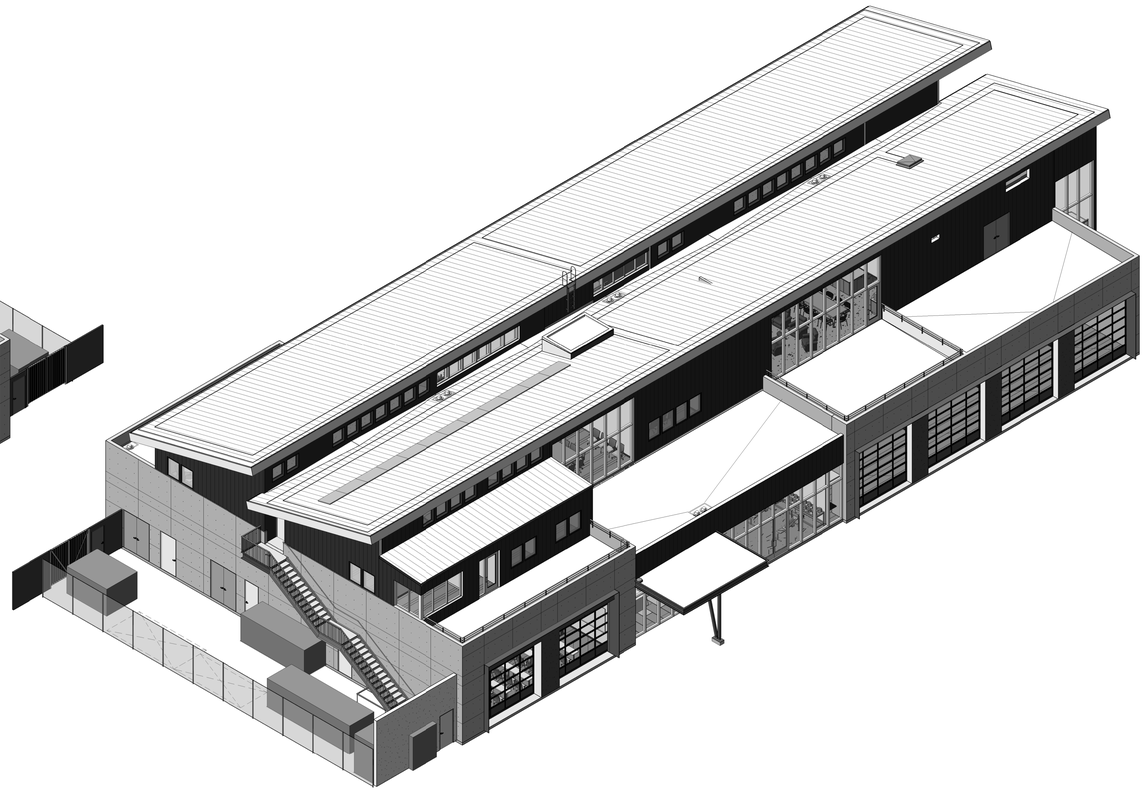
1 SOUTHWEST AXONOMETRIC VIEW AT FIRST FLOOR LEVEL



2 SOUTHWEST AXONOMETRIC VIEW AT SECOND FLOOR LEVEL



3 SOUTHWEST AXONOMETRIC VIEW



4 NORTHEAST AXONOMETRIC VIEW

GRAPHIC FOR REFERENCE ONLY

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: **KATHY GARCIA** DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3-INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
9/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 1 EXTERIOR AXONOMETRIC VIEWS

Drawn By: TG Checked By: EW

Scale:

Date: **October 4, 2019**

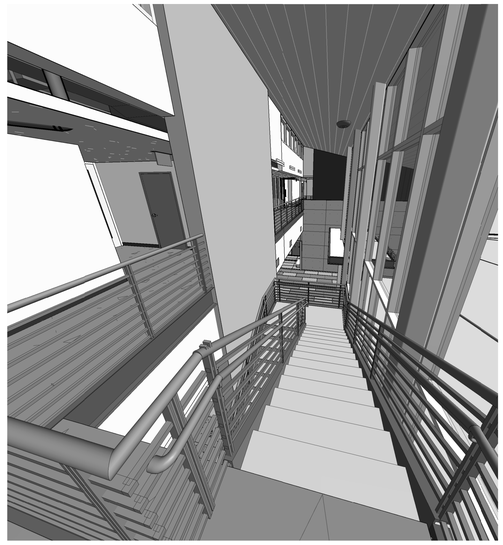
Project No. 2016039

1-A0.12
Drawing No.

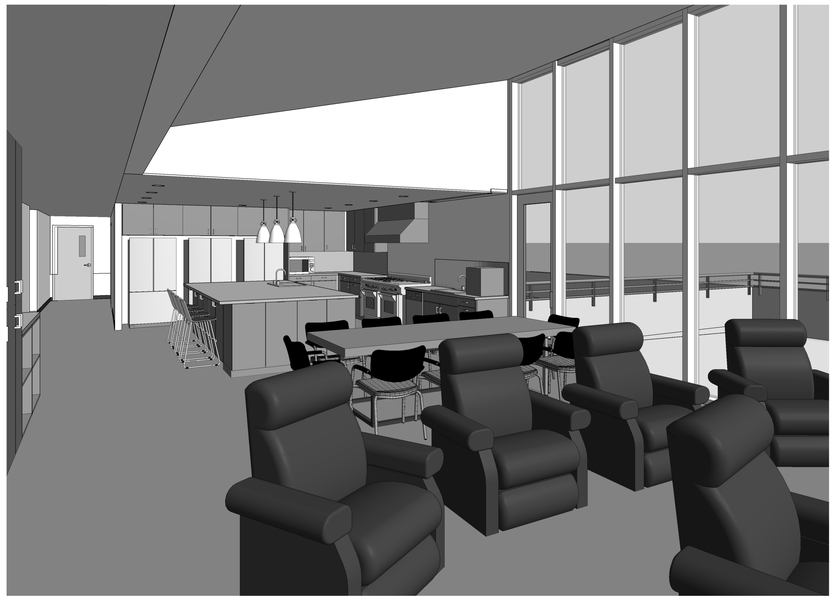
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1 SV- LOBBY BREAK V1



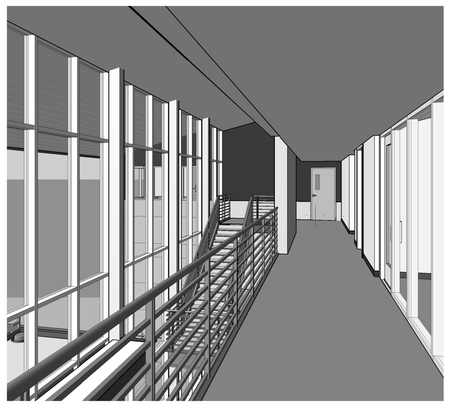
4A VIEW FROM 2F LOOKING DOWN TO 1F LOBBY



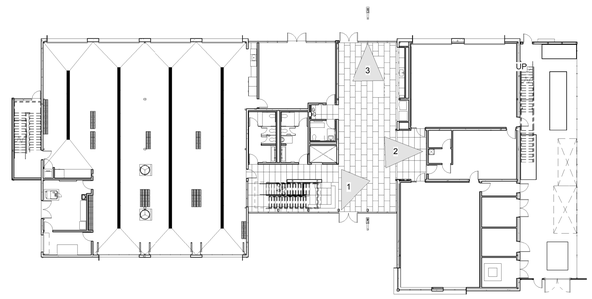
7 SV- 2F KITCHEN V1



2A SV- LOBBY RECEPTION DESK



5 SV- 2F LOOKING TOWARDS STAIRS



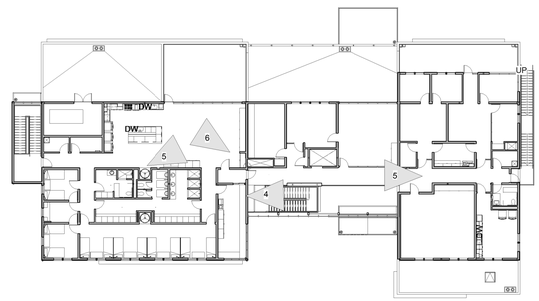
8 FIRST LEVEL FLOOR PLAN
3/64" = 1'-0"



3A SV- LOBBY BREAK V2



6 VIEW TO DAYROOM @ 2F



9 SECOND LEVEL FLOOR PLAN
3/64" = 1'-0"

GRAPHIC FOR REFERENCE ONLY

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APP. 01-117774 INC:01
REVIEWED FOR
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DATE: 11/12/2019

RossDrulisCusenbery
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542
ARCHITECTURE

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION	
DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE. HAYWARD, CA 94545

REVISIONS

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PERMIT SUBMITTAL V3- INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
9/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 1 DESIGN INTENT ILLUSTRATIONS

Drawn By: Author Checked By: Checker

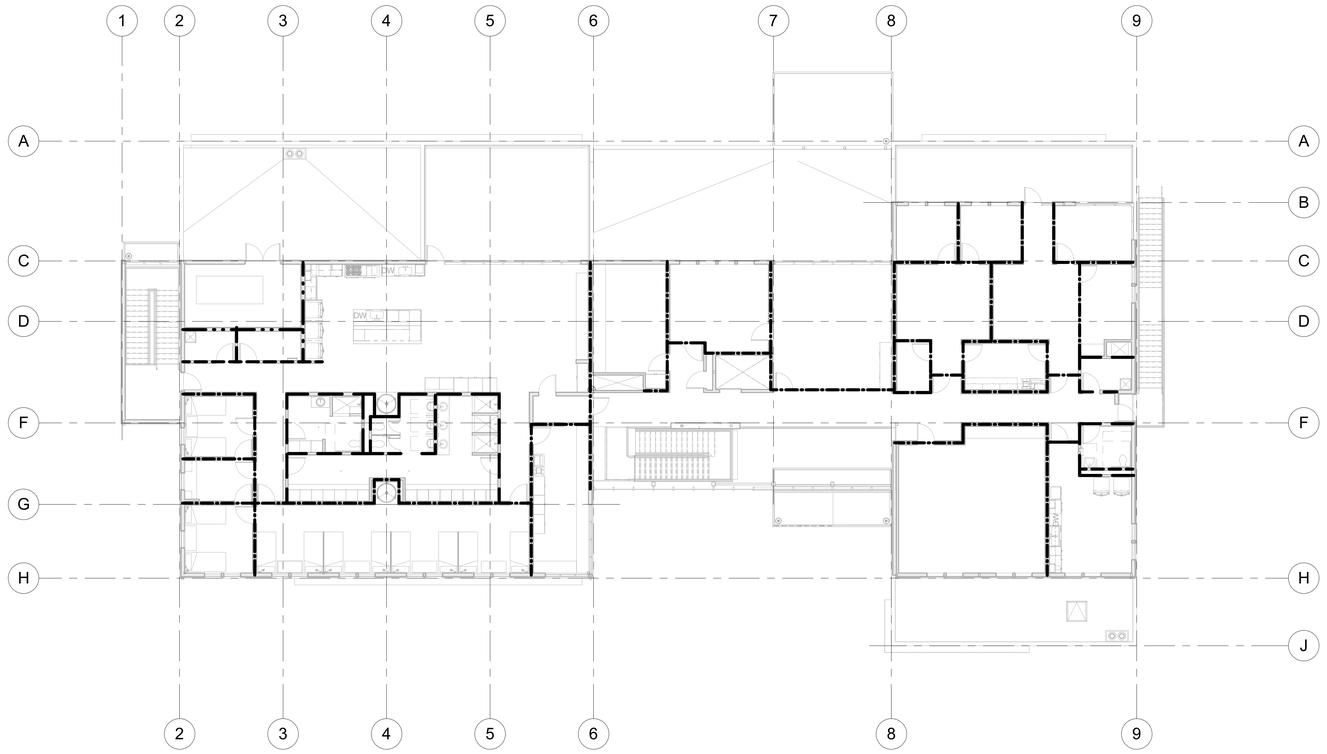
Scale: **3/64" = 1'-0"**

Date: **October 4, 2019**

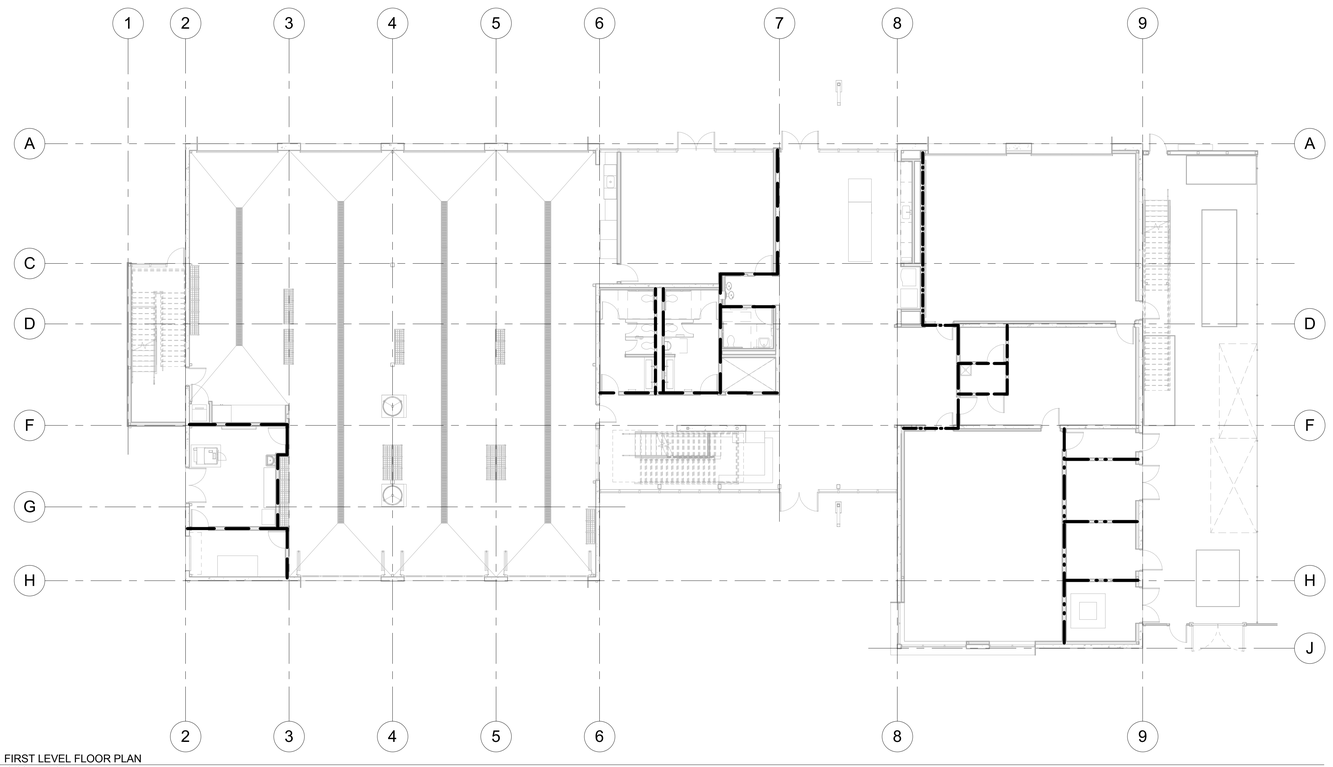
Project No. 2016039

1-A0.13
Drawing No.

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2 SECOND LEVEL FLOOR PLAN
3/32" = 1'-0"



1 FIRST LEVEL FLOOR PLAN
3/32" = 1'-0"

GENERAL SHEET NOTES

WALL LEGEND

- STC 40 (METAL STUDS w/ 5/8" TYPE "X" GYPSUM BOARD E.F. & NO INSULATION)
- STC 45 (METAL STUDS w/ 5/8" TYPE "X" GYPSUM BOARD E.F. & BATT INSULATION)
- STC 50 (METAL STUDS w/ 5/8" TYPE "X" GYPSUM BOARD E.F. & BATT INSULATION)
- STC 55 (METAL STUDS w/ (2) LAYERS 5/8" TYPE "X" GYPSUM BOARD E.F. & BATT INSULATION)

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DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
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SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

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DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE. HAYWARD, CA 94545

REVISIONS

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PERMIT SUBMITTAL V3-INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
5/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 1 ACOUSTICAL SEPARATION DIAGRAM

Drawn By: YCS Checked By: EW

Scale:
As indicated

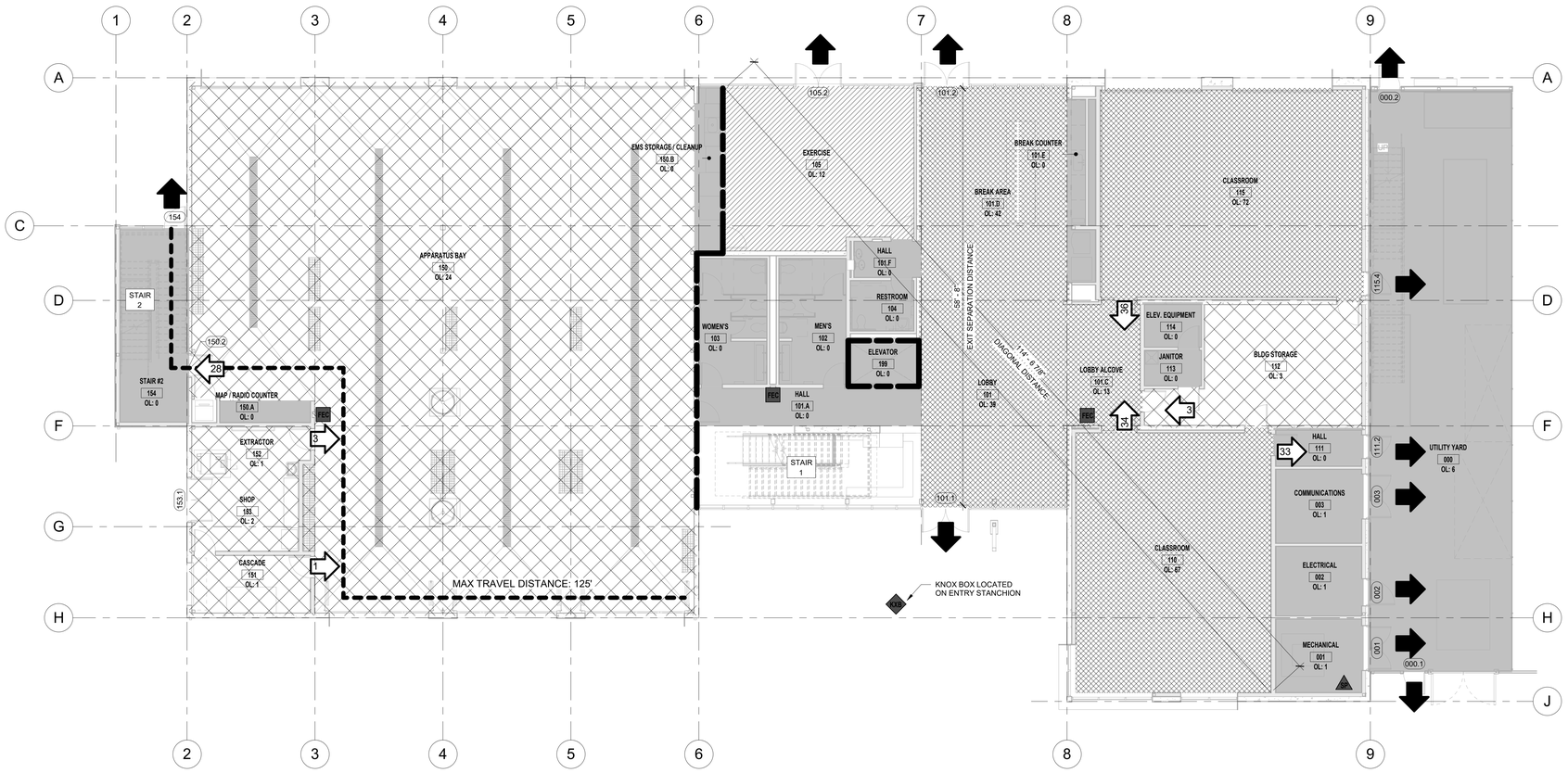
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October 4, 2019

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1-A0.14
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OCCUPANCY ANALYSIS- LEVEL 1						
level	RM. NO.	RM. NAME	AREA	OCC.	O.L.F.	O.L.
FIRST FLOOR	000	UTILITY YARD	1623 SF	-	300 SF	6
FIRST FLOOR	001	MECHANICAL	125 SF	-	300 SF	1
FIRST FLOOR	002	ELECTRICAL	118 SF	-	300 SF	1
FIRST FLOOR	003	COMMUNICATIONS	126 SF	-	300 SF	1
FIRST FLOOR	101	LOBBY	585 SF	A-3	15 SF	39
FIRST FLOOR	101.A	HALL	165 SF	-	0 SF	0
FIRST FLOOR	101.C	LOBBY ALCOVE	181 SF	A-3	15 SF	13
FIRST FLOOR	101.D	BREAK AREA	622 SF	A-3	15 SF	42
FIRST FLOOR	101.E	BREAK COUNTER	96 SF	-	0 SF	0
FIRST FLOOR	101.F	HALL	48 SF	-	0 SF	0
FIRST FLOOR	102	MEN'S	166 SF	-	0 SF	0
FIRST FLOOR	103	WOMEN'S	164 SF	-	0 SF	0
FIRST FLOOR	104	RESTROOM	63 SF	-	0 SF	0
FIRST FLOOR	105	EXERCISE	597 SF	R-2	50 SF	12
FIRST FLOOR	110	CLASSROOM	1004 SF	A-3	15 SF	67
FIRST FLOOR	111	HALL	61 SF	-	0 SF	0
FIRST FLOOR	112	BLDG STORAGE	419 SF	S-2	200 SF	3
FIRST FLOOR	113	JANITOR	40 SF	-	0 SF	0
FIRST FLOOR	114	ELEV. EQUIPMENT	48 SF	-	0 SF	0
FIRST FLOOR	115	CLASSROOM	1071 SF	A-3	15 SF	72
FIRST FLOOR	150	APPARATUS BAY	4742 SF	S-2	200 SF	24
FIRST FLOOR	150.A	MAP / RADIO COUNTER	39 SF	-	0 SF	0
FIRST FLOOR	150.B	EMS STORAGE / CLEANUP	85 SF	-	0 SF	0
FIRST FLOOR	151	CASCADE	135 SF	S-2	300 SF	1
FIRST FLOOR	152	EXTRACTOR	111 SF	S-2	300 SF	1
FIRST FLOOR	153	SHOP	160 SF	S-2	100 SF	2
FIRST FLOOR	154	STAIR #2	258 SF	-	0 SF	0
FIRST FLOOR	199	ELEVATOR	56 SF	-	0 SF	0
Grand total: 28			12907 SF			285



3 FIRST LEVEL FLOOR PLAN - OCCUPANCY & EGRESS
1/8" = 1'-0"

OCCUPANCY LOAD FACTORS

(REFERENCE: TABLE 1004.1.2)

ASSEMBLY WITHOUT FIXED SEATS (TABLES AND CHAIRS)	15
EXERCISE ROOMS	50
LOCKER ROOMS	50
INDUSTRIAL AREAS (SHOP)	100
PARKING GARAGE (APPARATUS BAY)	200
KITCHEN	200
RESIDENTIAL	200
ACCESSORY STORAGE, MECHANICAL EQUIPMENT ROOMS	300

NOTE: RESTROOMS ARE DESIGNATED AS UNOCCUPIED

LEGEND- EGRESS PLAN

- EXIT OCCUPANT LOAD
- 0 MEANS OF EGRESS OCCUPANT LOAD
- PATH OF TRAVEL
- (101) DOOR NUMBER
- STAIR 01 STAIR NUMBER

LEGEND- FIRE PROTECTION

- FEC FIRE EXTINGUISHER CABINET
- KNOX BOX
- SD STANDPIPE
- 0.5 HR SEPARATION
- 1 HR SEPARATION

LEGEND- OCCUPANCY TYPE

- OCCUPANCY A-3
- OCCUPANCY B
- OCCUPANCY R-2
- OCCUPANCY S-2
- NOT APPLICABLE

EGRESS COMPONENTS- DOORS				
NO.	O.L.	REQ'D WIDTH	WIDTH	COMMENTS
000.1	39	0' - 7 3/4"	3' - 0"	
000.2	109	1' - 9 3/4"	3' - 0"	
101.1	157	2' - 7 1/4"	6' - 7"	
101.2	83	1' - 4 1/2"	6' - 5"	
105.2	12	0' - 2 3/8"	6' - 6"	
111.2	33	0' - 6 5/8"	3' - 0"	
115.4	36	0' - 7 1/8"	3' - 0"	
150.2	28	0' - 5 5/8"	3' - 0"	
153.1	1	0' - 0 1/4"	6' - 0"	
154	47	0' - 9 3/8"	3' - 0"	
201.2	70	1' - 2"	3' - 0"	
250	20	0' - 4"	3' - 0"	
251.2	19	0' - 3 3/4"	3' - 0"	

EGRESS COMPONENTS- STAIRS			
NO.	O.L.	REQ'D WIDTH	COMMENTS
1	70	1' - 2"	4' - 0" Width
2	19	0' - 3 3/4"	4' - 0" Width
3	70	1' - 2"	4' - 0" Width

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

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DRAWN BY:	APPROVAL RECD:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	INC 01_ADD_01_V1	12/06/2019

PERMIT SUBMITTAL V3- INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
5/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 1
EGRESS PLAN - FIRST LEVEL

Drawn By: EW Checked By: EW

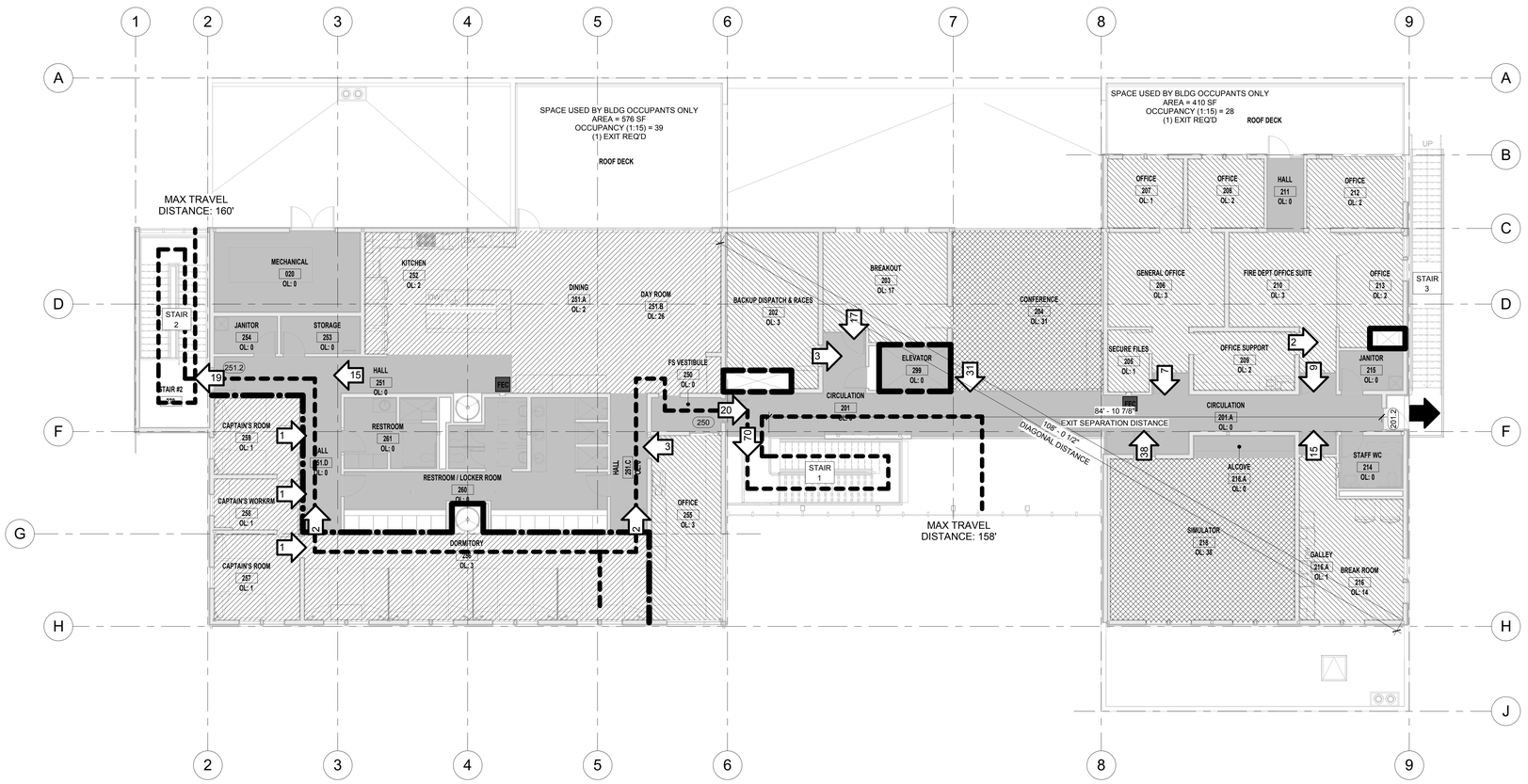
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1 SECOND LEVEL FLOOR PLAN - OCCUPANCY & EGRESS
1/8" = 1'-0"

OCCUPANCY ANALYSIS- LEVEL 2					
RM. NO.	RM. NAME	AREA	OCC.	O.L.F.	O.L.
020	MECHANICAL	225 SF	-	0 SF	0
201	CIRCULATION	357 SF	-	0 SF	0
201.A	CIRCULATION	276 SF	-	0 SF	0
202	BACKUP DISPATCH & RACES	246 SF	B	100 SF	3
203	BREAKOUT	252 SF	B	15 SF	17
204	CONFERENCE	452 SF	A-3	15 SF	31
205	SECURE FILES	49 SF	B	100 SF	1
206	GENERAL OFFICE	241 SF	B	100 SF	3
207	OFFICE	99 SF	B	100 SF	1
208	OFFICE	100 SF	B	100 SF	2
209	OFFICE SUPPORT	112 SF	B	100 SF	2
210	FIRE DEPT OFFICE SUITE	227 SF	B	100 SF	3
211	HALL	53 SF	-	0 SF	0
212	OFFICE	126 SF	B	100 SF	2
213	OFFICE	129 SF	B	100 SF	2
214	STAFF WC	64 SF	-	0 SF	0
215	JANITOR	48 SF	-	0 SF	0
216	BREAK ROOM	196 SF	B	15 SF	14
216.A	GALLEY	73 SF	B	200 SF	1
218	SIMULATOR	570 SF	A-3	15 SF	38
218.A	ALCOVE	43 SF	-	0 SF	0
250	FS VESTIBULE	46 SF	-	0 SF	0
251	HALL	213 SF	-	0 SF	0
251.A	DINING	266 SF	R-2	200 SF	2
251.B	DAY ROOM	384 SF	R-2	15 SF	26
251.C	HALL	95 SF	-	0 SF	0
251.D	HALL	95 SF	-	0 SF	0
252	KITCHEN	330 SF	R-2	200 SF	2
253	STORAGE	56 SF	-	0 SF	0
254	JANITOR	45 SF	-	0 SF	0
255	OFFICE	244 SF	B	100 SF	3
256	DORMITORY	560 SF	R-2	200 SF	3
257	CAPTAIN'S ROOM	140 SF	R-2	200 SF	1
258	CAPTAIN'S WORKRM	83 SF	R-2	200 SF	1
259	CAPTAIN'S ROOM	125 SF	R-2	200 SF	1
260	RESTROOM / LOCKER ROOM	377 SF	-	0 SF	0
261	RESTROOM	122 SF	-	0 SF	0
299	ELEVATOR	56 SF	-	0 SF	0
Grand total: 38		7174 SF			159

OCCUPANCY LOAD FACTORS

(REFERENCE: TABLE 1004.1.2)

ASSEMBLY WITHOUT FIXED SEATS (TABLES AND CHAIRS)	15
EXERCISE ROOMS	50
LOCKER ROOMS	50
INDUSTRIAL AREAS (SHOP)	100
PARKING GARAGE (APPARATUS BAY)	200
KITCHEN	200
RESIDENTIAL	200
ACCESSORY STORAGE, MECHANICAL EQUIPMENT ROOMS	300
NOTE: RESTROOMS ARE DESIGNATED AS UNOCCUPIED	

LEGEND- EGRESS PLAN

- EXIT OCCUPANT LOAD
- 0 MEANS OF EGRESS OCCUPANT LOAD
- PATH OF TRAVEL
- (101) DOOR NUMBER
- STAIR 01 STAIR NUMBER

LEGEND- FIRE PROTECTION

- FEC FIRE EXTINGUISHER CABINET
- KB KNOX BOX
- SP STANDPIPE
- 0.5 HR SEPARATION
- 1 HR SEPARATION

LEGEND- OCCUPANCY TYPE

- OCCUPANCY A-3
- OCCUPANCY B
- OCCUPANCY R-2
- OCCUPANCY S-2
- NOT APPLICABLE

EGRESS COMPONENTS- DOORS				
NO.	O.L.	REQ'D WIDTH	WIDTH	COMMENTS
000.1	39	0' - 7 3/4"	3' - 0"	
000.2	39	0' - 7 3/4"	3' - 0"	
101.1	84	1' - 4 3/4"	6' - 7"	
101.2	83	1' - 4 1/2"	6' - 5"	
105.2	12	0' - 2 3/8"	6' - 6"	
111.2	33	0' - 6 5/8"	3' - 0"	
115.4	36	0' - 7 1/8"	3' - 0"	
150.2	28	0' - 5 5/8"	3' - 0"	
153.1	1	0' - 0 1/4"	6' - 0"	
154	28	0' - 5 5/8"	3' - 0"	
201.2	70	1' - 2"	3' - 0"	
250	20	0' - 4"	3' - 0"	
251.2	19	0' - 3 3/4"	3' - 0"	

EGRESS COMPONENTS- STAIRS			
NO.	O.L.	REQ'D WIDTH	COMMENTS
1	70	1' - 2"	4' - 0" Width
2	19	0' - 3 3/4"	4' - 0" Width
3	70	1' - 2"	4' - 0" Width

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542
ARCHITECTURE

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3- INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
9/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 1 EGRESS PLAN - SECOND LEVEL

Drawn By: EW Checked By: EW

Scale: As indicated

Date: October 4, 2019

Project No. 2016039

1-A0.22
Drawing No.

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Code Analysis - Hayward Fire Station #6/Fire Training Center Building 1

Project Location: 1401 West Winton Avenue, Hayward, CA 94545

Date: 07/19/2019

SUMMARY:

APPLICABLE REGULATIONS

2016 California Building Standards Code (Title 24, California Code of Regulations)
2016 California Building Standards Administrative Code (Title 24, California Code of Regulations, Part 1)
2016 California Building Code (Title 24, California Code of Regulations, Part 2)
2016 California Electrical Code (Title 24, California Code of Regulations, Part 3)
2016 California Mechanical Code (Title 24, California Code of Regulations, Part 4)
2016 California Plumbing Code (Title 24, California Code of Regulations, Part 5)
2016 California Energy Code (Title 24, California Code of Regulations, Part 6)
2016 California Fire Code (Title 24, California Code of Regulations, Part 9)
2016 California Existing Building Code (Title 24, California Code of Regulations, Part 10)
2016 California Green Building Standards Code (Title 24, California Code of Regulations, Part 11)
2016 California Reference Standards Code (Title 24, California Code of Regulations, Part 12)
Uniform Fire Code With Approved California Amendments
Title 19 - Public Safety, State Fire Marshal California Code Of Regulations
Title 24 - California Code Of Regulations, Americans With Disabilities Act Accessibility Guidelines (ADAAG) Uniform Accessibility Standards
NFPA 101, Life Safety Code, 2015 Edition - Chapters 5 And 13
NFPA 13-2015 Edition

APPLICABLE STANDARDS

UL - Underwriters Laboratories Fire Resistive Directory, 2016 Edition
UL - Underwriters Laboratory Building Materials Directory, 2006 Edition
SMACNA - Fire, Smoke & Radiation Damper Installation Guide For Hvac Systems, 5th Edition, 2002

BUILDING CODE ANALYSIS

BUILDING 1: NEW FIRE STATION #6 & CLASSROOM BUILDING	NOTES
TYPE OF CONSTRUCTION: Type II-B	
FIRE PROTECTION Fully Sprinklered	
PRIMARY STRUCTURE Non-rated	Table 601
BEARING WALLS, EXTERIOR AND INTERIOR Non-Rated	Table 601
EXTERIOR WALLS (based on fire separation distance) Non-rated / IIB / A, B, R, & S-2 Occ / Separation > 10' but < 30'	Table 602
Non-rated / IIB / A, B, R, & S-2 Occ / Separation > 30'	Table 602
NONBEARING INTERIOR WALLS AND PARTITIONS Non-rated	Table 601
FLOOR CONSTRUCTION & SECONDARY FRAMING Non-rated	Table 601
ROOF CONSTRUCTION & SECONDARY FRAMING Non-rated	Table 601
MECHANICAL SHAFTS 1-Hr Fire Rated	713.4 Two-Story Opening
ELEVATOR SHAFT AND OPENINGS Shaft: 1-Hr Fire Rated	713.4 Two-Story Opening
Opening: Non-Fire Rated	3006.2 Elevator does not connect more than two stories
ATRIUM Not Applicable, Two-Story Openings	712.1.9 Two-Story Openings

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Code Analysis - Hayward Fire Station #6/Fire Training Center Building 1

Project Location: 1401 West Winton Avenue, Hayward, CA 94545

Date: 07/19/2019

CBC	TITLE	REQUIRED / DESCRIBED	EXCEPTION	PROVIDED	NOTES
304.1	Group B	Office use; civic admin.; clinic outpatient; education above 12th grade; radio telev. stations; education above 12th grade; laboratories: testing; professional services		All office areas, Backup Dispatch, & Breakout Room	Both Second Floor Breakout Room and Break Room O.L.<50, can be classified as "B"
310.4	Group R-2	Sleeping units where occupants are primarily permanent in nature		Day Room, Captain's Rooms, Dining Area, Kitchen, Dormitory, Exercise Room	
311.3	Group S-2	Parking garages (open or enclosed), Low Hazard Storage		Apparatus Bay, Extractor Room, Cascade Room, Storage	
400	**SPECIAL REQUIREMENTS ON USE & OCCUPANCY**				
404	Atriums	Not applicable		Not applicable	712.1.9 Two Story Opening is allowed
404.5	Smoke Control	Not applicable	Exception: ...Smoke control is not required for atriums that connect only 2 stories.	Not applicable	712.1.9 Two Story Opening is allowed
404.6	Enclosure of Atriums	Not applicable			712.1.9 Two Story Opening is allowed
600	**CONSTRUCTION TYPE**				
602.5	Type of Construction: Type IIB	Construction Type IIB: Building elements listed in Table 601 are of noncombustible materials, except as permitted in Section 603 and elsewhere in the CBC.		Construction Type IIB	
Table 601	Type of Construction: Type IIB	Fire Resistance (Hours) Primary Structure (0) Bearing Walls Ext. (0) Bearing Walls Int. (0) Nonbearing Walls Ext Table 602 Nonbearing Walls Int. (0) Floor Construction (0) Roof Construction (0)			Refer to Table 602 analysis below for nonbearing exterior walls.
Table 602	Fire Resistance Rating for Exterior Walls Based on Fire Separation Distance	For Occupancy Group A, B, R, & S-2: **FSD < 5':** 1 hr **5' <= FSD < 10':** 1 hr **10' <= FSD < 30':** 0 hr **FSD >= 30':** 0 hr		0 hr rating; All portions of building are >10'-0"	All exterior walls are greater than 10' separation from either property lines or other buildings on the same parcel.

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Code Analysis - Hayward Fire Station #6/Fire Training Center Building 1

Project Location: 1401 West Winton Avenue, Hayward, CA 94545

Date: 07/19/2019

CBC	TITLE	REQUIRED / DESCRIBED	EXCEPTION	PROVIDED	NOTES
708	**FIRE PARTITIONS**				
708.1	Wall assemblies	Separation walls as required by Section 420.2 for Groups R-1, R-2, R-2.1, and R-3			Building contains R-2 Occupancy sleeping unit.
708.3	Fire-resistance rating	Fire partitions shall have a fire-resistance rating of not less than 1 hour.	2. Dwelling unit and sleeping unit separations in buildings of Type IIB, IIIB and VB construction shall have fire-resistance ratings of not less than 1/2 hour in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1	30-minute fire-rated walls provided between sleeping rooms and adjacent spaces.	
711	**HORIZONTAL ASSEMBLIES**				
711.1	Horizontal assemblies	Horizontal assemblies shall comply with Sections 711.2.1 through 711.2.6			Building contains R-2 Occupancy sleeping unit.
711.2.4	Fire-resistance rating	The fire-resistance rating of horizontal assemblies shall comply with Sections 711.2.4.1 through 711.2.4.6 but shall be not less than that required by the building type of construction. **Section 711.2.4.3** Horizontal assemblies serving as dwelling or sleeping unit separations in accordance with Section 420.3 shall be not less than 1-hour fire-resistance-rated construction	Exception to 711.2.4.3: Horizontal assemblies separating dwelling units and sleeping units shall be not less than 1/2-hour fire-resistance-rated construction in a building of Type IIB, IIIB and VB construction, where the building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1	Floor assembly provides minimum 30-minute fire-resistance rating.	
713	**SHAFT ENCLOSURES**				
713.4	Fire-resistance rating	Shaft enclosures shall have a fire-resistance rating of not less than 2 hours where connecting four stories or more, and not less than 1 hour where connecting less than four stories.		Building less than four stories, 1 hour shaft enclosures provided.	

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Code Analysis - Hayward Fire Station #6/Fire Training Center Building 1

Project Location: 1401 West Winton Avenue, Hayward, CA 94545

Date: 07/19/2019

CBC	TITLE	REQUIRED / DESCRIBED	EXCEPTION	PROVIDED	NOTES
500	**BUILDING HEIGHTS AND AREAS**			**Type IIB (for A-3 Occupancy)**	
508.3.2 & Table 601	Nonseparated Occupancies, Allowable Building Height and Area.	The allowable building height and area...shall be based on the most restrictive allowances for the occupancy groups under consideration for the construction type of the building		For Construction Types Occupancy Type A-3 has the most restrictive requirements.	Construction Type IIB, The building elements listed in Table 601 are of noncombustible materials. Table 601 indicates that no (0 hr) fire resistive construction is required for any of the building elements in IIB Construction Type unless specified elsewhere in the Code.
Table 504.3	Allowable base height without area increase	IIB/S/ A Occ = **75'** IIB/S/ B Occ = 75' IIB/S/R-2 Occ = 75'		Building is 36' high.	
Table 504.4	Allowable base number of stories without area increase	IIB/S/ A-3 Occ = **3** IIB/S/ B Occ = **4** IIB/S/R-2 Occ = 5 IIB/S/S-2 Occ = 4		The building is 2 story, with photovoltaic panels on roof.	
Table 506.2	Allowable total base area without height increase	IIB / A-3 / SM = 28,500 SF		Building Area First Floor= 12,598 BGSF Building Area Second Floor= 8,045 BGSF Building Area Total = 20,643 BGSF	IIB construction type, sprinklered, A-3 occupancy
Table 504.3	Automatic sprinkler system height increase	A without area increase is 75' and with area increase is 55'. Height increase for sprinklered building is contained in Table 504.3		Building is 36' high. Building height complies. Therefore, height increase is not required.	
506.2.4	Area modifications (See 506.2 and 506.3 below)	***Total Allowable Area*** $A_a = [A_t + (NS \times I_f)]$ ***Increase not required***		Building Area First Floor= 12,598 BGSF Building Area Second Flr.= 8,045 BGSF Building Area Total = 20,643 BGSF **20,643 sf < 28,500 sf = Building complies with base allowable area without increase**	
506.3	Frontage increase	$I_f = [(F/P) - 0.25] W/30$ ***Increase not required***			
Table 506.2	Automatic sprinkler system increase	Area increase for sprinklered building is contained in Table 506.2		Building shall be provided with automatic fire sprinkler system throughout.	
508.3	Mixed Occupancies/ Nonseparated.	Allowable area per most restrictive occ;		Based on **A-3** occ.	508.3.2 **Nonseparated occupancy** used
508	**MIXED USE AND OCCUPANCIES**				
508.3.3	Nonseparated Occupancies	No separation is required between A-3; B; R-2; S-2	Exception 2: R-2 sleeping units shall be separated from other occupancies contiguous to them in accordance with the requirements of Section 420	No occupancy separations are provided except as required by Section 420.2 and 420.3	Section 708.3, Exception 2: Sleeping units to be separated from contiguous occupances with fire partitions having a fire-resistance rating of not less than 1/2 hour in Type II-B construction with automatic fire sprinkler system throughout. Section 711.2.4.3, Exception: Horizontal assemblies separating sleeping units shall be not less than 1/2 hour fire-resistance-rated construction in Type II-B construction with automatic fire sprinkler system throughout.

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Code Analysis - Hayward Fire Station #6/Fire Training Center Building 1

Project Location: 1401 West Winton Avenue, Hayward, CA 94545

Date: 07/19/2019

CBC	TITLE	REQUIRED / DESCRIBED	EXCEPTION	PROVIDED	NOTES
3006.2	Elevator Openings	Openings not required to be fire protected unless more than two stories.		Non Fire Rated	
3006.3	Elevator Lobby	Not required if the elevator opening is not required to be protected.		Fire Rated Elevator Lobby not provided.	
714	**PENETRATIONS**				
714.3	Fire-resistance-rated walls	Penetrations into or through fire walls, fire barriers, smoke barrier walls and fire partitions shall comply with Sections 714.3.1 through 714.3.3		Provide approved fire-resistive protection of penetrations through 1-hour shaft enclosures and 30-minute fire partitions.	
714.4	Horizontal assemblies	Penetrations of a fire-resistance-rated floor, floor/ceiling assembly or the ceiling membrane of a roof/ceiling assembly not required to be enclosed in a shaft by Section 712.1 shall be protected in accordance with Sections 714.4.1 through 714.4.4		Provide approved fire-resistive protection of penetrations through 30-minute horizontal assembly.	
714.5	Nonfire-resistance rated assemblies	Penetrations of nonfire-resistance rated floor or floor/ceiling assemblies or ceiling membrane or the ceiling membrane of a nonfire-resistantive rated roof/ceiling assembly shall meet the requirements of Section 713 or shall comply with Section 714.5.1 or 714.5.2			
714.5.2	Penetrating Items	Penetrating Items that connect not more than two stories are permitted , provided that the annular space is filled with an approved material to resist the free passage of flame and products of combustion.		Building is two stories. Provide approved fire resistive material around the annular space of floor and roof penetrations.	
715	**FIRE RESISTANT JOINT SYSTEMS**				
715.1	Fire-resistant joint systems	Joints installed in or between fire-resistance rated walls, floors or floor ceiling assemblies shall be protected by an approved fire-resistant joint system designed to resist the passage of fire for a time period not less than the required fire resistance rating of the wall, floor or roof in or between which the system is installed.	2. Floors where the joint is protected by a shaft enclosure in accordance with Section 713.	Provide approved fire resistive material at: 1. the edge of second floor slab to exterior wall conditions; 2. top of fire partitions and shaft enclosures to roof assembly.	

EXIT STAIRS Three (3) Non-Rated Exit Access Stairways.	1019.3 Exception 1 for Exit Access Stairways. Stairs do not require shaft enclosure.
EXIT STAIR INTERIOR DOORS Non- Rated Door Assemblies at Non-Rated Interior Exit Stairways.	Table 716.5
BUILDING OCCUPANCY **Nonseparated** mixed use, A-3; B; R-2; S-2	CBC 508.3 Nonseparated Occupancies. A-3 Occupancy most restrictive
TOTAL OCCUPANT LOAD 285 Occupants Ground Floor 159 Occupants Second Floor **444 Total Building Occupants**	
MAXIMUM BUILDING AREA [Allowable] Total Area: 20,643 sq ft [28,500 sq ft without height increase]	CBC 506.2.4 Mixed Occupancy, Multistory Buildings CBC 508.3 Nonseparated Occupancies. CBC Table 506.2, SM without height increase
BUILDING HEIGHT [Allowable] 2 story, 36' [3 story, 75' without area increase]	CBC Tables 504.3 & 504.4 S without area increase
MIN. NUMBER OF EXITS [Required] 6 at Ground Floor [2] 3 at Second Floor [2]	CBC 1006.2.1.1 & Table 1006.3.1: Exits per story; 2 required if occ. load is 500 or less. 3 required if occ. load is 1,000 or less. 4 required if occ.load is greater than 1,000.
MIN. EXIT SEPARATON [Required] Ground Floor: 58.67' > [38'=115' (max. floor diag.) /3] Second Floor: 83.5' > [36'=108' (max. floor diag.) /3]	CBC 1007.1.1 Ex 2: Greater than 1/3 the diagonal distance for sprinklered building
MAXIMUM TRAVEL DISTANCE [Allowable] 160' < [250']	CBC Table 1017.2: 250' is the allowable travel distance for a building with a sprinkler system for A & R Occupancy (300 feet for B Occupancy, 400' for S-2 Occupancy)
EXIT ACCESS A-3, B, R-2 and S-2 Occupancies **Non-rated** Exit Access Hallways	CBC Chap 2 Definition and 1016.2.2. The Exit Access Hallway is an exit access that leads directly to an exterior exit and is within the allowable travel distance. Exit Access Hallways are intervening areas that are an accessory to the A , B, R, & S Occupancies.
Corridors: Occupancy A, B, & S Sprinklered: **0 hour** with occupant load served greater than 30 Occupany R-2 Sprinklered: **1 hour** with occupant load served greater than 10	CBC Table 1020.1 CBC Section 1020.1, Exception #2: A fire-resistance rating is not required for corridors contained within a dwelling unit or sleeping unit in an occupancy in Group R.

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Code Analysis - Hayward Fire Station #6/Fire Training Center Building 1

Project Location: 1401 West Winton Avenue, Hayward, CA 94545

Date: 07/19/2019

DETAILED ANALYSIS:

CBC	TITLE	REQUIRED / DESCRIBED	EXCEPTION	PROVIDED	NOTES
200	**DEFINITIONS**			**A-3; B; R-2; S-2**	
	Atrium	An opening connection two or more stories other than enclosed stairways, elevators, hoistways, escalators, plumbing, electrical, air-conditioning or other equipment, which is closed at the top and not defined as a mall.			2016 CBC Chapter 2
202	Exit Access Stairway	An stairway within the exit access portion of the means of egress system			2016 CBC Chapter 2
202	Interior Exit Stairway	An exit component that serves to meet one or more means of egress design requirements, such as required number of exits or exit access travel distance, and provides for a protected path of egress travel to the exit discharge or public way			2016 CBC Chapter 2
202	Exterior Exit Stairway	An exit component that serves to meet one or more means of egress design requirements, such as required number of exits or exit access travel distance, and is open to yards, courts or public ways.			2016 CBC Chapter 2
202	Stairway	One of more flights of stairs, either exterior or interior, with the necessary landings and platforms connecting them, to form a continuous and uninterrupted passage from one level to another.			2016 CBC Chapter 2
300	**USE AND OCCUPANCY CLASSIFICATION**			**A-3; B; R-2; S-2**	
303.4	Assembly Group A-3	community halls, dance halls; gymnasiums; lecture halls; libraries; waiting areas not classified elsewhere	Section 303.1.1 & 303.1.2: B Occupancy if accessory use with OL < 50 or area < 750 sq ft	Classrooms	First Floor Lobby, Lobby Alcove, & Break Area all included in A-3 Occupancy

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Code Analysis - Hayward Fire Station #6/Fire Training Center Building 1

Project Location: 1401 West Winton Avenue, Hayward, CA 94545

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CBC	TITLE	REQUIRED / DESCRIBED	EXCEPTION	PROVIDED	NOTES
508.4.2	Allowable Building Area	In each story, the building area shall be such that the sum of the ratios of actual building area of each separated occupancy divided by the allowable building area of each separated occupancy shall not exceed 1.		Does not apply, building is mixed use nonseparated occupancies.	Refer 506.2.4 allowable area calculation above.
508.4.3	Allowable Height	Each separated occupancy shall comply with the building height limitations based on the type of construction of the building in accordance with section 503.1		Does not apply, building is mixed use nonseparated occupancies.	Refer 504.3 allowable height calculation above
Table 508.4 Section 508.3	Occupancy Separations per Table 508.4	1-hr sprinklered between [A-3] and [B & R-2]. 1-hr for sprinklered between [R-2] and [B & S-2].	508.3.3 No separation is required between nonseparated occupancies.	Table 508.4 separations not used per 508.3.3. Table does not apply, building is mixed use nonseparated occupancies.	
705	**EXTERIOR WALLS**				
705.3	Buildings on the Same Lot	For the purposes of determining the required wall and opening protection, projections and roof-covering requirements, buildings on the same lot shall be assumed to have an imaginary line between them.		Separation distance between this building and adjacent structures exceeds 30'	The distance from each separate building to the imaginary line is the Fire Separation Distance.
705.8.1	Allowable Area of Openings	The maximum area of unprotected and protected openings permitted in an exterior wall in any story of a building shall not exceed the percentages specified in Table 705.8	2. Buildings whose exterior bearing walls, exterior nonbearing walls and exterior primary structural frame are not required to be fire-resistance rated shall be permitted to have unlimited unprotected openings.	No fire rating of exterior walls and structure required. Therefore, no limit on openings.	Building is Type IIB, FSD >10, per table 602, no fire rating of exterior walls required, therefore unlimited unprotected openings allowed.
Table 705.8	Maximum Area of Exterior Wall Openings Based on Fire Separation Distance and Degree of Opening Protection	**0 <= FSD < 3** No opening permitted **3 <= FSD < 5** Sprinkled: 15% **5 <= FSD < 10** Sprinkled: 25% **10 <= FSD < 15** Sprinkled: 45% **15 <= FSD < 20** Sprinkled: 75% **20 <= FSD < 25** Sprinkled: No Limit	2. Buildings whose exterior bearing walls, exterior nonbearing walls and exterior primary structural frame are not required to be fire-resistance rated shall be permitted to have unlimited unprotected openings.	No fire rating of exterior walls and structure required. Therefore, no limit on openings.	Building is Type IIB, FSD >10, per table 602, no fire rating of exterior walls required, therefore unlimited unprotected openings allowed.

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Code Analysis - Hayward Fire Station #6/Fire Training Center Building 1

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CBC	TITLE	REQUIRED / DESCRIBED	EXCEPTION	PROVIDED	NOTES
716	**OPENING PROTECTIVES**				
Section 716.5 Table 716.5	Fire Door and Shutter Assemblies	Comply with Table 716.5.		There are no fire rated exit stairways in the building. There are no fire shutter assemblies in the building.	712.1.9 Two-Story Openings
717	**DUCTS AND AIR TRANSFER OPENINGS**				
717.1	Ducts and air transfer openings	The provisions of this section shall govern the protection of duct penetrations and air transfer openings in assemblies required to be protected and duct penetrations in nonfire-resistance-rated floor assemblies		Provide protection of duct penetrations through 1-hour shaft enclosures, 30-minute fire partitions, and 30-minute horizontal assemblies as required by Sections 717.1.1 and 717.1.2.	
718	**CONCEALED SPACES**				
718.2	Fireblocking & Draftstopping	In combustible construction, fireblocking shall be installed to cut off concealed draft openings (both vertical and horizontal) and shall form an effective barrier between floors, between a top story and a roof or attic space. Fireblocking shall be installed in the locations specified in Sections 718.2.2 through 718.2.7		Construction is combustible Type IIB. Provide approved fire resistive material in concealed wall spaces (Section 718.2.2), connections between horizontal and vertical spaces (Section 718.2.3), and ceiling and floor openings (Section 718.2.5).	
905	**STANDPIPE SYSTEMS**				
905.1	General	Standpipe systems shall be provided in buildings and structures in accordance with this section.			
905.3	Required installations	Standpipe systems shall be installed where required by Sections 905.3.1 through 905.3.11.1. Standpipe systems are allowed to be combined with automatic sprinkler systems.		Standpipe system not required	
905.3.1	Height	Class III standpipe systems shall be installed throughout at each floor where any of the following occur: 1. Highest story floor is greater than 30' above fire department vehicle access 2. Building is greater than four stories 3. Lowest story is greater than 30' below fire department vehicle access 4. Buildings 2 or more stories below fire department vehicle access		None of these criteria apply	

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542
ARCHITECTURE

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY: **KATHY GARCIA** DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3-INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
3/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 1 CODE ANALYSIS

Drawn By: EW Checked By: EW

Scale:

Date: **October 4, 2019**

Project No. 2016039

1-A0.23

Drawing No.

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Code Analysis - Hayward Fire Station #6/Fire Training Center Building 1

Project Location: 1401 West Winton Avenue, Hayward, CA 94545

Date: 07/19/2019

CBC	TITLE	REQUIRED / DESCRIBED	EXCEPTION	PROVIDED	NOTES
905.3.2	Group A	Class 1 automatic wet standpipes shall be provided in *nonsprinklered* Group A buildings having an occupant load exceeding 1000 persons		Building is fully sprinklered, therefore standpipe not required	
905.3.4	Stages	Stages greater than 1000 sf in area shall be equipped with a class III wet standpipe system ...		Building does not contain a stage.	
905.3.8	Rooftop Gardens and Landscaped Roofs	Buildings or structures that have rooftop gardens or landscaped roofs and that are equipped with a standpipe system shall have the standpipe system extended to the roof level on which the rooftop garden or landscaped roof is located		Building does not contain a rooftop garden or landscaped roof.	
906	**PORTABLE FIRE EXTINGUISHERS**				
906.1	Where Required	1. In Group A, B,... 5. Where required by the California Fire Code sections indicated in Table 906.1. 6. Computer room, where required by fire code official	In Group R-2 occupancies, portable fire extinguishers shall be required only in locations specified in Items 2 through 6 where each dwelling unit is provided with a portable fire extinguisher having a minimum rating of 1-A:10-B:C	Fire extinguisher cabinets provided per code.	
906.3	Size and Distribution	Light Hazard Occupancy Min. Rated Single Extinguisher: 2-A Max. Floor Area Per Extinguisher: 11,250 sf Max Travel Distance: 75'		Fire extinguisher cabinets provided per code.75' travel distance governs the placement.	
1004	**OCCUPANT LOAD (Table 1004.1.2)**				
Section 1004.1.2	**Max floor area (sq ft) per occupant (OLF):**	**Occupant Load Factor (sq. ft./ person)**			
	Accessory storage, mech.	300 gross			
	Assembly unconcentrated (tables/chairs)	15 net			
	Assembly, concentrated (chairs only)	7 net			
	Business areas	100 gross			
	Dormitories	50 gross			
	Exercise room	50 gross			
	Kitchen, commercial	200 gross			
	Industrial areas	100 gross			
	Locker rooms	50 gross			
	Parking garages	200 gross			

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CBC	TITLE	REQUIRED / DESCRIBED	EXCEPTION	PROVIDED	NOTES
1004.5	Outdoor areas	Yards, patios, courts, and similar outdoor areas accessible to and usable by the building occupants shall be provided with means of egress as required by this chapter. The occupant load of such outdoor areas shall be assigned by the building official in accordance with the anticipated use. When outdoor areas are to be used by persons addition to the occupants of the building, *and the path of egress travel from the outdoor area passes through the building*, means of egress requirements for the building shall be based on the sum of the occupant loads of the building plus outdoor areas.	O.L. of second floor outdoor area to be determined by anticipated use: Unconcentrated Assembly assumed. Spaces used by building occupants only. Therefore, occupancy load of outdoor area does not increase the overall building occupancy load.	"...and the path of egress travel from the outdoor area passes through the building..." implies that outdoor areas may have a means of egress / exit access through the building.	
1005	**EGRESS WIDTH**				
1005.3.1	Stairway width per occupant served; no fire sprinklers	Stairway: **x 0.3 (in. per occ.)**		Not applicable, building has sprinkler system	**X** = occ. load (no. persons) served by stair
1005.3.1	Stairway width per occupant served; with fire sprinklers	Stairway: **x 0.2 (in. per occ.)**	Exception 1	Stairs comply.	**X** = 70 (no. persons) served by **Stair 1** **70** x 0.2 = **14.0" [48"** provided] **X** = 20 (no. persons) served by **Stair 2** **19** x 0.2 = **3.8" [48"** provided] **X** = 70 (no. persons) served by **Stair 3** **70** x 0. 2= **14.0" [48"** provided]
1005.3.2	Other egress components (doors) width per occupant served; no fire sprinklers	Door: **x 0.2 (in. per occ.)**		Not applicable, building has sprinkler system	
1005.3.2	Other egress components (doors) width per occupant served; with fire sprinklers	Door: **x 0.15 (in. per occ.)**	Exception 1	Doors comply.	See egress plan for individual door calculations
1006	**NUMBER OF EXITS AND EXIT ACCESS DOORWAYS**				
1006.2.1 & 1006.3	Spaces with one exit access doorway	Tables 1006.2.1 , & 1006.3.2(2): Maximum Occupant Load Per Story **A, B** First Story: 49 Second Story: 29 **S-2** First Story: 29 Second Story: 29 **R-2** First Story: 10		Not applicable, 6 exits provided at ground floor and 3 exits provided from the second floor.	
1006.3.1	Minimum number of exits or access to exits per story	Table 1006.3.1: 1 - 500 occupants requires 2 exits or access to exits per story		First floor occupant load = **285** 6 exits provided Second floor occupant load = **159** 3 exits provided	

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Code Analysis - Hayward Fire Station #6/Fire Training Center Building 1

Project Location: 1401 West Winton Avenue, Hayward, CA 94545

Date: 07/19/2019

CBC	TITLE	REQUIRED / DESCRIBED	EXCEPTION	PROVIDED	NOTES
1007.1.1	Separation distance when two exits are required	Not less than **1/2** of the length of the maximum overall diagonal dimension of the building or area to be served	2., if building is sprinklered, **1/3** of the length of the maximum overall diagonal dimension of the building or area to be served	Ground Floor: 58.67' > [36'=115' (max. ftr diag.) /3] Second Floor: 83.5' > [36'=108' (max. floor diag.) /3]	
1009	**ACCESSIBLE MEANS OF EGRESS**				
1009.1	Required	Accessible means of egress is required from all spaces.		1 accessible means of egress provided from all spaces	
1009.2	Continuity and Components	Each required accessible means of egress shall be continuous to a public way and shall consist of one or more of the following components: 1. Accessible routes complying with Chapter 11A or 11B 2. Interior exit stairways complying with 1009.3, 1009.3, with Chapter 11A or 11B 3. Interior exit access stairways complying with 1007.3, 1009.3, with Chapter 11A or 11B 4. Exterior exit stairways complying with sections 1007.3 and 1026 and Chapter 11A or 11B		Egress is continuous to the public way	
1009.2.1	Elevators Required	Egress Elevators required in buildings of four or more stories		Not provided, building is two stories. Therefore, egress elevator is not required	
1009.3	Stairways	In order to be considered part of an accessible means of egress: -48" clear width between handrails -Area of Refuge	2. 48" clear not required if building equipped with an automatic sprinkler system 5. Area of refuge not required if building equipped with an automatic sprinkler system	Automatic sprinkler system provided, therefore 48" clear width dimension and areas of refuge are not required.	
1010	**DOORS**				
1010.1.1	Size	Min. 32" clear		36" wide doors provided	
1010.1.1.1	Projections into clear width	Projections into the clear opening width between 34" and 80" above floor shall not exceed 4"		Complies	
1010.1.2	Door swing	in direction of travel if OL>=50		Complies	

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Code Analysis - Hayward Fire Station #6/Fire Training Center Building 1

Project Location: 1401 West Winton Avenue, Hayward, CA 94545

Date: 07/19/2019

CBC	TITLE	REQUIRED / DESCRIBED	EXCEPTION	PROVIDED	NOTES
1010.1.5	Floor Elevation	There shall be a floor or landing on each side of a door. Such floor or landing shall be at the same elevation on each side of the door. **Landings shall be level except for exterior landings, which are permitted to have a slope not to exceed .25 unit vertical in 12 units horizontal (2% slope)**		Complies	
1011	**STAIRWAYS**				
1011.2	Width	Required capacity determined in Section 1005.1, cannot be less than **44"** min. width.		Complies. 48" min between handrails provided.	
1011.3	Headroom	**80"** min.		Complies	
1011.5	Riser height & tread depth	Stair riser heights shall be **7"** maximum & **4"** minimum. Rectangular treads depths shall be **11"** minimum measured horizontally between the vertical planes of the foremost projection of adjacent treads & at a right angle to the treads nosing.		Complies	
1011.5.5	Nosing projection size	Nosings shall have a curvature or bevel of not less than 1/16" but not more than 9/16" from the foremost projection of the tread. Solid risers with slope of not more than 30 degrees.		Complies	
1011.6	Stairway landings	Width of landing shall not be less than width of the stair. Maximum required landing depth 48". Doors opening onto the landing shall not reduce the landing to one half the required width. When fully open a door shall not project more than 7" into the landing.		Complies	
1011.7.3	Enclosures under stairways	Min. 1-hr walls and soffits within enclosed usable space under stair		No enclosed usable space under stairs.	
1014	**HANDRAILS**				
1014.2	Height	34" - 38"		Complies	
1014.6	Handrail Extensions	**Stair**: 12" beyond top riser; depth of tread + 12" beyond bottom riser. The extension shall be in the same direction of the stair flights		Complies	

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Code Analysis - Hayward Fire Station #6/Fire Training Center Building 1

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Date: 07/19/2019

CBC	TITLE	REQUIRED / DESCRIBED	EXCEPTION	PROVIDED	NOTES
		Ramp: 12" at top and bottom in the same direction as the ramp run		N/A - no ramps in building	
1015	**GUARDS**				
1015.2	Where required	**along stairs** , ramps and landings >30" vertical to any point within 36" horizontal to open side		Complies	
1015.3	Height	Not less than **42"**		Complies	
1016	**EXIT ACCESS**				
1016.2	Exit through intervening spaces	Egress shall not pass through adjoining or intervening rooms or areas, except where such adjoining rooms or areas and the area served are accessory to one or the other, are not a Group H occupancy and provide a discernible path of egress travel to an exit.		Complies	CBC Chap 2 Definition and 1016.2.2: The Exit Access Hallway is an exit access that leads directly to an exterior exit and is within the allowable travel distance. Exit Access Hallways are intervening areas that are an accessory to the A, B, R, & S Occupancies.
1017	**EXIT ACCESS TRAVEL DISTANCE**				
1017.2	Travel Distance Limitations	Exit access travel distance shall not exceed the values given in Table 1017.2			
1017.3	Limitations	Exit access travel shall not exceed **250' max for A occupancy,** with a sprinkler system.		Building is sprinklered, therefore max travel distance to an exit is 250'. Travel distance to exits does not exceed 250'. Longest travel distance from Second Floor sleeping unit to Stair 2 exit access stair to ground floor exit is 160'	A occupancy is the most restrictive nonseparated occ.
1019	**EXIT ACCESS STAIRWAYS & RAMPS**				
1019.3	Exit access stairways	Floor openings between stories created by exit access stairways shall be enclosed	Exception #1: In other than Group I and R-2.1 occupancies, **exit access stairways that serve, or atmospherically communicate between, only two stories are not required to be enclosed**	All stairs are exit access stairways that only serve two floors. Therefore, they do not need to be enclosed.	712.1.9 Two-Story Openings
1020	**CORRIDORS**				
1020.1 Table 1020.1	Corridors shall be fire-resistance rated in accordance with Table 1020.1	Table 1020.1: **A, B, & S** with occupant load served greater than 30: Non-sprinklered = 1 -hour Sprinklered = 0-hour **R-2** with occupant load served greater than 10: Non-sprinklered = 1-hour Sprinklered = 1-hour	2. A fire-resistance rating is not required for corridors contained within a dwelling unit or sleeping unit in an occupancy in **Group R**.	Building is fire sprinklered. No fire-rated corridors required for A, B, & S Occupancies. Corridors in R-2 Occupancy occur within the sleeping unit. Rated corridor not required per Exception #2.	
1020.2	Width	**44"** min.	2., **36"** if OL<50	Complies	

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Code Analysis - Hayward Fire Station #6/Fire Training Center Building 1

Project Location: 1401 West Winton Avenue, Hayward, CA 94545

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CBC	TITLE	REQUIRED / DESCRIBED	EXCEPTION	PROVIDED	NOTES
1020.4	Dead Ends	**20 ft** max.	2., in B, R-2, & S, **50 ft** with sprinkler	Complies	
1020.6	Corridor continuity	Fire-resistance-rated corridors shall be continuous from the point of entry to an exit	1., foyers, lobbies, reception are not intervening rooms	Corridors not required to be fire-rated per Table 1020.1	
1022	**EXITS**				
1022.1	General	Once a level of protection is achieved, such level of protection shall not be reduced until arrival at the exit discharge. Exits shall be continuous.		Complies	
1023	**INTERIOR EXIT STAIRWAYS & RAMPS**				
1023.2	Interior exit stairways	Interior exit stairways shall lead directly to the exterior of the building or shall be extended to the exterior of the building with an exit passageway		1 interior exit stairway provided and complies	
1023.2.1	Where required	Interior exit stairways shall be included, as necessary, to meet one or more means of egress design requirements, such as required number of exits or exit access travel distance		1 interior exit stairway provided and complies	
1028	**EXIT DISCHARGE**				
1028.1	General	Exits shall discharge directly to the exterior of the building. The exit discharge shall be at grade or shall provide a direct path of egress travel to grade. The exit discharge shall not reenter a building. The combined use of Exceptions 1 and 2 shall not exceed 50 percent of the number and capacity of required exits.	1. Max 50% of interior exit stairways and ramps permitted to egress through areas on level of exit discharge if all the following: **1.1** Egress to a free and unobstructed path of travel to an exterior exit **1.2** The entire area of the level of exit discharge is separated from areas below by construction conforming to the fire-resistance rating of the enclosure **1.3** Protected throughout with an Automatic Sprinkler System	All exits have a direct path of egress travel to grade. The building has a fire sprinkler system.	

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Code Analysis - Hayward Fire Station #6/Fire Training Center Building 1

Project Location: 1401 West Winton Avenue, Hayward, CA 94545

Date: 07/19/2019

CBC	TITLE	REQUIRED / DESCRIBED	EXCEPTION	PROVIDED	NOTES
11B-407	**ELEVATORS**				
11B-407.4.1	Car inside clear	min. 80"w x 54"d w/ center door	42" wide door	Complies	
		min. 68"w x 54"d w/ side door	36" wide door	Complies	
		min. 54"w x 80"d w/ any door	36" wide door	Complies	
		min. 60"w x 60"d w/ any door	36" wide door	Complies	
3002	**HOISTWAY ENCLOSURES**				
3002.4	Elevator car to accommodate ambulance stretcher	Where elevators are provided in buildings four or more stories above or below grade plane, min. one elevator shall be provided for fire department emergency access to all floors. Car shall accommodate an ambulance stretcher 24" x 84" in the horizontal open position.	4. Not required in two story buildings with stairs that will accommodate a gurney or stretcher.	Complies, building is only two stories.	
3006	**ELEVATOR LOBBIES AND HOISTWAY OPENING PROTECTION**				
3006.2	Hoistway opening protection required	Elevator hoistway door openings shall be protected where an elevator hoistway connects more than two stories in Group A, E, H, I, L, R-1, R-2 and R-2.1 Occupancies, more than three stories for all other occupancies.		Building is only two stories, elevator doors do not need fire rating	

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY:	
KATHY GARCIA DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3-INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
9/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 1 CODE ANALYSIS

Drawn By: Author
Checked By: Checker

Scale:

Date:
October 4, 2019

Project No. 2016039

1-A0.24
Drawing No.

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Project Name:	Hayward Fire Station #6 Bldg 1	NRCC-PRF-01-E	Page 1 of 15
Project Address:	1401 W. Winton Avenue Hayward 94545	Calculation Date/Time:	16:52, Thu, Aug 15, 2019
Compliance Scope:	NewEnvelope	Input File Name:	Hayward Fire Station 6 Bldg 1.cibd16x

A. PROJECT GENERAL INFORMATION

1.	Project Location (city)	Hayward	8.	Standards Version	Compliance2016
2.	CA Zip Code	94545	9.	Compliance Software (version)	EnergyPro 7.2
3.	Climate Zone	3	10.	Weather File	HAYWARD_724935_CZ2010.epw
4.	Total Conditioned Floor Area	13,464 ft²	11.	Building Orientation (deg)	(N) 0 deg
5.	Total Unconditioned Floor Area	7,214 ft²	12.	Permitted Scope of Work	NewEnvelope
6.	Total # of Stories (Habitable Above Grade)	2	13.	Building Type(s)	Nonresidential
7.	Total # of dwelling units	0	14.	Gas Type	NaturalGas

B. COMPLIANCE RESULTS FOR PERFORMANCE COMPONENTS (Annual TDV Energy Use, kBtu/ft ²-yr) **§ 140.1**

BUILDING COMPLIES

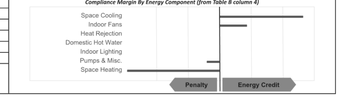
1. Energy Component	2. Standard Design (TDV)	3. Proposed Design (TDV)	4. Compliance Margin (TDV)	5. Percent Better than Standard
Space Heating	14.75	15.85	-1.10	-7.5%
Space Cooling	31.15	30.16	0.99	3.2%
Indoor Fans	14.28	13.96	0.32	2.2%
Heat Rejection	--	--	--	--
Pumps & Misc.	1.03	1.18	-0.15	-14.6%
Domestic Hot Water	--	--	--	
Indoor Lighting	60.87	60.87	--	0.0%
COMPLIANCE TOTAL	**122.08**	**122.02**	**0.06**	**0.0%**
Receptacle	101.45	101.45	0.0	0.0%
Process	--	--	--	--
Other Ltg	--	--	--	--
Process Motors	--	--	--	--
TOTAL	**223.53**	**223.47**	**0.1**	**0.0%**

Project Name:	Hayward Fire Station #6 Bldg 1	NRCC-PRF-01-E	Page 2 of 15
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C. PRIORITY PLAN CHECK/ INSPECTION ITEMS (in order of highest to lowest TDV energy savings)

1st	Space Cooling: Check envelope and mechanical
2nd	Indoor Fans: Check envelope and mechanical
3rd	Heat Rejection: Check envelope and mechanical
4th.	Domestic Hot Water: Check mechanical
5th.	Indoor Lighting: Check lighting
6th	Pumps & Misc.: Check mechanical
7th	Space Heating: Check envelope and mechanical

Compliance Margin By Energy Component (from Table 8 column 4)



D. EXCEPTIONAL CONDITIONS

This project includes partial performance compliance scope options. The building must show compliance with all other applicable compliance scope options (performance or prescriptively) before occupying.

The aged solar reflectance and aged thermal emittance must be listed in the Cool Roof Rating Council database of certified products. For projects where initial reflectance is used, the initial reflectance must be listed, and the aged reflectance is calculated by the software program and used in the compliance model.

The building does not include service water heating. Verify that service water heating is not required and is not included in the design.

This project has thermal zones with operable openings modeled without mechanical compliance selected. Compliance with Section 140.4(n) Mechanical System Shutoff should be considered.

This project uses the Simplified Geometry Performance Modeling Approach which is not capable of modeling daylighting controls and assumes the prescriptive Secondary Daylit Control requirements are met. PRESCRIPTIVE COMPLIANCE documentation (form NRCC-LTI-02-E) for the requirements of section 140.6(d) Automatic Daylighting Controls in Secondary Daylit Zones is required.

The proposed building includes space(s) that are modeled with unknown HVAC system(s). Verify that the spaces modeled with unknown HVAC system(s) are either part of core and shell analysis which will be permitted for mechanical compliance in the future, or the spaces have an existing HVAC system not modeled for compliance, or the compliance scope does not include mechanical.

E. HERS VERIFICATION

This Section Does Not Apply

F. ADDITIONAL REMARKS

Envelope compliance calculations for envelope of conditioned floor area only.

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G. COMPLIANCE PATH & CERTIFICATE OF COMPLIANCE SUMMARY

Identify which building components use the performance or prescriptive path for compliance. "NA"= not in project
For components that utilize the performance path, indicate the sheet number that includes mandatory notes on plans.

Building Component	Compliance Path	Compliance Forms *(required for submittal)*	Location of Mandatory Notes on Plans
Envelope	☒ Performance	NRCC-PRF-ENV-DETAILS (section of the NRCC-PRF-01-E)	
	☐ Prescriptive	NRCC-ENV-01 / 02 / 03 / 04 / 05 / 06-E	
	☐ NA		
Mechanical	☐ Performance	NRCC-PRF-MCH-DETAILS (section of the NRCC-PRF-01-E)	
	☐ Prescriptive	NRCC-MCH-01 / 02 / 03 / 04 / 05 / 06 / 07-E	
	☒ NA		
Domestic Hot Water	☐ Performance	NRCC-PRF-PLB-DETAILS (section of the NRCC-PRF-01-E)	
	☐ Prescriptive	NRCC-PLB-01-E	
	☒ NA		
Lighting (Indoor Conditioned)	☐ Performance	NRCC-PRF-LTI-DETAILS (section of the NRCC-PRF-01-E)	
	☐ Prescriptive	NRCC-LTI-01 / 02 / 03 / 04 / 05-E	
	☒ NA		
Covered Process: Commercial Kitchens	☐ Performance	S2 (section of the NRCC-PRF-01-E)	
	☐ Prescriptive	NRCC-PRC-01/ 03-E	
	☒ NA		
Covered Process: Computer Rooms	☐ Performance	S3 (section of the NRCC-PRF-01-E)	
	☐ Prescriptive	NRCC-PRC-01/ 04-E	
	☒ NA		
Covered Process: Laboratory Exhaust	☐ Performance	S4 (section of the NRCC-PRF-01-E)	
	☐ Prescriptive	NRCC-PRC-01/ 09-E	
	☒ NA		

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G. COMPLIANCE PATH & CERTIFICATE OF COMPLIANCE SUMMARY

The following building components are only eligible for prescriptive compliance. Indicate which are relevant to the project. *The following building components may have mandatory requirements per Part 6. Indicate which are relevant to the project.*

Yes	NA	Prescriptive Requirement	Compliance Forms	Yes	NA	Mandatory Requirement	Compliance Forms
☒	☐	Lighting (Indoor Unconditioned) §140.6	NRCC-LTI-01 / 02 / 03 / 04 / 05-E	☐	☒	Commissioning: §120.8 Simple Systems Complex Systems	NRCC-CXR-01 / 02 / 03 / 05-E NRCC-CXR-01 / 02 / 04 / 05-E
☐	☒	Lighting (Outdoor) §140.7	NRCC-LTO-01 / 02 / 03-E	☐	☒	Electrical: §130.5	NRCC-ELC-01-E
☐	☒	Lighting (Sign) §140.8	NRCC-LTS-01-E	☒	☐	Solar Ready: §110.10	NRCC-SRA-01 / 02-E
☐	☒	Solar Thermal Water Heating: §140.5	NRCC-STH-01-E	☐ ☐ ☐ ☐ ☐	☒ ☒ ☒ ☒ ☒	Covered Process: §120.6 Parking Garage Commercial Refrigeration Warehouse Refrigeration Compressed Air Process Boilers	NRCC-PRC-01-E NRCC-PRC-02-E NRCC-PRC-05-E NRCC-PRC-06/07/08-E NRCC-PRC-10-E NRCC-PRC-11-E

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H. CERTIFICATE OF INSTALLATION, CERTIFICATE OF ACCEPTANCE & CERTIFICATE OF VERIFICATION SUMMARY (NRCI/NRCA/NRCV) – Documentation Author to indicate which Certificates must be submitted for the features to be recognized for compliance (Retain copies and verify forms are completed and signed to post in field for Field Inspector to verify). See Tables G, and H. in MCH and LTI Details Sections for Acceptance Tests and forms by equipment.

Building Component	Compliance Forms *(required for submittal)*	Confirmed Pass	Confirmed Fail
Envelope	☒ NRCI-ENV-01-E - For all buildings	☐	☐
	☒ NRCA-ENV-02-F- NFRC label verification for fenestration	☐	☐
Mechanical	☐ NRCI-MCH-01-E - For all buildings with Mechanical Systems	☐	☐
	☐ NRCA-MCH-02-A- Outdoor Air	☐	☐
	☐ NRCA-MCH-03-A – Constant Volume Single Zone HVAC	☐	☐
	☐ NRCA-MCH-04-H- Air Distribution Duct Leakage	☐	☐
	☐ NRCA-MCH-05-A- Air Economizer Controls	☐	☐
	☐ NRCA-MCH-06-A- Demand Control Ventilation	☐	☐
	☐ NRCA-MCH-07-A – Supply Fan Variable Flow Controls	☐	☐
	☐ NRCA-MCH-08-A- Valve Leakage Test	☐	☐
	☐ NRCA-MCH-09-A – Supply Water Temp Reset Controls	☐	☐
	☐ NRCA-MCH-10-A- Hydronic System Variable Flow Controls	☐	☐
	☐ NRCA-MCH-11-A – Auto Demand Shed Controls	☐	☐
	☐ NRCA-MCH-12-A- Packaged Direct Expansion Units	☐	☐
	☐ NRCA-MCH-13-A- Air Handling Units and Zone Terminal Units	☐	☐
	☐ NRCA-MCH-14-A- Distributed Energy Storage	☐	☐
	☐ NRCA-MCH-15-A – Thermal Energy Storage	☐	☐
	☐ NRCA-MCH-16-A- Supply Air Temp Reset Controls	☐	☐
	☐ NRCA-MCH-17-A – Condensate Water Temp Reset Controls	☐	☐
	☐ NRCA-MCH-18-A- Energy Management Controls Systems	☐	☐
	☐ NRCV-MCH-04-H- Duct Leakage Test	☐	☐

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Building Component	Compliance Forms *(required for submittal)*	Confirmed Pass	Confirmed Fail
Plumbing	☐ NRCI-PLB-01-E - For all buildings with Plumbing Systems	☐	☐
	☐ NRCI-PLB-02-E - required on central systems in high-rise residential, hotel/motel application.	☐	☐
	☐ NRCI-PLB-03-E - Single dwelling unit systems in high-rise residential, hotel/motel application.	☐	☐
	☐ NRCI-PLB-21-E - HERS verified central systems in high-rise residential, hotel/motel application.	☐	☐
	☐ NRCI-PLB-22-E - HERS verified single dwelling unit systems in high-rise residential, hotel/motel application.	☐	☐
	☐ NRCV-PLB-21-H- HERS verified central systems in high-rise residential, hotel/motel application.	☐	☐
	☐ NRCV-PLB-22-H - HERS verified single dwelling unit systems in high-rise residential, hotel/motel application.	☐	☐
	☐ NRCI-STH-01-E - Any solar water heating	☐	☐
Indoor Lighting	☐ NRCI-LTI-01-E - For all buildings	☐	☐
	☐ NRCI-LTI-02-E - Lighting control system, or for an Energy Management Control System (EMCS)	☐	☐
	☐ NRCI-LTI-03-E - Line-voltage track lighting integral current limiter, or for a supplementary overcurrent protection panel used to energize only line-voltage track lighting	☐	☐
	☐ NRCI-LTI-04-E - Two interlocked systems serving an auditorium, a convention center, a conference room, or a theater	☐	☐
	☐ NRCI-LTI-05-E - Lighting Control Credit Power Adjustment Factor (PAF)	☐	☐
	☐ NRCI-LTI-06-E - Additional wattage installed in a video conferencing studio	☐	☐
	☐ NRCA-LTI-02-A - Occupancy sensors and automatic time switch controls.	☐	☐
	☒ NRCA-LTI-03-A - Automatic daylighting controls	☐	☐
	☐ NRCA-LTI-04-A - Demand responsive lighting controls	☐	☐
Outdoor Lighting	☐ NRCI-LTO-01-E – Outdoor Lighting	☐	☐
	☐ NRCI-LTO-02-E- EMCS Lighting Control System	☐	☐
	☐ NRCA-LTO-02-A - Outdoor Lighting Control	☐	☐
Sign Lighting	☐ NRCI-LTS-01-E – Sign Lighting	☐	☐
Electrical	☐ NRCI-ELC-01-E - Electrical Power Distribution	☐	☐
Photovoltaic	☐ NRCI-SPV-01-E Photovoltaic Systems	☐	☐

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H. CERTIFICATE OF INSTALLATION, CERTIFICATE OF ACCEPTANCE & CERTIFICATE OF VERIFICATION SUMMARY (NRCI/NRCA/NRCV) – Documentation Author to indicate which Certificates must be submitted for the features to be recognized for compliance (Retain copies and verify forms are completed and signed to post in field for Field Inspector to verify). See Tables G, and H. in MCH and LTI Details Sections for Acceptance Tests and forms by equipment.

Building Component	Compliance Forms *(required for submittal)*	Confirmed Pass	Confirmed Fail
Covered Process	☐ NRCI-PRC-01-E Covered Processes	☐	☐
	☐ NRCA-PRC-01-F- Compressed Air Systems	☐	☐
	☐ NRCA-PRC-02-F- Kitchen Exhaust	☐	☐
	☐ NRCA-PRC-03-F- Garage Exhaust	☐	☐
	☐ NRCA-PRC-04-F- Refrigerated Warehouse- Evaporator Fan Motor Controls	☐	☐
	☐ NRCA-PRC-05-F- Refrigerated Warehouse- Evaporative Condenser Controls	☐	☐
	☐ NRCA-PRC-06-F- Refrigerated Warehouse- Air Cooled Condenser Controls	☐	☐
	☐ NRCA-PRC-07F- Refrigerated Warehouse- Variable Speed Compressor	☐	☐
	☐ NRCA-PRC-08-F- Electrical Resistance Underslab Heating System	☐	☐

I. ENVELOPE GENERAL INFORMATION (See NRCC-PRF-ENV-DETAILS for more information)

						Confirmed Pass	Confirmed Fail
1.	Total Conditioned Floor Area	13,464 ft²	5.	Number of Floors Above Grade	2		
2.	Total Unconditioned Floor Area	7,214 ft²	6.	Number of Floors Below Grade	0		
3.	Addition Conditioned Floor Area	0 ft²					
4.	Addition Unconditioned Floor Area	0 ft²					

7. Opaque Surfaces & Orientation	8. Total Gross Surface Area	9. Total Fenestration Area	10. Window to Wall Ratio	Confirmed Pass	Confirmed Fail
North Wall	4,097 ft²	1,917 ft²	46.8%	☐	☐
East Wall	2,300 ft²	141 ft²	06.1%	☐	☐
South Wall	3,197 ft²	1,874 ft²	58.6%	☐	☐
West Wall	1,222 ft²	78 ft²	06.4%	☐	☐
Total:	**10,816 ft²**	**4,010 ft²**	**37.1%**	☐	☐
Roof	10,107 ft²	0 ft²	00.0%	☐	☐

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J. FENESTRATION ASSEMBLY SUMMARY **§ 110.6** **Confirmed**

1. Fenestration Assembly Name / Tag or I.D.	2. Fenestration Type / Product Type / Frame Type	3. Certification Method[1]	4. Assembly Method	5. Area ft²	6. Overall U-Factor	7. Overall SHGC	8. Overall VT	9. Status[2]	Pass	Fail
Door NFRC 0.45/0.23/0.17	VerticalFenestration GlazedDoor N/A	NFRC Rated	SiteBuilt	440	0.45	0.23	0.17	N	☐	☐
Curtainwall NFRC 0.41/0.26/0.46	VerticalFenestration CurtainWall N/A	NFRC Rated	SiteBuilt	2568	0.41	0.26	0.46	N	☐	☐
Storefront NFRC 0.41/0.26/0.46	VerticalFenestration CurtainWall N/A	NFRC Rated	SiteBuilt	459	0.41	0.26	0.46	N	☐	☐
Fixed NFRC 0.36/0.25/0.42	VerticalFenestration FixedWindow N/A	NFRC Rated	Manufactured	429	0.36	0.25	0.42	N	☐	☐
Operable NFRC 0.46/0.22/0.32	VerticalFenestration OperableWindow N/A	NFRC Rated	Manufactured	114	0.46	0.22	0.32	N	☐	☐

[1] *Newly installed fenestration shall have a certified NFRC Label Certificate or use the CEC default tables found in Table 110.6-A and Table 110.6-B. Center-of Glass (COG) values are for the glass only, determined by the manufacturer, and are shown for ease of verification. Site-built fenestration values are calculated per Nonresidential Appendix NA6 and are used in the analysis.*
[2] *Status: N - New, A – Altered, E – Existing*

Taking compliance credit for fenestration shading devices? (If "Yes", see NRCC-PRF-ENV-DETAILS for more information) No

K. OPAQUE SURFACE ASSEMBLY SUMMARY **§ 120.7/ § 140.3** **Confirmed**

1. Surface Name	2. Surface Type	3. Area (ft²)	4. Framing Type	5. Cavity R-Value	6. Continuous R-Value	7. U-Factor / F-Factor / C-Factor	8. Status[1]	Pass	Fail
1+20- 6 Conc R13 Wall4	ExteriorWall	5873	Metal	13	NA	U-Factor: 0.203	N	☐	☐
Mtl Roof Deck22	Roof	4019	NA	0	25	U-Factor: 0.038	N	☐	☐
Slab On Grade24	UndergroundFloor	12604	NA	0	NA	F-Factor: 0.730	N	☐	☐
1- 6 Concrete Wall w/ R126	ExteriorWall	1056	NA	0	10	U-Factor: 0.089	N	☐	☐
3- Mtl Stud R13 + R5 Wall28	ExteriorWall	3887	Metal	13	5	U-Factor: 0.103	N	☐	☐
Sloped Roof63	Roof	8074	NA	0	26	U-Factor: 0.037	N	☐	☐

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K. OPAQUE SURFACE ASSEMBLY SUMMARY **§ 120.7/ § 140.3** **Confirmed**

1. Surface Name	2. Surface Type	3. Area (ft²)	4. Framing Type	5. Cavity R-Value	6. Continuous R-Value	7. U-Factor / F-Factor / C-Factor	8. Status[1]	Pass	Fail
Concrete floor over condi65	InteriorFloor	4037	NA	0	NA	U-Factor: 0.238	N	☐	☐
Concrete floor over uncon67	InteriorFloor	4037	NA	0	4	U-Factor: 0.119	N	☐	☐
1- 6 Concrete Wall69	ExteriorWall	2816	NA	0	NA	U-Factor: 0.775	N	☐	☐

[1] *Status: N - New, A – Altered, E – Existing*

L. ROOFING PRODUCT SUMMARY **§ 140.3** **Confirmed**

1. Product Type	2. Product Density (lb/ft²)	3. Aged Solar Reflectance	4. Thermal Emittance	5. SRI	6. Cool Roof Credit	7. Roofing Product Description	Pass	Fail
Mtl Roof Deck22	4.750	0.63	0.75	Not Provided	Yes	CRRC Prod. ID: Mtl Roof Deck	☐	☐
Sloped Roof63	5.431	0.20	0.75	Not Provided	Yes	CRRC Prod. ID: Sloped Roof	☐	☐

N. ECONOMIZER & FAN SYSTEMS SUMMARY[1] **§ 140.4**

This Section Does Not Apply

[1] *Mechanical ventilation calculations and exhaust fans are included in the NRCC-PRF-MCH-DETAILS section*

O. EQUIPMENT CONTROLS **§ 120.2**

This Section Does Not Apply

P. SYSTEM DISTRIBUTION SUMMARY **§ 120.4/ § 140.4(i)**

This Section Does Not Apply

Multifamily or Hotel/ Motel Occupancy? (If "Yes", see NRCC-PRF-MCH-DETAILS for DHW system information) No

Q. INDOOR CONDITIONED LIGHTING GENERAL INFO (see NRCC-PRF-LTI-DETAILS for more info)

This Section Does Not Apply

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R. INDOOR CONDITIONED LIGHTING SCHEDULE (Adapted from NRCC-LTI-01-E)[1] **§ 130.0**

This Section Does Not Apply

[1] *If lighting power densities were used in the compliance model Building Departments will need to check prescriptive forms for Luminaire Schedule details.*

S1. COVERED PROCESS SUMMARY – ENCLOSED PARKING GARAGES **§ 140.9**

This Section Does Not Apply

S2. COVERED PROCESS SUMMARY – COMMERCIAL KITCHENS **§ 140.9**

This Section Does Not Apply

S3. COVERED PROCESS SUMMARY – COMPUTER ROOMS **§ 140.9**

This Section Does Not Apply

S4. COVERED PROCESS SUMMARY – LABORATORY EXHAUSTS **§ 140.9**

This Section Does Not Apply

T. UNMET LOAD HOURS

This Section Does Not Apply

U. ENERGY USE SUMMARY

Energy Component	Standard Design Site (MWh)	Proposed Design Site (MWh)	Margin (MWh)	Standard Design Site (MBtu)	Proposed Design Site (MBtu)	Margin (MBtu)
Space Heating	0.0	0.0	--	123.7	132.8	-9.1
Space Cooling	8.3	8.0	0.3	--	--	--
Indoor Fans	8.7	8.5	0.2	--	--	--
Heat Rejection	--	--	--	--	--	--
Pumps & Misc.	0.8	0.9	-0.1	--	--	--
Domestic Hot Water	--	--	--	--	--	--
Indoor Lighting	39.8	39.8	0.0	--	--	--
COMPLIANCE TOTAL	**57.6**	**57.2**	**0.4**	**123.7**	**132.8**	**-9.1**
Receptacle	66.3	66.3	0.0	--	--	--

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U. ENERGY USE SUMMARY

Energy Component	Standard Design Site (MWh)	Proposed Design Site (MWh)	Margin (MWh)	Standard Design Site (MBtu)	Proposed Design Site (MBtu)	Margin (MBtu)
Process	--	--	--	--	--	--
Other Ltg	--	--	--	--	--	--
Process Motors	--	--	--	--	--	--
TOTAL	**123.9**	**123.5**	**0.4**	**123.7**	**132.8**	**-9.1**

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DOCUMENTATION AUTHOR'S DECLARATION STATEMENT **§ 10-103**

I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: Sarah Pernula	Signature: Sarah Pernula (Digitally signed by Sarah Pernula DN: cn=Sarah Pernula, o=SOLDATA Energy Consulting, ou, email=sarah@soldata.com, c=US Date: 2019.08.15 16:52:32 -07'00')
Company: SOLDATA Energy Consulting	
Address: 2227 Capricorn Way, Suite 202	Signature Date: 8/15/19
City/State/Zip: Santa Rosa CA 95407	CEA Identification (if applicable): NR-16-90-20043
Phone: 707.545.4440	

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1	I hereby affirm that I am eligible under the provisions of Division 3 of the Business and Professions Code to sign this document as the person responsible for its preparation; and that I am licensed in the State of California as a civil engineer, mechanical engineer, electrical engineer, or I am a licensed architect.
2	I affirm that I am eligible under the provisions of Division 3 of the Business and Professions Code by section 5537.2 or 6737.3 to sign this document as the person responsible for its preparation; and that I am a licensed contractor performing this work.
3	I affirm that I am eligible under Division 3 of the Business and Professions Code to sign this document because it pertains to a structure or type of work described as exempt pursuant to Business and Professions Code Sections 5537, 5538 and 6737.1.

Responsible Envelope Designer Name:	Signature:
Company: RossDrulisCusenbery Architecture, Inc.	
Address: 18294 Sonoma Highway	Date Signed:
City/State/Zip: Sonoma CA 95476	Declaration Statement Type:
Phone: 707-996-8448	Title: License #:
Responsible Lighting Designer Name:	Signature: NOT IN SCOPE
Company:	
Address:	Date Signed:
City/State/Zip:	Declaration Statement Type:
Phone:	Title: License #:
Responsible Mechanical Designer Name: - specify -	Signature: NOT IN SCOPE
Company:	
Address:	Date Signed:
City/State/Zip:	Declaration Statement Type:
Phone:	Title: License #:

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NRCC-PRF-ENV-DETAILS -SECTION START-

A. OPAQUE SURFACE ASSEMBLY DETAILS **Confirmed**

1. Surface Name	2. Surface Type	3. Description of Assembly Layers	4. Notes	Pass	Fail
1+20- 6 Conc R13 Wall4	ExteriorWall	Concrete - 140 lb/ft3 - 6 in. Metal framed wall, 16in. OC, 3 Sin., R-13 Gypsum Board - 5/8 in.		☐	☐
Mtl Roof Deck22	Roof	Single Ply Roofing - 1/4 in. Plywood - 1/2 in. Compliance Insulation R25.00 Metal Deck - 1/16 in.		☐	☐
Slab On Grade24	UndergroundFloor	Slab Type = UnheatedSlabOnGrade Insulation Orientation = None Insulation R-Value = R0		☐	☐
1- 6 Concrete Wall w/ R126	ExteriorWall	Concrete - 140 lb/ft3 - 6 in. Compliance Insulation R10.00		☐	☐
3- Mtl Stud R13 + R5 Wall28	ExteriorWall	Metal Siding - 1/16 in. Vapor permeable felt - 1/8 in. Gypsum Board - 1/2 in. Metal framed wall, 16in. OC, 3 Sin., R-13 Gypsum Board - 5/8 in. Compliance Insulation R5.00		☐	☐
Sloped Roof63	Roof	Metal Standing Seam - 1/16 in. Compliance Insulation R26.00 Metal Deck - 1/16 in.		☐	☐
Concrete floor over condi

D. EXCEPTIONAL CONDITIONS

This table is auto-filled with uneditable comments because of selections made or data entered in tables throughout the form.

No exceptional conditions apply to this project.

E. ADDITIONAL REMARKS

This table includes remarks made by the permit applicant to the Authority Having Jurisdiction.

F. ALLOCATED SOLAR ZONE

This Section Does Not Apply

Required Minimum Solar Zone

01	02	03	04	05	06			07	08
Minimum Solar Zone Area Calculation Method	Total New or Added Roof Area (ft²)	Total New or Added Roof Area Covered with Skylights (ft²)	Minimum Solar Zone Based on Total or Added Roof Area (0.15 x (Roof-Sky)) (ft²)	Method/Tool(s) Used to Determine Annual Solar Access for Potential Zones[1]	Potential Solar Zone Areas: Roof Areas with ≥ 70% Solar Access			Minimum Solar Zone Based on Potential Zone (0.5 x (Total Potential Zone)) (ft²)	Required Minimum Solar Zone Area (ft²)
					Low-Sloped Area (≤ 2:12 pitch) (ft²)	Steep-Sloped Area (> 2:12 pitch), Oriented 110° - 270° (ft²)	Total Potential Solar Zone Area (ft²)		
Total New or Added Ro	12,093	0	1,813.95						1,813.95

Designated Solar Zone Subareas

09	10	11	12	13	14	15	16	17	18	19
Subarea Name or Tag	Building Plan Reference	Roof or Overhang Slope (Low ≤ 2:12 pitch) (Steep > 2:12 pitch)	Is Steep-Sloped Roof or Overhang between 110 and 270 degrees?	Subarea Complies with Title 24, Part 9	Solar Zone Subarea Free of Obstructions per §110.10(b)3A	Subarea is Required Distance from Potential Obstructions per §110.10(b)3B	Is the Smallest Dimension 5 feet or greater?	Min. Area Required per Subarea (ft²)	Designated Area (ft²)	Subarea Complies?

Table Continued

Designated Solar Zone Subareas

09	10	11	12	13	14	15	16	17	18	19
Subarea Name or Tag	Building Plan Reference	Roof or Overhang Slope (Low ≤ 2:12 pitch) (Steep > 2:12 pitch)	Is Steep-Sloped Roof or Overhang between 110 and 270 degrees?	Subarea Complies with Title 24, Part 9	Solar Zone Subarea Free of Obstructions per §110.10(b)3A	Subarea is Required Distance from Potential Obstructions per §110.10(b)3B	Is the Smallest Dimension 5 feet or greater?	Min. Area Required per Subarea (ft²)	Designated Area (ft²)	Subarea Complies?
Sloped Roof	1-A2.60	Steep-Sloped	Yes	Yes	Yes	Yes	Yes	160	1,900	COMPLIES
								Total Designated Solar Zone Area (ft²):	**1,900**	

Interconnection Pathways

Location in construction documents showing the location for inverters and metering equipment and a pathway for the routing of conduit/ plumbing to the electrical service/ water heating system per §110.10(c).	1-A2.60

G. PERMANENTLY INSTALLED SOLAR PHOTOVOLTAIC (PV) SYSTEM

This Section Does Not Apply

H. PERMANENTLY INSTALLED SOLAR HOT WATER SYSTEM

This Section Does Not Apply

I. SMART THERMOSTATS AND ALTERNATIVE EFFICIENCY MEASURE

This Section Does Not Apply

J. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Table Instructions: Selections have been made based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and can be found online at http://www.energy.ca.gov/2015publications/CEC-400-2015-033/appendices/forms/NRCI

YES	NO	Form/Title	Field Inspector	
			Pass	Fail
○	◉	NRCI-SPV-01-E - Must be submitted for all newly installed Photovoltaic Systems (PV) being used to comply with §110.10(b)1B for high-rise multifamily, Hotel/Motel buildings less than 10 stories and nonresidential buildings less than 4 stories.	☐	☐
○	◉	NRCI-STH-01-E - Must be submitted for all newly installed Solar Water Heating systems being used to comply with §110.10(b)1B for high-rise multifamily, Hotel/Motel buildings less than 10 stories and nonresidential buildings less than 4 stories.	☐	☐

K. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

There are no Certificates of Acceptance applicable to solar ready requirements.

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

Documentation Author Name:	Sarah Pernula	Documentation Author Signature:	Sarah Pernula
Company:	SOLDATA Energy Consulting	Signature Date:	8/15/19
Address:	2227 Capricorn Way, Suite 202	CEA/ HERS Certification Identification (if applicable):	NR16-90-20043
City/State/Zip:	Santa Rosa, CA 95407	Phone:	707.545.4440

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. **The information provided on this Certificate of Compliance is true and correct.**
2. **I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer)**
3. **The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.**
4. **The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.**
5. **I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.**

Responsible Designer Name:	Responsible Designer Signature:
Company :	Date Signed:
Address:	License:
City/State/Zip: ,	Phone:

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3-INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
9/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 1 ENVELOPE TITLE-24 ENERGY COMPLIANCE

Drawn By: SP Checked By: EW

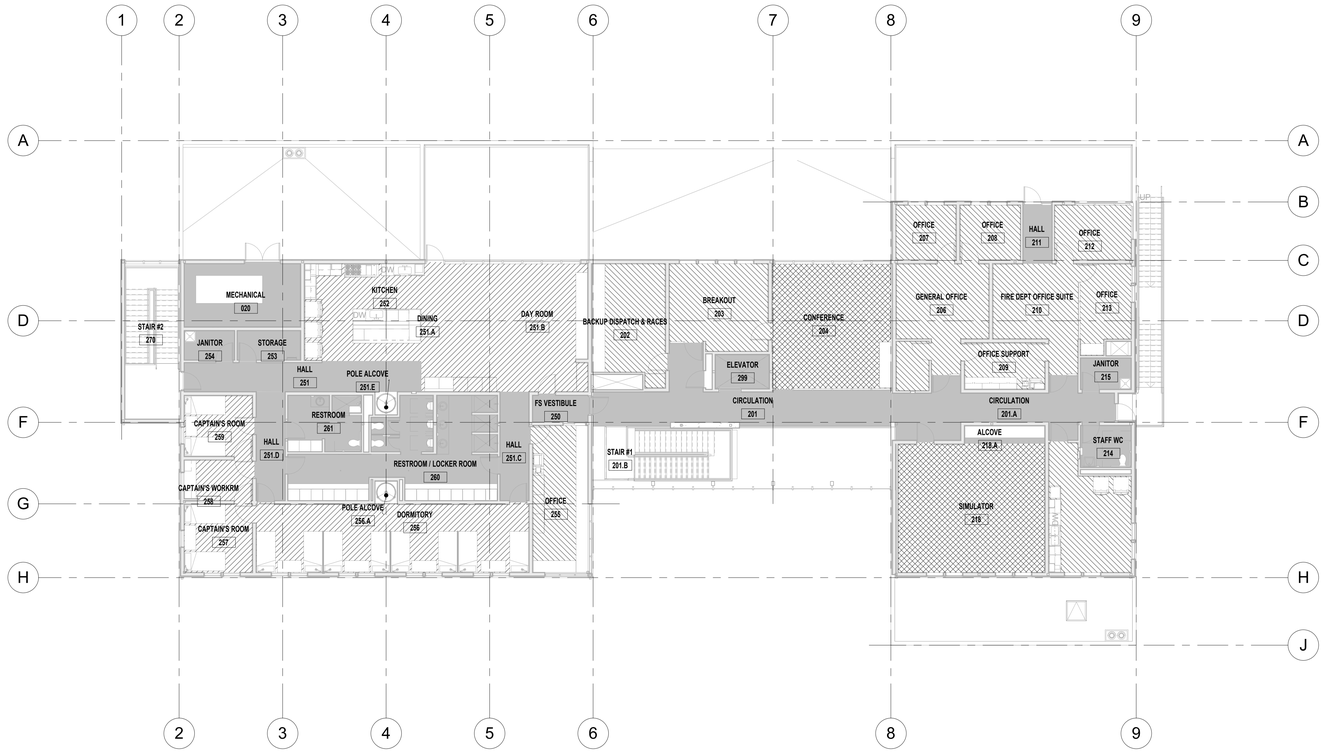
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Date:
October 4, 2019

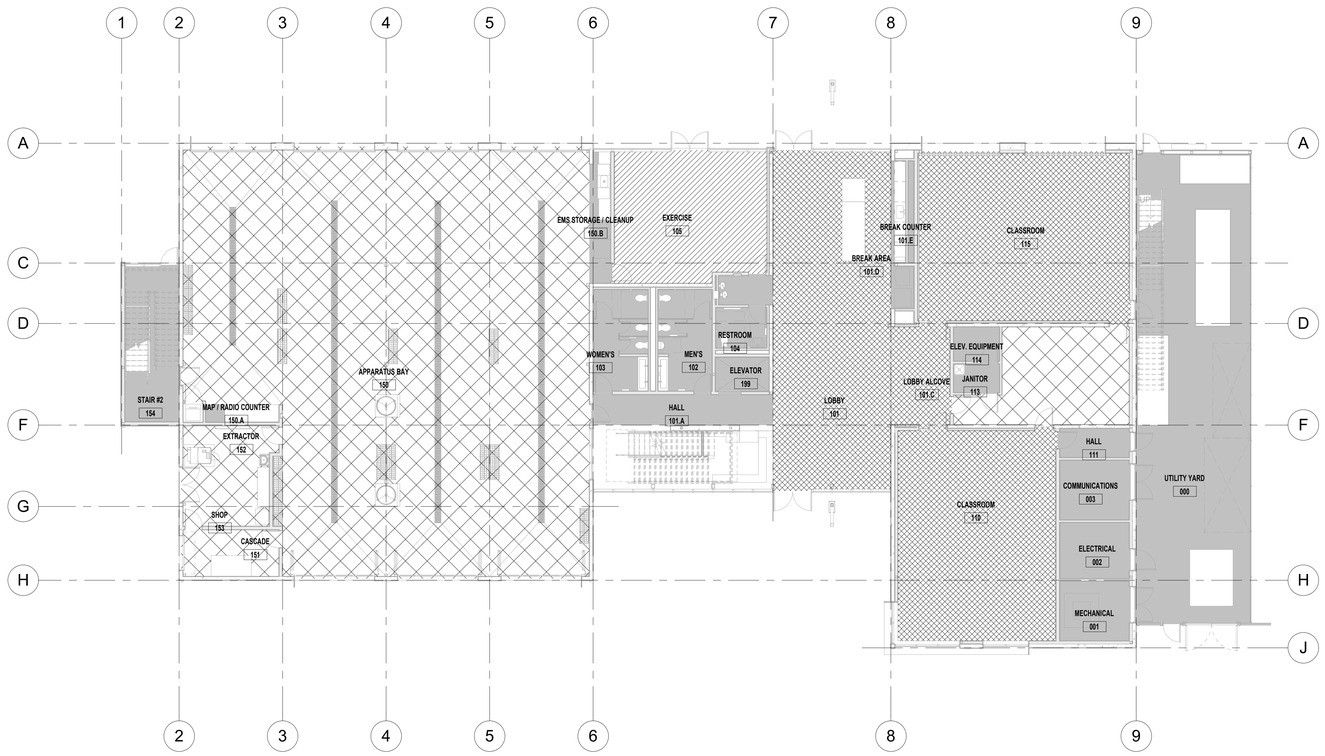
Project No. 2016039

1-A0.31
Drawing No.

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2 SECOND LEVEL FLOOR PLAN - PLUMBING FIXTURES
3/32" = 1'-0"



1 FIRST LEVEL FLOOR PLAN - PLUMBING FIXTURES
3/32" = 1'-0"

OCCUPANCY ANALYSIS- PLUMBING

PB. OCC.	RM. NO.	RM. NAME	AREA	PB. O.L.F.	PB. O.L.
-					
-	000	UTILITY YARD	1623 SF	0 SF	
-	001	MECHANICAL	125 SF	0 SF	
-	002	ELECTRICAL	118 SF	0 SF	
-	003	COMMUNICATIONS	126 SF	0 SF	
-	020	MECHANICAL	225 SF	0 SF	
-	101.A	HALL	165 SF	0 SF	
-	101.B	STAIR #1	Not Placed	0 SF	
-	101.E	BREAK COUNTER	96 SF	0 SF	
-	101.F	HALL	48 SF	0 SF	
-	102	MEN'S	166 SF	0 SF	
-	103	WOMEN'S	164 SF	0 SF	
-	111	HALL	61 SF	0 SF	
-	114	ELEV. EQUIPMENT	48 SF	0 SF	
-	150.A	MAP / RADIO COUNTER	39 SF	0 SF	
-	150.B	EMS STORAGE / CLEANUP	85 SF	0 SF	
-	154	STAIR #2	258 SF	0 SF	
-	199	ELEVATOR	56 SF	0 SF	
-	201	CIRCULATION	357 SF	0 SF	
-	201.A	CIRCULATION	276 SF	0 SF	
-	201.B	STAIR #1	213 SF	0 SF	
-	211	HALL	53 SF	0 SF	
-	214	STAFF WC	64 SF	0 SF	
-	215	JANITOR	48 SF	0 SF	
-	218.A	ALCOVE	43 SF	0 SF	
-	250	FS VESTIBULE	46 SF	0 SF	
-	251	HALL	213 SF	0 SF	
-	251.C	HALL	95 SF	0 SF	
-	251.D	HALL	95 SF	0 SF	
-	251.E	POLE ALCOVE	15 SF	0 SF	
-	253	STORAGE	56 SF	0 SF	
-	254	JANITOR	45 SF	0 SF	
-	256.A	POLE ALCOVE	14 SF	0 SF	
-	260	RESTROOM / LOCKER ROOM	377 SF	0 SF	
-	261	RESTROOM	122 SF	0 SF	
-	270	STAIR #2	258 SF	0 SF	
-	299	ELEVATOR	56 SF	0 SF	
			5847 SF		0
A-3					
A-3	101	LOBBY	585 SF	30 SF	19
A-3	101.C	LOBBY ALCOVE	181 SF	30 SF	6
A-3	101.D	BREAK AREA	622 SF	30 SF	21
A-3	110	CLASSROOM	1004 SF	30 SF	33
A-3	115	CLASSROOM	1071 SF	30 SF	36
A-3	204	CONFERENCE	452 SF	30 SF	15
A-3	218	SIMULATOR	570 SF	30 SF	19
			4485 SF		149
B					
B	202	BACKUP DISPATCH & RACES	246 SF	200 SF	1
B	203	BREAKOUT	252 SF	200 SF	1
B	205	SECURE FILES	49 SF	200 SF	0
B	206	GENERAL OFFICE	241 SF	200 SF	1
B	207	OFFICE	99 SF	200 SF	0
B	208	OFFICE	100 SF	200 SF	1
B	209	OFFICE SUPPORT	112 SF	200 SF	1
B	210	FIRE DEPT OFFICE SUITE	227 SF	200 SF	1
B	212	OFFICE	126 SF	200 SF	1
B	213	OFFICE	129 SF	200 SF	1
B	216	BREAK ROOM	196 SF	200 SF	1
B	216.A	GALLEY	73 SF	200 SF	0
B	255	OFFICE	244 SF	200 SF	1
			2095 SF		10
R-2					
R-2	105	EXERCISE	597 SF	200 SF	3
R-2	251.A	DINING	266 SF	200 SF	1
R-2	251.B	DAY ROOM	384 SF	200 SF	2
R-2	252	KITCHEN	330 SF	200 SF	2
R-2	256	DORMITORY	560 SF	200 SF	3
R-2	257	CAPTAIN'S ROOM	140 SF	200 SF	1
R-2	258	CAPTAIN'S WORKRM	83 SF	200 SF	0
R-2	259	CAPTAIN'S ROOM	125 SF	200 SF	1
			2486 SF		12
S					
S	104	RESTROOM	63 SF	5000 SF	0
S	112	BLDG STORAGE	419 SF	5000 SF	0
S	113	JANITOR	40 SF	5000 SF	0
S	150	APPARATUS BAY	4742 SF	5000 SF	1
S	151	CASCADE	135 SF	5000 SF	0
S	152	EXTRACTOR	111 SF	5000 SF	0
S	153	SHOP	160 SF	5000 SF	0
			5670 SF		1
Grand total: 71			20583 SF		174

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Plumbing Occupancy/Fixture Analysis
HAYWARD FIRE TRAINING CENTER - BUILDING 1

PLUMBING OCCUPANT ANALYSIS Date: 9/21/18

	Area	Pb. O.L.F	Totals	Females	Males
				50%	50%
A-3 Occupancy	4485	30.0	149.5	74.8	74.8
B Occupancy	2097	200.0	10.5	5.2	5.2
R-2 Occupancy	2493	200.0	12.5	6.2	6.2
S Occupancy	5670	5000.0	1.1	0.6	0.6
Total Building Plumbing Occupants			173.6	All	

PLUMBING FIXTURE ANALYSIS

	TOILETS Female No.	TOILETS Male No.	URINALS Male No.	LAVATORIES Female No.	LAVATORIES Male No.	Drinking Fountains	Service Sink
A-2 Occupancy	74.8			74.8			
Female							
Male		74.8	74.8		74.8	149.5	
M+F						1:1-250	
2016 CPC Table 422.1 Req's	1:1-25 1 2:26-50 1 3:51-100 0.248	1:1-50 1 2: 51-150 0.165 3:151-300	1:1-200 0.374 2:201-300	1:1-150 0.5 2:151-200	1:1-150 0.5 2:151-200	2:251-500	Provide One In Bldg
Calculations	24.8	24.8	74.8	74.8	74.8	149.5	
	100	150	200	150	150	250	
Fixtures Req'd	2.25	1.17	0.37	0.50	0.50	0.60	
B Occupancy	5.2			5.2			
Female							
Male		5.2	5.2		5.2	10.5	
M+F						1:1-150	
2016 CPC Table 422.1 Req's	1:1-15 0.35 2:16-30 3:31-50	1:1-50 0.105	1:1-100 0.052	1:1-50 0.1	1:1-75 0.07		Provide One In Bldg
Calculations	5.2	5.2	5.2	5.2	5.2	10.5	
	15	50	100	50	75	150	
Fixtures Req'd	0.35	0.10	0.05	0.10	0.07	0.07	
R-2 Occupancy	6.2			6.2			
Female							
Male		6.2	6.2		6.2	-	
M+F							
2016 CPC Table 422.1 Req's	1:1-15 0.416 2:16-35	1:1-15 0.416 2:16-35	-	1:1-40 0.16 2:41-80	1:1-40 0.16 2:41-80	-	Provide One In Bldg
Calculations	6.2	6.2	-	6.2	6.2	-	
	15	15	-	40	40	-	
Fixtures Req'd	0.42	0.42	0.00	0.16	0.16	0	
S Occupancy	0.6			0.6			
Female							
Male		0.6	0.6		0.6	1.1	
M+F							
2016 CPC Table 422.1 Req's	1:1-100 0.006 2:101-200	1:1-100 0.006 2:101-200	-	1:1-200 0 2:201-400	1:1-200 0 2:201-400	1:1-250	Provide One In Bldg
Calculations	0.6	0.6	-	0.6	0.6	1.1	
	100	100	-	200	200	250	
Fixtures Req'd	0.01	0.01	0.00	0.00	0.00	0.00	
	TOILETS Female No.	TOILETS Male No.	URINALS Male No.	LAVATORIES Female No.	LAVATORIES Male	Drinking Fountains	Service Sink
No. F Toilets to be > or = to No. of M Toilets+Urinals	Subtotal 3.02 Total Req'd **4**	Subtotal 1.69 Total Req'd **2**	Subtotal 0.43 Total Req'd **1**	Subtotal 0.76 Total Req'd **1**	Subtotal 0.73 Total Req'd **1**	0.67 **1**	**1**
	Total Req'd **4**	**3**	Sum of Req'd Toilets & Urinals				
Fixtures Provided*	5	4	4	5	5	1	3

*Single occupancy toilets & lavatories included in Female quantities

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DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: **KATHY GARCIA** DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3-INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
9/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 1 PLUMBING FIXTURE ANALYSIS

Drawn By: EW Checked By: EW

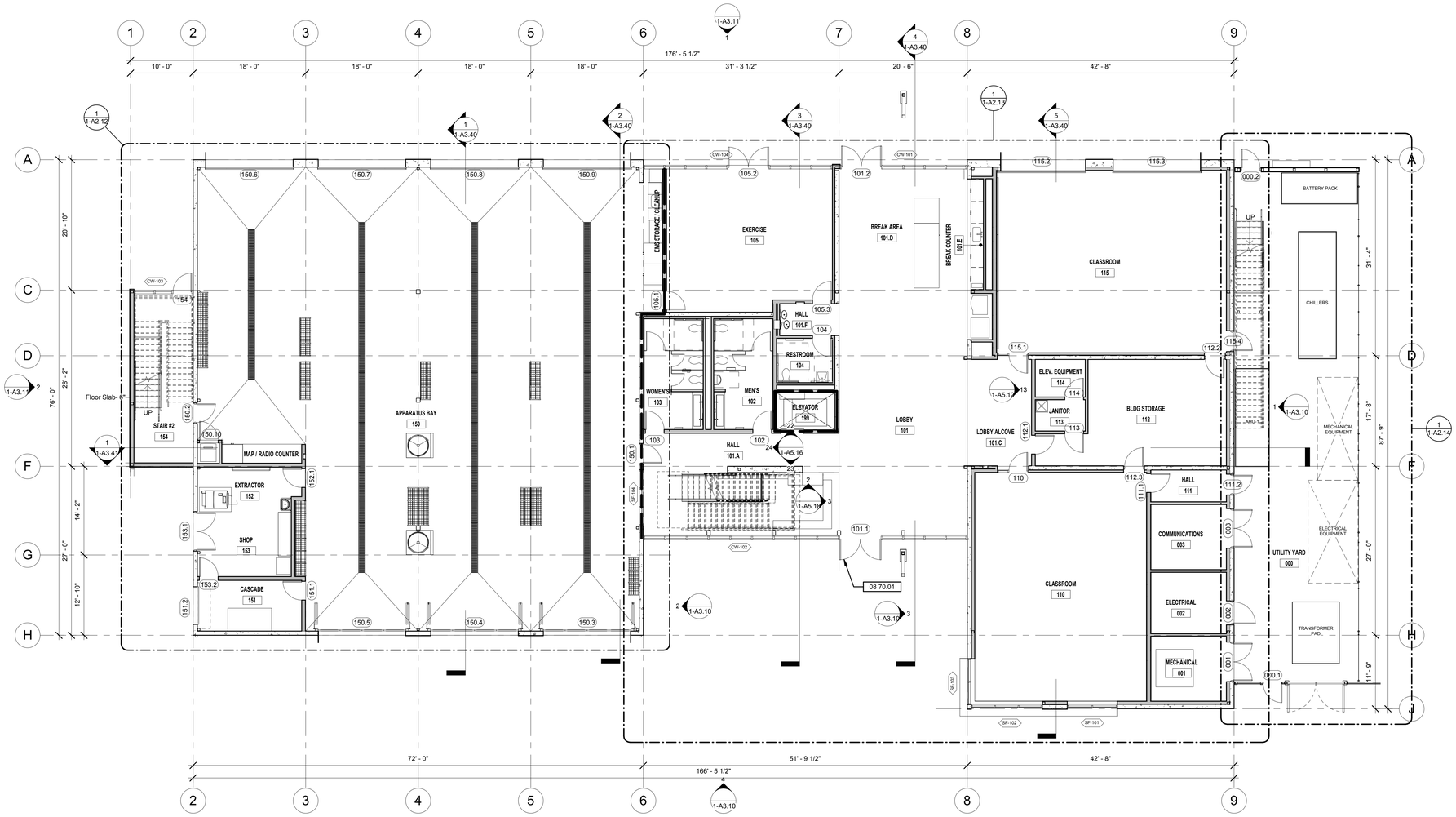
Scale: **3/32" = 1'-0"**

Date: **October 4, 2019**

Project No. 2016039

1-A0.41
Drawing No.

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1 FIRST LEVEL FLOOR PLAN
1/8" = 1'-0"

0' 2' 4' 8' 16'

GENERAL SHEET NOTES

1. SEE SHEET 1-A0.11 FOR ACCESSIBLE MOUNTING HEIGHTS AND CLEARANCES.
2. INTERIOR OF STUD WALL AND COLUMN BOX DIMENSIONS MEASURED TO FACE OF FRAMING, U.O.N.
3. EXTERIOR WALL DIMENSIONS MEASURED TO FACE OF FINISH, U.O.N.
4. CONCRETE AND CMU WALL DIMENSIONS MEASURED TO FACE OF CONCRETE OR BLOCK, U.O.N.
5. FOR COMPLETE STAIR COMPONENT AND ELEVATOR DIMENSIONS AND LOCATIONS, REFER TO ARCH. SHEET SERIES 1-A7
6. REFER TO SHEET 1-A8.00 FOR WALL TYPES
7. FOR DETAIL CALLOUTS, SEE WALL SECTIONS, ENLARGED PLANS, AND INTERIOR ELEVATIONS REFERENCED IN THE 1-A2 SERIES
8. FOR LOCATION AND DETAILED INFORMATION ON SIGNAGE, REFER TO "VOLUME 5 CONSTRUCTION DOCUMENT DRAWINGS (SIGNAGE)"
9. "ALIGN" ANNOTATIONS AT WALLS REFER TO FACE OF FINISH, U.O.N.
10. SEE PLUMBING DRAWINGS FOR FLOOR DRAIN AND CLEANOUT LOCATIONS. REFER TO ENLARGED ARCH. FLOOR PLANS FOR SLOPE FLOOR ELEVATIONS AND DIMENSIONS

WALL LEGEND

- CONCRETE WALL, S.S.D. FOR THICKNESS & REINFORCING
- METAL STUD-FRAMED WALL PER WALL TYPE (SEE SHEET 1-A8.00)
- ALUMINUM CURTAIN WALL or STOREFRONT

LEGEND - FIRE PROTECTION

- 0.5 HR SEPARATION
- 1 HR SEPARATION

SHEET KEYNOTE LEGEND

08 70.01	AUTOMATIC DOOR ACTUATOR FOR MAIN ENTRY DOORS LOCATED ON ENTRY STANCHION IN SEAT WALL. CONTRACTOR TO COORDINATE INSTALLATION OF ALL NECESSARY CONDUITS AND ELECTRICAL CONNECTIONS.

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RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

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LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
5/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 1
FIRST LEVEL FLOOR PLAN

Drawn By: SF Checked By: EW

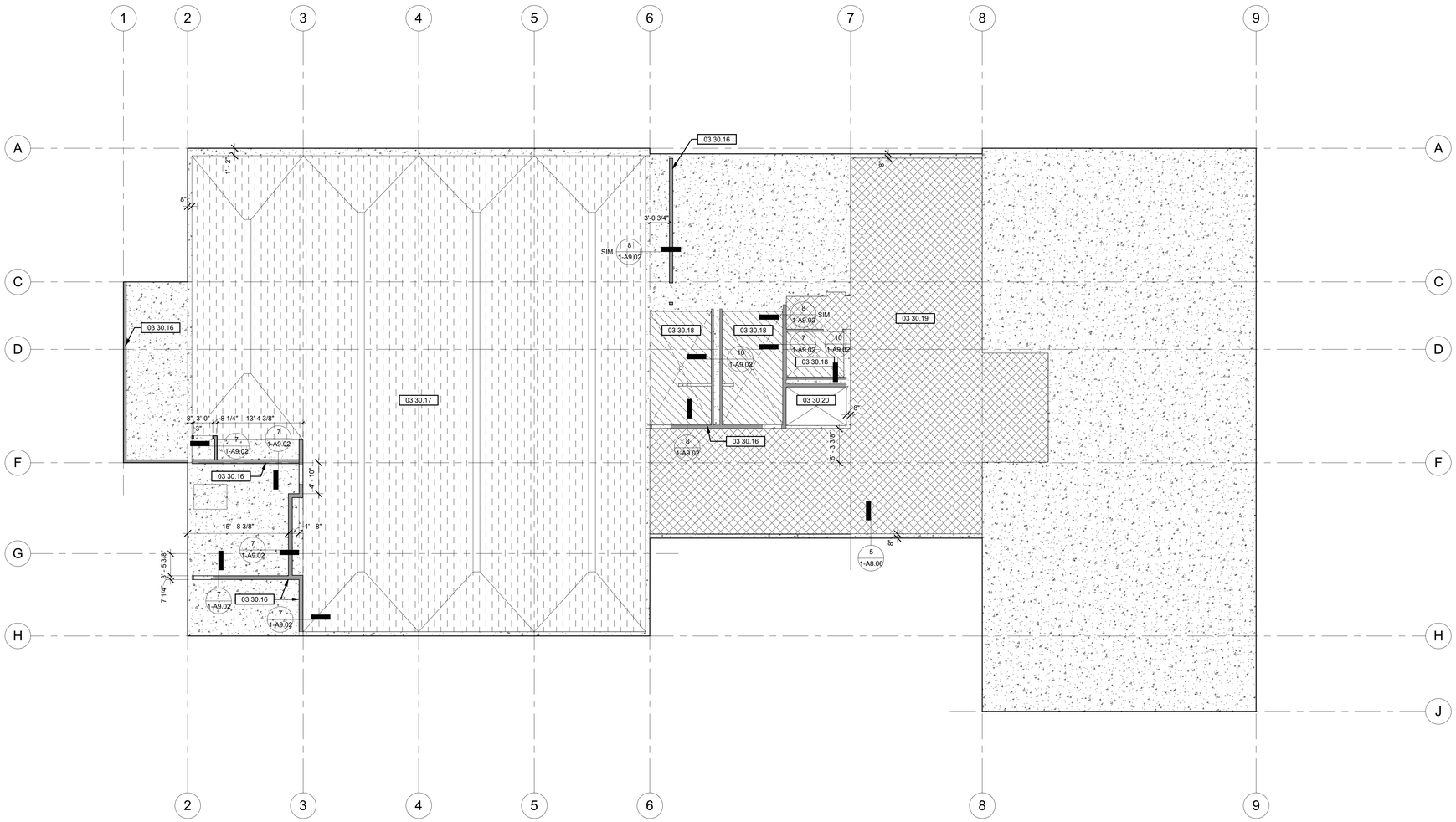
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1 FIRST LEVEL SLAB EDGE PLAN
1/8" = 1'-0"

0' 2' 4' 8' 16'

GENERAL SHEET NOTES

1. REFER TO ENLARGED FLOOR PLAN DIMENSIONS AND DETAILS 7-10/1-A9.02 FOR SIZE AND PLACEMENT OF CONCRETE CURBS
2. REFER TO DETAIL 11/1-S1.10 FOR CURB CONSTRUCTION
3. REFER TO ENLARGED FLOOR PLAN SHEETS FOR ELEVATIONS AND DIMENSIONS AT SLOPING SLABS

SHEET KEYNOTE LEGEND

03 30.16	6" HIGH CONCRETE WALL CURB, TYPICAL - WIDTH AS DETAILED
03 30.17	FLOOR SURFACE SLOPED TO TRENCH DRAINS, SEE DIMENSIONED FLOOR PLAN & PLUMBING DRAWINGS
03 30.18	FLOOR SURFACE SLOPED TO FLOOR DRAINS, S.P.D.
03 30.19	RECESS CONCRETE SLAB TO ACCOMMODATE CONCRETE PAVERS AND MORTAR BED INSTALLATION S.S.D
03 30.20	ELEVATOR PIT, S.S.D.

SLAB TYPE LEGEND

+0'-0", UON

-2" FROM 0'-0" LEVEL

-3 1/4" FROM 0'-0" LEVEL

SLOPED STRUCTURE, SEE FLOOR PLAN

6" HIGH APPLIED CONCRETE CURB

GENERAL NOTES

1. REFER TO DETAILS FOR SIZE AND PLACEMENT OF CONCRETE CURBS
2. REFER TO 12/1-A8.07 FOR WATERPROOFING OF SLAB ON GRADE PENETRATIONS

ALIGNMENT GUIDE

GUIDE TO LOCATE SLAB EDGES

EXTERIOR EDGES (DIMENSIONS ON FLOOR PLANS)

INTERIOR EDGES (DIMENSIONS ON FLOOR PLANS) AND AS FOLLOWS:
1. SHAFT OPENING (REFER TO DETAILS 7 AND 8/1-A9.06):
   SHAFT SIDE OF BENT PL SHALL ALIGN WITH SHAFT SIDE OF SHAFT LINER PANELS UNLESS A STRUCTRAL CLEARANCE IS VIOLATED.
2. TILE FLOOR RECESSES (REFER TO DETAILS 9 AND 10/1-A9.01):
   RECESS EDGES SHALL ALIGN WITH OUTSIDE F.O. TILE BACKER BOARD
3. STAIRS (REFER TO SHEETS 1-A7.10 THRU 1-A7.12):
   COORD MFR STAIR NOSING CONDITION W/ DESIRED NOSING LOCATION AS DIMENSIONED ON FLOOR PLANS

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RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3-INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
9/30/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 1
FIRST LEVEL SLAB EDGE PLAN

Drawn By: TV Checked By: EW

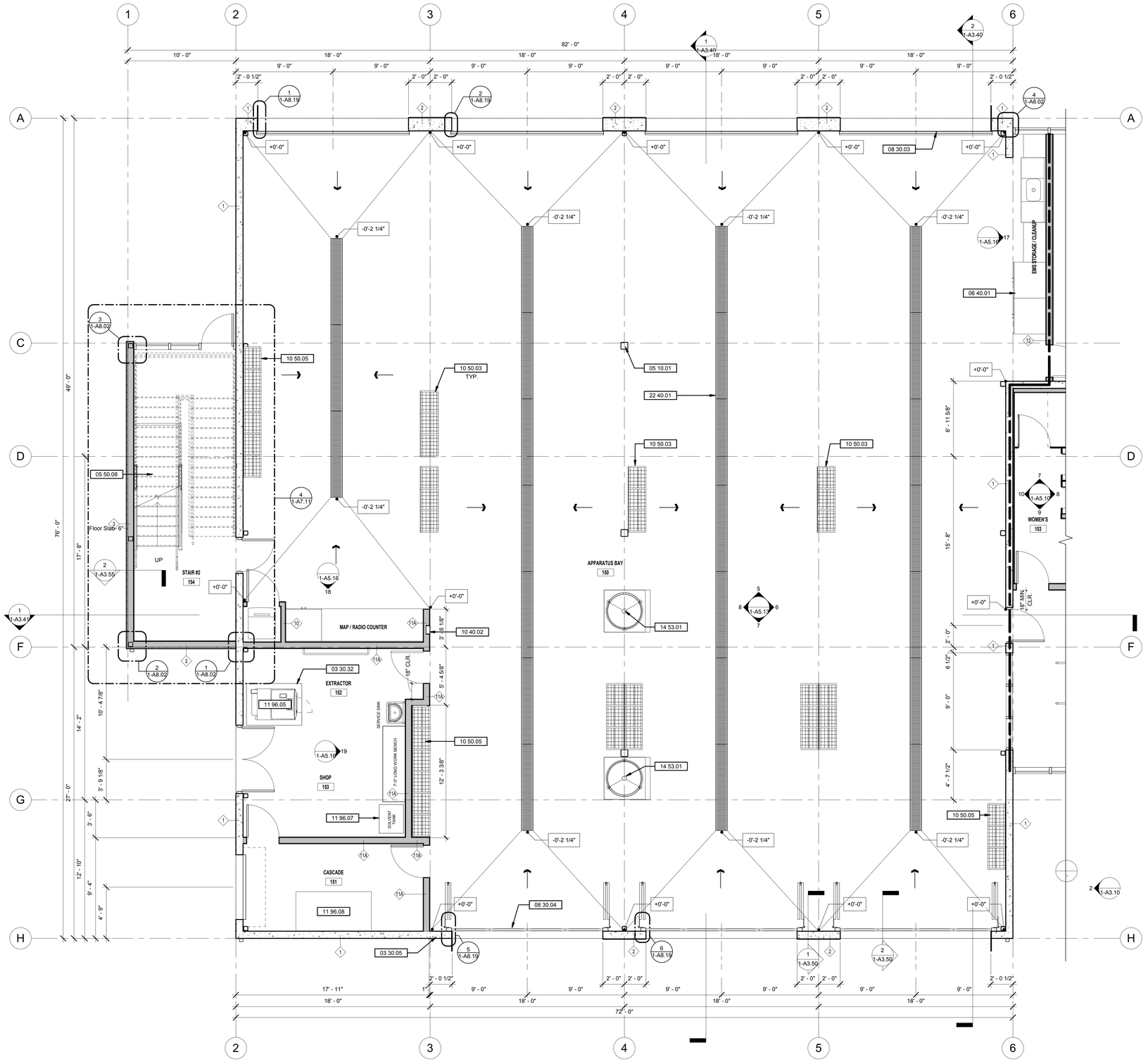
Scale: 1/8" = 1'-0"

Date: October 4, 2019

Project No. 2016039

1-A2.11
Drawing No.

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1 FIRST LEVEL FLOOR PLAN (WEST) - ENLARGED SCALE
1/4" = 1'-0"

0' 1' 2' 4' 8'

GENERAL SHEET NOTES

1. SEE SHEET 1-A0.11 FOR ACCESSIBLE MOUNTING HEIGHTS AND CLEARANCES.
2. INTERIOR OF STUD WALL AND COLUMN BOX DIMENSIONS MEASURED TO FACE OF FRAMING, U.O.N.
3. EXTERIOR WALL DIMENSIONS MEASURED TO FACE OF FINISH, U.O.N.
4. CONCRETE AND CMU WALL DIMENSIONS MEASURED TO FACE OF CONCRETE OR BLOCK, U.O.N.
5. FOR COMPLETE STAIR COMPONENT DIMENSIONS AND LOCATIONS, REFER TO ARCH. SHEET SERIES 1-A7
6. REFER TO SHEET 1-A8.00 FOR WALL TYPES
7. FOR DETAIL CALLOUTS, SEE WALL SECTIONS, ENLARGED PLANS, AND INTERIOR ELEVATIONS REFERENCED IN THE 1-A2 SERIES
8. FOR LOCATION AND DETAILED INFORMATION ON SIGNAGE, REFER TO "VOLUME 5 CONSTRUCTION DOCUMENT DRAWINGS (SIGNAGE)"
9. "ALIGN" ANNOTATIONS AT WALLS REFER TO FACE OF FINISH, U.O.N.
10. SEE PLUMBING DRAWINGS FOR FLOOR DRAIN AND CLEANOUT LOCATIONS

WALL LEGEND

- CONCRETE WALL, S.S.D. FOR THICKNESS & REINFORCING
- METAL STUD-FRAMED WALL PER WALL TYPE (SEE SHEET 1-A8.00)
- ALUMINUM CURTAIN WALL or STOREFRONT

LEGEND - FIRE PROTECTION

- 0.5 HR SEPARATION
- 1 HR SEPARATION

SHEET KEYNOTE LEGEND

03 30.05	SEALED CAST-IN-PLACE (CIP) CONCRETE EXTERIOR WALLS, TYPICAL
03 30.32	CONCRETE HOUSEKEEPING PAD, S.S.D. MIN. PAD EXTENTS 6" FROM EQUIPMENT PERIMETER.
05 10.01	PAINTED STEEL COLUMN, S.S.D.
05 50.08	PAINTED STEEL STAIR WITH LANDINGS, GUARDS, & HANDRAILS
06 40.01	ARCHITECTURAL CASEWORK
08 30.03	ALUMINUM FRAME OVERHEAD SECTIONAL DOOR WITH GLAZED PANELS, TYPICAL
08 30.04	STEEL FRAME HORIZONTAL FOLDING DOOR WITH GLAZED PANELS, TYPICAL
10 40.02	RECESSED FIRE EXTINGUISHER CABINET
10 50.03	METAL TURN OUT LOCKERS ON CASTERS.
10 50.05	WALL MOUNTED TURN OUT LOCKERS. FASTEN EACH TO WALL W/ (4) 3/8" DIA. SCREW ANCHORS W/ 2.5" EMBED, S.S.D.
11 96.05	EXTRACTOR (O.F.C.I.). MOUNT TO EQUIPMENT PAD W/ (10) 5/8" DIA. SCREW ANCHORS W/ 3-1/4" EMBED (5 EA. SIDE), S.S.D.
11 96.07	SELF-CONTAINED SOLVENT TANK, BY OTHERS. ANCHOR W/ (4) 3/8" DIA. CONCRETE SCREW ANCHORS W/ 3 1/2" EMBED INTO MAT SLAB PER 1/1-S1.11
11 96.08	CASCADE AIR TANK FILLER (O.F.C.I.). ANCHOR W/ (4) 1/2" DIA. SCREW ANCHORS EA. SIDE W/ 4-1/2" EMBED INTO MAT SLAB (8 TOTAL) INSTALL PER 1/1-S1.11
14 53.01	FIRE FIGHTER SLIDE POLE DOWN FROM SECOND LEVEL WITH FIRE-RATED ENCLOSURE AND LANDING MAT ON SLAB (REFER TO DETAIL 9/1-A9.06)
22 40.01	PREMANUFACTURED TRENCH DRAIN WITH GALVANIZED STEEL FRAME AND DUCTILE IRON GRATE, TYPICAL

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RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3-INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
12/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 1 ENLARGED SCALE FIRST LEVEL FLOOR PLAN - WEST HALF

Drawn By: SF Checked By: EW

Scale: **As indicated**

Date: **October 4, 2019**

Project No. 2016039

1-A2.12
Drawing No.

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GENERAL SHEET NOTES

1. SEE SHEET 1-A0.11 FOR ACCESSIBLE MOUNTING HEIGHTS AND CLEARANCES.
2. INTERIOR OF STUD WALL AND COLUMN BOX DIMENSIONS MEASURED TO FACE OF FRAMING, U.O.N.
3. EXTERIOR WALL DIMENSIONS MEASURED TO FACE OF FINISH, U.O.N.
4. CONCRETE AND CMU WALL DIMENSIONS MEASURED TO FACE OF CONCRETE OR BLOCK, U.O.N.
5. FOR COMPLETE STAIR COMPONENT DIMENSIONS AND LOCATIONS, REFER TO ARCH. SHEET SERIES 1-A7
6. REFER TO SHEET 1-A8.00 FOR WALL TYPES
7. FOR DETAIL CALLOUTS, SEE WALL SECTIONS, ENLARGED PLANS, AND INTERIOR ELEVATIONS REFERENCED IN THE 1-A2 SERIES
8. FOR LOCATION AND DETAILED INFORMATION ON SIGNAGE, REFER TO "VOLUME 5 CONSTRUCTION DOCUMENT DRAWINGS (SIGNAGE)"
9. "ALIGN" ANNOTATIONS AT WALLS REFER TO FACE OF FINISH, U.O.N.
10. SEE PLUMBING DRAWINGS FOR FLOOR DRAIN AND CLEANOUT LOCATIONS

WALL LEGEND

- CONCRETE WALL, S.S.D. FOR THICKNESS & REINFORCING
- METAL STUD-FRAMED WALL PER WALL TYPE (SEE SHEET 1-A8.00)
- ALUMINUM CURTAIN WALL or STOREFRONT

LEGEND - FIRE PROTECTION

- 0.5 HR SEPARATION
- 1 HR SEPARATION

SHEET KEYNOTE LEGEND

03 30.05	SEALED CAST-IN-PLACE (CIP) CONCRETE EXTERIOR WALLS, TYPICAL
03 30.29	AUTOMATIC FIRE SPRINKLER SYSTEM WET WELL. SEE STRUCTURAL & FIRE PROTECTION DRAWINGS. LINE EXTERIOR OF WELL WALL WITH CONTINUOUS MODIFIED BITUMINOUS SHEET MEMBRANE
05 50.08	PAINTED STEEL STAIR WITH LANDINGS, GUARDS, & HANDRAILS
08 40.04	ALUMINUM FRAME CURTAIN WALL SECTION WITH CLEAR GLAZING
10 20.19	RECESSED AED CABINET
10 40.02	RECESSED FIRE EXTINGUISHER CABINET
26 10.01	UTILITY BOXES IN FLOOR SLAB, TYPICAL. SEE ELECTRICAL AND TECHNOLOGY DRAWINGS FOR REQUIREMENTS AND CONNECTIONS

1 FIRST LEVEL FLOOR PLAN (EAST) - ENLARGED SCALE
1/4" = 1'-0"

0' 1' 2' 4' 8'

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

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DESIGNED BY:	CHECKED BY:
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1	INC 01_ADD_01_V1	12/06/2019

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MICHAEL B. ROSS
No. C-18867
8/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 1 ENLARGED SCALE FIRST LEVEL FLOOR PLAN - EAST HALF

Drawn By: SF Checked By: EW

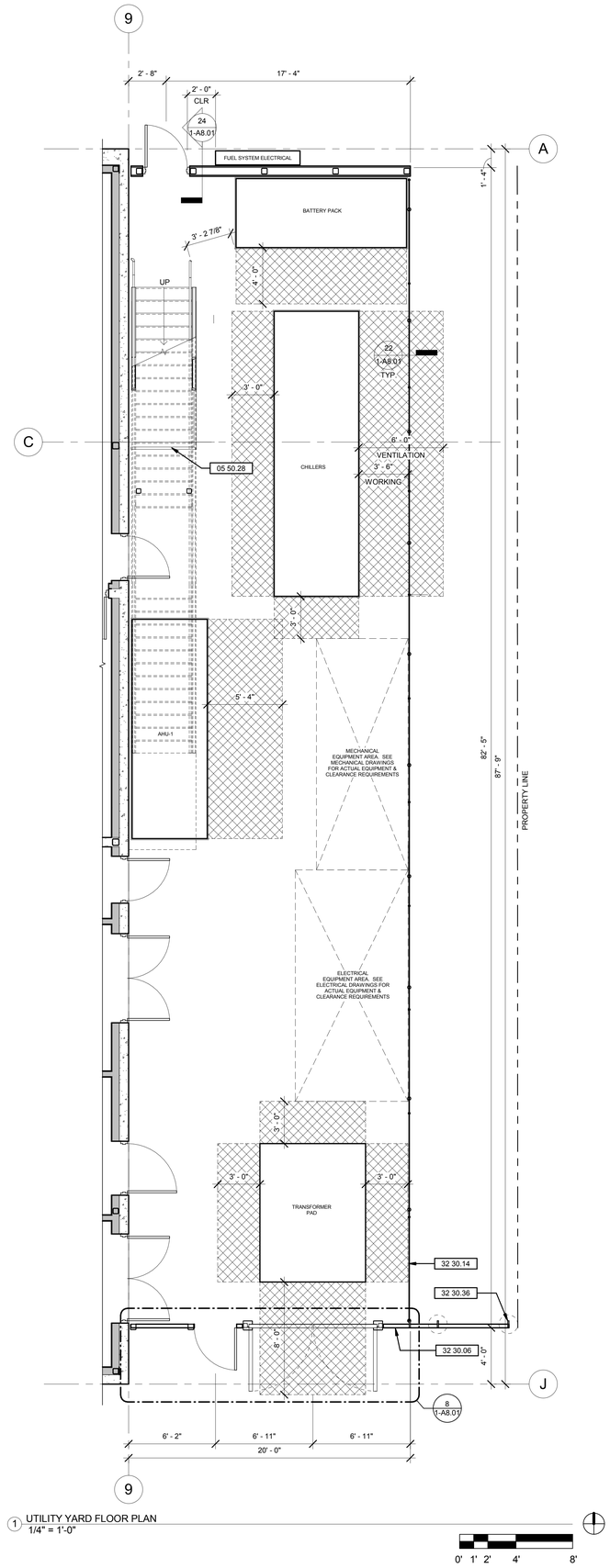
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1-A2.13
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1 UTILITY YARD FLOOR PLAN
1/4" = 1'-0"

0' 1' 2' 4' 8'

GENERAL SHEET NOTES

1. SEE SHEET 1-A0.11 FOR ACCESSIBLE MOUNTING HEIGHTS AND CLEARANCES.

WALL LEGEND

- CONCRETE WALL, S.S.D. FOR THICKNESS & REINFORCING
- METAL STUD-FRAMED WALL PER WALL TYPE (SEE SHEET 1-A8.00)
- ALUMINUM CURTAIN WALL or STOREFRONT

SITE LEGEND

- AREA OF REQUIRED MAINTENANCE CLEARANCE

SHEET KEYNOTE LEGEND

05 50.28	PAINTED CANE DETECTABLE RAILING UNDER STAIR
32 30.06	8' HIGH DECORATIVE METAL SECURITY FENCE AT SOUTH SIDE OF UTILITY YARD. SEE DETAIL 7/1-A8.01
32 30.14	8' HIGH CHAIN-LINK FENCE AT EAST SIDE OF UTILITY YARD. SEE DETAIL 22/1-A8.01
32 30.36	6" X 1" STEEL FENCE POST WITH CONCRETE FOOTING @ MAXIMUM 5' O.C. SPACING

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY:	
KATHY GARCIA DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3-INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
9/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 1
ENLARGED SCALE UTILITY YARD FLOOR PLAN

Drawn By: EW Checked By: EW

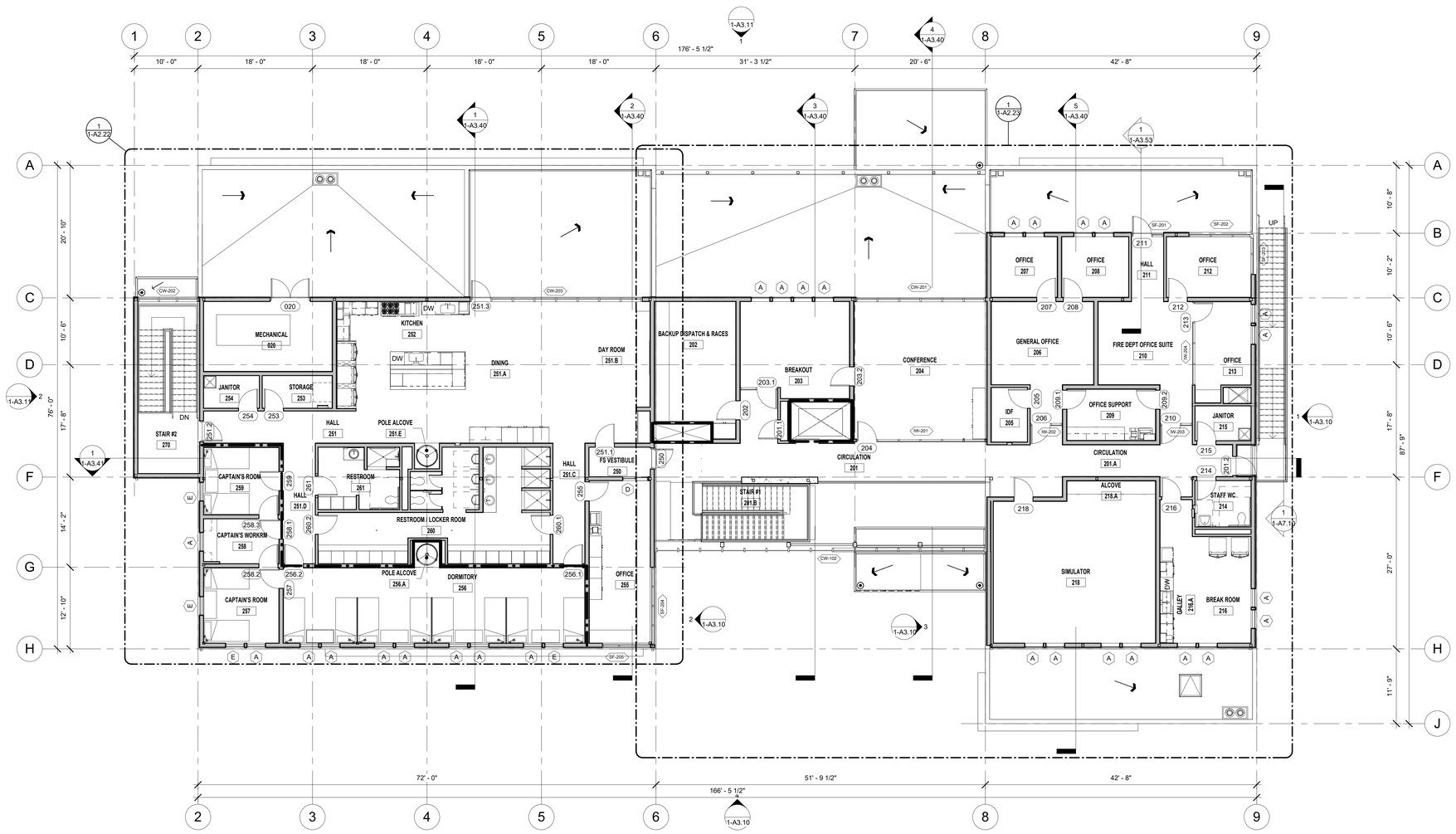
Scale:
1/4" = 1'-0"

Date:
October 4, 2019

Project No. 2016039

1-A2.14
Drawing No.

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1 SECOND LEVEL FLOOR PLAN
1/8" = 1'-0"

0' 2' 4' 8' 16'

GENERAL SHEET NOTES

1. SEE SHEET 1-A0.11 FOR ACCESSIBLE MOUNTING HEIGHTS AND CLEARANCES.
2. INTERIOR OF STUD WALL AND COLUMN BOX DIMENSIONS MEASURED TO FACE OF FRAMING, U.O.N.
3. EXTERIOR WALL DIMENSIONS MEASURED TO FACE OF FINISH, U.O.N.
4. CONCRETE AND CMU WALL DIMENSIONS MEASURED TO FACE OF CONCRETE OR BLOCK, U.O.N.
5. FOR COMPLETE STAIR COMPONENT DIMENSIONS AND LOCATIONS, REFER TO ARCH. SHEET SERIES 1-A7
6. REFER TO SHEET 1-A8.00 FOR WALL TYPES
7. FOR DETAIL CALLOUTS, SEE WALL SECTIONS, ENLARGED PLANS, AND INTERIOR ELEVATIONS REFERENCED IN THE 1-A2 SERIES
8. FOR LOCATION AND DETAILED INFORMATION ON SIGNAGE, REFER TO "VOLUME 5 CONSTRUCTION DOCUMENT DRAWINGS (SIGNAGE)"
9. "ALIGN" ANNOTATIONS AT WALLS REFER TO FACE OF FINISH, U.O.N.
10. SEE PLUMBING DRAWINGS FOR FLOOR DRAIN AND CLEANOUT LOCATIONS. REFER TO ENLARGED ARCH. FLOOR PLANS FOR SLOPE FLOOR ELEVATIONS AND DIMENSIONS
11. REFER TO DETAILS 9, 10, & 11 ON SHEET 1-A8.05 FOR BIRD DETERRENT ASSEMBLIES
12. SLOPED ROOF TO DRAINS TO MAINTAIN A MAX. 2% SLOPE AND CROSS SLOPE

WALL LEGEND

- CONCRETE WALL, S.S.D. FOR THICKNESS & REINFORCING
- METAL STUD-FRAMED WALL PER WALL TYPE (SEE SHEET 1-A8.00)
- ALUMINUM CURTAIN WALL or STOREFRONT

LEGEND - FIRE PROTECTION

- 0.5 HR SEPARATION
- 1 HR SEPARATION

SHEET KEYNOTE LEGEND

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

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LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
9/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 1
SECOND LEVEL FLOOR PLAN

Drawn By: SF Checked By: EW

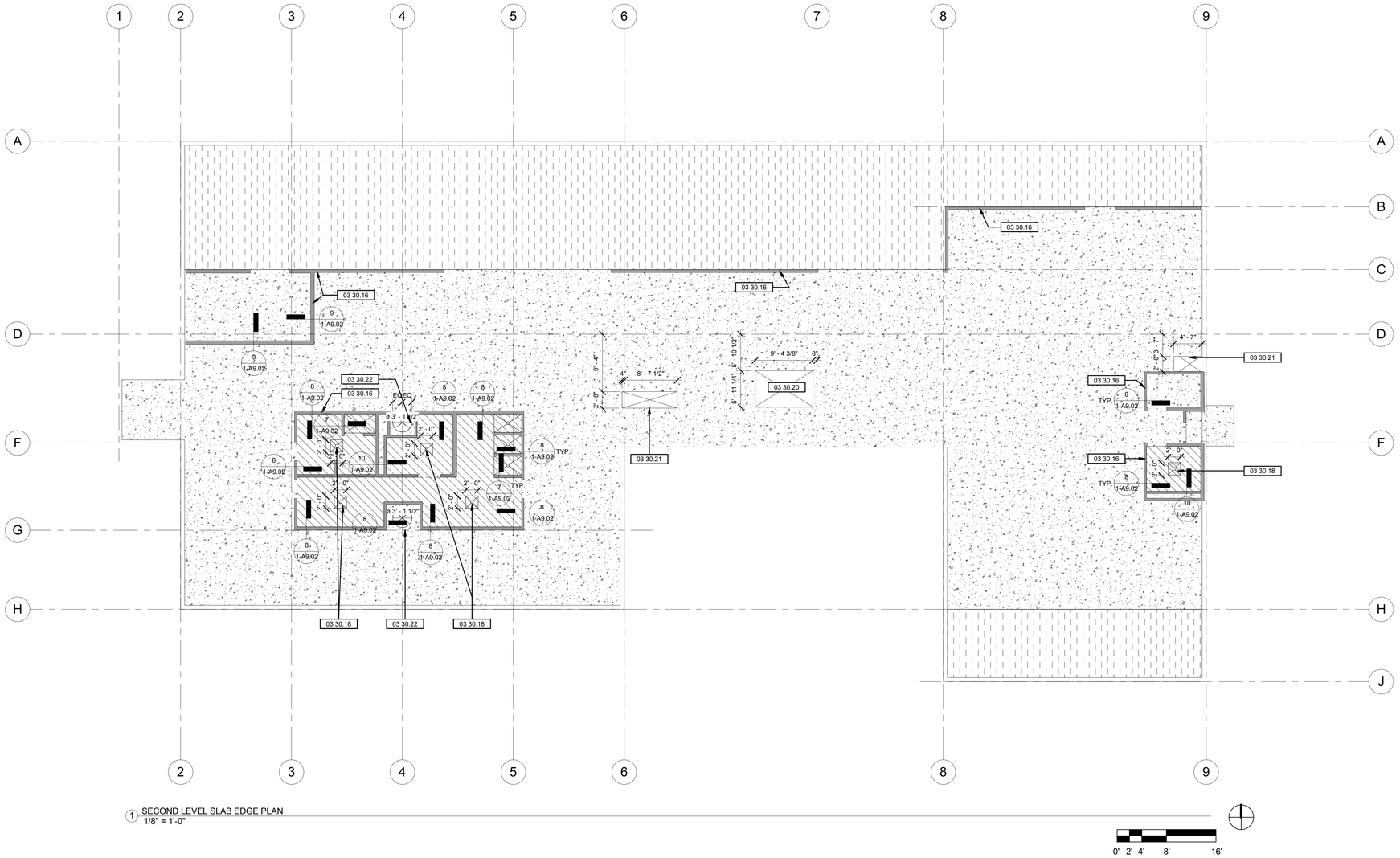
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Project No. 2016039

1-A2.20
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1 SECOND LEVEL SLAB EDGE PLAN
1/8" = 1'-0"

0' 2' 4' 8' 16'

GENERAL SHEET NOTES

1. REFER TO ENLARGED FLOOR PLAN DIMENSIONS AND DETAILS 7-10/1-A9.02 FOR SIZE AND PLACEMENT OF CONCRETE CURBS
2. REFER TO DETAIL 11/1-S1.10 FOR CURB CONSTRUCTION
3. REFER TO ENLARGED FLOOR PLAN SHEETS FOR ELEVATIONS AND DIMENSIONS AT SLOPING SLABS

SHEET KEYNOTE LEGEND

03 30.16	6" HIGH CONCRETE WALL CURB, TYPICAL - WIDTH AS DETAILED
03 30.18	FLOOR SURFACE SLOPED TO FLOOR DRAINS, S.P.D.
03 30.20	ELEVATOR PIT, S.S.D.
03 30.21	FLOOR OPENING FOR MECHANICAL EQUIPMENT
03 30.22	FLOOR OPENING FOR FIRE POLE

SLAB TYPE LEGEND

+0'-0", UON

-2" FROM 0'-0" LEVEL

-3 1/4" FROM 0'-0" LEVEL

SLOPED STRUCTURE, SEE FLOOR PLAN

6" HIGH APPLIED CONCRETE CURB

GENERAL NOTES

1. REFER TO DETAILS FOR SIZE AND PLACEMENT OF CONCRETE CURBS

ALIGNMENT GUIDE

GUIDE TO LOCATE SLAB EDGES

EXTERIOR EDGES (DIMENSIONS ON FLOOR PLANS)

INTERIOR EDGES (DIMENSIONS ON FLOOR PLANS) AND AS FOLLOWS:
1. SHAFT OPENING (REFER TO DETAILS 7 AND 8/1-A9.06):
   SHAFT SIDE OF BENT PL SHALL ALIGN WITH SHAFT SIDE OF SHAFT LINER PANELS UNLESS A STRUCTRAL CLEARANCE IS VIOLATED.
2. TILE FLOOR RECESSES (REFER TO DETAILS 9 AND 10/1-A9.01):
   RECESS EDGES SHALL ALIGN WITH OUTSIDE F.O. TILE BACKER BOARD
3. STAIRS (REFER TO SHEETS 1-A7.10 THRU 1-A7.12):
   COORD MFR STAIR NOSING CONDITION W/ DESIRED NOSING LOCATION AS DIMENSIONED ON FLOOR PLANS

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LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
9/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 1 SECOND LEVEL SLAB EDGE PLAN

Drawn By: TG Checked By: EW

Scale: 1/8" = 1'-0"

Date: October 4, 2019

Project No. 2016039

1-A2.21
Drawing No.

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GENERAL SHEET NOTES

1. SEE SHEET 1-A0.11 FOR ACCESSIBLE MOUNTING HEIGHTS AND CLEARANCES.
2. INTERIOR OF STUD WALL AND COLUMN BOX DIMENSIONS MEASURED TO FACE OF FRAMING, U.O.N.
3. EXTERIOR WALL DIMENSIONS MEASURED TO FACE OF FINISH, U.O.N.
4. CONCRETE AND CMU WALL DIMENSIONS MEASURED TO FACE OF CONCRETE OR BLOCK, U.O.N.
5. FOR COMPLETE STAIR COMPONENT DIMENSIONS AND LOCATIONS, REFER TO ARCH. SHEET SERIES 1-A7
6. REFER TO SHEET 1-A8.00 FOR WALL TYPES
7. FOR DETAIL CALLOUTS, SEE WALL SECTIONS, ENLARGED PLANS, AND INTERIOR ELEVATIONS REFERENCED IN THE 1-A2 SERIES
8. FOR LOCATION AND DETAILED INFORMATION ON SIGNAGE, REFER TO "VOLUME 5 CONSTRUCTION DOCUMENT DRAWINGS (SIGNAGE)"
9. "ALIGN" ANNOTATIONS AT WALLS REFER TO FACE OF FINISH, U.O.N.
10. SEE PLUMBING DRAWINGS FOR FLOOR DRAIN AND CLEANOUT LOCATIONS
11. SLOPED ROOF TO DRAINS TO MAINTAIN A MAX. 2% SLOPE AND CROSS SLOPE

WALL LEGEND

- CONCRETE WALL, S.S.D. FOR THICKNESS & REINFORCING
- METAL STUD-FRAMED WALL PER WALL TYPE (SEE SHEET 1-A8.00)
- ALUMINUM CURTAIN WALL or STOREFRONT

LEGEND - FIRE PROTECTION

- 0.5 HR SEPARATION
- 1 HR SEPARATION

SHEET KEYNOTE LEGEND

06 40.12	STAINLESS STEEL COUNTERTOP WITH INTEGRAL BOWL SINK
07 10.01	TRAFFIC-BEARING ROOF DECK SURFACING OVER CONCRETE SLAB
07 10.02	TRAFFIC-BEARING ROOF DECK SURFACING WITH ROCK BALLAST OVER RIGID ROOF BOARD & METAL DECK
10 40.02	RECESSED FIRE EXTINGUISHER CABINET
14 53.01	FIRE FIGHTER SLIDE POLE DOWN FROM SECOND LEVEL WITH FIRE-RATED ENCLOSURE AND LANDING MAT ON SLAB (REFER TO DETAIL 9/1-A9.06)
22 40.15	ROOF DRAIN WITH SCREEN, S.P.D. DRAIN PIPE TO DAYLIGHT THROUGH CANOPY SOFFIT. PROVIDE DOWNSPOUT HELD TIGHT TO EXTERIOR WALL TERMINATING AT GRADE
26 10.01	UTILITY BOXES IN FLOOR SLAB, TYPICAL. SEE ELECTRICAL AND TECHNOLOGY DRAWINGS FOR REQUIREMENTS AND CONNECTIONS

1 SECOND LEVEL FLOOR PLAN (WEST) - ENLARGED SCALE
1/4" = 1'-0"

0' 1' 2' 4' 8'

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

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PROJ. NO. 07481 & 07482	FILE NO. E-2157

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LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
RENEWAL DATE 9/31/21
STATE OF CALIFORNIA

Sheet Title

BUILDING 1 ENLARGED SCALE SECOND LEVEL FLOOR PLAN - WEST HALF

Drawn By: SF Checked By: EW

Scale: **As indicated**

Date: **October 4, 2019**

Project No. 2016039

1-A2.22
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GENERAL SHEET NOTES

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10. SEE PLUMBING DRAWINGS FOR FLOOR DRAIN AND CLEANOUT LOCATIONS
11. SLOPED ROOF TO DRAINS TO MAINTAIN A MAX. 2% SLOPE AND CROSS SLOPE

WALL LEGEND

- CONCRETE WALL, S.S.D. FOR THICKNESS & REINFORCING
- METAL STUD-FRAMED WALL PER WALL TYPE (SEE SHEET 1-A8.00)
- ALUMINUM CURTAIN WALL or STOREFRONT

LEGEND - FIRE PROTECTION

- 0.5 HR SEPARATION
- 1 HR SEPARATION

SHEET KEYNOTE LEGEND

06 40.12	STAINLESS STEEL COUNTERTOP WITH INTEGRAL BOWL SINK
07 10.01	TRAFFIC-BEARING ROOF DECK SURFACING OVER CONCRETE SLAB
07 10.02	TRAFFIC-BEARING ROOF DECK SURFACING WITH ROCK BALLAST OVER RIGID ROOF BOARD & METAL DECK
07 70.05	36" SQUARE ROOF EQUIPMENT HATCH CENTERED OVER FIRE PROTECTION PUMP BELOW. VERIFY EXACT LOCATION IN THE FIELD
10 20.19	RECESSED AED CABINET
10 40.02	RECESSED FIRE EXTINGUISHER CABINET
22 40.13	ROOF DRAIN WITH SCREEN, S.P.D. DRAIN PIPE TO DAYLIGHT THROUGH CANOPY SOFFIT AND TERMINATE. PROVIDE INSECT SCREEN AT BOTTOM OF PIPE AND METAL TRIM AT SOFFIT
22 40.14	ROOF DRAIN WITH SCREEN, S.P.D. DRAIN PIPE TO DAYLIGHT THROUGH CANOPY SOFFIT. PROVIDE DOWNSPOUT HELD TIGHT TO CONCRETE WALL AND CONNECTED TO STORM DRAIN SYSTEM
26 10.01	UTILITY BOXES IN FLOOR SLAB, TYPICAL. SEE ELECTRICAL AND TECHNOLOGY DRAWINGS FOR REQUIREMENTS AND CONNECTIONS

1 SECOND LEVEL FLOOR PLAN (EAST) - ENLARGED SCALE
1/4" = 1'-0"

0' 1' 2' 4' 8'

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

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LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
8/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 1
ENLARGED SCALE SECOND LEVEL FLOOR PLAN - EAST HALF

Drawn By: SF Checked By: EW

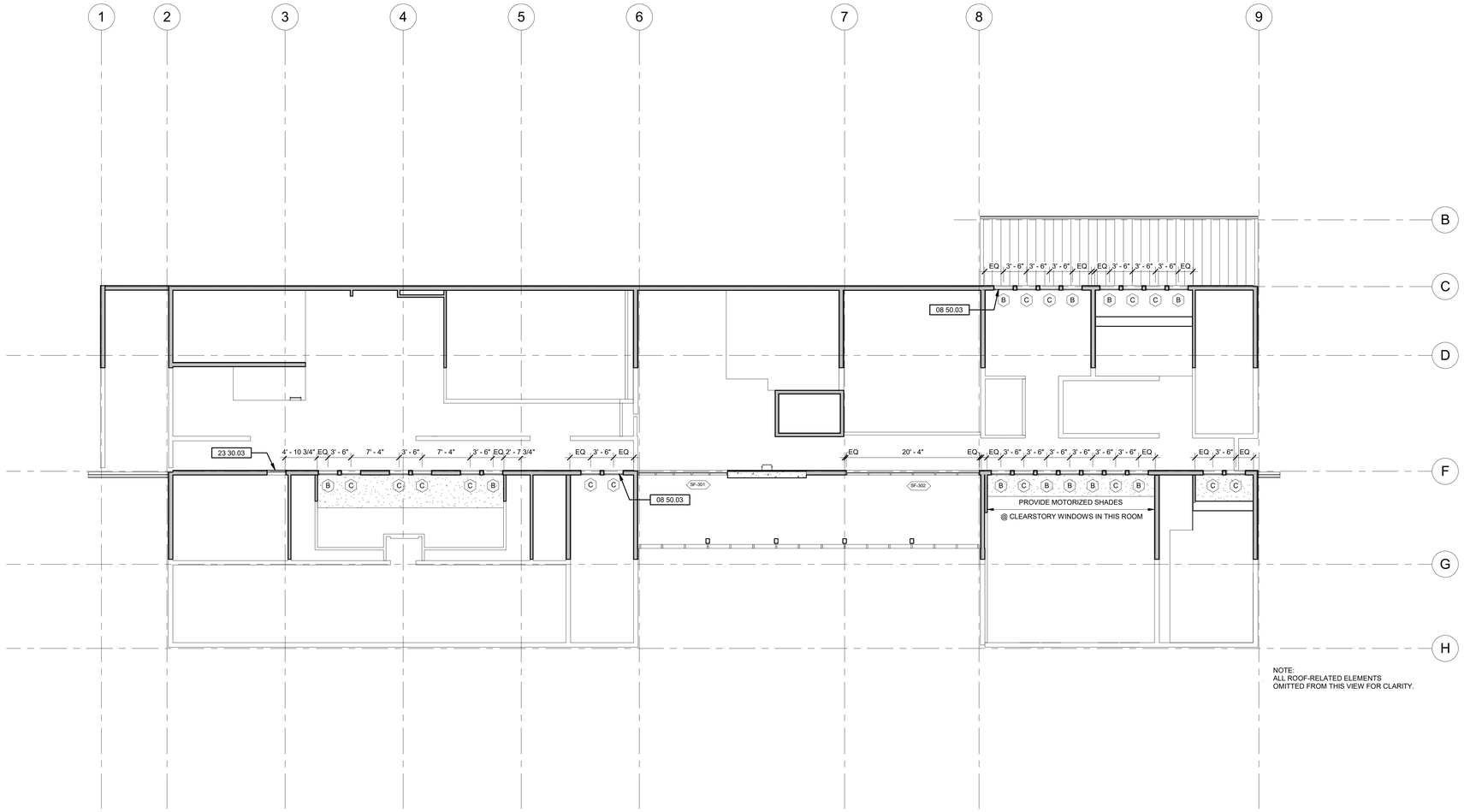
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Project No. 2016039

1-A2.23
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1 CLERESTORY PLAN
1/8" = 1'-0"

0' 2' 4' 8' 16'

GENERAL SHEET NOTES

1. SEE SHEET 1-A0.11 FOR ACCESSIBLE MOUNTING HEIGHTS AND CLEARANCES.
2. INTERIOR OF STUD WALL AND COLUMN BOX DIMENSIONS MEASURED TO FACE OF FRAMING, U.O.N.
3. EXTERIOR WALL DIMENSIONS MEASURED TO FACE OF FINISH, U.O.N.
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5. FOR COMPLETE STAIR COMPONENT DIMENSIONS AND LOCATIONS, REFER TO ARCH. SHEET SERIES 1-A7
6. REFER TO SHEET 1-A8.00 FOR WALL TYPES
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9. "ALIGN" ANNOTATIONS AT WALLS REFER TO FACE OF FINISH, U.O.N.
10. SEE PLUMBING DRAWINGS FOR FLOOR DRAIN AND CLEANOUT LOCATIONS

WALL LEGEND

- CONCRETE WALL, S.S.D. FOR THICKNESS & REINFORCING
- METAL STUD-FRAMED WALL PER WALL TYPE (SEE SHEET 1-A8.00)
- ALUMINUM CURTAIN WALL or STOREFRONT

SHEET KEYNOTE LEGEND

08 50.03	ALUMINUM FRAME CLERESTORY WINDOW WITH CLEAR GLAZING, TYPICAL, SEE WINDOW SCHEDULE
23 30.03	EXTERIOR WALL GRILLE, S.M.D. FOR SIZE & LOCATION

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

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No. C-18867
5/31/21
RENEWAL DATE
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Sheet Title

BUILDING 1 CLERESTORY PLAN

Drawn By: Author
Checked By: Checker

Scale:
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Date:
October 4, 2019

Project No. 2016039

1-A2.30
Drawing No.

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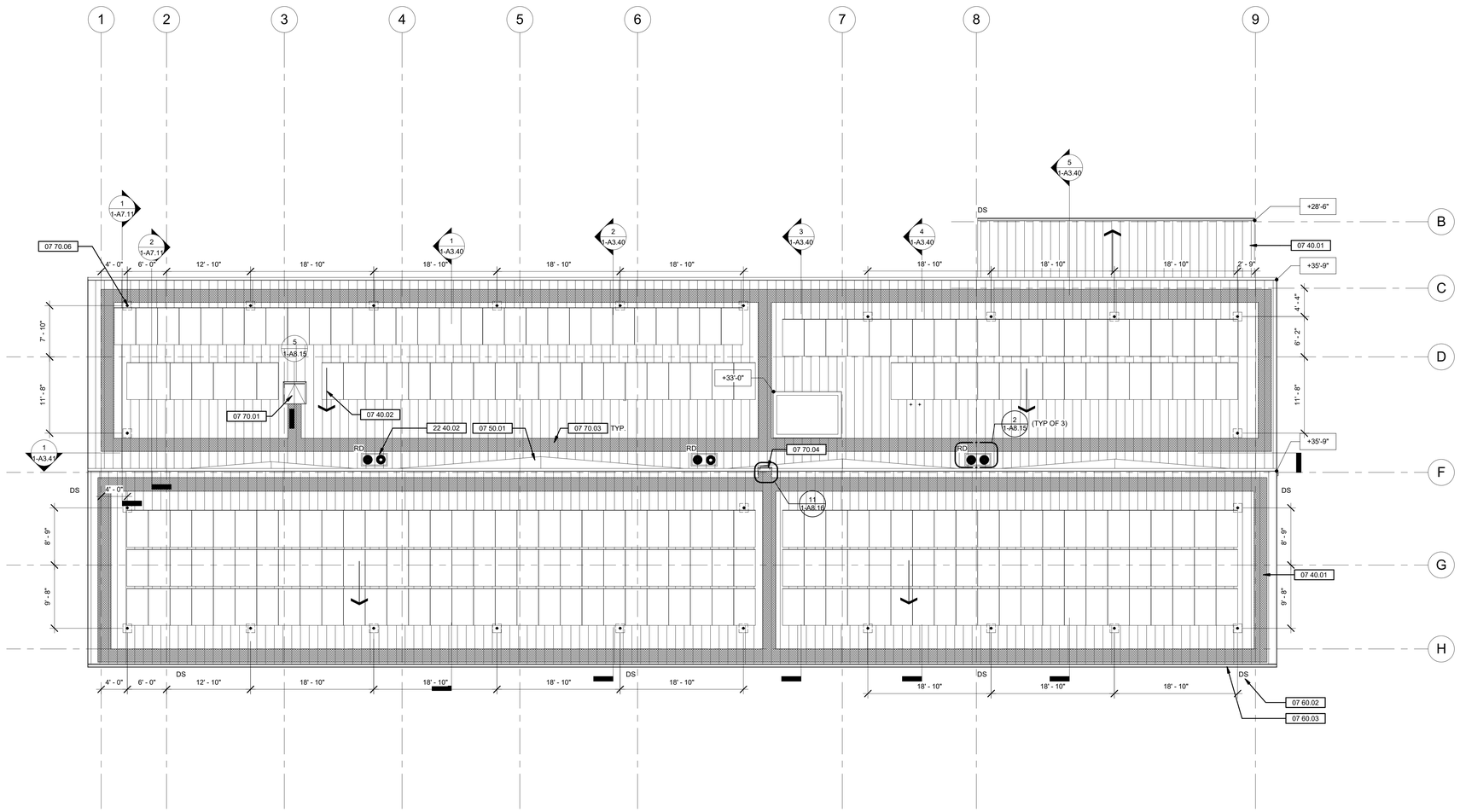
GENERAL SHEET NOTES

1. MINIMUM ROOF SLOPES SHALL BE 1/4" PER FOOT, U.O.N.
2. SLOPE ARROWS @ ROOF AREAS INDICATE DOWN SLOPE, TYP.
3. REFER TO MECHANICAL DRAWINGS AND MECHANICAL SYSTEM TO BE INSTALLED FOR ALL MECHANICAL SYSTEM PENETRATIONS.
4. REFER TO PLUMBING DRAWINGS AND PLUMBING SYSTEM TO BE INSTALLED FOR ALL ROOF PLUMBING PENETRATIONS.
5. CONTRACTOR SHALL COORDINATE THE LOCATION OF ROOF DRAINS AND PIPING TO AVOID CONFLICTS WITH STRUCTURE, MECHANICAL SYSTEM AND INFRASTRUCTURE.
6. ABBREVATIONS:

   T.O.S. = TOP OF STEEL
   HP - T.O.R. = HIGH POINT - TOP OF ROOF FINISH
   LP - T.O.R. = LOW POINT - TOP OF ROOF FINISH
7. REFER TO ARCHITECTURAL DETAIL SERIES FOR TYPICAL PENETRATION WATERPROOFING ASSEMBLIES
8. PHOTOVOLTAIC ARRAY DELINEATED AND DETAILED IN INCREMENT 2 SHALL COMPLY TO THE 2016 CALIFORNIA FIRE CODE.
9. REFER TO DETAILS 9, 10 & 11 ON SHEET 1-A8.05 FOR BIRD DETERRENT ASSEMBLIES.

SHEET KEYNOTE LEGEND

07 40.01	PRE-FINISHED STANDING SEAM METAL ROOF PANELS, TYPICAL
07 40.02	ARROW INDICATES DOWNWARD DIRECTION OF ROOF SLOPE, TYPICAL
07 50.01	MODIFIED BITUMEN MEMBRANE ROOF CRICKET
07 60.02	INDICATES DOWNSPOUT LOCATION, TYPICAL
07 60.03	PAINTED ALUMINUM EAVE GUTTER
07 70.01	ROOF HATCH WITH COLLAPSIBLE GUARDS
07 70.03	ROOF ACCESS WALKWAY, SECURED TO STANDING SEAM ROOF
07 70.04	VERTICAL ACCESS LADDER BETWEEN SAW TOOTH ROOF SECTIONS
07 70.06	MAINTENANCE TIE-OFF ANCHOR, SEE 7/1-S1.5.1 FOR DETAIL
22 40.02	ROOF AND OVERFLOW DRAIN



1 ROOF PLAN
1/8" = 1'-0"

0' 2' 4' 8' 16'

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No. C-18867
9/31/21
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Sheet Title

BUILDING 1 ROOF PLAN

Drawn By: SF
Checked By: EW

Scale: **1/8" = 1'-0"**

Date: **October 4, 2019**

Project No. 2016039

1-A2.60
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ROOM FINISH SCHEDULE

ROOM #	ROOM NAME	FLOOR FINISH	BASE FINISH	WALLS				CEILING FINISH	COMMENTS
				NORTH FINISH	EAST FINISH	SOUTH FINISH	WEST FINISH		
001	MECHANICAL	CONC1	RB1	G1	G1	G1	G1	X1	
002	ELECTRICAL	CONC1	RB1	G1	G1	G1	G1	X1	
003	COMMUNICATIONS	CONC1	RB1	G1	G1	G1	G1	X1	
101	LOBBY	SP1/SP2	CB1	-	G1/CONC3	CUR	G1/CONC3	CLG2	SP1 AND SP2 50% MIX
101.A	HALL	SP1	CB1/WB2	G1	-	CONC3	G1/CONC3	G1	LEVEL 5 FINISH ON NORTH WALL/ PROVIDE ABUSE RESISTANT GYPSUM BOARD 0"- 48" A.F.F
101.B	STAIR #1	CONC2	-	G1/CONC3	-	CUR/G1	WIN/G1	-	
101.C	LOBBY ALCOVE	SP1	WB2	G1	G1	G1	-	G1	CORK BULLETIN BOARD ON ONE WALL. LEVEL 5 FINISH ON ALL GYP BD WALLS. PROVIDE ABUSE RESISTANT GYPSUM BOARD 0"- 48" A.F.F
101.D	BREAK AREA	SP1/SP2	CB1	CUR/G1	G1/CONC3	-	G1/CONC3	CLG2	SP1 AND SP2 50% MIX. WOOD CASEWORK. PROVIDE ABUSE RESISTANT GYPSUM BOARD 0"- 48" A.F.F
101.E	BREAK COUNTER	CONC2	WB2	G1/WV1	G1/WV1/FC2	G1/WV1	-	WV1	WOOD VENEER ON ALL WALLS AND CEILING OF ALCOVES. WOOD CASEWORK. SEMI-GLOSS CONCRETE FINISH
101.F	HALL	SP1	WB2	G1/WDR1	-	G1/WDR1	G1/WDR1	G1	LEVEL 5 FINISH ON ALL WALLS. PROVIDE ABUSE RESISTANT GYPSUM BOARD 0"- 48" A.F.F
102	MEN'S	T1	TB1	G1/T4	G1/T4	G1/T4	G1/T4	G1	CONCRETE SINK. TILE HEIGHT VARIES; SEE ELEVATIONS
103	WOMEN'S	T1	TB1	G1/T4	G1/T4	G1/T4	G1/T4	G1	CONCRETE SINK. TILE HEIGHT VARIES; SEE ELEVATIONS
104	RESTROOM	T1	TB1	G1/T4	G1/T4	G1/T4	G1/T4	G1	
105	EXERCISE	R1	RB1/CONC1	CUR/G1/G2	G1/G2	CONC3	G1/G2	AC3	FULL LENGTH MIRRORS AND MARKER BOARD ON EAST AND WEST WALLS. PROVIDE ABUSE RESISTANT GYPSUM BOARD 0"- 48" A.F.F
110	CLASSROOM	CPT2	RB1	G1	G1/AP1	G1/AP1	G1/AP1	AC2/X2	BACKPAINTED GLASS MARKER BOARD AND MARKER TRAY ON 3 WALLS; SEE ELEVATIONS. PROVIDE ABUSE RESISTANT GYPSUM BOARD 0"- 48" A.F.F
111	HALL	CONC1	CB1/RB1	CONC3	G1	G1	G1	AC1	
112	BLDG STORAGE	CONC1	CB1/RB1	CONC3	G1	CONC3	G1	X1	
113	JANITOR	CONC1	RB1	G1, FRP	G1	G1	G1/FRP	AC1	
114	ELEV. EQUIPMENT	CONC1	CB1/RB1	CONC3	G1	G1	G1	G1	
115	CLASSROOM	CPT2/CONC1	RB1	G1	G1/AP1	G1/AP1	G1	AC2/X2	BACKPAINTED GLASS MARKER BOARD AND MARKER TRAY ON 2 WALLS; SEE ELEVATIONS. PROVIDE ABUSE RESISTANT GYPSUM BOARD 0"- 48" A.F.F
150	APPARATUS BAY	PAC1	CB2	CONC3	WIN/CONC3/G1	CONC3	CONC3/G1	X1	
150.A	MAP / RADIO COUNTER	PAC1	CB2	-	G1	G1	G1	G1	
150.B	EMS STORAGE / CLEANUP	PAC1	CB2	G1/WIN	G1	G1	CONC3	G1	
151	CASCADE	CONC1	CB1/RB1	-	G1	G1	-	X2	
152	EXTRACTOR	CONC1	CB1/RB1	G1	G1	-	G1	X2	
153	SHOP	CONC1	CB1/RB1	-	G1	G1	G1	X2	
154	STAIR #2	CONC1	CB1/RB1	CUR/G1	CONC 3	G1	G1	-	
199	ELEVATOR	T3	PER MANU	PER MANU	PER MANU	PER MANU	PER MANU	PER MANU	
201	CIRCULATION	CONC2	RB1	G1/WIN	-	-	CONC1	G1	SEMI-GLOSS CONCRETE FINISH
201.A	CIRCULATION	CONC2	RB1	WIN/G1	G1	G1	-	G1	SEMI-GLOSS CONCRETE FINISH
201.B	STAIR #1	CONC2	-	CONC1	-	CUR	G1	CLG4	MATTE CONCRETE FINISH
202	BACKUP DISPATCH & RACES	CPT1	RB1	G1	G1	G1	G1	AC1	BACKPAINTED GLASS MARKER BOARD AND MARKER TRAY ON 1 WALL; SEE ELEVATIONS. PLASTIC LAMINATE CASEWORK
203	BREAKOUT	CPT1	RB1	CUR/G1	G1/AP1	G1	G1	AC1	BACKPAINTED GLASS MARKER BOARD AND MARKER TRAY ON 1 WALL; SEE ELEVATIONS
204	CONFERENCE	CPT1	RB1	CUR/G1	G1/AP1	WIN/G1	G1/AP1	CLG2	PLASTIC LAMINATE CASEWORK. MARKER BOARD ON 2 WALLS
205	SECURE FILES	RF1	RB1	G1	G1	G1	G1	AC1	
206	GENERAL OFFICE	CPT1	RB1	G1	G1	WIN/G1	G1	G1/AC1	
207	OFFICE	CPT1	RB1	G1	G1	G1	G1	AC1	
208	OFFICE	CPT1	RB1	G1	G1	G1	G1	AC1	
209	OFFICE SUPPORT	RF1	RB1	G1	G1	G1	G1	AC1	PLASTIC LAMINATE CASEWORK.
210	FIRE DEPT OFFICE SUITE	CPT1	RB1	G1	G1/WIN	G1/WIN	G1	G1/AC1	
211	HALL	CPT1	RB1	G1	G1	-	G1	AC1	
212	OFFICE	CPT1	RB1	G1/WIN	G1	G1	G1	AC1	
213	OFFICE	CPT1	RB1	G1	G1	G1	WIN/G1	AC1	WOOD CASEWORK
214	STAFF WC	T1	TB1	G1	T4/G1	T4/G1	T4/G1	G1	
215	JANITOR	CONC1	RB1	G1	G1/FRP	G1/FRP	G1	G1	
216	BREAK ROOM	RF1	RB1	G1	G1	G1	G1	G1	CORK BULLETIN BOARD
216.A	GALLEY	RF1	RB1	G1	G1	G1	G1	G1	WOOD CASEWORK.
218	SIMULATOR	CPT2	RB1	G1	G1/AP1	G1	G1	G1	BACKPAINTED GLASS MARKER BOARD AND MARKER TRAY ON 1 WALLS; SEE ELEVATIONS. PLASTIC LAMINATE CASEWORK
218.A	ALCOVE	CPT1	RB1	G1	G1	-	G1	G1	
250	FS VESTIBULE	CONC2	RB2	G1	G1	G1	G1	AC1	MATTE CONCRETE FINISH
251	HALL	CONC2	RB1	G1	-	G1	G1	AC1	MATTE CONCRETE FINISH. LEVEL 5 FINISH ON SOUTH WALL BEHIND ARTWORK
251.A	DINING	CONC2	RB1	CUR/G1	-	G1	-	G1/AC1	WOOD CASEWORK WITH SOLID SURFACE COUNTERTOP. MATTE CONCRETE FINISH. LEVEL 5 FINISH ON WEST UPPER WALL
251.B	DAY ROOM	CONC2	RB1	CUR/G1	G1	G1	-	G1/AC1	WOOD CASEWORK WITH SOLID SURFACE COUNTERTOP. MATTE CONCRETE FINISH
251.C	HALL	CONC2	RB1	-	G1	G1	G1	AC1	MATTE CONCRETE FINISH
251.D	HALL	CONC2	RB1	-	G1	G1	G1	AC1	
251.E	POLE ALCOVE	CONC2	RB1	-	G1	G1	G1	G3	
252	KITCHEN	CONC2	RB1	G1	G1	G1	G1	AC1	WOOD CASEWORK WITH STAINLESS STEEL COUNTERTOP. MATTE CONCRETE FINISH
253	STORAGE	CONC1	RB1	G1	G1	G1	G1	X1	
254	JANITOR	CONC1	RB1	G1/FRP	G1	G1	G1/FRP	G1	
255	OFFICE	CPT1	RB1	G1	G1	G1	G1	G1	PLASTIC LAMINATE CASEWORK.
256	DORMITORY	CPT1	RB1	G1	G1	G1	G1	AC1	WOOD CASEWORK
256.A	POLE ALCOVE	CPT1	RB1	-	G1	G1	G1	AC1	
257	CAPTAIN'S ROOM	CPT1	RB1	G1	G1	G1	G1	AC3	WOOD CASEWORK
258	CAPTAIN'S WORKRM	CPT1	RB1	G1	G1	G1	G1	AC3	WOOD CASEWORK
259	CAPTAIN'S ROOM	CPT1	RB1	G1	G1	G1	G1	AC3	WOOD CASEWORK
260	RESTROOM / LOCKER ROOM	T1/T2	TB1	T4/G1	T4/G1	T4/G1	T4/G1	G1	WOOD LOCKERS AND BENCHES. SOLID SURFACE COUNTERTOPS
261	RESTROOM	T1	TB1	T4/G1	T4/G1	T4/G1	T4/G1	G1	WOOD LOCKERS. BUILT-IN BENCH WITH SOLID SURFACE TOP. SOLID SURFACE COUNTERTOP
270	STAIR #2	CONC1	TB1	G1	G1	G1	G1	G1	
299	ELEVATOR	PER MANU	PER MANU	PER MANU	PER MANU	PER MANU	PER MANU	PER MANU	

DOOR AND FRAME SCHEDULE

MARK	ROOM NUMBER	ROOM NAME	DOOR						FRAME			GLAZING	FIRE RATING	DETAILS			HDWR GROUP	PANIC	HARDWARE REMARKS
			WIDTH	HEIGHT	THICKNESS	TYPE	MATERIAL	FINISH	FRAME TYPE	MATERIAL	FINISH			HEAD	JAMB	SILL			
000.1	0	UTILITY YARD	3' - 0"	7' - 0"	1 3/4"	A	HM	PNT	A	HM	PNT	N/A	-	-	8/1-A8.01	23/1-A8.01	1-01	Yes	EQUIPPED WITH CARD READER
000.2	0	UTILITY YARD	3' - 0"	7' - 0"	1 3/4"	A	HM	PNT	A	HM	PNT	N/A	-	1/1-A9.01	9/1-A8.02	-	1-01	Yes	EQUIPPED WITH CARD READER
001	1	MECHANICAL	6' - 0"	7' - 10"	1 3/4"	C	HM	PNT	B	HM	PNT	N	-	2/1-A8.06	3/1-A8.06	4/1-A8.06	1-08		EQUIPPED WITH CARD READER
002	2	ELECTRICAL	3' - 6"	7' - 10"	1 3/4"	A	HM	PNT	B	HM	PNT	N	-	2/1-A8.06	3/1-A8.06	4/1-A8.06	1-24		EQUIPPED WITH CARD READER
003	3	COMMUNICATIONS	6' - 0"	7' - 10"	1 3/4"	C	HM	PNT	B	HM	PNT	N	-	2/1-A8.06	3/1-A8.06	4/1-A8.06	1-08		EQUIPPED WITH CARD READER
020	20	MECHANICAL	6' - 0"	7' - 0"	1 3/4"	C	HM	FP	C	HM	FP	N	-	2/1-A8.06	3/1-A8.06	4/1-A8.06	1-07		
101.1	101	LOBBY	6' - 7 1/2"	8' - 6 3/4"	2"	C	AL	FF	PER MANUF	ALUM	FF	N	-	8/1-A8.10	20/1-A8.10	6/1-A8.06	1-04		EQUIPPED WITH CARD READER
101.2	101	BREAK AREA	6' - 4 7/8"	8' - 6 3/4"	2"	C	AL	FF	PER MANUF	ALUM	FF	N	-	8/1/-A8.10	20/1-A8.10	6/1-A8.06	1-05		EQUIPPED WITH CARD READER
102	102	MEN'S RESTROOM	3' - 0"	7' - 10"	1 3/4"	A	SC	FS	C	HM	FP	N	-	1/1-A9.01	2/1-A9.01	18/1-A9.01	1-09		
103	103	WOMEN'S RESTROOM	3' - 0"	7' - 10"	1 3/4"	A	SC	FS	C	HM	FP	N	-	1/1-A9.01	2/1-A9.01	18/1-A9.01	1-09		
104	104	RESTROOM	3' - 0"	7' - 10"	1 3/4"	A	SC	FS	C	HM	FP	N	-	1/1-A9.01	2/1-A9.01	18/1-A9.01	1-10		
105.1	105	EXERCISE	3' - 0"	8' - 0"	2"	B	HM	FP	C	HM	FP	Y	20 MIN.	1/1-A9.01	2/1-A9.01	17/1-A9.01	1-11		EQUIPPED WITH CARD READER
105.2	105	EXERCISE	6' - 6 1/8"	8' - 6 3/4"	2"	E	AL	FF	PER MANUF	ALUM	FF	Y	-	8/1-A8.10	20/1-A8.10	16/1-A9.01	1-05		EQUIPPED WITH CARD READER
105.3	105	EXERCISE	3' - 0"	8' - 0"	2"	B	SC	FS	C	HM	FP	Y	-	1/1-A9.01	2/1-A9.01	19/1-A9.01	1-11		EQUIPPED WITH CARD READER
110	110	CLASSROOM	3' - 0"	7' - 10"	1 3/4"	D	SC	FS	PER MANUF	ALUM	FF	Y	-	11/1-A8.10	23/1-A8.10	20/1-A9.01	1-12	Yes	
111.1	111	HALL	3' - 0"	7' - 10"	1 3/4"	A	SC	FS	C	HM	FP	N	-	2/1-A8.06	3/1-A8.06	21/1-A9.01	1-17	Yes	
111.2	111	HALL	3' - 0"	7' - 10"	1 3/4"	A	HM	FP	A	HM	FP	N	-	2/1-A8.06	3/1-A8.06	4/1-A8.06	1-27	Yes	EQUIPPED WITH CARD READER
112.1	112	BUILDING STORAGE	3' - 0"	7' - 10"	1 3/4"	A	HM	FP	A	HM	FP	N	-	2/1-A8.06	3/1-A8.06	16/1-A9.01	1-14		
112.2	112	BUILDING STORAGE	3' - 0"	7' - 10"	1 3/4"	A	SC	FS	C	HM	FP	N	-	2/1-A8.06	3/1-A8.06	21/1-A9.01	1-14		
112.3	112	BUILDING STORAGE	3' - 0"	7' - 10"	1 3/4"	A	SC	FS	C	HM	FP	N	-	1/1-A9.01	2/1-A9.01	21/1-A9.01	1-14		
113	113	JANITOR	3' - 0"	7' - 10"	1 3/4"	A	SC	FS	C	HM	FP	N	-	1/1-A9.01	2/1-A9.01	26/1-A9.01	1-14		
114	114	ELEVATOR EQUIPMENT	3' - 0"	7' - 10"	1 3/4"	A	SC	FP	C	HM	FP	N	-	1/1-A9.01	2/1-A9.01	-	1-15		
115.1	115	CLASSROOM	3' - 0"	7' - 10"	1 3/4"	D	SC	FS	PER MANUF	ALUM	FF	Y	-	11/1-A8.10	23/1-A8.10	20/1-A9.01	1-17	Yes	
115.2	115	CLASSROOM	14' - 0"	12' - 0"	2 1/8"	F	AL	FF	PER MANUF	MTL	FF	Y	-	12/1-A8.19	3/1-A8.19	10/1-A8.19	1-23	Yes	PROVIDE PERIMETER ACOUSTIC SEALS
115.3	115	CLASSROOM	14' - 0"	12' - 0"	2 1/8"	F	AL	FF	PER MANUF	MTL	FF	Y	-	12/1-A8.19	3/1-A8.19	10/1-A8.19	1-23		PROVIDE PERIMETER ACOUSTIC SEALS
115.4	115	CLASSROOM	3' - 0"	7' - 10"	1 3/4"	A	SC	FS	C	HM	FP	N	-	2/1-A8.06	3/1-A8.06	4/1-A8.06	1-24		ACOUSTICALLY-RATED DOOR REQUIRED; EQUIPPED WITH CARD READER
150.1	150	APPARATUS BAY	3' - 0"	7' - 10"	1 3/4"	B	HM	FP	C	HM	FP	Y	20 MIN.	2/1-A8.06	3/1-A8.06	16/1-A9.01	1-13		EQUIPPED WITH CARD READER
150.2	150	APPARATUS BAY	3' - 0"	7' - 0"	1 3/4"	B	HM	FP	C	HM	FP	Y	-	2/1-A8.06	3/1-A8.06	26/1-A9.01	1-25		
150.3	150	APPARATUS BAY	14' - 0"	14' - 0"	2 1/8"	G	MTL	FF	PER MANUF	MTL	FF	Y	-	7/1-A8.19	5/1-A8.19	9/1-A8.19	1-22		
150.4	150	APPARATUS BAY	14' - 0"	14' - 0"	2 1/8"	G	MTL	FF	PER MANUF	MTL	FF	Y	-	7/1-A8.19	6/1-A8.19	9/1-A8.19	1-22		
150.5	150	APPARATUS BAY	14' - 0"	14' - 0"	2 1/8"	G	MTL	FF	PER MANUF	MTL	FF	Y	-	7/1-A8.19	5/1-A8.19	9/1-A8.19	1-22		
150.6	150	APPARATUS BAY	14' - 0"	14' - 0"	2 1/8"	F	MTL	FF	PER MANUF	MTL	FF	Y	-	8/1-A8.19	1/1-A8.19	10/1-A8.19	1-23		
150.7	150	APPARATUS BAY	14' - 0"	14' - 0"	2 1/8"	F	MTL	FF	PER MANUF	MTL	FF	Y	-	8/1-A8.19	2/1-A8.19	10/1-A8.19	1-23		
150.8	150	APPARATUS BAY	14' - 0"	14' - 0"	2 1/8"	F	MTL	FF	PER MANUF	MTL	FF	Y	-	8/1-A8.19	2/1-A8.19	10/1-A8.19	1-23		
150.9	150	APPARATUS BAY	14' - 0"	14' - 0"	2 1/8"	F	MTL	FF	PER MANUF	MTL	FF	Y	-	8/1-A8.19	1/1-A8.19	10/1-A8.19	1-23		
150.10	150	APPARATUS BAY	3' - 0"	7' - 0"	1 3/4"	A	HM	FP	C	HM	FP	N	-	1/1-A9.01	2/1-A8.19	26/1-A9.01	1-16		
151.1	151	CASCADE	3' - 0"	7' - 0"	1 3/4"	A	HM	FP	A	HM	FP	Y	-	1/1-A9.01	2/1-A9.01	26/1-A9.01	1-16		
151.2	151	CASCADE	6' - 0"	8' - 0"	2"	H	MTL	FF	PER MANUF	MTL	FF	N/A	-	10/1-A8.06	11/1-A8.06	-	1-23		
152.1	152	EXTRACTOR	3' - 0"	7' - 0"	1 3/4"	B	HM	FP	C	HM	FP	N	-	1/1-A9.01	2/1-A9.01	26/1-A9.01	1-16		
153.1	153	SHOP	6' - 0"	7' - 10"	1 3/4"	C	HM	FP	B	HM	FP	Y	-	2/1-A8.06	3/1-A8.06	4/1-A8.06	1-06		
153.2	153	SHOP	3' - 0"	7' - 0"	1 3/4"	A	HM	FP	A	HM	FP	N	-	1/1-A9.01	2/1-A9.01	26/1-A9.01	1-16		
154	154	STAIR #2	3' - 0"	7' - 7 1/2"	1 3/4"	D	HM	FP	A	HM	FP	Y	-	11/1-A8.10	23/1-A8.10	12/1-A8.10	1-02		EQUIPPED WITH CARD READER
201.1	201	COMMUNICATIONS	3' - 0"	7' - 0"	1 3/4"	A	HM	FP	A	HM	FP	N	-	1/1-A9.01	2/1-A9.01	5/1-A9.01	1-15		EQUIPPED WITH CARD READER
201.2	201	CIRCULATION	3' - 0"	7' - 0"	1 3/4"	A	HM	FP	A	HM	FP	N	-	9/1-A8.06	10/1-A8.06	4/1-A8.06	1-02		
202	202	BACKUP DISPATCH	3' - 0"	7' - 0"	1 3/4"	B	SC	FS	C	HM	FP	Y	-	1/1-A9.01	2/1-A9.01	21/1-A9.01	1-11		EQUIPPED WITH CARD READER
203.1	203	BREAKOUT	3' - 1"	7' - 10"	1 3/4"	D	SC	FS	C	HM	FP	Y	-	11/1-A8.10	23/1-A8.10	12/1-A8.10	1-13		EQUIPPED WITH CARD READER
203.2	203	BREAKOUT	3' - 0"	7' - 0"	1 3/4"	A	SC	FS	C	HM	FP	Y	-	1/1-A9.01	2/1-A9.01	29/1-A9.01	1-18		
204	204	CONFERENCE	3' - 0"	7' - 10"	1 3/4"	D	SC	FS	C	HM	FP	Y	-	11/1-A8.10	23/1-A8.10	12/1-A8.10	1-11		EQUIPPED WITH CARD READER
205	212	SECURE FILES	3' - 0"	7' - 0"	1 3/4"	A	SC	FP	C	HM	FP	N	-	1/1-A9.01	2/1-A9.01	28/1-A9.01	1-14		
206	208	GENERAL OFFICE	3' - 0"	7' - 9 1/2"	1 3/4"	D	SC	FS	PER MANUF	ALUM	FF	Y	-	11/1-A8.10	23/1-A8.10	29/1-A9.01	1-13		EQUIPPED WITH CARD READER
207	207	OFFICE	3' - 0"	7' - 0"	1 3/4"	B	SC	FS	C	HM	FP	Y	-	1/1-A9.01	2/1-A9.01	4/1-A9.01	1-19		
208	208	OFFICE	3' - 0"	7' - 0"	1 3/4"	B	SC	FS	C	HM	FP	Y	-	1/1-A9.01	2/1-A9.01	4/1-A9.01	1-19		
209.1	209	OFFICE SUPPORT	3' - 0"	7' - 0"	1 3/4"	B	SC	FS	C	HM	FP	Y	-	1/1-A9.01	2/1-A9.01	28/1-A9.01	1-16		EQUIPPED WITH CARD READER
209.2	209	OFFICE SUPPORT	3' - 0"	7' - 0"	1 3/4"	B	SC	FS	C	HM	FP	Y	-	1/1-A9.01	2/1-A9.01	28/1-A9.01	1-16		
210	210	FIRE DEPT. OFFICE	3' - 0"	7' - 10"	1 3/4"	D	SC	FS	PER MANUF	ALUM	FF	Y	-	11/1-A8.10	23/1-A8.10	29/1-A9.01	1-13		
211	211	HALL	3' - 0"	7' - 9 1/2"	1 3/4"	D	AL	FF	PER MANUF	ALUM	FF	Y	-	11/1-A8.10	23/1-A8.10	4/1-A8.06	1-03		
212	212	OFFICE	3' - 0"	7' - 0"	1 3/4"	B	SC	FS	C	HM	FP	Y	-	1/1-A9.01	2/1-A9.01	4/1-A9.01	1-19		
213	213	OFFICE	3' - 0"	7' - 10"	1 3/4"	D	SC	FS	PER MANUF	ALUM	FF	Y	-	11/1-A8.10	23/1-A8.10	4/1-A9.01	1-19		
214	214	STAFF WC	3' - 0"	7' - 0"	1 3/4"	A	SC	FS	C	HM	FP	N	-	1/1-A9.01	2/1-A9.01	24/1-A9.01	1-10		
215	215	JANITOR	3' - 0"	7' - 0"	1 3/4"	A	SC	FS	C	HM	FP	N	-	1/1-A9.01	2/1-A9.01	26/1-A9.01	1-14		
216	216	BREAK ROOM	3' - 0"	7' - 0"	1 3/4"	B	SC	FS	C	HM	FP	Y	-	1/1-A9.01	2/1-A9.01	27/1-A9.01	1-16		
218	218	SIMULATOR	3' - 0"	7' - 0"	1 3/4"	B	SC	FS	C	HM	FP	Y	-	1/1-A9.01	2/1-A9.01	21/1-A9.01	1-16		
250	250	F.S. LOBBY	3' - 0"	7' - 0"	1 3/4"	B	HM	FP	C	HM	FP	Y	-	1/1-A9.01	2/1-A9.01	26/1-A9.01	1-11		EQUIPPED WITH CARD READER
251.1	251	DAY ROOM	3' - 0"	7' - 0"	1 3/4"	B	HM	FP	C	HM	FP	Y	-	1/1-A9.01	2/1-A9.01	26/1-A9.01	1-16		
251.2	270	STAIR #2	3' - 0"	7' - 0"	1 3/4"	B	HM	FP	C	HM	FP	Y	-	1/1-A9.01	2/1-A9.01	4/1-A8.06	1-02		EQUIPPED WITH CARD READER
251.3	251	DINING	3' - 0"	7' - 10 3/4"	1 3/4"	D	AL	FF	PER MANUF	ALUM	FF	Y	-	11/1-A8.10	23/1-A8.10	12/1-A8.10	1-03		
253	253	STORAGE	3' - 0"	7' - 0"	1 3/4"	A	HM	FP	C	HM	FP	N	-	1/1-A9.01	2/1-A9.01	26/1-A9.01	1-14		
254	254	JANITOR	3' - 0"	7' - 0"	1 3/4"	A	HM	FP	C	HM	FP	N	-	1/1-A9.01	2/1-A9.01	26/1-A9.01	1-14		
255	255	OFFICE	3' - 0"	7' - 0"	1 3/4"	B	HM	FP	C	HM	FP	Y	-	1/1-A9.01	2/1-A9.01	3/1-A9.01	1-19		
256.1	256	DORMITORY	3' - 0"	7' - 0"	1 3/4"	A	HM	FP	C	HM	FP	N	20 MIN.	1/1-A9.01	2/1-A9.01	21/1-A9.01	1-16		
256.2	256	DORMITORY	3' - 0"	7' - 0"	1 3/4"	A	HM	FP	C	HM	FP	N	20 MIN.	1/1-A9.01	2/1-A9.01	21/1-A9.01	1-16		
257	257	CAPTAIN'S ROOM	3' - 0"	7' - 0"	1 3/4"	A	HM	FP	C	HM	FP	N	-	1/1-A9.01	2/1-A9.01	4/1-A9.01	1-20		
258.1	258	CAPTAIN'S WORKROOM	3' - 0"	7' - 0"	1 3/4"	A	HM	FP	C	HM	FP	N	20 MIN.	1/1-A9.01	2/1-A9.01	3/1-A9.01	1-21		
258.2	258	CAPTAIN'S WORKROOM	3' - 0"	7' - 0"	1 3/4"	A	HM	FP	C	HM	FP	N	-	1/1-A9.01	2/1-A9.01	4/1-A9.01	1-21		
258.3	259	CAPTAIN'S ROOM	3' - 0"	7' - 0"	1 3/4"	A	HM	FP	C	HM	FP	N	-	1/1-A9.01	2/1-A9.01	25/1-A9.01	1-16		
259	259	CAPTAIN'S ROOM	3' - 0"	7' - 0"	1 3/4"	A	HM	FP	C	HM	FP	N	20 MIN.	1/1-A9.01	2/1-A9.01	3/1-A9.01	1-21		
260.1	260	RESTROOM	3' - 0"	7' - 0"	1 3/4"	A	HM	FP	C	HM	FP	N	-	1/1-A9.01	2/1-A9.01	24/1-A9.01	1-09		
260.2	260	RESTROOM	3' - 0"	7' - 0"	1 3/4"	A	HM	FP	C	HM	FP	N	-	1/1-A9.01	2/1-A9.01	24/1-A9.01	1-09		
261	261	RESTROOM	3' - 0"	7' - 0"	1 3/4"	A	HM	FP	C	HM	FP	N	-	1/1-A9.01	2/1-A9.01	24/1-A9.01	1-10		

FINISH LEGEND

FLOORS

CPT1	CARPET TILE; TYPE 1
CPT2	CARPET TILE; TYPE 2
CONC1	SEALED CONCRETE, NO DYE/STAIN
CONC2	SEALED POLISHED CONCRETE, NO DYE/STAIN.
PAC1	POLYASPARTIC COATING OVER CONCRETE
R1	RUBBER ATHLETIC FLOORING
RF1	RESILIENT FLOORING
SP1	SEALED PAVER; COLOR 1
SP2	SEALED PAVER, COLOR 2
T1	PORCELAIN FIELD TILE: 12"x12" UNGLAZED, COLOR 1
T2	PORCELAIN FIELD TILE: 2"x2" UNGLAZED, COLOR 1 (SHOWERS)
T3	PORCELAIN FIELD TILE: 12"x12" UNGLAZED, COLOR 2 (ELEVATOR)

BASE

CB1	CONCRETE CURB, SEALED NO STAIN/DYE
CB2	POLYASPARTIC FLOORING OVER CONCRETE
RB1	4" RESILIENT WALL BASE, COLOR 1
TB1	PORCELAIN TILE: 6"X12" UNGLAZED PORCELAIN COVED BASE TILE, COLOR 1
TB2	NOT USED
WB1	WOOD BASE - SURFACE APPLIED
WB2	WOOD BASE - FLUSH

CEILING

AC1	ACOUSTIC PANEL TYPE 1 - 2'x2' GRID
AC2	ACOUSTIC PANEL TYPE 2 - TECTUM 2'x4' GRID
AC3	ACOUSTIC PANEL TYPE 3 - 2'X2' GRID
G1	PAINTED GYPSUM BOARD
CLG1	LINEAR METAL PANEL CEILING SYSTEM TYPE 1
CLG2	LINEAR METAL PANEL CEILING SYSTEM TYPE 2; W/ PERFORATIONS AND ACOUSTIC BACKING
CLG3	METAL SOFFIT PANEL SYSTEM TYPE 1
CLG4	METAL SOFFIT PANEL SYSTEM TYPE 2; W/ PERFORATIONS AND ACOUSTIC BACKING
X1	EXPOSED STRUCTURE - NO FINISH/NOT PAINTED
X2	EXPOSED STRUCTURE AND MECHANICAL SYSTEMS - PAINTED COLOR 1
X3	EXPOSED STRUCTURE - ACOUSTICAL SPRAY; COLOR 1. CEILING BEAMS, EXPOSED STRUCTURE AND EXPOSED MECHANICAL SYSTEMS - PAINTED COLOR 1

WALL AND WAINSCOT MATERIALS

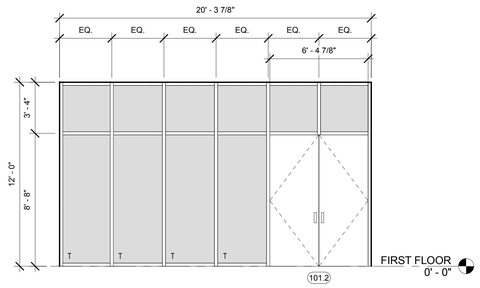
AP1	ACOUSTIC PANELS - FELT WRAPPED PANELS
CONC3	CIP CONCRETE - SEALED
CONC4	CMU CONCRETE WALL - SEALED
CUR	GLAZED CURTAIN WALL SYSTEM
FC1	FIBER CEMENT BOARD; COLOR 1. SCREW DOWN
FC2	FIBER CEMENT BOARD; COLOR 2. ADHESIVE APPLIED
FRP	FIBER REINFORCED PANEL
G1	GYPSUM BOARD - PAINTED W/ EGGSHELL FINISH
G2	PAINTED HIGH-IMPACT GYPSUM BOARD
PLY	3/4" FIRE RESISTANT PLYWOOD OVER GYP. BD. PAINT ALL SURFACES W/ FLAME RESISTANT ENAMEL PAINT
T4	PORCELAIN FIELD TILE: 6"x24"; COLOR 1
WDR1	RECLAIMED 1X4 TONGUE AND GROOVE WOOD PANELING
WIN	ALUMINUM STOREFRONT WINDOW SYSTEM
WV1	WOOD VENEER, STAIN 1

FINISH SCHEDULE GENERAL NOTES

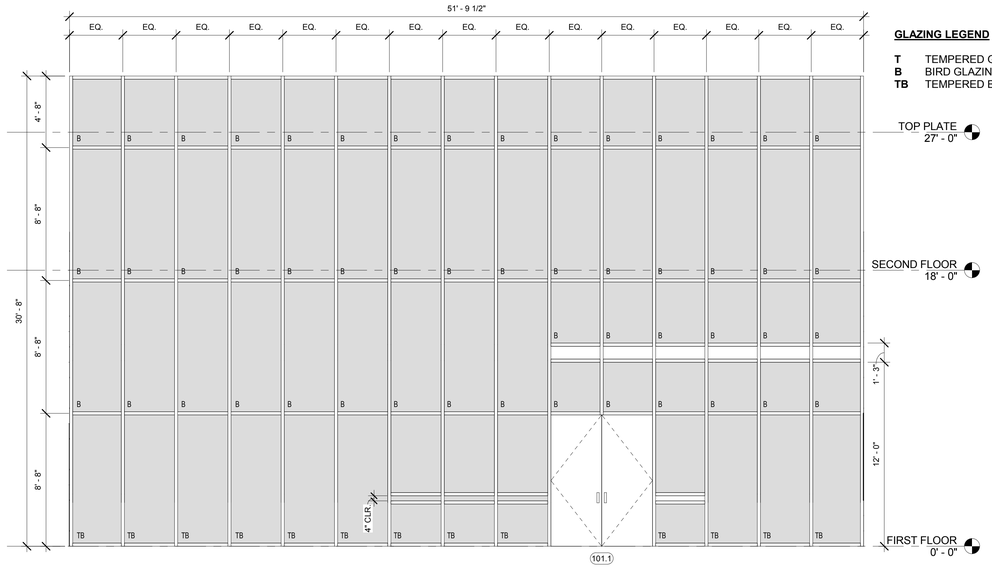
1. SEE INTERIOR ELEVATIONS FOR MORE D

GENERAL SHEET NOTES

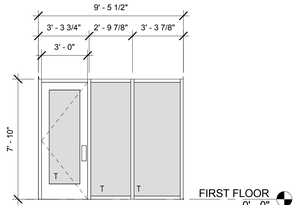
1. VERTICAL DIMS. ARE FOR FLOOR LEVEL ADJACENT WINDOWS, U.O.N.
2. ALL EXTERIOR H.M. DOORS AND FRAMES TO BE GALVANIZED & PAINTED.
3. VERIFY ALL WINDOW FRAME & DOOR ROUGH OPENINGS PRIOR TO FABRICATION WITH FIELD CONDITIONS - DIMENSIONS AT WINDOW AND FRAME TYPES ARE NOMINAL.
4. SEE SPEC. SECTION 08 81 00 FOR GLAZING TYPE.
5. ALUM. WINDOW SYSTEMS ARE SHOWN ARE BASED ON OLDCASTLE BUILDING ENVELOPE RELIANCE CURTAINWALL AND FG-3000 STOREFRONT SYSTEMS. GLAZING THICKNESS VARIES. USE MFR. STD. TRIM FILLER AS REQUIRED.
6. SEE DOOR SCHEDULE AND DOOR TYPES FOR DOORS WITHIN WINDOW SYSTEM.
7. REFER TO 1-A8.10 AND 1-A8.11 FOR TYPICAL WINDOW TO WALL CONDITIONS
8. A COMBINATION OF STOREFRONT AND CURTAINWALL FRAMES SHALL NOT BE USED IN A SINGLE WINDOW.
9. GLAZING TYPES SHALL BE COORDINATED WITH CORRESPONDING WINDOW FRAME TYPES.
10. THE DOOR, DOOR FRAME, WINDOW FRAME, STOREFRONT FRAME, CURTAINWALL FRAME COLORS ARE PER THE WINDOW SCHEDULE.



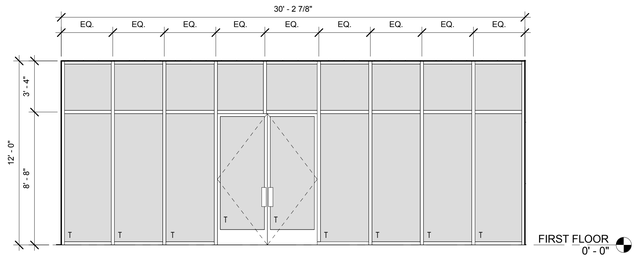
1 CW- 101
1/4" = 1'-0"



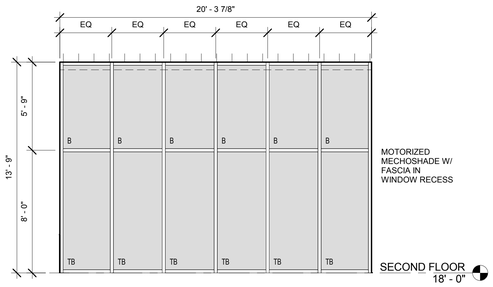
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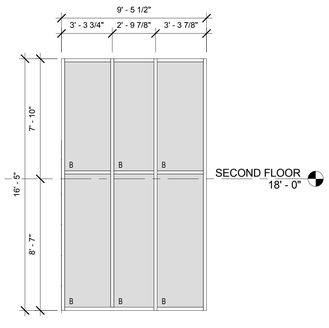
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1/4" = 1'-0"



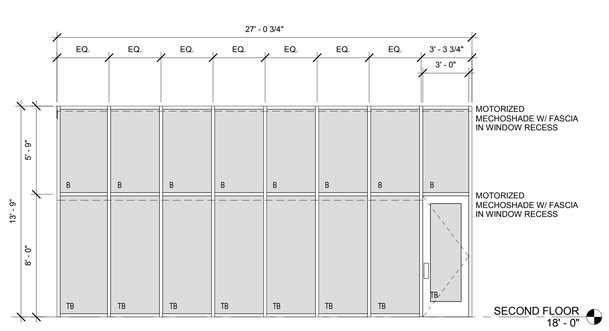
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1/4" = 1'-0"



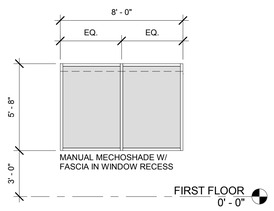
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1/4" = 1'-0"



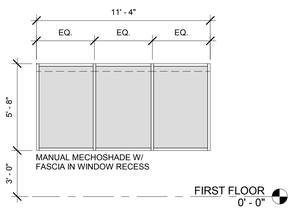
6 CW- 202
1/4" = 1'-0"



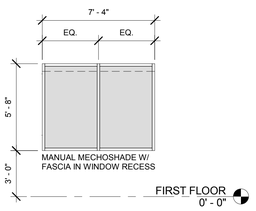
7 CW- 203
1/4" = 1'-0"



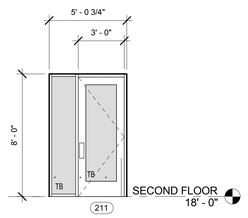
8 SF- 101
1/4" = 1'-0"



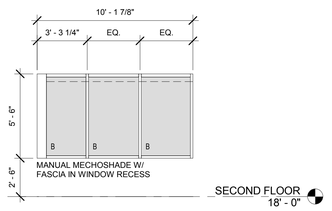
9 SF- 102
1/4" = 1'-0"



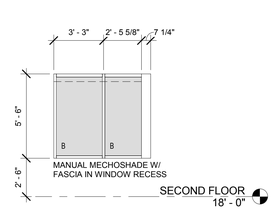
10 SF- 103
1/4" = 1'-0"



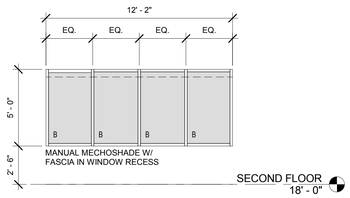
12 SF- 201
1/4" = 1'-0"



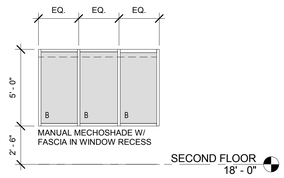
13 SF- 202
1/4" = 1'-0"



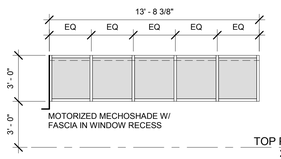
14 SF- 203
1/4" = 1'-0"



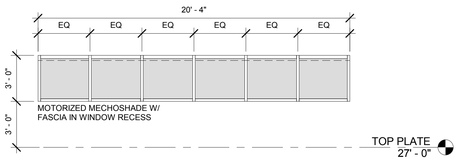
15 SF- 204
1/4" = 1'-0"



16 SF- 205
1/4" = 1'-0"



17 SF- 301
1/4" = 1'-0"



18 SF- 302
1/4" = 1'-0"

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3- INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
RENEWAL DATE 08-31-21
STATE OF CALIFORNIA

Sheet Title

BUILDING 1 WINDOW SCHEDULE

Drawn By: AA
Checked By: EW

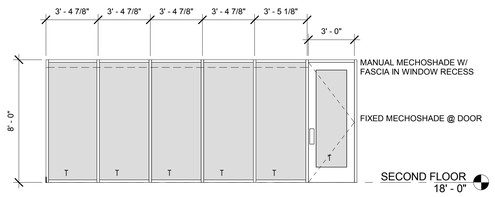
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Date: October 4, 2019

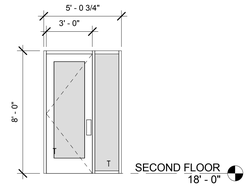
Project No. 2016039

1-A2.71
Drawing No.

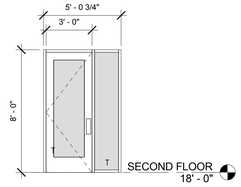
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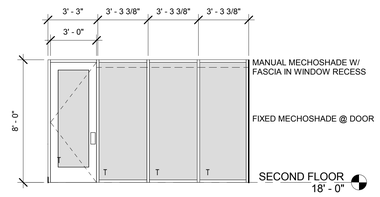
1 IW- 201
1/4" = 1'-0"



2 IW- 202
1/4" = 1'-0"



3 IW- 203
1/4" = 1'-0"



4 IW- 204
1/4" = 1'-0"

WINDOW SCHEDULE

MARK	SIZE		OPERATION	FRAME		GLASS			DETAILS			NOTES
	WIDTH	HEIGHT		MATERIAL	FINISH	THK	COLOR	TYPE	HEAD	JAMB	SILL	
A	3' - 0"	4' - 0"	FIXED	ALUM	ANOD	1"	CLR	LOW-E	10/1-A8.11 SIM.	10/1-A8.11 SIM.	11/1-A8.11 SIM.	INSULATED GLAZING W/ MANUAL MECHOSHADE. MANUAL BLACKOUT @ DORMITORY
B	3' - 0"	3' - 0"	FIXED	ALUM	ANOD	1"	CLR	LOW-E	10/1-A8.11	10/1-A8.11 SIM.	11/1-A8.11	INSULATED GLAZING. PROVIDE MOTORIZED MECHOSHADE WHERE NOTED
C	3' - 0"	3' - 0"	AWN	ALUM	ANOD	1"	CLR	LOW-E	8/1-A8.11	8/1-A8.11 SIM.	9/1-A8.11	INSULATED GLAZING. PROVIDE MOTORIZED MECHOSHADE WHERE NOTED
D	4' - 0"	3' - 6"	SL	ALUM	ANOD	1/4"	CLR	LOW-E				
E	3' - 0"	4' - 0"	CSMT	ALUM	ANOD	1"	CLR	LOW-E	10/1-A8.11 SIM.	10/1-A8.11 SIM.	11/1-A8.11 SIM.	INSULATED GLAZING w/ MANUAL BLACKOUT MECHOSHADE.

EGRESS WINDOW
- MIN. NET CLEAR OPENING = 5.7 SF
- MIN. NET CLEAR HEIGHT = 24"
- MIN. NET CLEAR WIDTH = 20"

WINDOW TYPE ELEVATIONS

1/4" = 1'-0"

WINDOW SCHEDULE LEGEND

FRAME MATERIAL:
AL = ALUMINUM
MTL = METAL
WD = WOOD
STL = STEEL
VIN = VINYL

FRAME FINISHES:
ANOD = ANODIZED
FF = FACTORY FINISHED
FP = FIELD PAINT
FS = FIELD STAIN
CLAD = MANUF. CLADDING

GLASS COLOR:
CLR = CLEAR
GRY = GREY
BRZ = BRONZE

GLASS TYPE:
GRID = TRUE DIVIDED LITE
LOW-E = LOW-E
MESH = G.I. MESH
OBS = OBSURE LOW-E
TEMP = TEMPERED
TRAN = TRANSLUCENT PANEL
WIRE = WIRE GLASS

GENERAL SHEET NOTES

1. VERTICAL DIMS. ARE FOR FLOOR LEVEL ADJACENT WINDOWS, U.O.N.
2. ALL EXTERIOR H.M. DOORS AND FRAMES TO BE GALVANIZED & PAINTED.
3. VERIFY ALL WINDOW FRAME & DOOR ROUGH OPENINGS PRIOR TO FABRICATION WITH FIELD CONDITIONS - DIMENSIONS AT WINDOW AND FRAME TYPES ARE NOMINAL.
4. SEE SPEC. SECTION 08 80 00 FOR GLAZING TYPE.
5. ALUM. WINDOW SYSTEMS ARE SHOWN ARE BASED ON OLDCASTLE BUILDING ENVELOPE RELIANCE CURTAINWALL AND FG-3000 STOREFRONT SYSTEMS. GLAZING THICKNESS VARIES. USE MFR. STD. TRIM FILLER AS REQUIRED.
6. SEE DOOR SCHEDULE AND DOOR TYPES FOR DOORS WITHIN WINDOW SYSTEM.
7. REFER TO 1-A8.10 AND 1-A8.11 FOR TYPICAL WINDOW TO WALL CONDITIONS
8. A COMBINATION OF STOREFRONT AND CURTAINWALL FRAMES SHALL NOT BE USED IN A SINGLE WINDOW.
9. GLAZING TYPES SHALL BE COORDINATED WITH CORRESPONDING WINDOW FRAME TYPES.
10. THE DOOR, DOOR FRAME, WINDOW FRAME, STOREFRONT FRAME, CURTAINWALL FRAME COLORS ARE PER THE WINDOW SCHEDULE.

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RossDrulisCusenbery
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Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
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ARCHITECTURE

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HEART OF THE BAY

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DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: **KATHY GARCIA** DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

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REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3- INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
9/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 1 WINDOW SCHEDULE

Drawn By: Author
Checked By: Checker

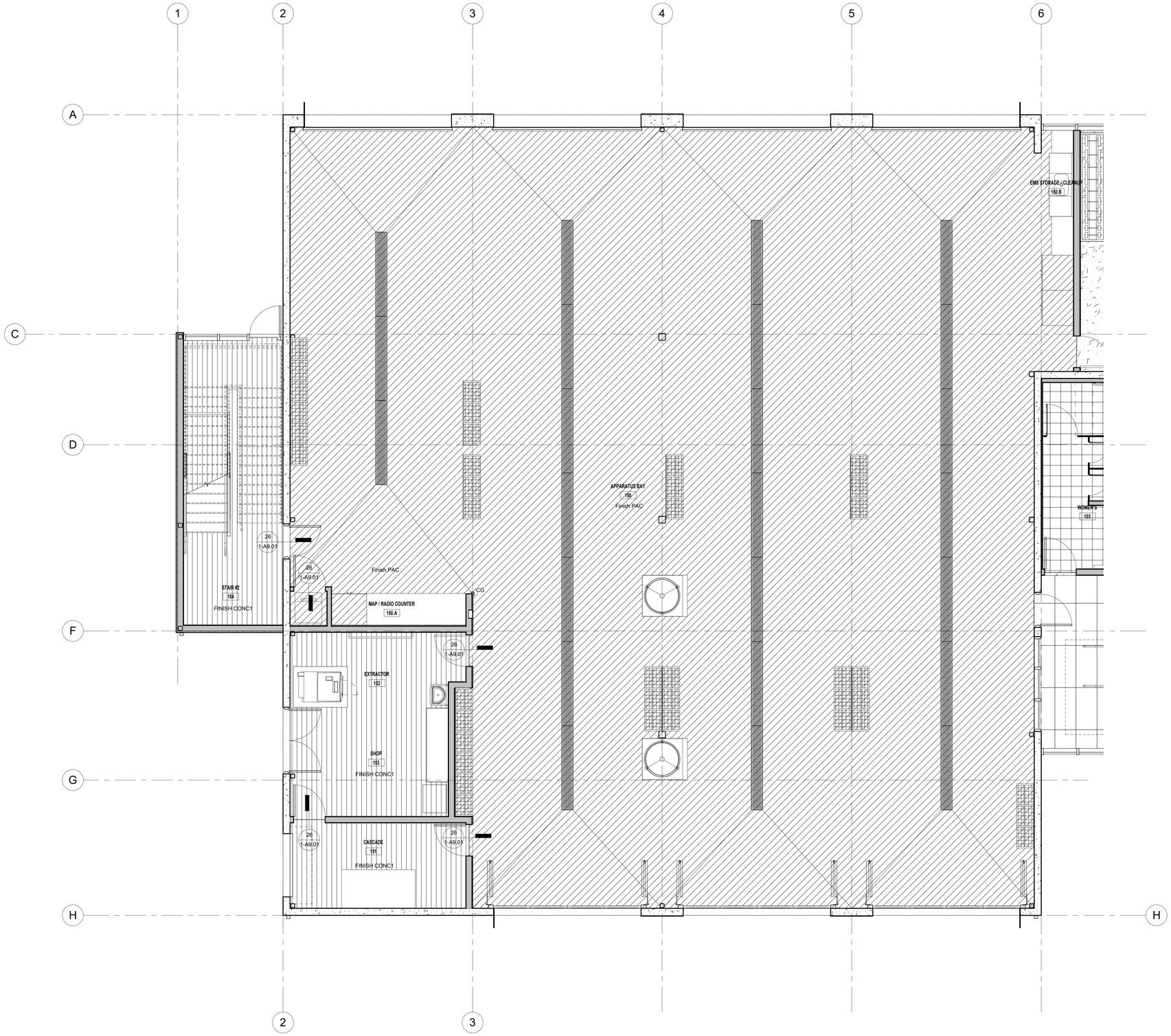
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October 4, 2019

Project No. 2016039

1-A2.72
Drawing No.

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1 FIRST LEVEL FLOOR FINISH PLAN (WEST) - ENLARGED SCALE
1/4" = 1'-0"

GENERAL SHEET NOTES

1. SEE SHEET 1-A2.70 FOR ROOM FINISH SCHEDULE AND MATERIAL LEGEND.
2. INTERIOR OF STUD WALL AND COLUMN BOX DIMENSIONS MEASURED TO FACE OF FRAMING, U.O.N.

LEGEND

- CONC1 - SEALED CONCRETE, NO DYE/STAIN
- CONC2- SEALED POLISHED CONCRETE, NO DYE/STAIN. (SEE ROOM A2.82 FINISH SCHEDULE FOR FOR FINISH TYPE)
- CPT 1- CARPET, TYPE 1
- CPT 2- CARPET, TYPE 2
- PAC1 - POLYASPARTRIC COATING OVER CONCRETE
- R1 - SPORTS FLOORING
- RF1 - RESILIENT FLOORING
- SP1 - SEALED PAVER; TYPE 1
- SP2 - SEALED PAVER; TYPE 2
- T1 - PORCELAIN TILE
- T2 - PORCELAIN TILE
- T3 - PORCELAIN TILE
- XX / XX — ACCENT WALL TYPE / ACCENT COLOR NUMBER
- CG — CORNER GUARD

SHEET KEYNOTE LEGEND

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APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION	
DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3-INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
9/30/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 1 ENLARGED SCALE FIRST LEVEL FLOOR FINISH PLAN - WEST HALF

Drawn By: Author
Checked By: Checker

Scale: 1/4" = 1'-0"

Date: October 4, 2019

Project No. 2016039

1-A2.80
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1 FIRST LEVEL FLOOR FINISH PLAN (EAST) - ENLARGED SCALE
1/4" = 1'-0"

GENERAL SHEET NOTES

1. SEE SHEET 1-A2.70 FOR ROOM FINISH SCHEDULE AND MATERIAL LEGEND.
2. INTERIOR OF STUD WALL AND COLUMN BOX DIMENSIONS MEASURED TO FACE OF FRAMING, U.O.N.

LEGEND

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- T3 - PORCELAIN TILE
- XX / XX — ACCENT WALL TYPE / ACCENT COLOR NUMBER
- CG — CORNER GUARD

SHEET KEYNOTE LEGEND

03 30.05	SEALED CAST-IN-PLACE (CIP) CONCRETE EXTERIOR WALLS, TYPICAL
07 90.01	CONTINUOUS WALL COVER AT SEISMIC JOINT
12 48.43	WALK OFF MAT WITH ANCHORED PERIMETER EDGES

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APP. 01-117774 INC:01
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DATE: 11/12/2019

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ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

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APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
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HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE. HAYWARD, CA 94545

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LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
9/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 1 ENLARGED SCALE FIRST LEVEL FLOOR FINISH PLAN - EAST HALF

Drawn By: Author
Checked By: Checker

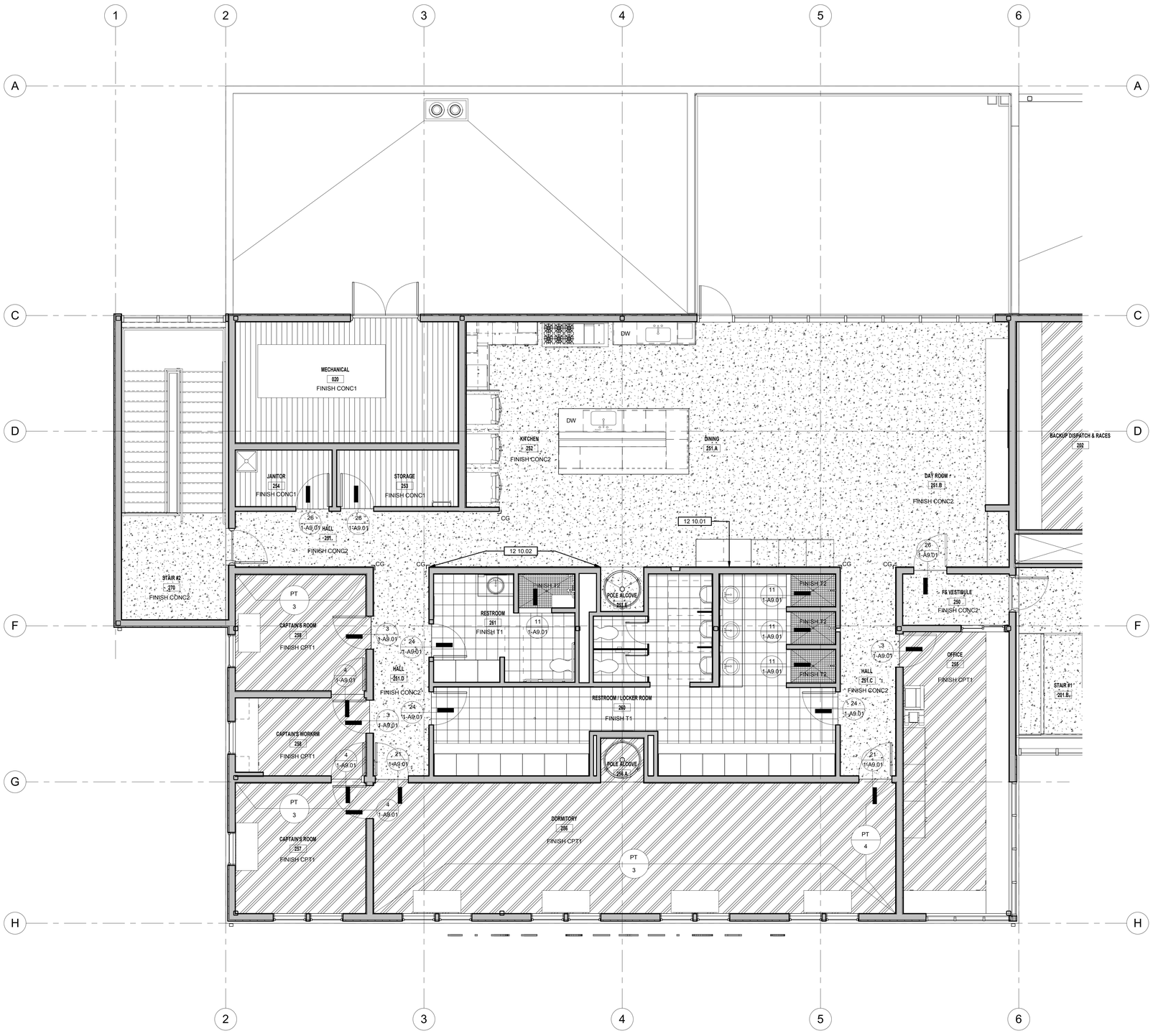
Scale: **1/4" = 1'-0"**

Date: **October 4, 2019**

Project No. 2016039

1-A2.81
Drawing No.

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1 SECOND LEVEL FLOOR FINISH PLAN (WEST) - ENLARGED SCALE
1/4" = 1'-0"

GENERAL SHEET NOTES

1. SEE SHEET 1-A2.70 FOR ROOM FINISH SCHEDULE AND MATERIAL LEGEND.
2. INTERIOR OF STUD WALL AND COLUMN BOX DIMENSIONS MEASURED TO FACE OF FRAMING, U.O.N.

LEGEND

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- T3 - PORCELAIN TILE
- XX / XX — ACCENT WALL TYPE / ACCENT COLOR NUMBER
- CG — CORNER GUARD

SHEET KEYNOTE LEGEND

12 10.01	ARTWORK PRINTED ON METAL W/ STANDOFFS, TYP.
12 10.02	LARGE WALL VINYL ART

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DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
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ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION	
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HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3-INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
9/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 1 ENLARGED SCALE SECOND LEVEL FLOOR FINISH PLAN - WEST HALF

Drawn By: Author
Checked By: Checker

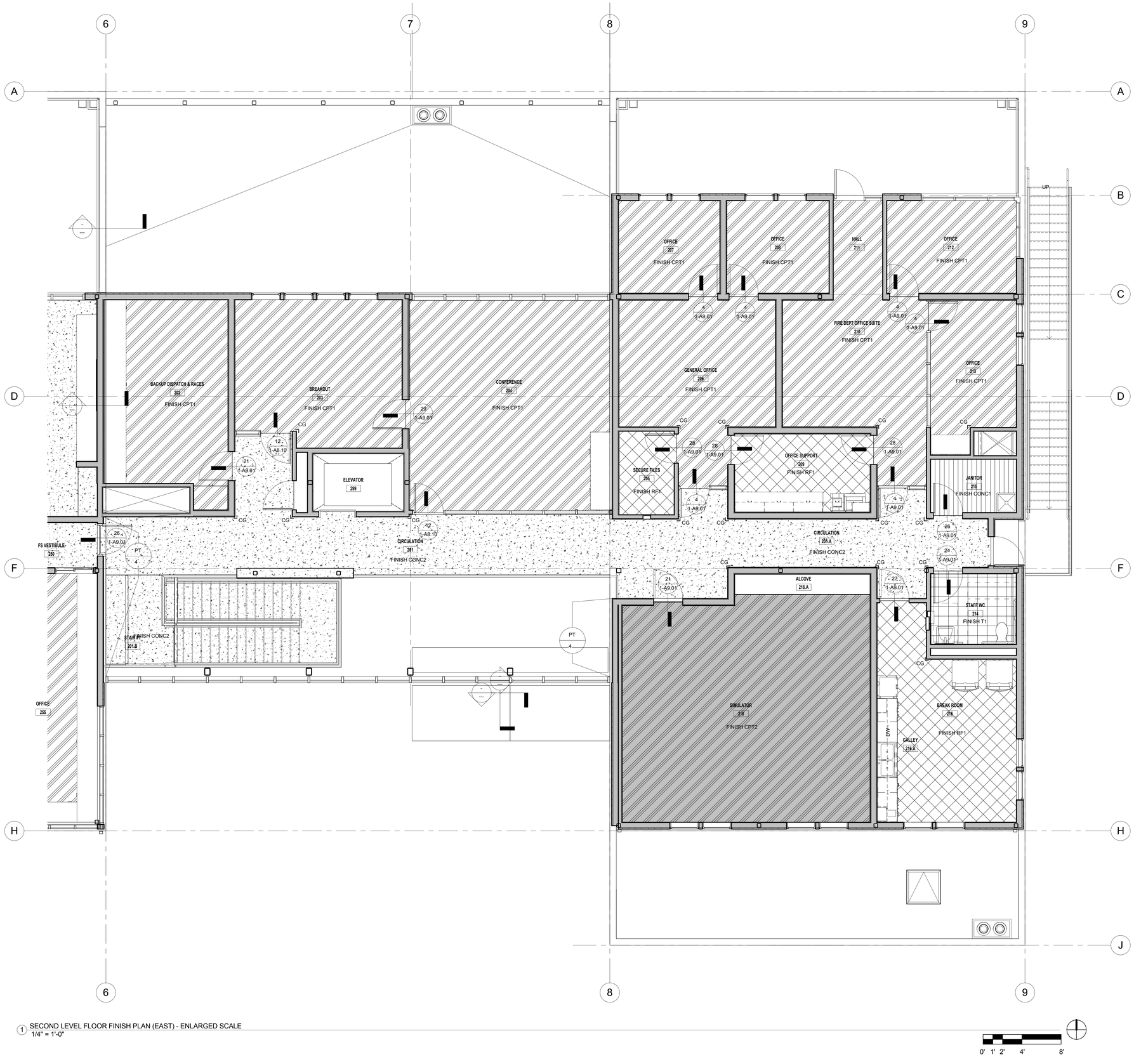
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Project No. 2016039

1-A2.82
Drawing No.

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1 SECOND LEVEL FLOOR FINISH PLAN (EAST) - ENLARGED SCALE
1/4" = 1'-0"

0' 1' 2' 4' 8'

GENERAL SHEET NOTES

1. SEE SHEET 1-A2.70 FOR ROOM FINISH SCHEDULE AND MATERIAL LEGEND.
2. INTERIOR OF STUD WALL AND COLUMN BOX DIMENSIONS MEASURED TO FACE OF FRAMING, U.O.N.

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- CG L — CORNER GUARD

SHEET KEYNOTE LEGEND

APPROVED
DIV. OF THE STATE ARCHITECT
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DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION	
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DRAWN BY:	APPROVAL RECD:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3-INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
12/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 1 ENLARGED SCALE SECOND LEVEL FLOOR FINISH PLAN - EAST HALF

Drawn By: Author
Checked By: Checker

Scale: 1/4" = 1'-0"

Date: October 4, 2019

Project No. 2016039

1-A2.83
Drawing No.

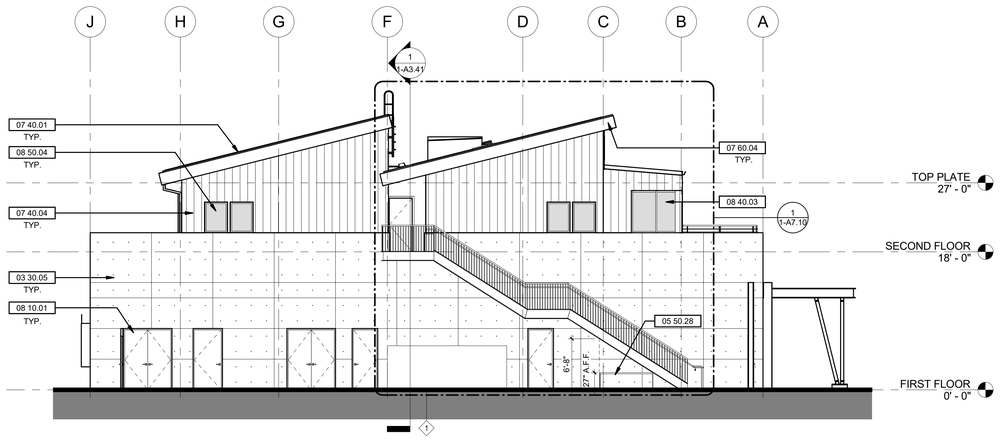
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GENERAL SHEET NOTES

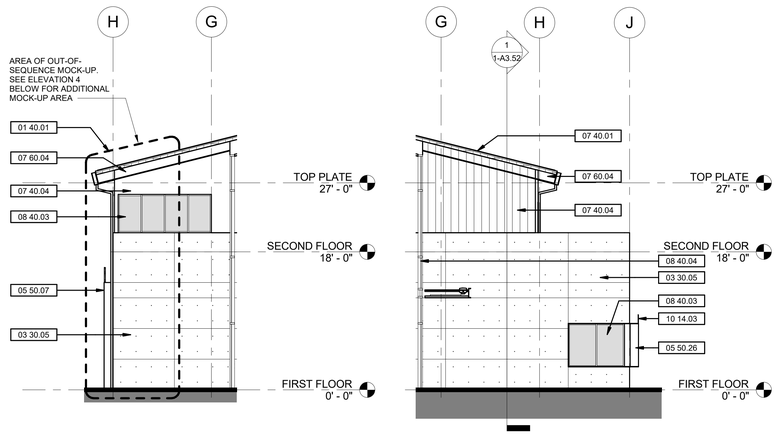
1. WINDOW / CURTAINWALL / STOREFRONT / LOUVER FOR ILLUSTRATIVE PURPOSE ONLY. SEE 1-A2.71 AND 1-A2.72 FOR SCHEDULES AND GLAZING TYPE.
2. SEE DETAIL 3/1-A3.11 FOR CAST-IN-PLACE ARCHITECTURAL CONCRETE LINER PANEL & FORM TIE HOLE LAYOUT ELEVATION.

SHEET KEYNOTE LEGEND

01 40.01	AREA TO REPLICATE IN STANDALONE MOCK-UP PER SPECIFICATION SECTION 01 4339
03 30.05	SEALED CAST-IN-PLACE (CIP) CONCRETE EXTERIOR WALLS, TYPICAL
05 50.07	PAINTED ALUMINUM PLATE "PORTAL" AT HEAD & JAMBS OF APPARATUS BAY DOOR GROUP
05 50.26	PAINTED ALUMINUM PLATE "PORTAL" FRAME AT WINDOW HEAD, JAMBS & SILLS - REFER TO DETAILS
05 50.28	PAINTED CANE DETECTABLE RAILING UNDER STAIR
07 40.01	PRE-FINISHED STANDING SEAM METAL ROOF PANELS, TYPICAL
07 40.04	PRE-FINISHED METAL SIDING PANELS WITH VERTICAL PATTERN, TYPICAL
07 60.04	PAINTED ALUMINUM FASCIA TRIM
07 70.03	ROOF ACCESS WALKWAY, SECURED TO STANDING SEAM ROOF
08 10.01	PAINTED HOLLOW METAL DOOR & FRAME
08 30.04	STEEL FRAME HORIZONTAL FOLDING DOOR WITH GLAZED PANELS, TYPICAL
08 40.03	ALUMINUM FRAME STOREFRONT SECTION WITH CLEAR GLAZING
08 40.04	ALUMINUM FRAME CURTAIN WALL SECTION WITH CLEAR GLAZING
08 50.04	ALUMINUM FRAME WINDOW WITH CLEAR GLAZING, TYPICAL. SEE WINDOW SCHEDULE
09 20.11	PAINTED 7/8" CEMENT PLASTER WITH METAL LATH AND SELF ADHERED FLEXIBLE FLASHING
09 20.13	PAINTED 7/8" CEMENT PLASTER WITH METAL LATH INSTALLED OVER CAST-IN-PLACE CONCRETE WALL, TYPICAL BETWEEN APPARATUS BAY DOORS
10 14.03	BUILDING IDENTIFICATION SIGN, SEE VOLUME 8 SIGNAGE DRAWINGS
32 30.41	DECORATIVE METAL LOUVERED GATE, FENCE, & MAN-GATE SHOWN DASHED. SEE SITE AND FLOOR PLANS

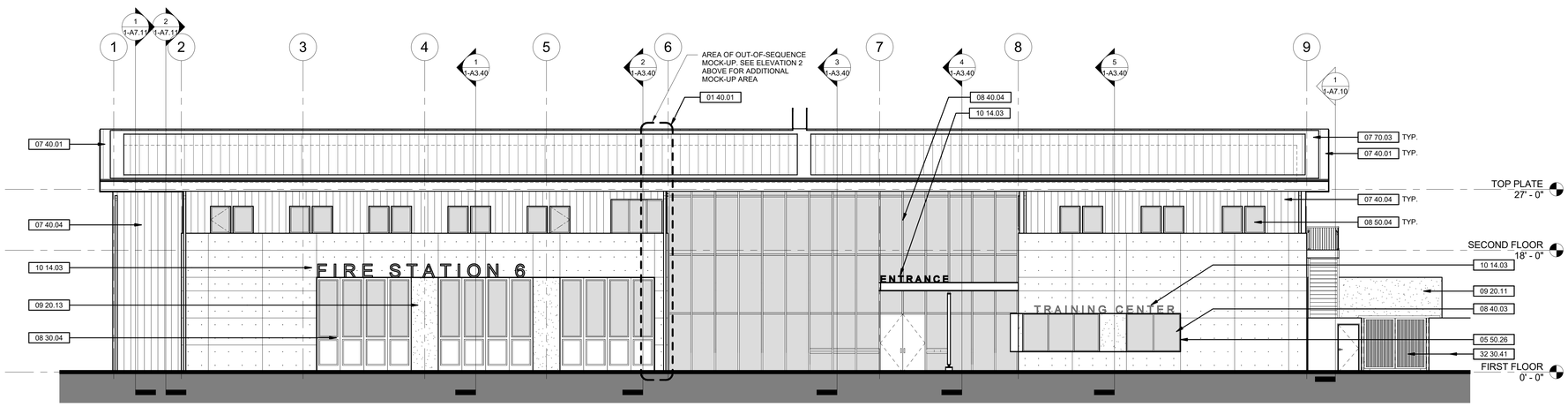


1 EXTERIOR ELEVATION- EAST
1/8" = 1'-0"



2 EE- 05- WEST ENTRANCE
1/8" = 1'-0"

3 EE- 02- EAST ENTRANCE
1/8" = 1'-0"



4 EXTERIOR ELEVATION- SOUTH
1/8" = 1'-0"

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

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DRAWN BY:	APPROVAL REC'D:
APPROVED BY:	
KATHY GARCIA DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	INC 01_ADD_01_V1	12/06/2019

PERMIT SUBMITTAL V3- INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
RENEWAL DATE 9/31/21
STATE OF CALIFORNIA

Sheet Title

BUILDING 1 EXTERIOR ELEVATIONS

Drawn By: SF
Checked By: EW

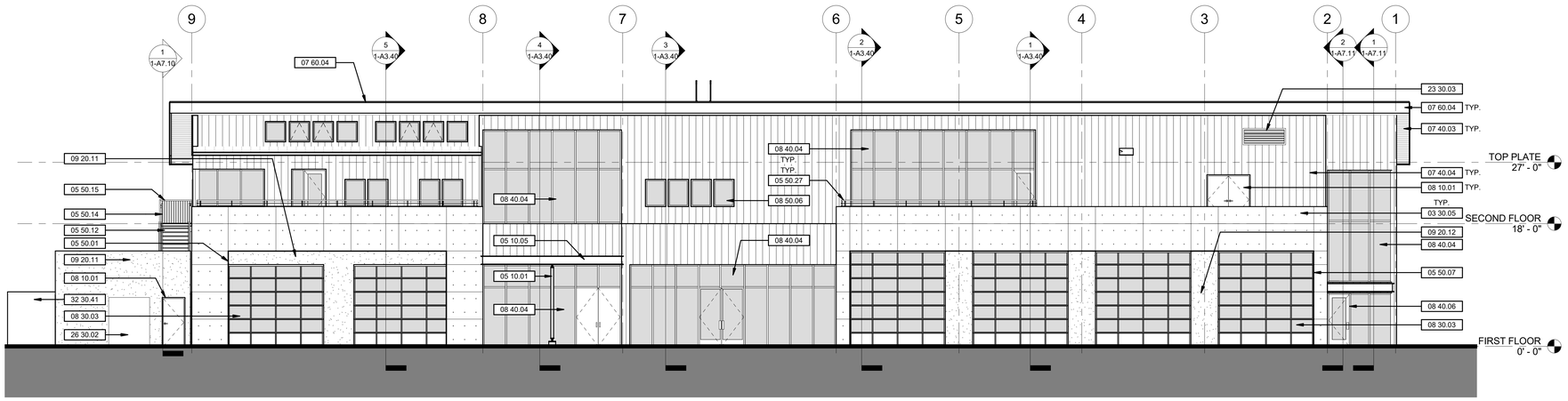
Scale: **1/8" = 1'-0"**

Date: **October 4, 2019**

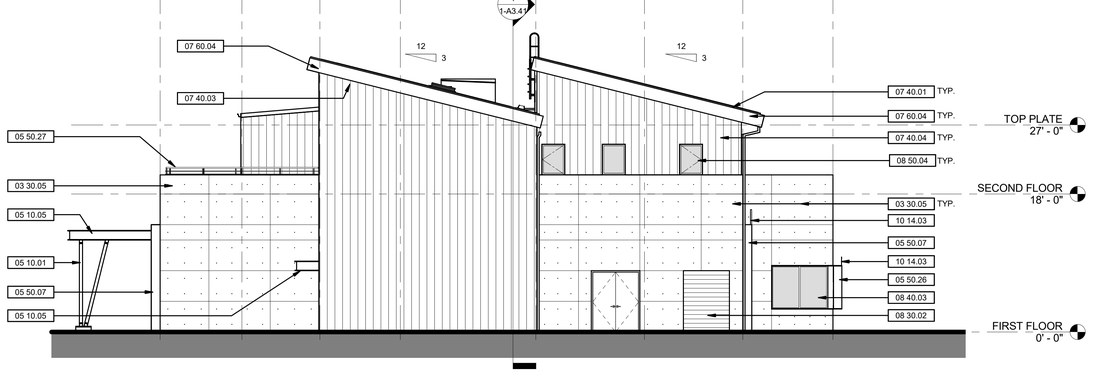
Project No. 2016039

1-A3.10
Drawing No.

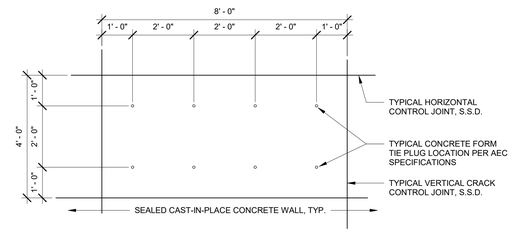
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1 EXTERIOR ELEVATION- NORTH
1/8" = 1'-0"



2 EXTERIOR ELEVATION- WEST
1/8" = 1'-0"



3 TYPICAL CIP WALL JOINT PATTERN
1/2" = 1'-0"

GENERAL SHEET NOTES

1. WINDOW / CURTAINWALL / STOREFRONT / LOUVER FOR ILLUSTRATIVE PURPOSE ONLY. SEE 1-A2.71 AND 1-A2.72 FOR SCHEDULES AND GLAZING TYPE.
2. SEE DETAIL 3/1-A3.11 FOR CAST-IN-PLACE ARCHITECTURAL CONCRETE LINER PANEL & FORM TIE HOLE LAYOUT ELEVATION.

SHEET KEYNOTE LEGEND

03 30.05	SEALED CAST-IN-PLACE (CIP) CONCRETE EXTERIOR WALLS, TYPICAL
05 10.01	PAINTED STEEL COLUMN, S.S.D.
05 10.05	PAINTED STEEL CHANNEL FASCIA. MITER ALL EXPOSED CORNERS. COMPLY WITH AESS SPECIFICATION SECTION 05 1250 FOR FASCIA FABRICATION AND FINISH WITH HIGH-PERFORMANCE PAINT COATING
05 50.01	PAINTED ALUMINUM PLATE "PORTAL" AT GRIDS A2 & B2 AND HEAD IN-BETWEEN. SEE EXTERIOR ELEVATIONS
05 50.07	PAINTED ALUMINUM PLATE "PORTAL" AT HEAD & JAMBS OF APPARATUS BAY DOOR GROUP
05 50.12	CONCRETE FILLED STEEL PAN STAIR
05 50.14	1-1/2" OD SS HANDRAIL
05 50.15	1-1/2" OD TOP RAIL
05 50.26	PAINTED ALUMINUM PLATE "PORTAL" FRAME AT WINDOW HEAD, JAMBS & SILLS - REFER TO DETAILS
05 50.27	PAINTED STEEL GUARDRAIL ASSEMBLY
07 40.01	PRE-FINISHED STANDING SEAM METAL ROOF PANELS, TYPICAL
07 40.03	PRE-FINISHED METAL SOFFIT PANELS, TYPICAL
07 40.04	PRE-FINISHED METAL SIDING PANELS WITH VERTICAL PATTERN, TYPICAL
07 60.04	PAINTED ALUMINUM FASCIA TRIM
08 10.01	PAINTED HOLLOW METAL DOOR & FRAME
08 30.02	PAINTED METAL OVERHEAD COILING DOOR
08 30.03	ALUMINUM FRAME OVERHEAD SECTIONAL DOOR WITH GLAZED PANELS, TYPICAL
08 40.03	ALUMINUM FRAME STOREFRONT SECTION WITH CLEAR GLAZING
08 40.04	ALUMINUM FRAME CURTAIN WALL SECTION WITH CLEAR GLAZING
08 40.06	ALUMINUM FRAME STOREFRONT DOOR W/ 1/4" ALUMINUM PANELS, SEE DOOR SCHEDULE
08 50.04	ALUMINUM FRAME WINDOW WITH CLEAR GLAZING, TYPICAL. SEE WINDOW SCHEDULE
08 50.06	ALUMINUM FRAMED WINDOW W/ 1/4" ALUMINUM PANEL, SEE WINDOW SCHEDULE
09 20.11	PAINTED 7/8" CEMENT PLASTER WITH METAL LATH AND SELF ADHERED FLEXIBLE FLASHING
09 20.12	PAINTED 7/8" CEMENT PLASTER WITH METAL LATH
10 14.03	BUILDING IDENTIFICATION SIGN, SEE VOLUME 8 SIGNAGE DRAWINGS
23 30.03	EXTERIOR WALL GRILLE, S.M.D. FOR SIZE & LOCATION
26 30.02	EMERGENCY GENERATOR ON CONCRETE HOUSEKEEPING PAD, S.E.D.
32 30.41	DECORATIVE METAL LOUVERED GATE, FENCE, & MAN-GATE SHOWN DASHED. SEE SITE AND FLOOR PLANS

RossDrulisCusenbery
ARCHITECTURE
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Sonoma
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TEL 707 996 8448
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HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
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APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
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HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	INC 01_ADD_01_V1	12/06/2019

PERMIT SUBMITTAL V3-INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
8/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 1 EXTERIOR ELEVATIONS

Drawn By: SF
Checked By: EW

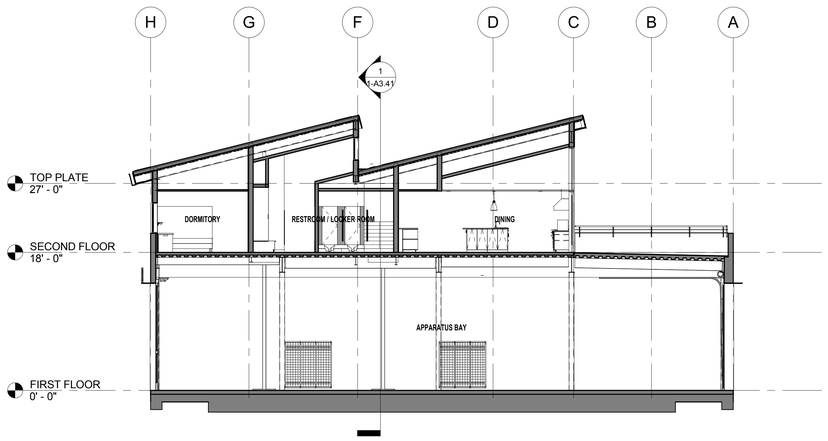
Scale: **As indicated**

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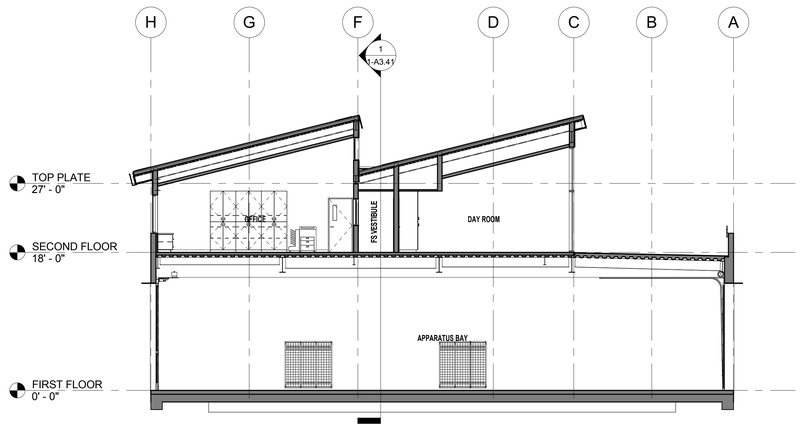
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1-A3.11
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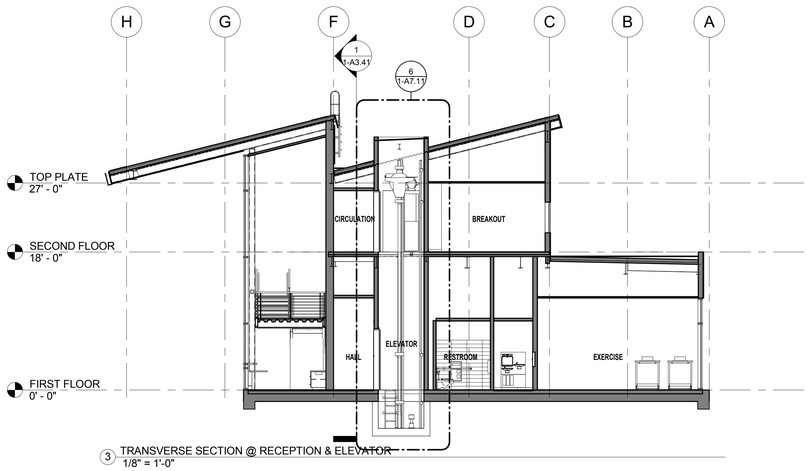
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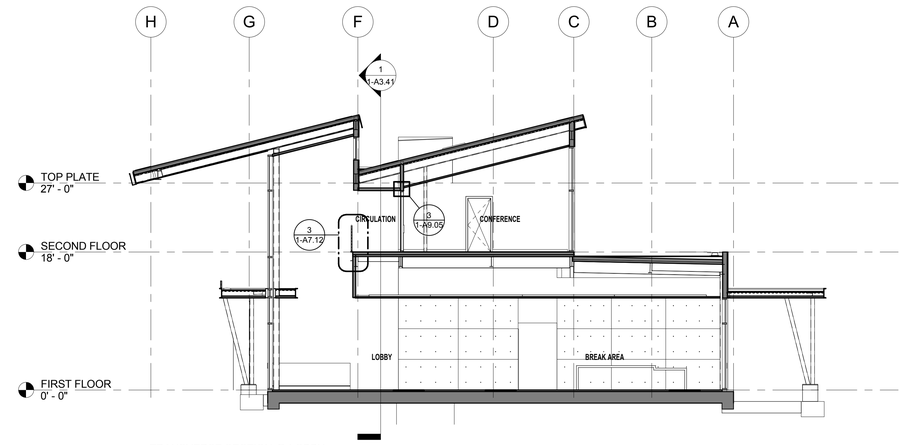
1 TRANSVERSE SECTION @ APPARATUS BAY & DORMITORY
1/8" = 1'-0"



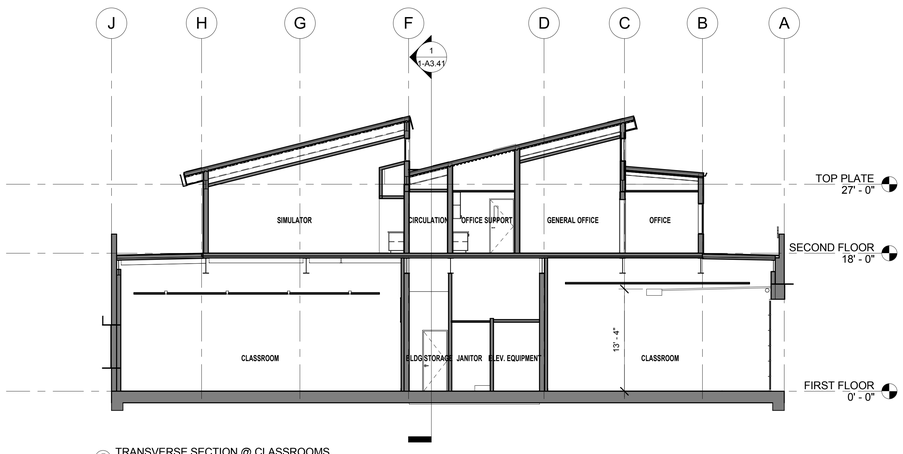
2 TRANSVERSE SECTION @ APPARATUS BAY & OFFICE
1/8" = 1'-0"



3 TRANSVERSE SECTION @ RECEPTION & ELEVATOR
1/8" = 1'-0"



4 TRANSVERSE SECTION @ LOBBY
1/8" = 1'-0"



5 TRANSVERSE SECTION @ CLASSROOMS
1/8" = 1'-0"

GENERAL SHEET NOTES

SHEET KEYNOTE LEGEND

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3-INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
9/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 1
BUILDING CROSS SECTIONS

Drawn By: SF
Checked By: EW

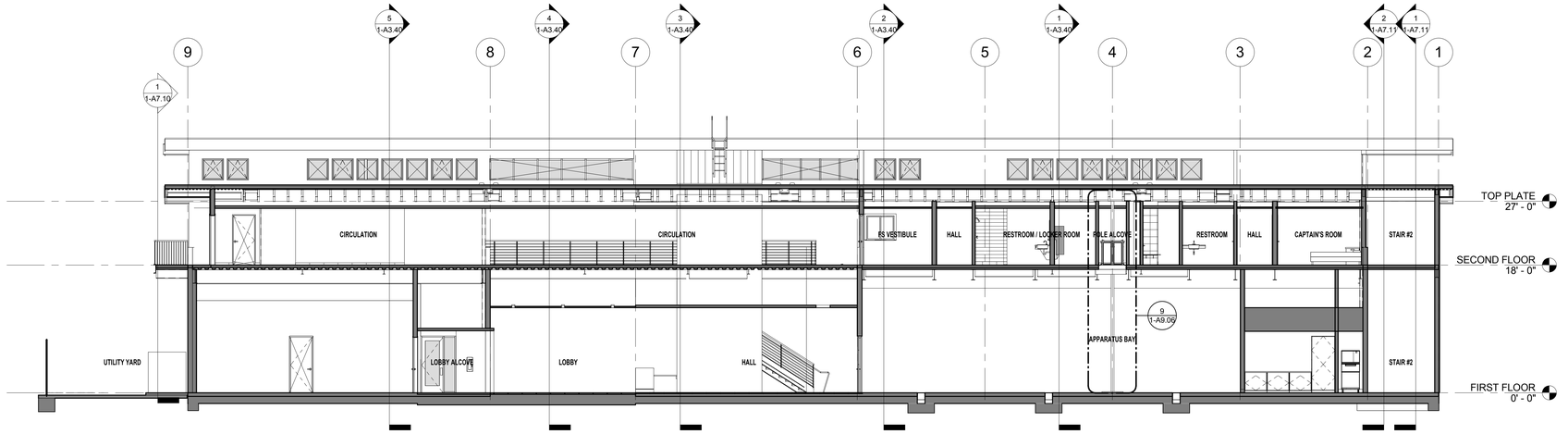
Scale: 1/8" = 1'-0"

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Project No. 2016039

1-A3.40
Drawing No.

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1 LONGITUDINAL SECTION
1/8" = 1'-0"

GENERAL SHEET NOTES

WALL LEGEND

SHEET KEYNOTE LEGEND

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DATE: 11/12/2019

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ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION	
DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3-INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
9/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 1
BUILDING CROSS SECTIONS

Drawn By: EW
Checked By: EW

Scale:
1/8" = 1'-0"

Date:
October 4, 2019

Project No. 2016039

1-A3.41
Drawing No.

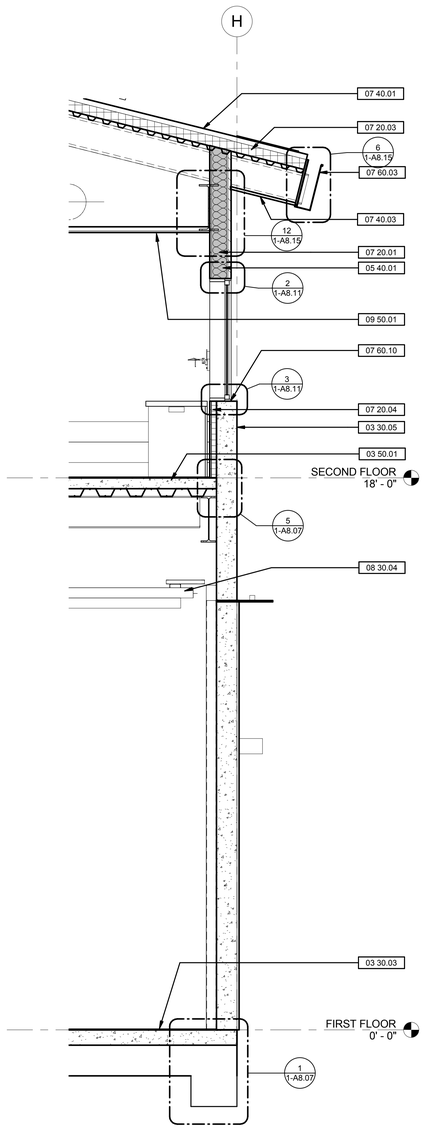
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GENERAL SHEET NOTES

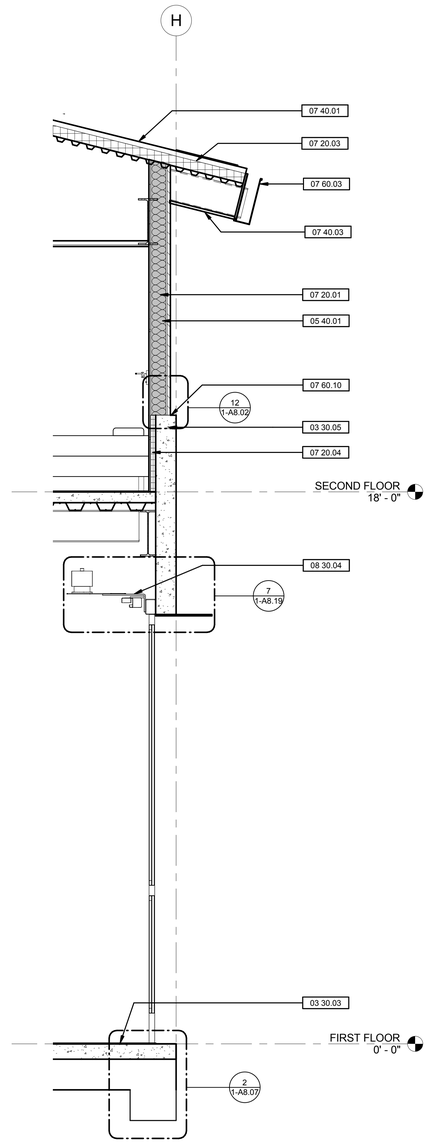
1. WALL SECTIONS TO BE USED FOR LOCATION PURPOSES ONLY. REFER TO SPECIFIC DETAIL CALLOUTS FOR WALL COMPONENT ASSEMBLY AND INSTALLED DIMENSIONS

SHEET KEYNOTE LEGEND

03 30.03	CONCRETE MAT SLAB, S.S.D.
03 30.05	SEALED CAST-IN-PLACE (CIP) CONCRETE EXTERIOR WALLS, TYPICAL
03 50.01	CONCRETE FLOOR OVER METAL DECK
05 40.01	METAL WALL STUDS, S.S.D.
07 20.01	UNFACED R-13 FIBERGLASS BATT INSULATION IN STUD CAVITY
07 20.03	4" THICK RIGID INSULATION OVER STRUCTURAL ROOF DECK
07 20.04	2" THICK RIGID INSULATION
07 40.01	PRE-FINISHED STANDING SEAM METAL ROOF PANELS, TYPICAL
07 40.03	PRE-FINISHED METAL SOFFIT PANELS, TYPICAL
07 60.03	PAINTED ALUMINUM EAVE GUTTER
07 60.10	CONTINUOUS ALUMINUM FLASHING AT STUD WALL SILL
08 30.04	STEEL FRAME HORIZONTAL FOLDING DOOR WITH GLAZED PANELS, TYPICAL
09 50.01	24" X 24" ACT CEILING



1 WS- S- APP BAY WALL
1/2" = 1'-0"



2 WS- S- APP BAY DOOR
1/2" = 1'-0"

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ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: **KATHY GARCIA** DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3- INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
9/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 1
WALL SECTIONS

Drawn By: Author
Checked By: Checker

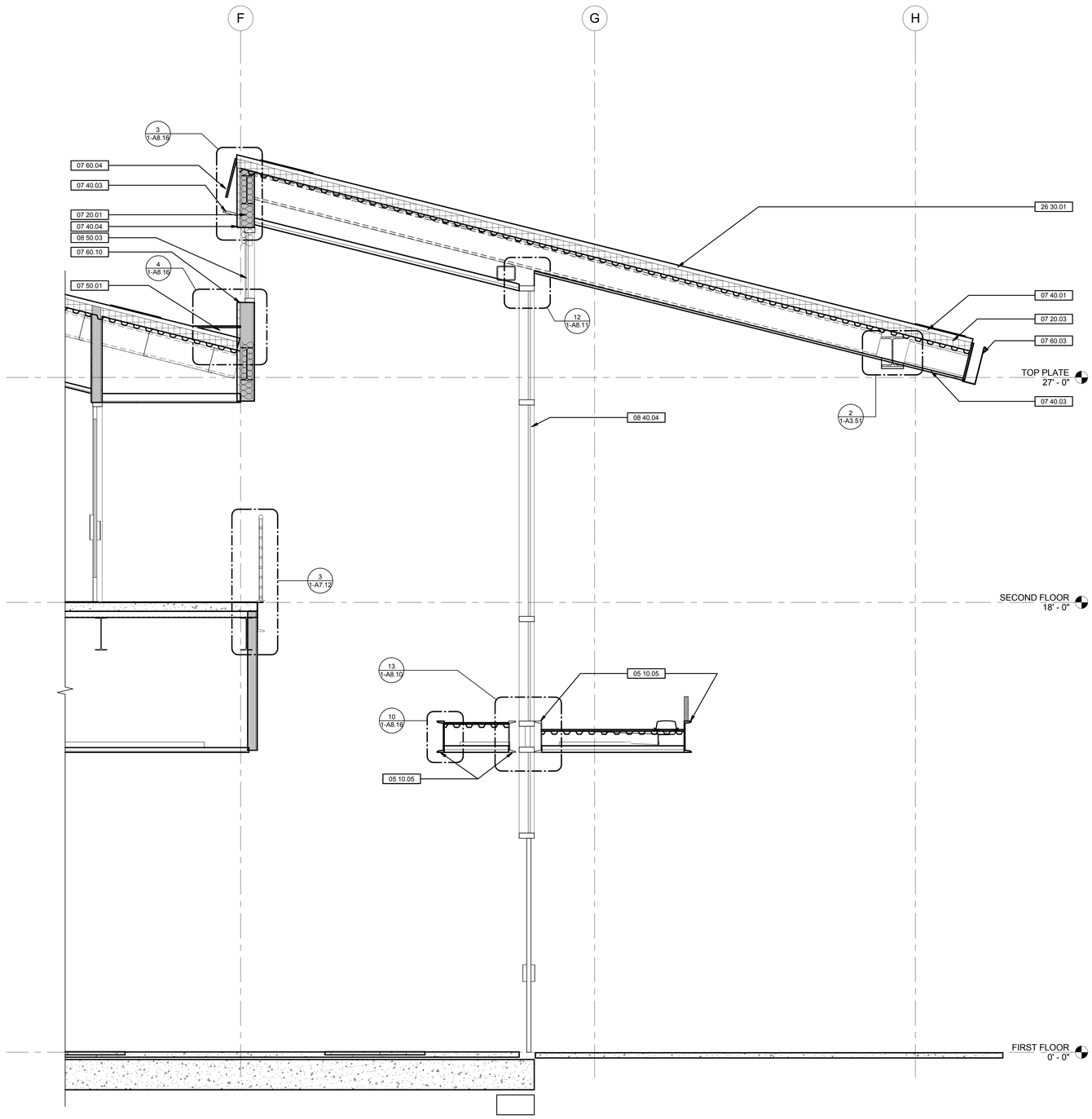
Scale:
1/2" = 1'-0"

Date:
October 4, 2019

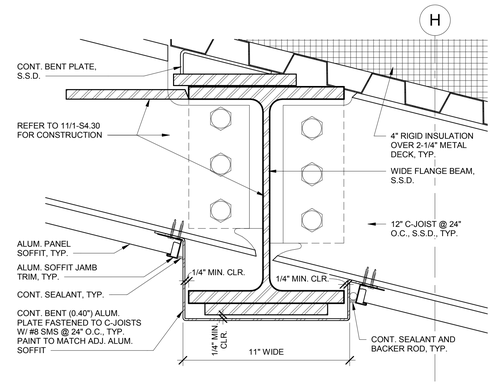
Project No. 2016039

1-A3.50
Drawing No.

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1 WS- S- ENTRY LOBBY
1/2" = 1'-0"



2 ALUM. BEAM ENCLOSURE @ SOUTH ROOF
3" = 1'-0"

GENERAL SHEET NOTES

1. WALL SECTIONS TO BE USED FOR LOCATION PURPOSES ONLY. REFER TO SPECIFIC DETAIL CALLOUTS FOR WALL COMPONENT ASSEMBLY AND INSTALLED DIMENSIONS

SHEET KEYNOTE LEGEND

05 10.05	PAINTED STEEL CHANNEL FASCIA. MITER ALL EXPOSED CORNERS. COMPLY WITH AESS SPECIFICATION SECTION 05 1250 FOR FASCIA FABRICATION AND FINISH WITH HIGH-PERFORMANCE PAINT COATING
07 20.01	UNFACED R-13 FIBERGLASS BATT INSULATION IN STUD CAVITY
07 20.03	4" THICK RIGID INSULATION OVER STRUCTURAL ROOF DECK
07 40.01	PRE-FINISHED STANDING SEAM METAL ROOF PANELS, TYPICAL
07 40.03	PRE-FINISHED METAL SOFFIT PANELS, TYPICAL
07 40.04	PRE-FINISHED METAL SIDING PANELS WITH VERTICAL PATTERN, TYPICAL
07 50.01	MODIFIED BITUMEN MEMBRANE ROOF CRICKET
07 60.03	PAINTED ALUMINUM EAVE GUTTER
07 60.04	PAINTED ALUMINUM FASCIA TRIM
07 60.10	CONTINUOUS ALUMINUM FLASHING AT STUD WALL SILL
08 40.04	ALUMINUM FRAME CURTAIN WALL SECTION WITH CLEAR GLAZING
08 50.03	ALUMINUM FRAME CLERESTORY WINDOW WITH CLEAR GLAZING, TYPICAL. SEE WINDOW SCHEDULE
26 30.01	ROOF-MOUNTED PHOTOVOLTAIC PANELS, TYPICAL. S.E.D.

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DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY:	
KATHY GARCIA DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3-INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
9/30/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 1 WALL SECTIONS

Drawn By: Author
Checked By: Checker

Scale:
As indicated

Date:
October 4, 2019

Project No. 2016039

1-A3.51
Drawing No.

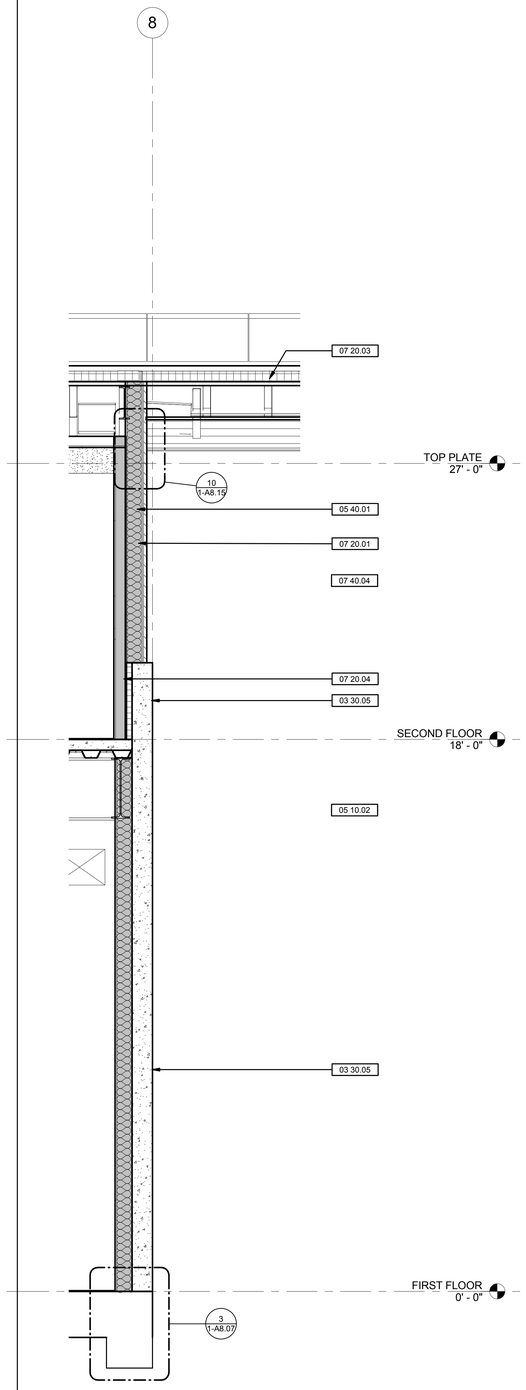
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GENERAL SHEET NOTES

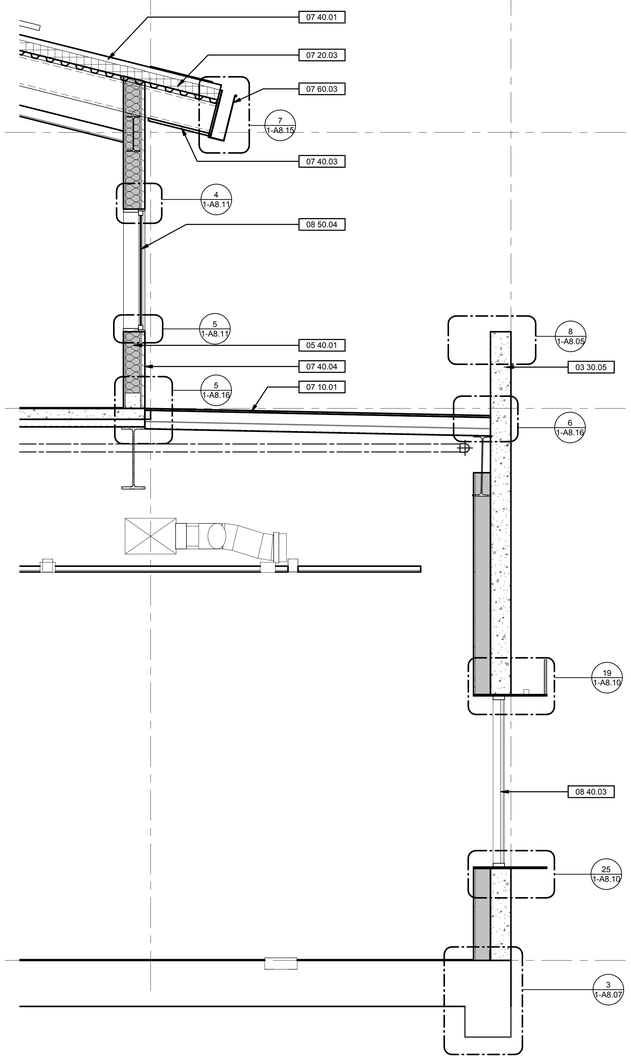
1. WALL SECTIONS TO BE USED FOR LOCATION PURPOSES ONLY. REFER TO SPECIFIC DETAIL CALLOUTS FOR WALL COMPONENT ASSEMBLY AND INSTALLED DIMENSIONS

SHEET KEYNOTE LEGEND

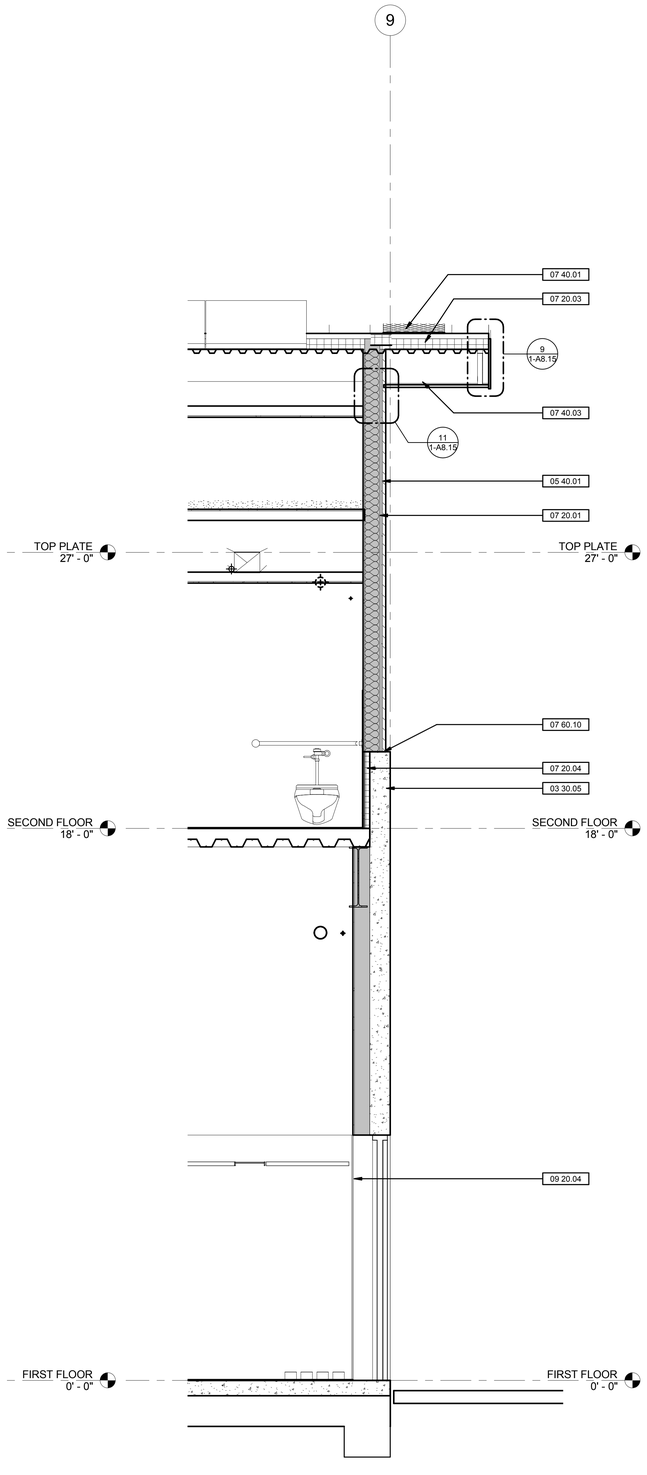
03 30.05	SEALED CAST-IN-PLACE (CIP) CONCRETE EXTERIOR WALLS, TYPICAL
05 40.01	METAL WALL STUDS, S.S.D.
07 10.01	TRAFFIC-BEARING ROOF DECK SURFACING OVER CONCRETE SLAB
07 20.01	UNFACED R-13 FIBERGLASS BATT INSULATION IN STUD CAVITY
07 20.03	4" THICK RIGID INSULATION OVER STRUCTURAL ROOF DECK
07 20.04	2" THICK RIGID INSULATION
07 40.01	PRE-FINISHED STANDING SEAM METAL ROOF PANELS, TYPICAL
07 40.03	PRE-FINISHED METAL SOFFIT PANELS, TYPICAL
07 40.04	PRE-FINISHED METAL SIDING PANELS WITH VERTICAL PATTERN, TYPICAL
07 60.03	PAINTED ALUMINUM EAVE GUTTER
07 60.10	CONTINUOUS ALUMINUM FLASHING AT STUD WALL SILL
08 40.03	ALUMINUM FRAME STOREFRONT SECTION WITH CLEAR GLAZING
08 50.04	ALUMINUM FRAME WINDOW WITH CLEAR GLAZING, TYPICAL. SEE WINDOW SCHEDULE
09 20.04	GYP. BD. OVER CMU/CONCRETE, FUR AS REQ'D TO ALIGN W/ ADJACENT WALL GYP. BD.



1 WS- S- CLASSROOM AND SIMULATOR
1/2" = 1'-0"



2 WS- S- CLASSROOM
1/2" = 1'-0"



3 WS- E- EXIT STAIR
1/2" = 1'-0"

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3-INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
9.30.21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 1 WALL SECTIONS

Drawn By: Author
Checked By: Checker

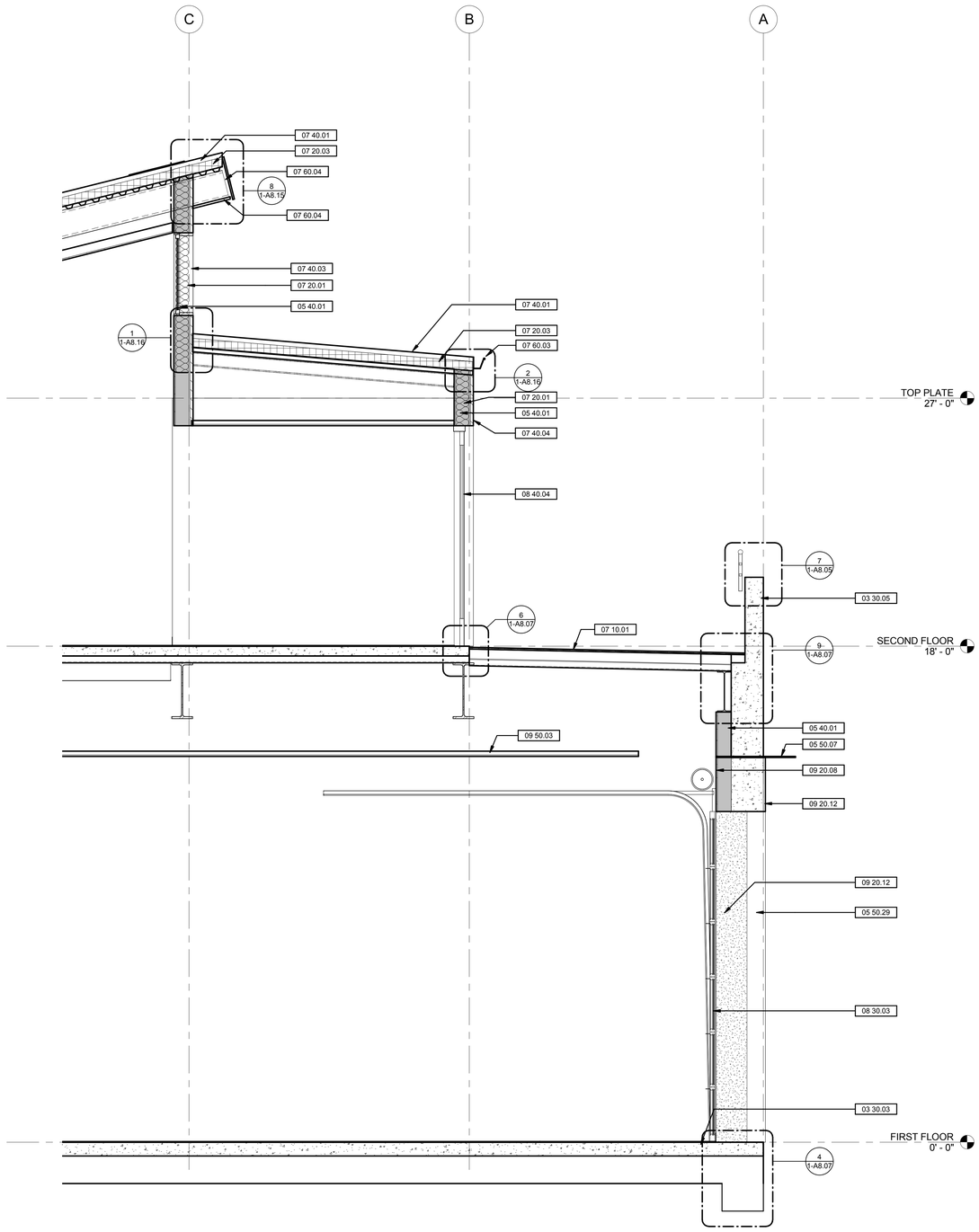
Scale: 1/2" = 1'-0"

Date: October 4, 2019

Project No. 2016039

1-A3.52
Drawing No.

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1 WS- N- CLASSROOM AND OFFICES
1/2" = 1'-0"

GENERAL SHEET NOTES

1. WALL SECTIONS TO BE USED FOR LOCATION PURPOSES ONLY. REFER TO SPECIFIC DETAIL CALLOUTS FOR WALL COMPONENT ASSEMBLY AND INSTALLED DIMENSIONS

SHEET KEYNOTE LEGEND

03 30.03	CONCRETE MAT SLAB, S.S.D.
03 30.05	SEALED CAST-IN-PLACE (CIP) CONCRETE EXTERIOR WALLS, TYPICAL
05 40.01	METAL WALL STUDS, S.S.D.
05 50.07	PAINTED ALUMINUM PLATE "PORTAL" AT HEAD & JAMBS OF APPARATUS BAY DOOR GROUP
05 50.29	PAINTED L8X8X1/2 W/ 3/4" DIA. X 5" WELDED STUDS @ 12" O.C.
07 10.01	TRAFFIC-BEARING ROOF DECK SURFACING OVER CONCRETE SLAB
07 20.01	UNFACED R-13 FIBERGLASS BATT INSULATION IN STUD CAVITY
07 20.03	4" THICK RIGID INSULATION OVER STRUCTURAL ROOF DECK
07 40.01	PRE-FINISHED STANDING SEAM METAL ROOF PANELS, TYPICAL
07 40.03	PRE-FINISHED METAL SOFFIT PANELS, TYPICAL
07 40.04	PRE-FINISHED METAL SIDING PANELS WITH VERTICAL PATTERN, TYPICAL
07 60.03	PAINTED ALUMINUM EAVE GUTTER
07 60.04	PAINTED ALUMINUM FASCIA TRIM
08 30.03	ALUMINUM FRAME OVERHEAD SECTIONAL DOOR WITH GLAZED PANELS, TYPICAL
08 40.04	ALUMINUM FRAME CURTAIN WALL SECTION WITH CLEAR GLAZING
09 20.08	GYP. BD, PTD.
09 20.12	PAINTED 7/8" CEMENT PLASTER WITH METAL LATH
09 50.03	ACOUSTICAL PANEL CEILING SYSTEM

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
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18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542
ARCHITECTURE

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: **KATHY GARCIA** DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
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HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3- INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
9/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 1 WALL SECTIONS

Drawn By: Author
Checked By: Checker

Scale: **1/2" = 1'-0"**

Date: **October 4, 2019**

Project No. 2016039

1-A3.53
Drawing No.

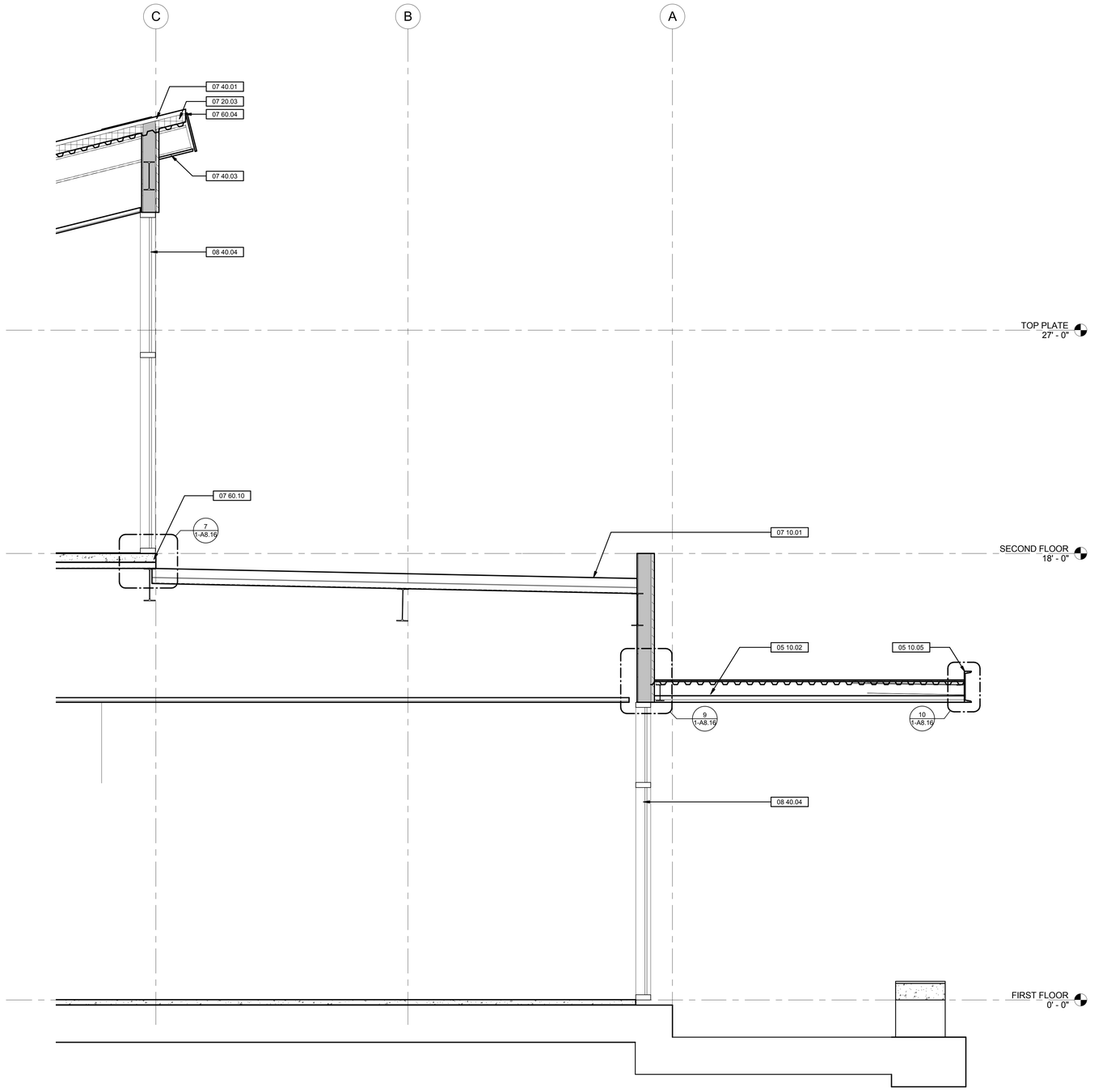
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GENERAL SHEET NOTES

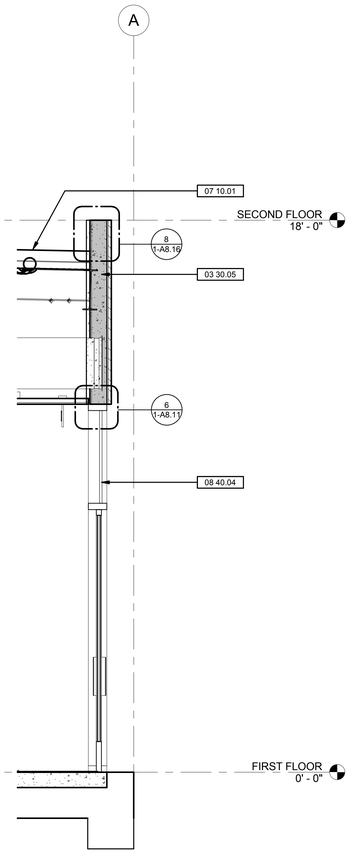
1. WALL SECTIONS TO BE USED FOR LOCATION PURPOSES ONLY. REFER TO SPECIFIC DETAIL CALLOUTS FOR WALL COMPONENT ASSEMBLY AND INSTALLED DIMENSIONS

SHEET KEYNOTE LEGEND

03 30.05	SEALED CAST-IN-PLACE (CIP) CONCRETE EXTERIOR WALLS, TYPICAL
05 10.02	PAINTED STEEL BEAM, S.S.D.
05 10.05	PAINTED STEEL CHANNEL FASCIA. MITER ALL EXPOSED CORNERS. COMPLY WITH AESS SPECIFICATION SECTION 05 1250 FOR FASCIA FABRICATION AND FINISH WITH HIGH-PERFORMANCE PAINT COATING
07 10.01	TRAFFIC-BEARING ROOF DECK SURFACING OVER CONCRETE SLAB
07 20.03	4" THICK RIGID INSULATION OVER STRUCTURAL ROOF DECK
07 40.01	PRE-FINISHED STANDING SEAM METAL ROOF PANELS, TYPICAL
07 40.03	PRE-FINISHED METAL SOFFIT PANELS, TYPICAL
07 60.04	PAINTED ALUMINUM FASCIA TRIM
07 60.10	CONTINUOUS ALUMINUM FLASHING AT STUD WALL SILL
08 40.04	ALUMINUM FRAME CURTAIN WALL SECTION WITH CLEAR GLAZING



1 WS- N- LOBBY AND CONFERENCE
1/2" = 1'-0"



2 WS- N- EXERCISE
1/2" = 1'-0"

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ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
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CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
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PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3- INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
RENEWAL DATE 9/30/21
STATE OF CALIFORNIA

Sheet Title

BUILDING 1 WALL SECTIONS

Drawn By: Author
Checked By: Checker

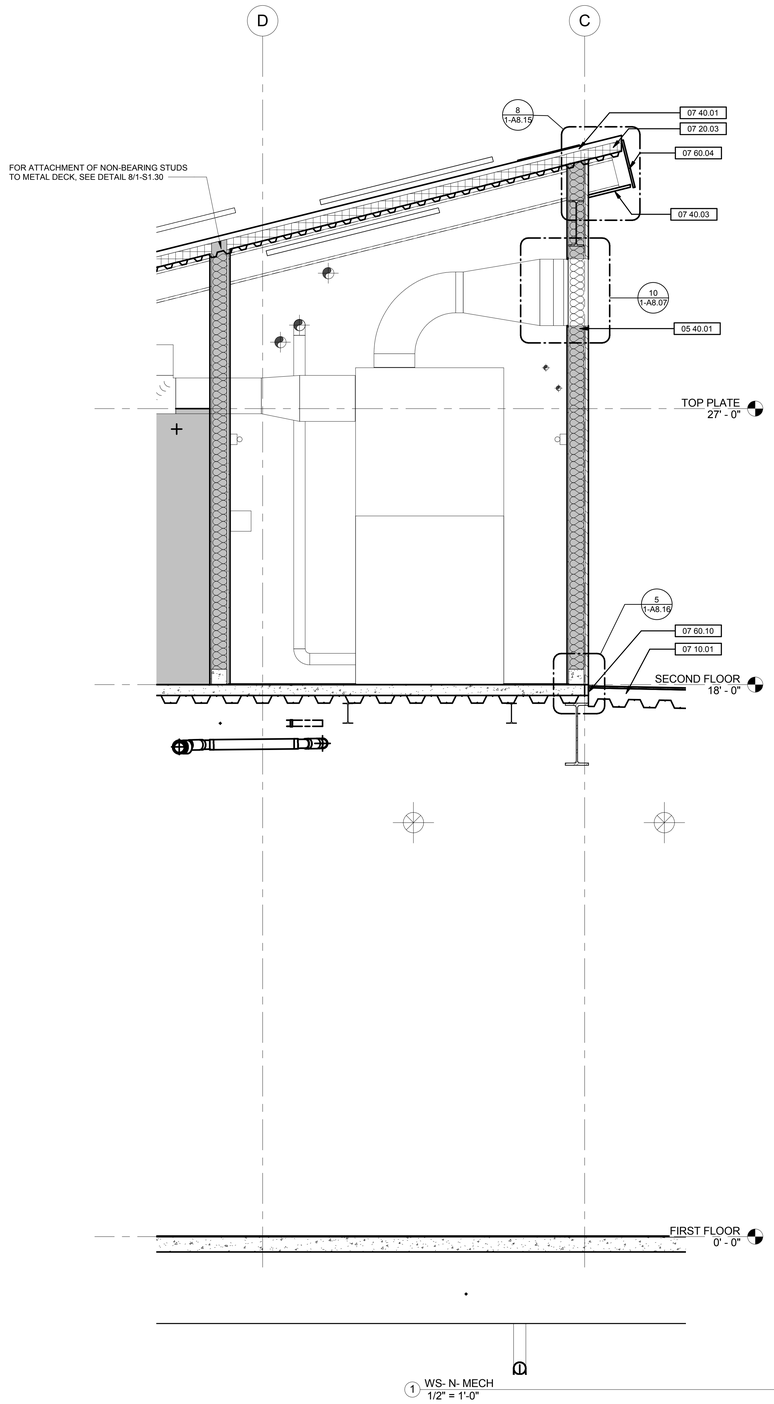
Scale: **1/2" = 1'-0"**

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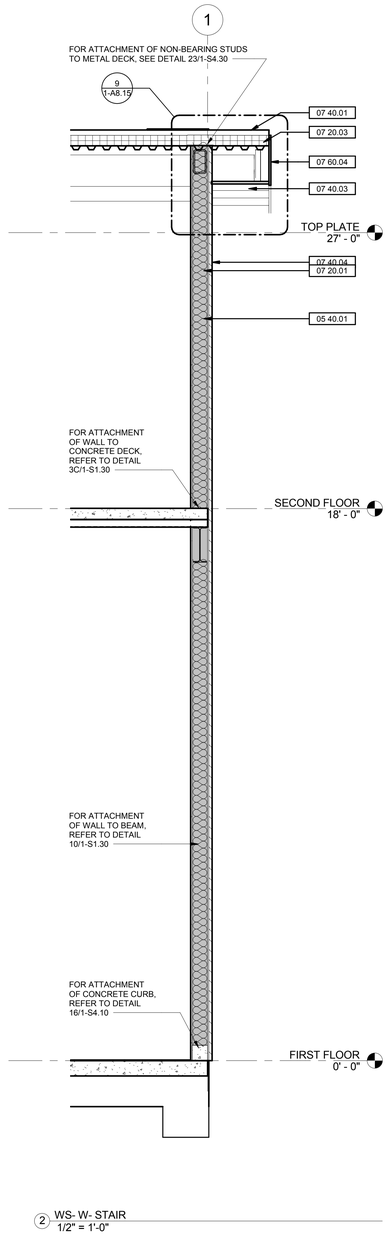
Project No. 2016039

1-A3.54
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1 WS- N- MECH
1/2" = 1'-0"



2 WS- W- STAIR
1/2" = 1'-0"

GENERAL SHEET NOTES

1. WALL SECTIONS TO BE USED FOR LOCATION PURPOSES ONLY. REFER TO SPECIFIC DETAIL CALLOUTS FOR WALL COMPONENT ASSEMBLY AND INSTALLED DIMENSIONS

SHEET KEYNOTE LEGEND

05 40.01	METAL WALL STUDS, S.S.D.
07 10.01	TRAFFIC-BEARING ROOF DECK SURFACING OVER CONCRETE SLAB
07 20.01	UNFACED R-13 FIBERGLASS BATT INSULATION IN STUD CAVITY
07 20.03	4" THICK RIGID INSULATION OVER STRUCTURAL ROOF DECK
07 40.01	PRE-FINISHED STANDING SEAM METAL ROOF PANELS, TYPICAL
07 40.03	PRE-FINISHED METAL SOFFIT PANELS, TYPICAL
07 40.04	PRE-FINISHED METAL SIDING PANELS WITH VERTICAL PATTERN, TYPICAL
07 60.04	PAINTED ALUMINUM FASCIA TRIM
07 60.10	CONTINUOUS ALUMINUM FLASHING AT STUD WALL SILL

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY:	
KATHY GARCIA DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3-INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
5/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 1 WALL SECTIONS

Drawn By: Author
Checked By: Checker

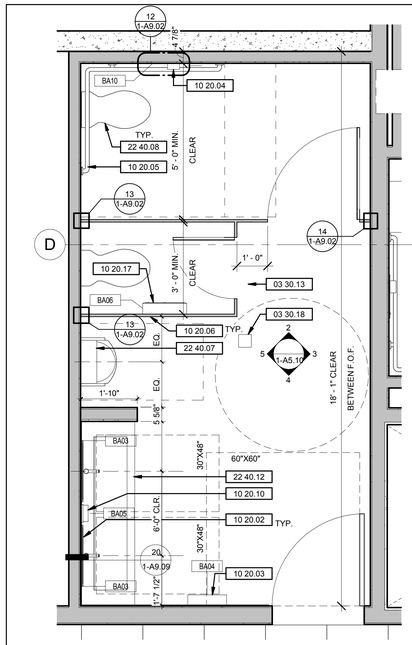
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1/2" = 1'-0"

Date:
October 4, 2019

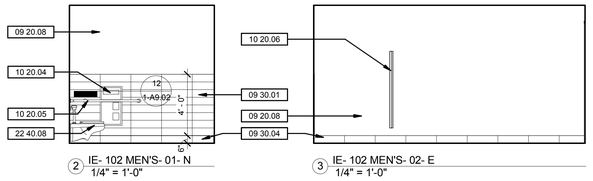
Project No. 2016039

1-A3.55
Drawing No.

If this drawing is not 30" x 42", it is a reduced print - scale accordingly. All rights reserved. Material may not be reproduced in any form without permission from RossDrulisCusenbery Architecture, Inc.

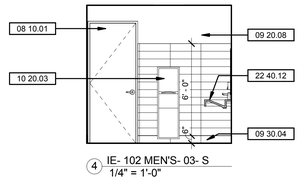


1 102 MEN'S ROOM FLOOR PLAN
1/2" = 1'-0"

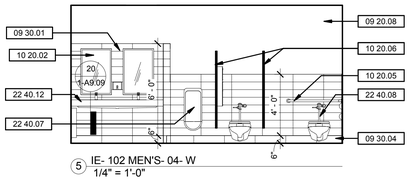


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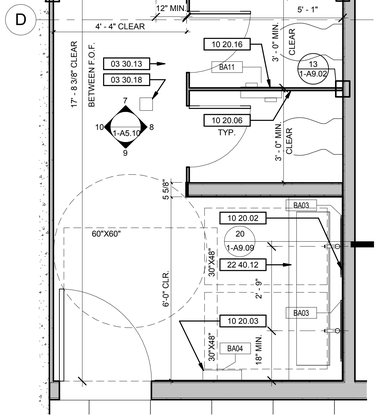
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1/4" = 1'-0"



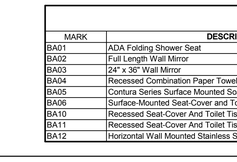
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1/4" = 1'-0"



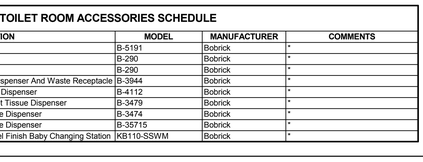
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1/4" = 1'-0"



6 103 WOMEN'S ROOM FLOOR PLAN
1/2" = 1'-0"



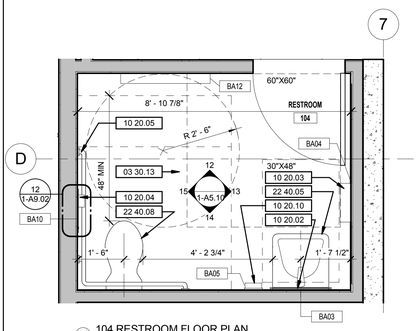
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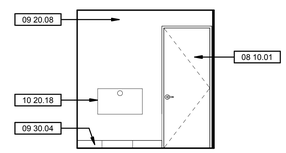
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1/4" = 1'-0"

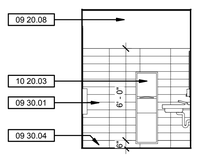
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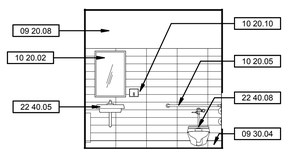
11 104 RESTROOM FLOOR PLAN
1/2" = 1'-0"



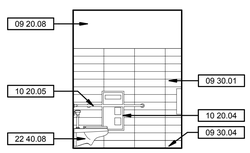
12 IE- 104- RESTROOM- 01- N
1/4" = 1'-0"



13 IE- 104- RESTROOM- 02- E
1/4" = 1'-0"



14 IE- 104- RESTROOM- 01- S
1/4" = 1'-0"



15 IE-104- RESTROOM- 04- W
1/4" = 1'-0"

TOILET ROOM ACCESSORIES SCHEDULE

MARK	DESCRIPTION	MODEL	MANUFACTURER	COMMENTS
BA01	ADA Folding Shower Seat	B-5191	Bobrick	*
BA02	Full Length Wall Mirror	B-290	Bobrick	*
BA03	24" x 36" Wall Mirror	B-290	Bobrick	*
BA04	Recessed Combination Paper Towel Dispenser And Waste Receptacle	B-3944	Bobrick	*
BA05	Contura Series Surface Mounted Soap Dispenser	B-4112	Bobrick	*
BA06	Surface-Mounted Seat-Cover and Toilet Tissue Dispenser	B-3479	Bobrick	*
BA10	Recessed Seat-Cover And Toilet Tissue Dispenser	B-3474	Bobrick	*
BA11	Recessed Seat-Cover And Toilet Tissue Dispenser	B-35715	Bobrick	*
BA12	Horizontal Wall Mounted Stainless Steel Finish Baby Changing Station	KB110-SSWM	Bobrick	*

GENERAL SHEET NOTES

1. SEE SHEET 1-A0.11 FOR ACCESSIBLE MOUNTING HEIGHTS AND CLEARANCES.

WALL LEGEND

- CONCRETE WALL, S.S.D. FOR THICKNESS & REINFORCING
- METAL STUD-FRAMED WALL PER WALL TYPE (SEE SHEET 1-A8.00)
- ALUMINUM CURTAIN WALL or STOREFRONT

SHEET KEYNOTE LEGEND

03 30.13	RECESS CONCRETE SLAB TO ACCOMMODATE TILE AND MORTAR BED INSTALLATION S.S.D
03 30.18	FLOOR SURFACE SLOPED TO FLOOR DRAINS, S.P.D.
08 10.01	PAINTED HOLLOW METAL DOOR & FRAME
09 20.08	GYP. BD, PTD.
09 30.01	TILE FLOORS, BASE, AND WAINSCOT. SLOPE FLOORS TO FLOOR DRAINS, TYP.
09 30.04	TILE BASE, TYP. SEE FINISH SCHEDULE
10 20.02	WALL-MOUNTED 2'-0" X 3'-0" RECTANGULAR MIRROR. SEE ACCESSIBILITY STANDARDS FOR MOUNTING REQUIREMENTS. SHIM @ UNEVEN WALL FINISH FOR PLUMB INSTALLATION & PROVIDE CONTINUOUS SEALANT AROUND PERIMETER
10 20.03	RECESSED COMBINATION PAPER TOWEL AND WASTE DISPOSAL UNIT, SEE ACCESSIBILITY STANDARDS FOR MOUNTING REQUIREMENTS. SHIM AT UNEVEN WALL FINISHES FOR PLUMB INSTALLATION & PROVIDE CONTINUOUS SEALANT AROUND PERIMETER
10 20.04	RECESSED COMBINATION SEAT COVER DISPENSER, SANITARY NAPKIN DISPOSAL (AT WOMEN'S RESTROOMS), AND TOILET TISSUE DISPENSER
10 20.05	S.S. GRAB BAR. SEE ACCESSIBILITY STANDARDS FOR MOUNTING AND LENGTH REQUIREMENTS
10 20.06	FLOOR-MOUNTED TOILET COMPARTMENT PANELS, TYP.
10 20.10	SOAP DISPENSER; MOUNTED 40" MAX. A.F.F. PER CBC 11B-608.10
10 20.16	SURFACE-MOUNTED TOILET TISSUE DISPENSER
10 20.17	SURFACE-MOUNTED COMBINATION SEAT COVER DISPENSER AND TOILET TISSUE DISPENSER
10 20.18	SURFACE-MOUNTED BABY CHANGING STATION
22 40.05	ACCESSIBLE SINK, WALL MOUNTED, S.P.D. AND SEE ACCESSIBILITY STANDARDS FOR MOUNTING REQUIREMENTS
22 40.07	URINAL, WALL MOUNTED, S.P.D. AND SEE ACCESSIBILITY STANDARDS FOR MOUNTING REQUIREMENTS
22 40.08	WALL MOUNTED WATER CLOSET, TYP. S.P.D. AND SEE ACCESSIBILITY STANDARDS FOR MOUNTING REQUIREMENTS
22 40.12	ACCESSIBLE CONCRETE COUNTERTOP, APRON AND INTEGRAL SINKS, S.P.D. AND ACCESSIBILITY STANDARDS FOR MOUNTING REQUIREMENTS

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3- INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
9/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 1 ENLARGED RESTROOM PLANS & INTERIOR ELEVATIONS

Drawn By: Author
Checked By: Checker

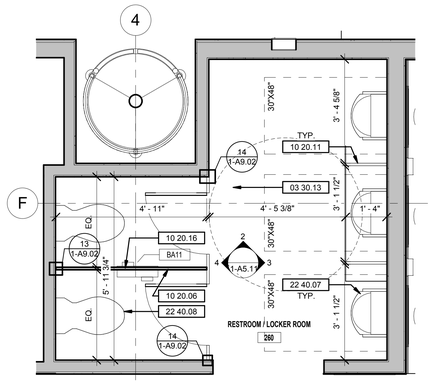
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Date:
October 4, 2019

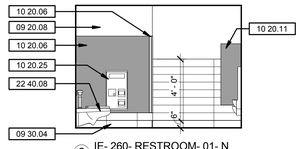
Project No. 2016039

1-A5.10
Drawing No.

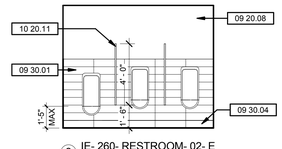
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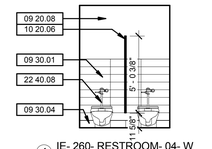
1 260 RESTROOM FLOOR PLAN
1/2" = 1'-0"



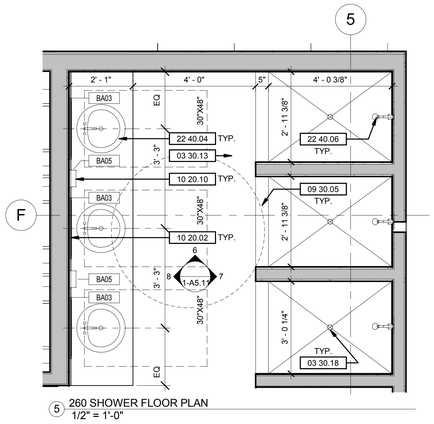
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1/4" = 1'-0"



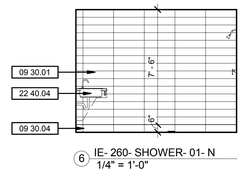
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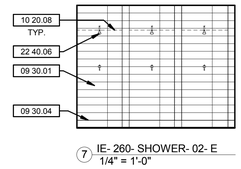
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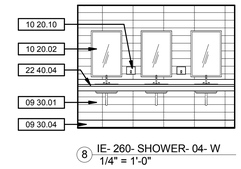
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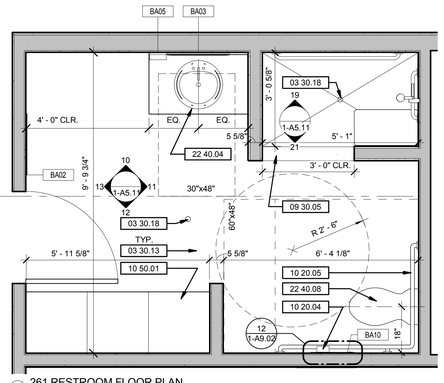
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1/4" = 1'-0"



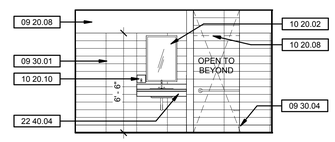
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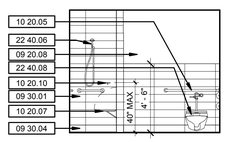
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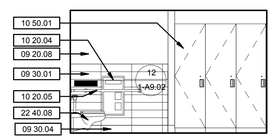
9 261 RESTROOM FLOOR PLAN
1/2" = 1'-0"



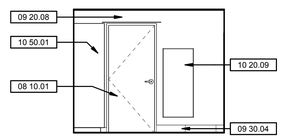
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1/4" = 1'-0"



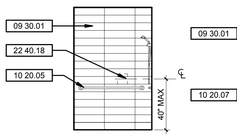
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1/4" = 1'-0"



12 IE- 261- RESTROOM- 03- S
1/4" = 1'-0"

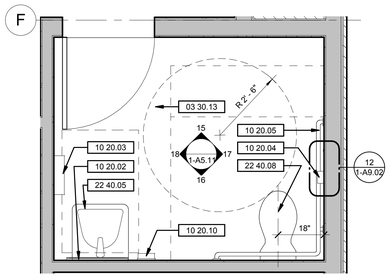


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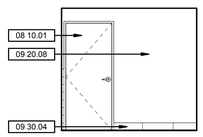


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1/4" = 1'-0"

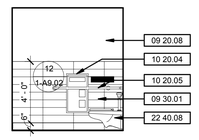
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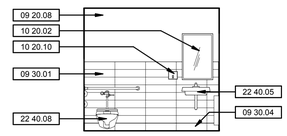
14 213 STAFF RESTROOM FLOOR PLAN
1/2" = 1'-0"



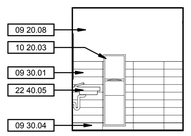
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1/4" = 1'-0"



17 IE- 213- STAFF RESTROOM- E
1/4" = 1'-0"



16 IE- 213- STAFF RESTROOM- S
1/4" = 1'-0"



18 IE- 213- STAFF RESTROOM- W
1/4" = 1'-0"

TOILET ROOM ACCESSORIES SCHEDULE

MARK	DESCRIPTION	MODEL	MANUFACTURER	COMMENTS
BA01	ADA Folding Shower Seat	B-5191	Bobrick	*
BA02	Full Length Wall Mirror	B-290	Bobrick	*
BA03	24" x 36" Wall Mirror	B-290	Bobrick	*
BA04	Recessed Combination Paper Towel Dispenser And Waste Receptacle	B-3944	Bobrick	*
BA05	Contura Series Surface Mounted Soap Dispenser	B-4112	Bobrick	*
BA06	Surface-Mounted Seat-Cover and Toilet Tissue Dispenser	B-3479	Bobrick	*
BA10	Recessed Seat-Cover And Toilet Tissue Dispenser	B-3474	Bobrick	*
BA11	Recessed Seat-Cover And Toilet Tissue Dispenser	B-35715	Bobrick	*
BA12	Horizontal Wall Mounted Stainless Steel Finish Baby Changing Station	KB110-SSWM	Bobrick	*

GENERAL SHEET NOTES

1. SEE SHEET 1-A0.11 FOR ACCESSIBLE MOUNTING HEIGHTS AND CLEARANCES.

WALL LEGEND

CONCRETE WALL, S.S.D. FOR THICKNESS & REINFORCING

METAL STUD-FRAMED WALL PER WALL TYPE (SEE SHEET 1-A8.00)

ALUMINUM CURTAIN WALL or STOREFRONT

SHEET KEYNOTE LEGEND

03 30.13	RECESS CONCRETE SLAB TO ACCOMMODATE TILE AND MORTAR BED INSTALLATION S.S.D
03 30.18	FLOOR SURFACE SLOPED TO FLOOR DRAINS, S.P.D.
08 10.01	PAINTED HOLLOW METAL DOOR & FRAME
09 20.08	GYP. BD, PTD.
09 30.01	TILE FLOORS, BASE, AND WAINSCOT. SLOPE FLOORS TO FLOOR DRAINS, TYP.
09 30.04	TILE BASE, TYP. SEE FINISH SCHEDULE
09 30.05	MARBLE THRESHOLD. 6" WIDE & 1/2" HIGH, MAX.
10 20.02	WALL-MOUNTED 2'-0" X 3'-0" RECTANGULAR MIRROR. SEE ACCESSIBILITY STANDARDS FOR MOUNTING REQUIREMENTS. SHIM @ UNEVEN WALL FINISH FOR PLUMB INSTALLATION & PROVIDE CONTINUOUS SEALANT AROUND PERIMETER
10 20.03	RECESSED COMBINATION PAPER TOWEL AND WASTE DISPOSAL UNIT, SEE ACCESSIBILITY STANDARDS FOR MOUNTING REQUIREMENTS. SHIM AT UNEVEN WALL FINISHES FOR PLUMB INSTALLATION & PROVIDE CONTINUOUS SEALANT AROUND PERIMETER
10 20.04	RECESSED COMBINATION SEAT COVER DISPENSER, SANITARY NAPKIN DISPOSAL (AT WOMEN'S RESTROOMS), AND TOILET TISSUE DISPENSER
10 20.05	S.S. GRAB BAR. SEE ACCESSIBILITY STANDARDS FOR MOUNTING AND LENGTH REQUIREMENTS
10 20.06	FLOOR-MOUNTED TOILET COMPARTMENT PANELS, TYP.
10 20.07	ACCESSIBLE SHOWER SEAT, SEE ACCESSIBILITY STANDARDS FOR MOUNTING REQUIREMENTS
10 20.08	SHOWER CURTAIN AND ROD (NOT SHOWN FOR CLARITY); CENTERLINE OF ROD MOUNTED @ 74.5"
10 20.09	18" X 54" FULL LENGTH MIRROR WITH BOTTOM EDGE OF REFLECTIVE SURFACE LOCATED AT 20" MAX A.F.F.
10 20.10	SOAP DISPENSER; MOUNTED 40" MAX. A.F.F. PER CBC 11B-608.10
10 20.11	WALL-MOUNTED URINAL PRIVACY PANEL, TYP.
10 20.16	SURFACE-MOUNTED TOILET TISSUE DISPENSER
10 20.25	PARTITION MOUNTED COMBINATION SEAT COVER DISPENSER AND TOILET TISSUE DISPENSER
10 50.01	METAL LOCKERS; 5% BUT NOT LESS THAN ONE (1) TO BE ACCESSIBLE PER CBC 11B-222.1
22 40.04	ACCESSIBLE UNDERMOUNT SINK IN SOLID SURFACE COUNTERTOP. S.P.D. AND SEE ACCESSIBILITY STANDARDS FOR MOUNTING REQUIREMENTS
22 40.05	ACCESSIBLE SINK, WALL MOUNTED. S.P.D. AND SEE ACCESSIBILITY STANDARDS FOR MOUNTING REQUIREMENTS
22 40.06	SHOWER HEAD, S.P.D. AND SEE ACCESSIBILITY STANDARDS FOR MOUNTING REQUIREMENTS
22 40.07	URINAL, WALL MOUNTED. S.P.D. AND SEE ACCESSIBILITY STANDARDS FOR MOUNTING REQUIREMENTS
22 40.08	WALL MOUNTED WATER CLOSET, TYP. S.P.D. AND SEE ACCESSIBILITY STANDARDS FOR MOUNTING REQUIREMENTS
22 40.18	SINGLE LEVER MIXING VALVE CONTROL

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3- INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
5/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 1 ENLARGED RESTROOM PLANS & INTERIOR ELEVATIONS

Drawn By: AA
Checked By: EW

Scale:
As indicated

Date:
October 4, 2019

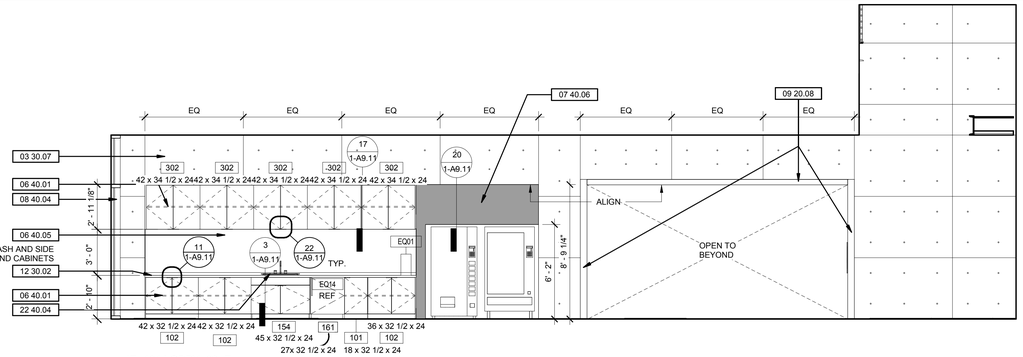
Project No. 2016039

1-A5.11
Drawing No.

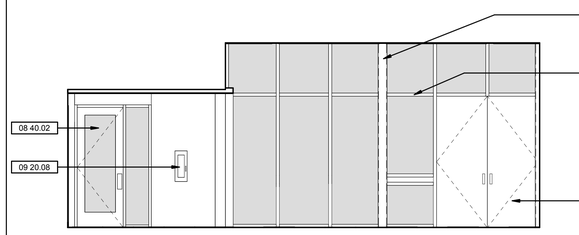
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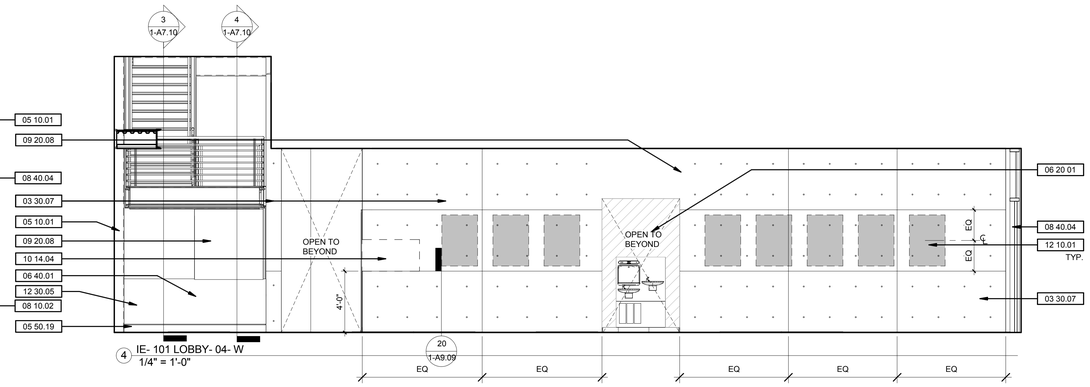
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1/4" = 1'-0"



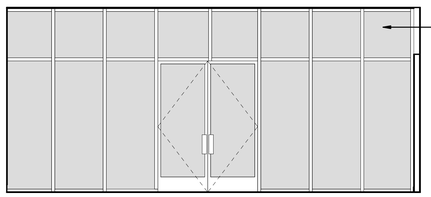
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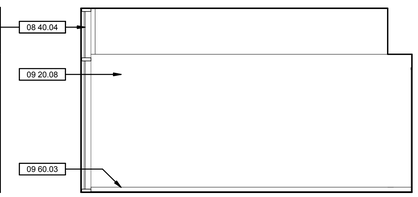
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1/4" = 1'-0"



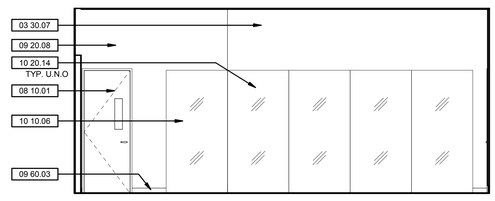
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1/4" = 1'-0"



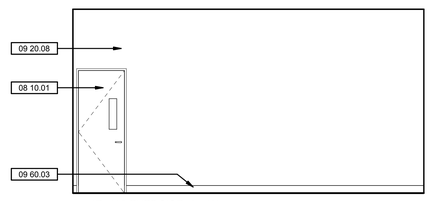
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1/4" = 1'-0"



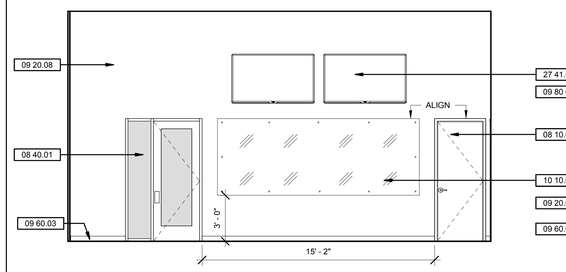
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1/4" = 1'-0"



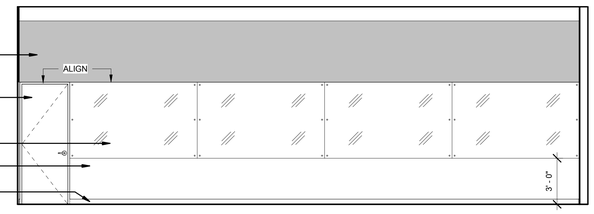
7 IE- 105 EXERCISE- 03- S
1/4" = 1'-0"



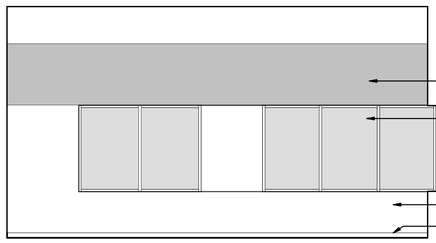
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1/4" = 1'-0"



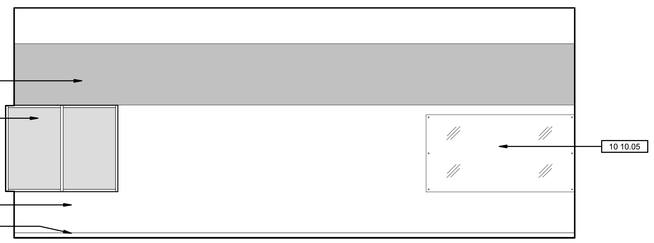
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1/4" = 1'-0"



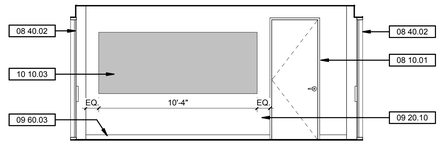
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1/4" = 1'-0"



11 IE- 110 CLASSROOM 1- 03- S
1/4" = 1'-0"



12 IE- 110 CLASSROOM 1- 04- W
1/4" = 1'-0"



13 IE- 101.C- LOBBY ALCOVE- 01- E
1/4" = 1'-0"

GENERAL SHEET NOTES

1. SEE SHEET 1-A0.11 FOR ACCESSIBLE MOUNTING HEIGHTS AND CLEARANCES.

CABINET TYPE LEGEND

222 — WOODWORK INSTITUTE (WI) CABINET DESIGN SERIES NUMBER ("L" INDICATED LOCK)

W x H x D — WIDTH x HEIGHT x DEPTH (INCHES)

FOR STANDARD CABINET INSTALLATION AND HARDWARE DETAILS, SEE SHEET A9.03

SHEET KEYNOTE LEGEND

03 30.07	CAST-IN-PLACE CONCRETE WALL, S.S.D.
05 10.01	PAINTED STEEL COLUMN, S.S.D.
05 50.19	POWDER COATED METAL BASE
06 20 01	WOOD BOARD PANELING. RECLAIMED FROM BURN BUILDING
06 40.01	ARCHITECTURAL CASEWORK
06 40.05	WOOD VENEER FINISH
07 40.06	FIBER CEMENT BOARD. ADHESIVE APPLICATION
08 10.01	PAINTED HOLLOW METAL DOOR & FRAME
08 10.02	PAINTED SOLID WOOD PIVOT DOOR
08 40.01	STEEL-FRAME STOREFRONT OPENINGS WITH ENTRY DOORS AND SOLID PANEL "GLAZING"
08 40.02	ALUMINUM FRAME STOREFRONT SECTION WITH ENTRY DOOR AND CLEAR GLAZING
08 40.03	ALUMINUM FRAME STOREFRONT SECTION WITH CLEAR GLAZING
08 40.04	ALUMINUM FRAME CURTAIN WALL SECTION WITH CLEAR GLAZING
09 20.08	GYP. BD, PTD.
09 20.10	GYP. BD, LEVEL 5 FINISH
09 60.03	WALL BASE, TYP. SEE FINISH SCHEDULE
09 80 01	ACOUSTIC FELT. SEE ELEVATIONS AND FINISH SCHEDULE.
10 10.03	CORK BULLETIN BOARD
10 10.05	BACK PAINTED GLASS MARKERBOARD MOUNTED WITH STAND-OFFS
10 10.06	STEEL MAGNETIC MARKERBOARD
10 14.04	DIRECTORY SIGNAGE. SEE SIGNAGE PACKAGE VOLUME 8 SHEET AG321
10 20.14	LARGE GYM MIRROR WITH SAFETY BACKING
12 10.01	ARTWORK PRINTED ON METAL W/ STANDOFFS, TYP.
12 30.02	QUARTZ-SURFACE COUNTERTOP AT +34" A.F.F.
12 30.05	QUARTZ-SURFACE
22 40.04	ACCESSIBLE UNDERMOUNT SINK IN SOLID SURFACE COUNTERTOP, S.P.D. AND SEE ACCESSIBILITY STANDARDS FOR MOUNTING REQUIREMENTS
27 41.01	LED TELEVISION - SEE TECHNOLOGY DRAWINGS

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3- INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
9/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 1 INTERIOR ELEVATIONS

Drawn By: TG
Checked By: EW

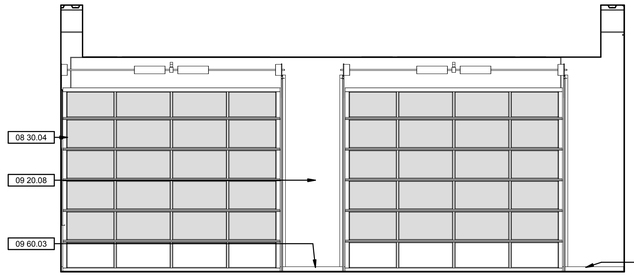
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Date: October 4, 2019

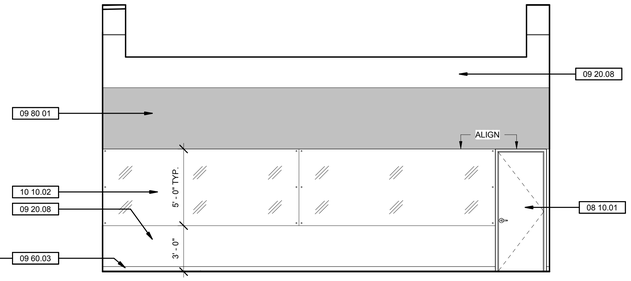
Project No. 2016039

1-A5.12
Drawing No.

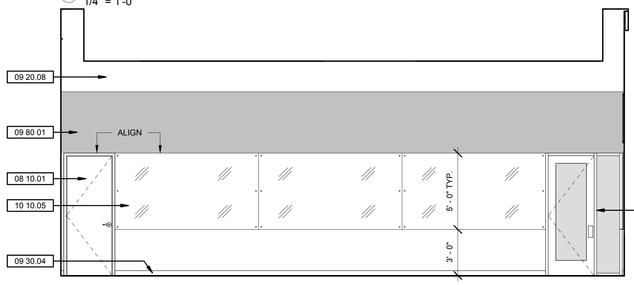
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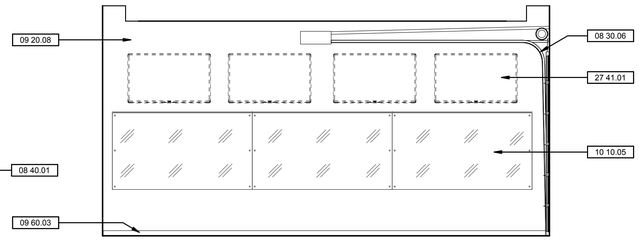
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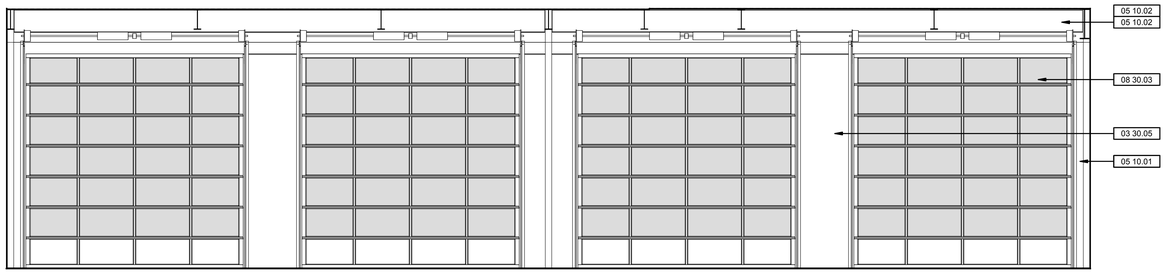
2 IE- 115 CLASSROOM 2- 02- E
1/4" = 1'-0"



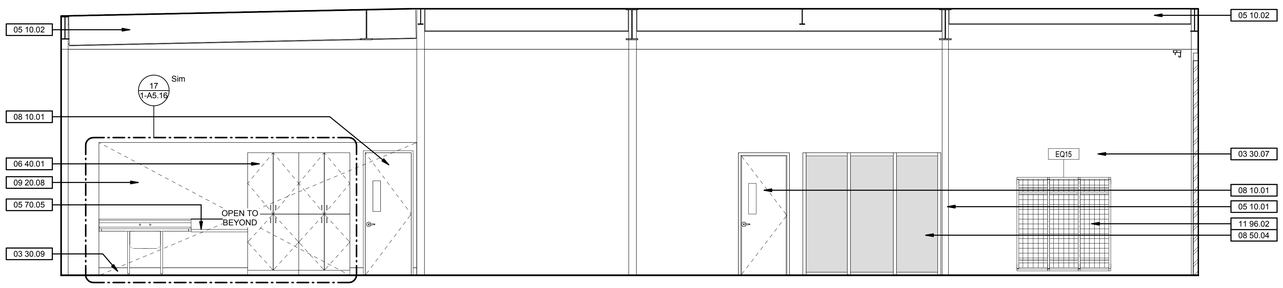
3 IE- 115 CLASSROOM 2- 03- S
1/4" = 1'-0"



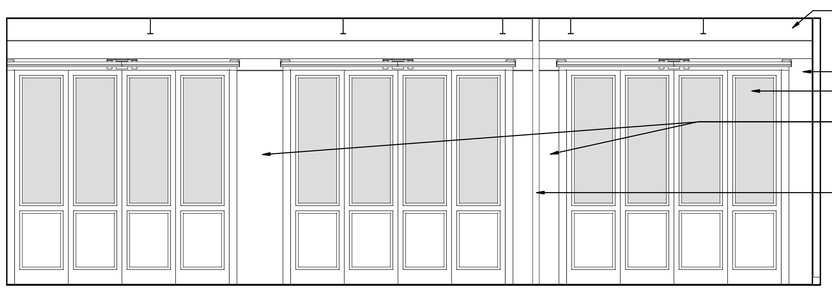
4 IE- 115 CLASSROOM 2- 04- W
1/4" = 1'-0"



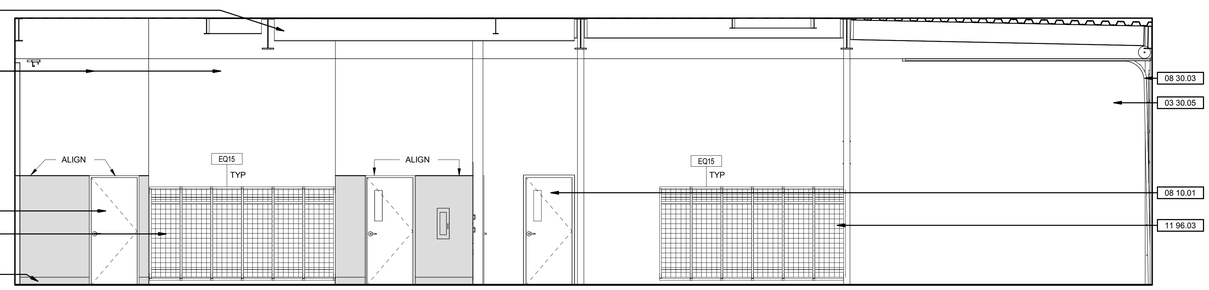
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1/4" = 1'-0"



6 IE- 150 APP BAY- 02- E
1/4" = 1'-0"



7 IE- 150 APP BAY- 03- S
1/4" = 1'-0"



8 IE- 150 APP BAY- 04- W
1/4" = 1'-0"

GENERAL SHEET NOTES

1. SEE SHEET 1-A0.11 FOR ACCESSIBLE MOUNTING HEIGHTS AND CLEARANCES.

CABINET TYPE LEGEND

222 — WOODWORK INSTITUTE (WI) CABINET DESIGN SERIES NUMBER ("L" INDICATED LOCK)

W x H x D — WIDTH x HEIGHT x DEPTH (INCHES)

FOR STANDARD CABINET INSTALLATION AND HARDWARE DETAILS, SEE SHEET A9.03

SHEET KEYNOTE LEGEND

03 30.05	SEALED CAST-IN-PLACE (CIP) CONCRETE EXTERIOR WALLS, TYPICAL
03 30.07	CAST-IN-PLACE CONCRETE WALL, S.S.D.
03 30.09	6" HIGH CONCRETE BUMPER CURB, WIDTH AS DIMENSIONED
05 10.01	PAINTED STEEL COLUMN, S.S.D.
05 10.02	PAINTED STEEL BEAM, S.S.D.
05 70.05	STAINLESS STEEL COUNTERTOP
06 40.01	ARCHITECTURAL CASEWORK
08 10.01	PAINTED HOLLOW METAL DOOR & FRAME
08 30.03	ALUMINUM FRAME OVERHEAD SECTIONAL DOOR WITH GLAZED PANELS, TYPICAL
08 30.04	STEEL FRAME HORIZONTAL FOLDING DOOR WITH GLAZED PANELS, TYPICAL
08 30.06	OVERHEAD SECTIONAL DOOR
08 40.01	STEEL-FRAME STOREFRONT OPENINGS WITH ENTRY DOORS AND SOLID PANEL "GLAZING"
08 50.04	ALUMINUM FRAME WINDOW WITH CLEAR GLAZING, TYPICAL. SEE WINDOW SCHEDULE
09 20.08	GYP. BD, PTD.
09 30.04	TILE BASE, TYP. SEE FINISH SCHEDULE
09 60.03	WALL BASE, TYP. SEE FINISH SCHEDULE
09 80 01	ACOUSTIC FELT. SEE ELEVATIONS AND FINISH SCHEDULE.
10 10.02	BACKPAINTED GLASS MARKER BOARD MOUNTED WITH STAND-OFFS SET INTO RECESS IN CONCRETE WALL
10 10.05	BACK PAINTED GLASS MARKERBOARD MOUNTED WITH STAND-OFFS
11 96.02	WALL-MOUNTED TURN OUT LOCKERS
11 96.03	FLOOR-MOUNTED TURN OUT LOCKERS
27 41.01	LED TELEVISION - SEE TECHNOLOGY DRAWINGS

APPROVED
DIV. OF THE STATE ARCHITECT
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RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY:	
KATHY GARCIA DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3- INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
12/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 1 INTERIOR ELEVATIONS

Drawn By: TG Checked By: EW

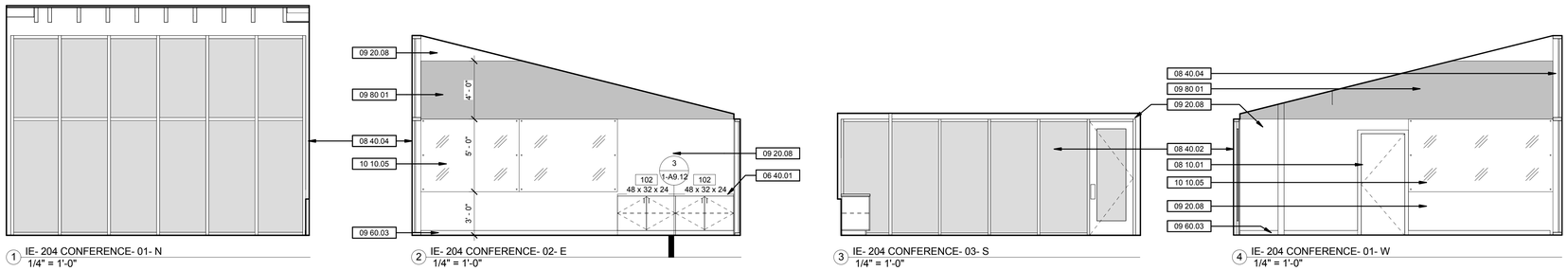
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Date: **October 4, 2019**

Project No. 2016039

1-A5.13
Drawing No.

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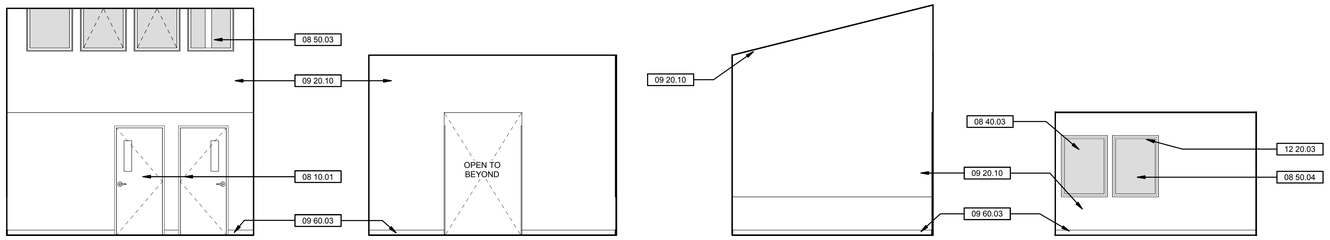


1 IE- 204 CONFERENCE- 01- N
1/4" = 1'-0"

2 IE- 204 CONFERENCE- 02- E
1/4" = 1'-0"

3 IE- 204 CONFERENCE- 03- S
1/4" = 1'-0"

4 IE- 204 CONFERENCE- 01- W
1/4" = 1'-0"

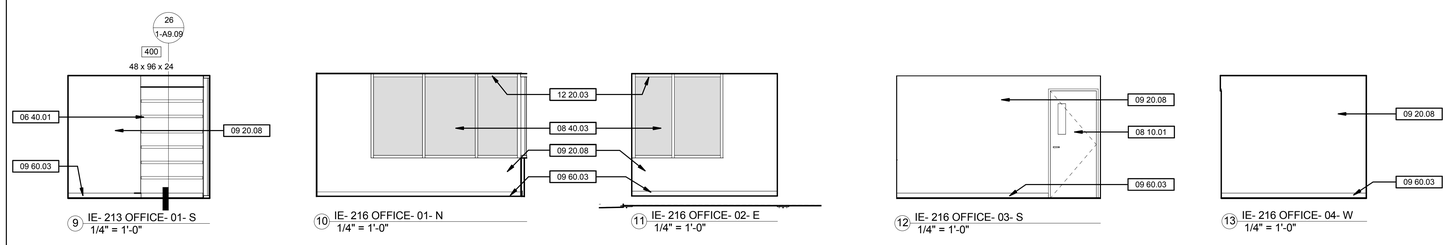


5 IE- 211 GENERAL OFFICE- 01- N
1/4" = 1'-0"

6 IE- 211 GENERAL OFFICE- 03- S
1/4" = 1'-0"

7 IE- 211 GENERAL OFFICE- 04- W
1/4" = 1'-0"

8 IE- 215 OFFICE- 02- E
1/4" = 1'-0"



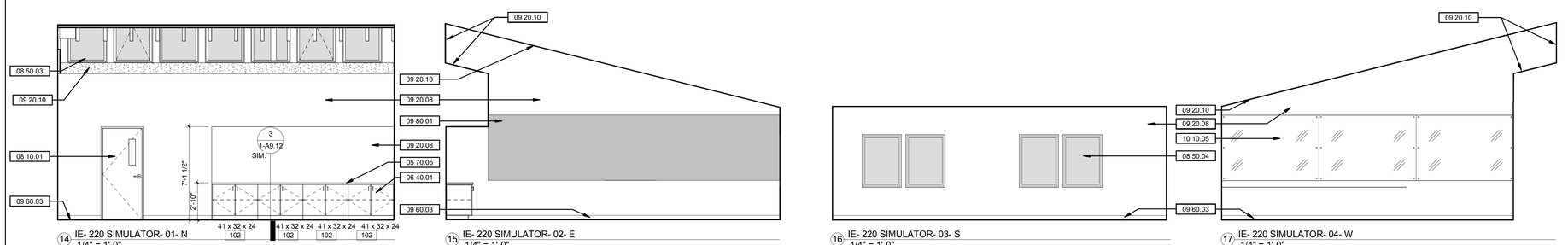
9 IE- 213 OFFICE- 01- S
1/4" = 1'-0"

10 IE- 216 OFFICE- 01- N
1/4" = 1'-0"

11 IE- 216 OFFICE- 02- E
1/4" = 1'-0"

12 IE- 216 OFFICE- 03- S
1/4" = 1'-0"

13 IE- 216 OFFICE- 04- W
1/4" = 1'-0"

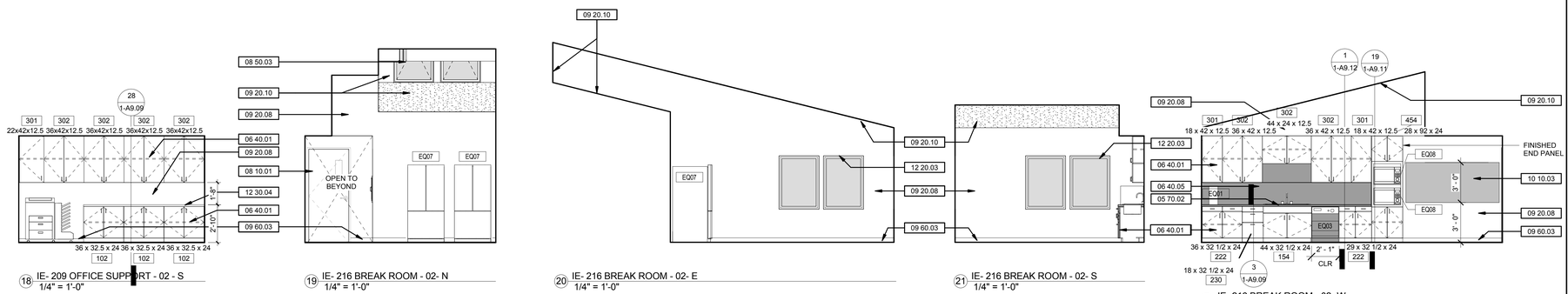


14 IE- 220 SIMULATOR- 01- N
1/4" = 1'-0"

15 IE- 220 SIMULATOR- 02- E
1/4" = 1'-0"

16 IE- 220 SIMULATOR- 03- S
1/4" = 1'-0"

17 IE- 220 SIMULATOR- 04- W
1/4" = 1'-0"



18 IE- 209 OFFICE SUPPORT - 02 - S
1/4" = 1'-0"

19 IE- 216 BREAK ROOM - 02- N
1/4" = 1'-0"

20 IE- 216 BREAK ROOM - 02- E
1/4" = 1'-0"

21 IE- 216 BREAK ROOM - 02- S
1/4" = 1'-0"

22 IE- 216 BREAK ROOM - 02- W
1/4" = 1'-0"

GENERAL SHEET NOTES

1. SEE SHEET 1-A0.11 FOR ACCESSIBLE MOUNTING HEIGHTS AND CLEARANCES.

CABINET TYPE LEGEND

222 — WOODWORK INSTITUTE (WI) CABINET DESIGN SERIES NUMBER ("L" INDICATED LOCK)

W x H x D

WIDTH x HEIGHT x DEPTH (INCHES)

FOR STANDARD CABINET INSTALLATION AND HARDWARE DETAILS, SEE SHEET A9.03

SHEET KEYNOTE LEGEND

05 70.02	STAINLESS STEEL COUNTERTOP WITH INTEGRAL STAINLESS STEEL BACKSPLASH CONTINUOUS TO UNDERSIDE OF UPPER CABINETS, TYP.
05 70.05	STAINLESS STEEL COUNTERTOP
06 40.01	ARCHITECTURAL CASEWORK
06 40.05	WOOD VENEER FINISH
08 10.01	PAINTED HOLLOW METAL DOOR & FRAME
08 40.02	ALUMINUM FRAME STOREFRONT SECTION WITH ENTRY DOOR AND CLEAR GLAZING
08 40.03	ALUMINUM FRAME STOREFRONT SECTION WITH CLEAR GLAZING
08 40.04	ALUMINUM FRAME CURTAIN WALL SECTION WITH CLEAR GLAZING
08 50.03	ALUMINUM FRAME CLERESTORY WINDOW WITH CLEAR GLAZING, TYPICAL. SEE WINDOW SCHEDULE
08 50.04	ALUMINUM FRAME WINDOW WITH CLEAR GLAZING, TYPICAL. SEE WINDOW SCHEDULE
09 20.08	GYP. BD, PTD.
09 20.10	GYP. BD, LEVEL 5 FINISH
09 60.03	WALL BASE, TYP. SEE FINISH SCHEDULE
09 80 01	ACOUSTIC FELT. SEE ELEVATIONS AND FINISH SCHEDULE.
10 10.03	CORK BULLETIN BOARD
10 10.05	BACK PAINTED GLASS MARKERBOARD MOUNTED WITH STAND-OFFS
12 20.03	PROVIDE MANUAL WINDOW SHADE; TYPICAL OF ALL WINDOWS IN ROOM AT SAME HEIGHT
12 30.04	PLASTIC LAMINATE COUNTERTOP

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3- INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
12/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 1 INTERIOR ELEVATIONS

Drawn By: TG
Checked By: EW

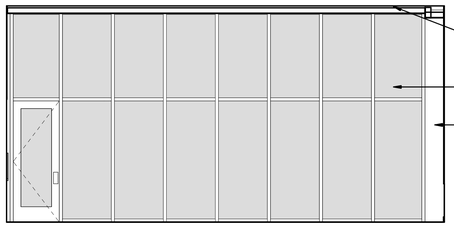
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Date: **October 4, 2019**

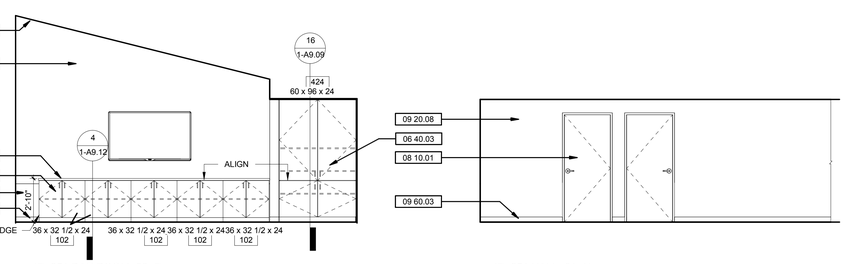
Project No. 2016039

1-A5.14
Drawing No.

If this drawing is not 30" x 42", it is a reduced print - scale accordingly. All rights reserved. Material may not be reproduced in any form without permission from RossDrulisCusenbery Architecture, Inc.

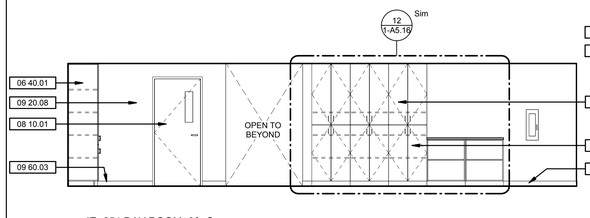


1 IE- 251 DAY ROOM- 01- N
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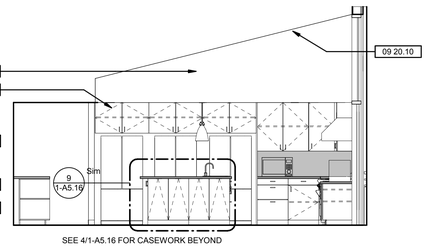


2 IE- 251 DAY ROOM- 02- E
1/4" = 1'-0"

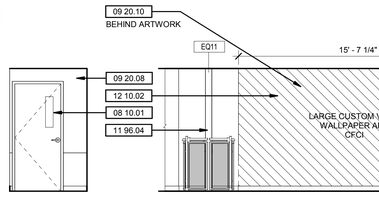
5 IE- 251 HALL- 01- N
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3 IE- 251 DAY ROOM- 03- S
1/4" = 1'-0"

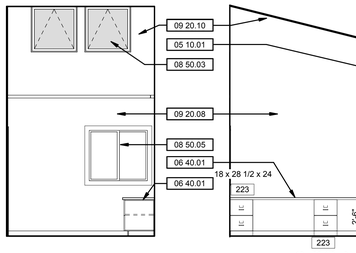


4 IE- 251 DAY ROOM- 04- W
1/4" = 1'-0"

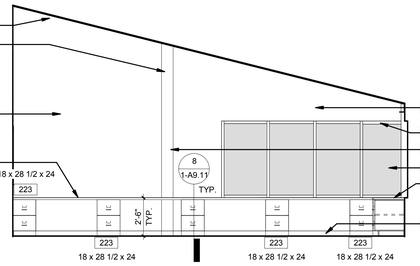


6 IE- 251 HALL- 04- W
1/4" = 1'-0"

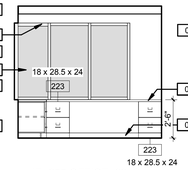
7 IE- 251- HALL- 03- S
1/4" = 1'-0"



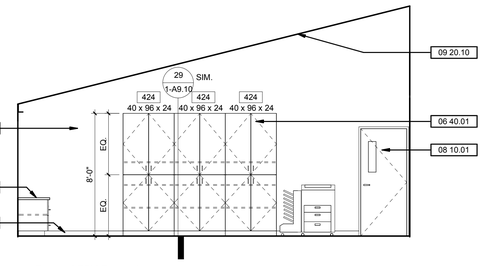
8 IE- 255 OFFICE- 01- N
1/4" = 1'-0"



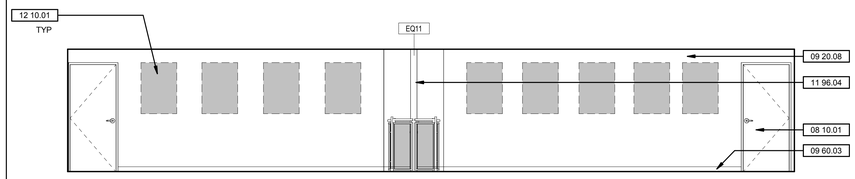
9 IE- 255 OFFICE- 02- E
1/4" = 1'-0"



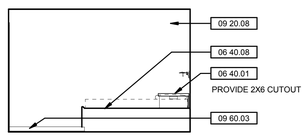
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1/4" = 1'-0"



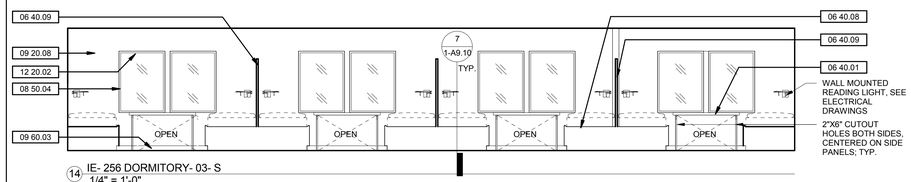
11 IE- 255 OFFICE- 04- W
1/4" = 1'-0"



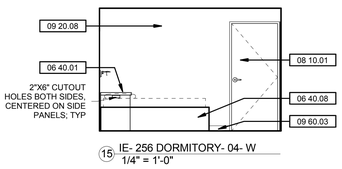
12 IE- 256 DORMITORY- 01- N
1/4" = 1'-0"



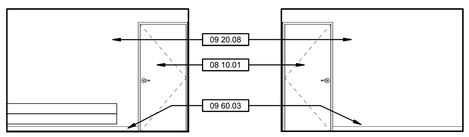
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14 IE- 256 DORMITORY- 03- S
1/4" = 1'-0"

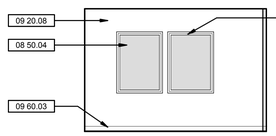


15 IE- 256 DORMITORY- 04- W
1/4" = 1'-0"

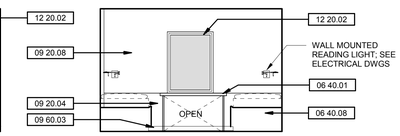


16 IE- 257 CAPTAIN'S ROOM- 01- N
1/4" = 1'-0"

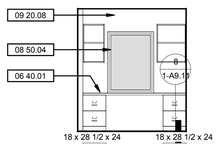
17 IE- 257 CAPTAIN'S ROOM- 02- E
1/4" = 1'-0"



18 IE- 257 CAPTAIN'S ROOM- 03- S
1/4" = 1'-0"



19 IE- 257 CAPTAIN'S ROOM- 04- W
1/4" = 1'-0"

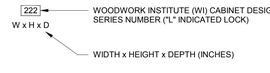


20 IE- 258- CAPTAIN'S WORKRM- 01- W
1/4" = 1'-0"

GENERAL SHEET NOTES

1. SEE SHEET 1-A0.11 FOR ACCESSIBLE MOUNTING HEIGHTS AND CLEARANCES.

CABINET TYPE LEGEND



FOR STANDARD CABINET INSTALLATION AND HARDWARE DETAILS, SEE SHEET A9.03

SHEET KEYNOTE LEGEND

05 10.01	PAINTED STEEL COLUMN, S.S.D.
05 70.07	CONTINUOUS STAINLESS STEEL WALL PROTECTION ABOVE SINK
06 40.01	ARCHITECTURAL CASEWORK
06 40.03	FULL HEIGHT PANTRY
06 40.08	NEW TWIN SIZE CUSTOM CAPTAINS BED WITH THREE STORAGE DRAWERS BELOW
06 40.09	PROVIDE NEW FREE STANDING PARTIAL HEIGHT CASEWORK GRADE PARTITION WITH PLAM VENEER OVER PLYWOOD SUBSTRATE WITH RUBBER BASE
08 10.01	PAINTED HOLLOW METAL DOOR & FRAME
08 40.03	ALUMINUM FRAME STOREFRONT SECTION WITH CLEAR GLAZING
08 40.04	ALUMINUM FRAME CURTAIN WALL SECTION WITH CLEAR GLAZING
08 50.03	ALUMINUM FRAME CLERESTORY WINDOW WITH CLEAR GLAZING, TYPICAL. SEE WINDOW SCHEDULE
08 50.04	ALUMINUM FRAME WINDOW WITH CLEAR GLAZING, TYPICAL. SEE WINDOW SCHEDULE
08 50.05	ALUMINUM FRAMED HORIZONTAL SLIDER WINDOW
09 20.04	GYP. BD. OVER CMU/CONCRETE, FUR AS REQ'D TO ALIGN W/ ADJACENT WALL GYP. BD.
09 20.08	GYP. BD, PTD.
09 20.10	GYP. BD. LEVEL 5 FINISH
09 60.03	WALL BASE, TYP. SEE FINISH SCHEDULE
11 96.04	FIRE POLE AND SAFETY CAGE. REFER TO 7/1-S1.60 FOR ATTACHMENT @ TOP OF POLE. REFER TO 8/1-S1.60 FOR ATTACHMENT AT POLE BASE W/ 2-1/2" EMBED
12 10.01	ARTWORK PRINTED ON METAL W/ STANDOFFS, TYP.
12 10.02	LARGE WALL VINYL ART
12 20.02	PROVIDE BLACK-OUT AND REGULAR MANUAL WINDOW SHADES; TYPICAL OF ALL WINDOWS IN ROOM.
12 20.03	PROVIDE MANUAL WINDOW SHADE; TYPICAL OF ALL WINDOWS IN ROOM AT SAME HEIGHT
12 30.02	QUARTZ-SURFACE COUNTERTOP AT +34" A.F.F.

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY:	
KATHY GARCIA	**ALEX AMERI**
DEP. DIR. PUBLIC WORKS	INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3- INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
9/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 1 INTERIOR ELEVATIONS

Drawn By: TG
Checked By: EW

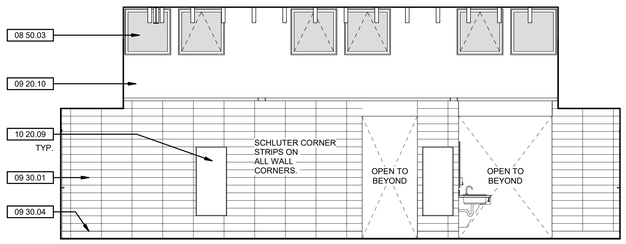
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1/4" = 1'-0"

Date:
October 4, 2019

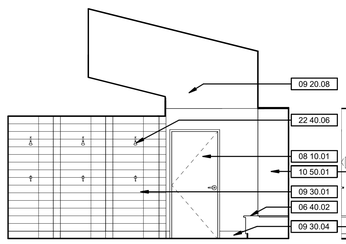
Project No. 2016039

1-A5.15
Drawing No.

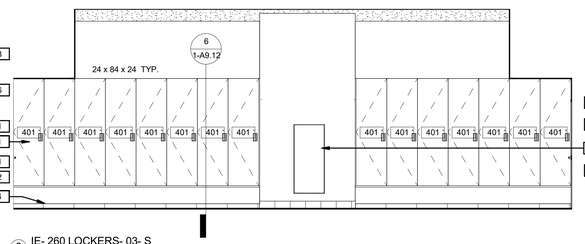
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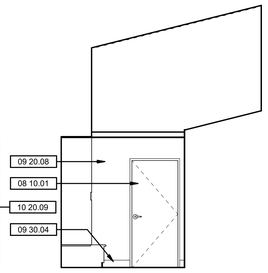
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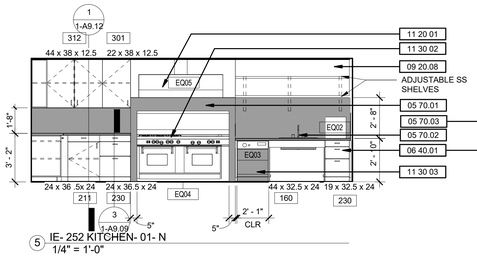
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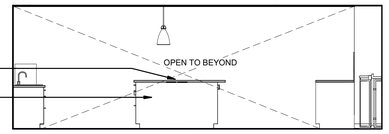
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1/4" = 1'-0"



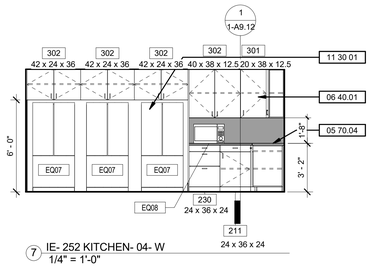
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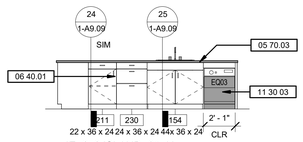
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1/4" = 1'-0"



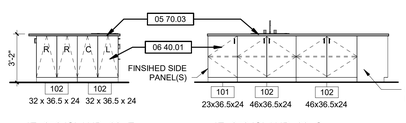
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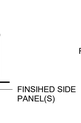
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1/4" = 1'-0"



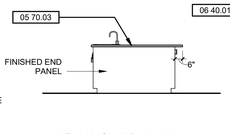
8 IE- 252 ISLAND- 01- N
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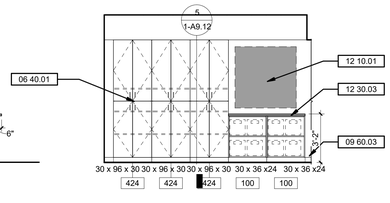
9 IE- 252 ISLAND- 02- E
1/4" = 1'-0"



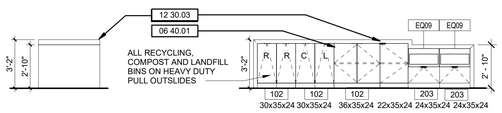
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1/4" = 1'-0"



11 IE- 252 ISLAND- 04- W
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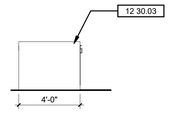


12 IE- 251 ISLAND- 01- N
1/4" = 1'-0"

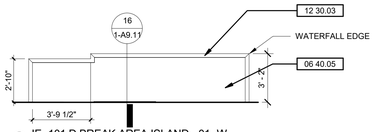


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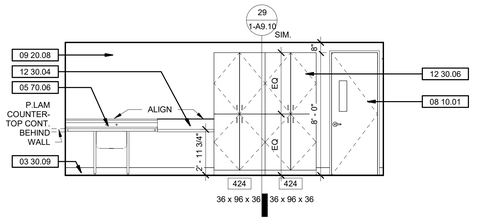
14 IE- 101.D BREAK AREA ISLAND - 01- E
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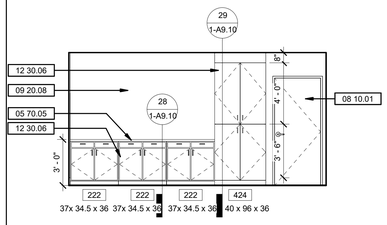
15 IE- 101.D BREAK AREA ISLAND - 01- S
1/4" = 1'-0"



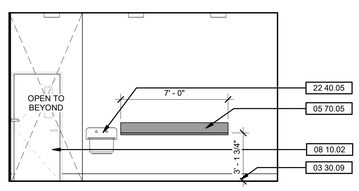
16 IE- 101.D BREAK AREA ISLAND - 01- W
1/4" = 1'-0"



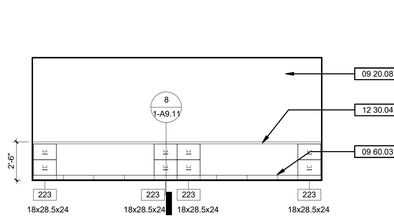
17 IE- EMS STORAGE/CLEANUP
1/4" = 1'-0"



18 IE - MAP/RADIO COUNTER
1/4" = 1'-0"

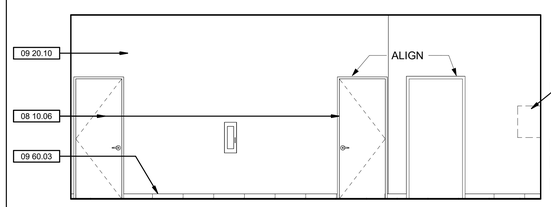


19 IE- 152 EXTRACTOR- 01- E
1/4" = 1'-0"

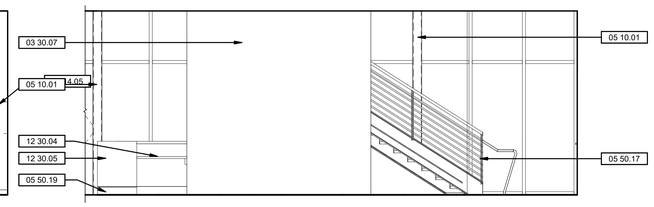


20 IE- 202 BACKUP DISPATCH- W
1/4" = 1'-0"

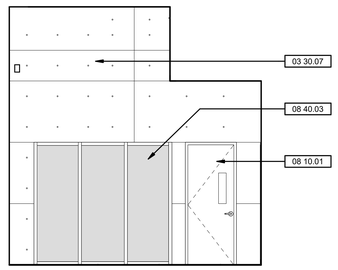
21 IE- 202 BACKUP DISPATCH- S
1/4" = 1'-0"



22 IE- 101.A HALL- E
1/4" = 1'-0"



23 IE- 101.A HALL- S
1/4" = 1'-0"

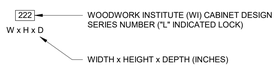


24 IE- 101.A HALL- W
1/4" = 1'-0"

GENERAL SHEET NOTES

1. SEE SHEET 1-A0.11 FOR ACCESSIBLE MOUNTING HEIGHTS AND CLEARANCES.

CABINET TYPE LEGEND



FOR STANDARD CABINET INSTALLATION AND HARDWARE DETAILS, SEE SHEET A9.03

SHEET KEYNOTE LEGEND

03 30.07	CAST-IN-PLACE CONCRETE WALL, S.S.D.
03 30.09	6" HIGH CONCRETE BUMPER CURB, WIDTH AS DIMENSIONED
05 10.01	PAINTED STEEL COLUMN, S.S.D.
05 50.17	1" OD SCH 40 STL. PIPE RAILING, HIGH PERFORMANCE PAINT COATING
05 50.19	POWDER COATED METAL BASE
05 70.01	CONTINUOUS STAINLESS STEEL WALL PROTECTION BEHIND STOVE EXTEND TO HOOD
05 70.02	STAINLESS STEEL COUNTERTOP WITH INTEGRAL STAINLESS STEEL BACKSPLASH CONTINUOUS TO UNDERSIDE OF UPPER CABINETS, TYP.
05 70.03	STAINLESS STEEL ISLAND COUNTERTOP WITH INTEGRAL STAINLESS STEEL SINK
05 70.04	STAINLESS STEEL COUNTERTOP WITH INTEGRAL STAINLESS STEEL BACKSPLASH
05 70.05	STAINLESS STEEL COUNTERTOP
05 70.06	STAINLESS STEEL COUNTERTOP WITH INTEGRAL STAINLESS STEEL SINK AND BACKSPLASH
06 40.01	ARCHITECTURAL CASEWORK
06 40.02	BUILT-IN BENCH; AFFIXED TO THE WALL OR FLOOR & DESIGNED FOR A 250-POUND FORCE PER CBC 11B-903.6
06 40.05	WOOD VENEER FINISH
08 10.01	PAINTED HOLLOW METAL DOOR & FRAME
08 10.02	PAINTED SOLID WOOD PIVOT DOOR
08 10.06	STAINED SOLID CORE WOOD DOOR
08 40.03	ALUMINUM FRAME STOREFRONT SECTION WITH CLEAR GLAZING
08 50.03	ALUMINUM FRAME CLERESTORY WINDOW WITH CLEAR GLAZING, TYPICAL, SEE WINDOW SCHEDULE
09 20.08	GYP. BD, PTD.
09 20.10	GYP. BD, LEVEL 5 FINISH
09 30.01	TILE FLOORS, BASE, AND WAINSCOT. SLOPE FLOORS TO FLOOR DRAINS, TYP.
09 30.04	TILE BASE, TYP. SEE FINISH SCHEDULE
09 60.03	WALL BASE, TYP. SEE FINISH SCHEDULE
10 14.05	EVACUATION MAP. SEE SIGNAGE PACKAGE VOLUME 8 SHEET AG321
10 20.09	18" X 54" FULL LENGTH MIRROR WITH BOTTOM EDGE OF REFLECTIVE SURFACE LOCATED AT 20" MAX A.F.F.
10 50.01	METAL LOCKERS; 5% BUT NOT LESS THAN ONE (1) TO BE ACCESSIBLE PER CBC 11B-222.1
11 20.01	(N) DUCTED COMMERCIAL-GRADE RANGE HOOD
11 30.01	(N) REFRIGERATOR, TYP.
11 30.02	(N) GAS RANGE
11 30.03	(N) DISHWASHER
12 10.01	ARTWORK PRINTED ON METAL W/ STANDOFFS, TYP.
12 30.03	QUARTZ-SURFACE COUNTERTOP AT +38" A.F.F.
12 30.04	PLASTIC LAMINATE COUNTERTOP
12 30.05	QUARTZ-SURFACE
12 30.06	PLASTIC LAMINATE FINISH
22 40.05	ACCESSIBLE SINK, WALL MOUNTED. S.P.D. AND SEE ACCESSIBILITY STANDARDS FOR MOUNTING REQUIREMENTS
22 40.06	SHOWER HEAD, S.P.D. AND SEE ACCESSIBILITY STANDARDS FOR MOUNTING REQUIREMENTS

KITCHEN 253

Provide fixed storage: 15,156 SQ.IN.
Storage required within reach range: 15,156 SQ.IN. X 50% = 7,578 SQ.IN.
Storage provided within reach range: 8229 SQ.IN.

STORAGE PROVIDED WITHIN RACH RANGE EXCEEDS AMOUNT REQUIRED.
THIS DESIGN COMPLIES

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY:	
KATHY GARCIA DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	INC 01_ADD_01_V1	12/06/2019

PERMIT SUBMITTAL V3- INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
9/30/20
9/30/22
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 1 INTERIOR ELEVATIONS

Drawn By: TG
Checked By: EW

Scale:
1/4" = 1'-0"

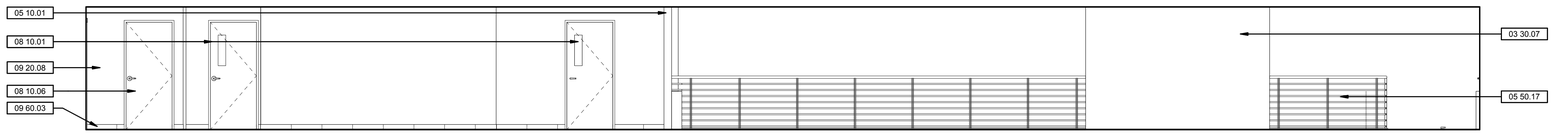
Date:
October 4, 2019

Project No. 2016039

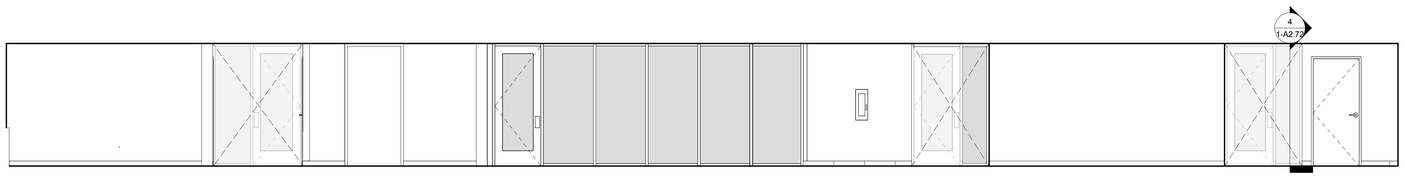
1-A5.16

Drawing No.

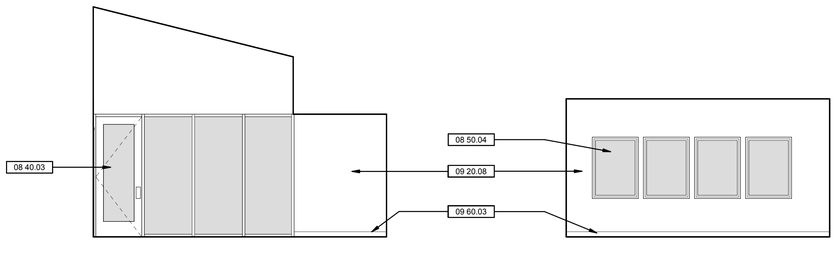
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1 IE- 201 & 201.A CIRCULATION- S
1/4" = 1'-0"

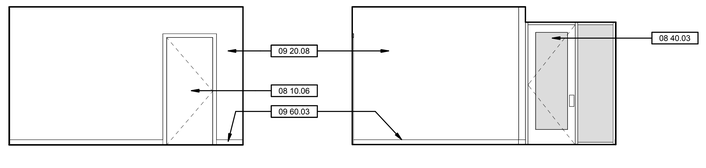


2 201 & 201.A CIRCULATION- N
1/4" = 1'-0"



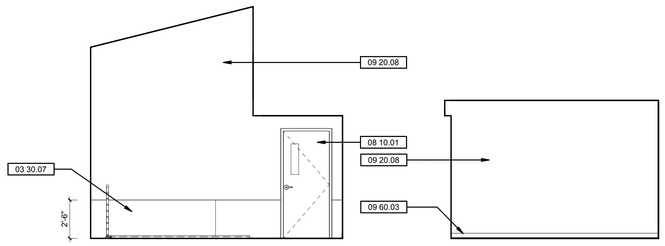
3 IE- 210 FIRE DEPT OFFICE SUITE- E
1/4" = 1'-0"

4 IE- 203 BREAKOUT- 01- N
1/4" = 1'-0"



5 IE- 203- BREAKOUT- 02- E
1/4" = 1'-0"

6 IE- 203- BREAKOUT- 03- S
1/4" = 1'-0"



8 IE- 201 CIRCULATION- W
1/4" = 1'-0"

7 IE- 203- BREAKOUT- 04- W
1/4" = 1'-0"

GENERAL SHEET NOTES

1. SEE SHEET 1-A0.11 FOR ACCESSIBLE MOUNTING HEIGHTS AND CLEARANCES.

CABINET TYPE LEGEND

SHEET KEYNOTE LEGEND

03 30.07	CAST-IN-PLACE CONCRETE WALL, S.S.D.
05 10.01	PAINTED STEEL COLUMN, S.S.D.
05 50.17	1" OD SCH 40 STL, PIPE RAILING, HIGH PERFORMANCE PAINT COATING
08 10.01	PAINTED HOLLOW METAL DOOR & FRAME
08 10.06	STAINED SOLID CORE WOOD DOOR
08 40.03	ALUMINUM FRAME STOREFRONT SECTION WITH CLEAR GLAZING
08 50.04	ALUMINUM FRAME WINDOW WITH CLEAR GLAZING, TYPICAL. SEE WINDOW SCHEDULE
09 20.08	GYP. BD, PTD.
09 60.03	WALL BASE, TYP, SEE FINISH SCHEDULE

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3- INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
9/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 1 INTERIOR ELEVATIONS

Drawn By: TG
Checked By: EW

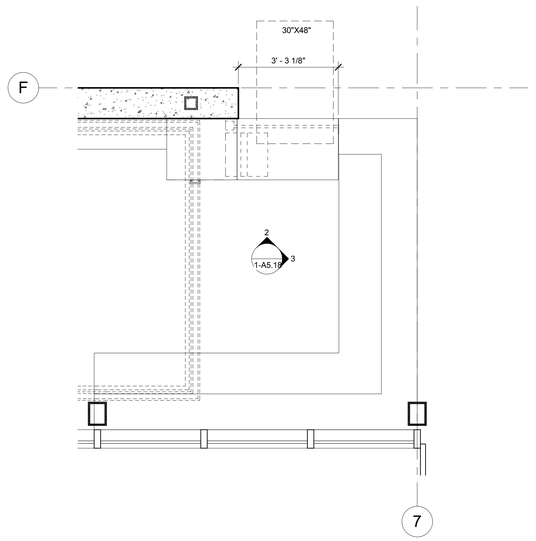
Scale:
1/4" = 1'-0"

Date:
October 4, 2019

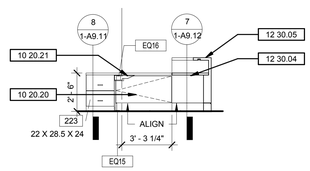
Project No. 2016039

1-A5.17
Drawing No.

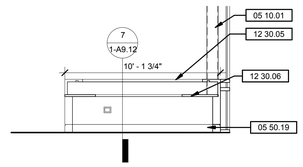
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1 ENLARGED LOBBY RECEPTION DESK
1/2" = 1'-0"



2 LOBBY RECEPTION DESK - NORTH
1/4" = 1'-0"



3 LOBBY RECEPTION DESK ELEVATION - EAST
1/4" = 1'-0"

GENERAL SHEET NOTES

1. SEE SHEET 1-A0.11 FOR ACCESSIBLE MOUNTING HEIGHTS AND CLEARANCES.

CABINET TYPE LEGEND

222 — WOODWORK INSTITUTE (WI) CABINET DESIGN SERIES NUMBER ("L" INDICATED LOCK)

W x H x D — WIDTH x HEIGHT x DEPTH (INCHES)

FOR STANDARD CABINET INSTALLATION AND HARDWARE DETAILS, SEE SHEET A9.03

SHEET KEYNOTE LEGEND

05 10.01	PAINTED STEEL COLUMN, S.S.D.
05 50.19	POWDER COATED METAL BASE
10 20.20	SWING GATE AND HARDWARE. SWING GATE TO BE PLASTIC LAMINATE FINISH.
10 20.21	FLIP COUNTERTOP AND HEAVY DUTY LIFT.
12 30.04	PLASTIC LAMINATE COUNTERTOP
12 30.05	QUARTZ-SURFACE
12 30.06	PLASTIC LAMINATE FINISH

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3-INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
9/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 1
ENLARGED RECEPTION DESK & INTERIOR ELEVATIONS

Drawn By: TG Checked By: EW

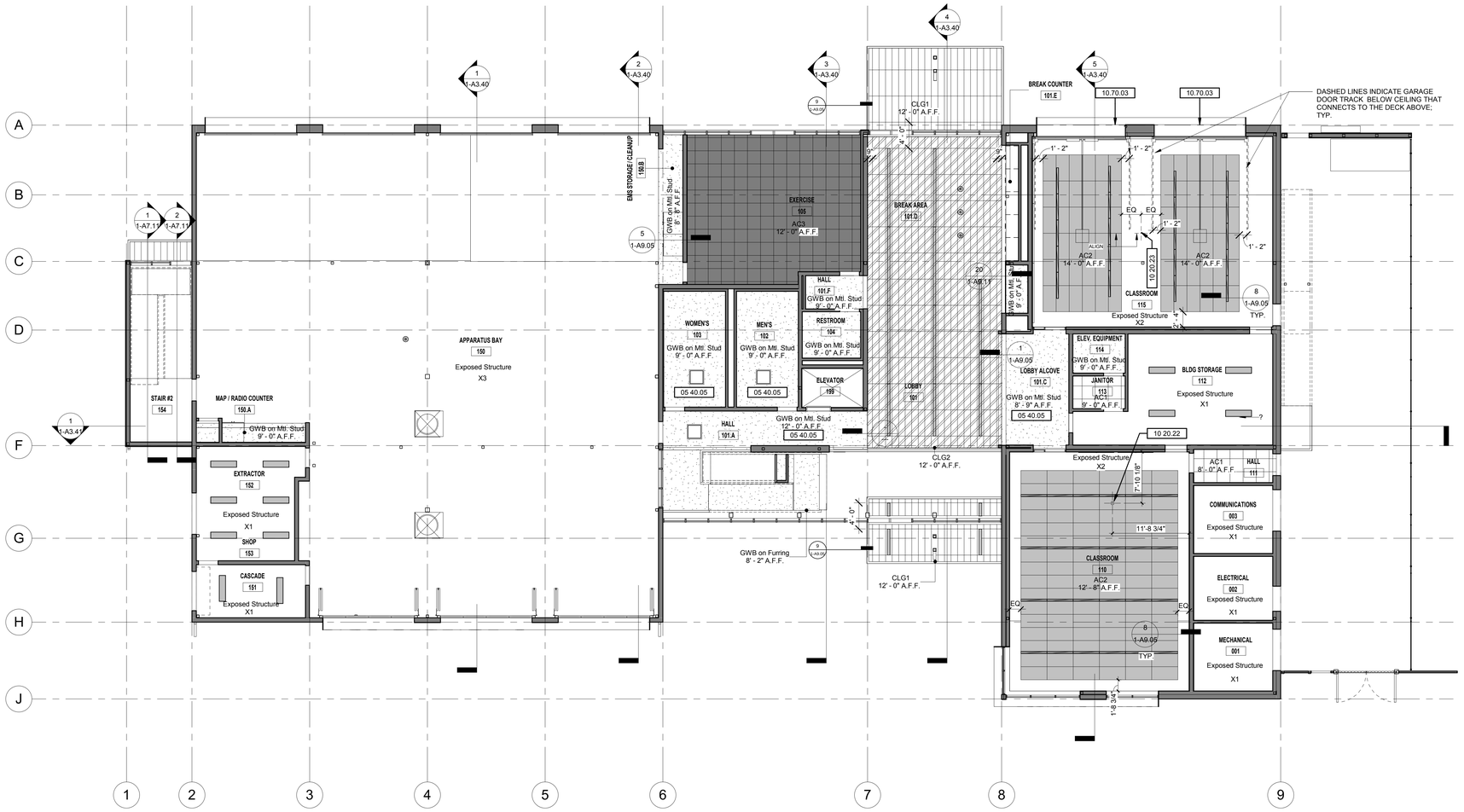
Scale:
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Date:
October 4, 2019

Project No. 2016039

1-A5.18
Drawing No.

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1 FIRST LEVEL REFLECTED CEILING PLAN
1/8" = 1'-0"

0' 2' 4' 8' 16'

GENERAL SHEET NOTES

1. DEVICES ARE SHOWN FOR LOCATION CRITERIA ONLY, SEE ASSOCIATED CONSULTANT DRAWINGS FOR COUNT AND ADDITIONAL INFORMATION.
2. DEVICES TO BE CENTERED IN 2'X2' GRID CEILINGS, U.O.N. OR IF DRAWING SHOWS ALIGNMENT WITH EDGE OF TILE.
3. DEVICES/LIGHT FIXTURES SHOULD BE ALIGNED WITH EDGE OF TILE WHERE SHOWN.
4. EXIT SIGNS TO BE CENTERED ON DOOR, U.O.N.
5. PROVIDE LAYOUT OF DEVICES AND CEILING GRIDS FOR ARCHITECTURAL APPROVAL PRIOR TO INSTALLATION.
6. REPORT ANY DISCREPANCIES BETWEEN CONSULTANT DRAWINGS AND ARCHITECTURAL DRAWINGS TO ARCHITECT UPON DISCOVERY.
7. SPRINKLER HEADS (IF INDICATED) SHOWN FOR LOCATION CRITERIA ONLY, FINAL SHOP DRAWINGS REQUIRED.
8. DETAIL REFERENCES LISTED ARE PROVIDED FOR CONVENIENCE. ADDITIONAL DETAILS MAY NEED TO BE REFERENCED, TYPICAL.
9. OFFSET CEILING TILES REQUIRE BRACING AT EACH JOINT.
10. PROVIDE REQUIRED SEISMIC BRACING
11. SEE MECHANICAL DRAWINGS FOR COMPLETE SCOPE OF MECHANICAL WORK.
12. SEE STANDARD SUSPENDED CEILING INSTALLATION DETAILS ON SHEETS 1-A9.03 AND 1-A9.04

LEGEND

- LINEAR METAL CEILING PANEL; TYPE 1 - CLG 1
- LINEAR METAL PANEL CEILING; TYPE 2: WITH PERFORATION & ACOUSTIC BACKING - CLG2
- METAL SOFFIT PANEL; TYPE 1 - CLG 3
- METAL SOFFIT PANEL; TYPE2: W/ PERFORATION & ACOUSTIC BACKING - CLG 3
- GYPSUM BOARD - G1
- 2 x 2 ACOUSTIC LAY IN TILE - AC1
- 2 x 4 ACOUSTIC LAY IN TILE - AC2
- 2 x 2 ACOUSTIC LAY IN TILE - AC3
- EXPOSED STRUCTURE
  X1 - NOT PAINTED
  X2 - PAINT EXPOSED STRUCTRURE AND MECHANICAL SYSTEMS; COLOR1
  X3- ACOUSTICAL SPRAY, COLOR 1, PAINTED STRUCTIRE AND MECHANICAL SYSTEMS; COLOR 1.
- P — PENDANT LINEAR LIGHT
- RECESSED LINEAR LIGHT
- 30" x 30" ACCESS PANEL, CONFIGURE CEILING FRAMING / SUSPENSION AS REQ'D TO ACCOMODATE. SHOWN FOR LOCATION CRITERIA; REQ'D AT ALL EQUIPMENT & SYSTEMS REQUIRING MAINTENANCE ACCESS.

SHEET KEYNOTE LEGEND

05 40.05	PROVIDE METAL CEILING JOISTS AS NECESSARY TO SUPPORT GYPSUM BOARD CEILING IN COMPLIANCE WITH DETAIL 1/1-S1.30, TYPICAL
10 20.22	EXPOSED HOOK ANCHORED TO FLOOR STRUCTURE ABOVE (S.S.D.) AND EXTENDING BELOW CEILING PLANE. PROVIDE TRIM AT CUT EDGES OF CEILING TILE
10 20.23	EXPOSED HOOK ANCHORED TO FLOOR STRUCTURE ABOVE (S.S.D.) AND EXTENDING BELOW CEILING ELEVATION
10.70.03	RETRACTABLE AWNING MOUNTED TO WALL DIRECTLY ABOVE SECTIONAL DOOR PER DETAIL 12/1-A8.19

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3-INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
8/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 1
FIRST FLOOR REFLECTED CEILING PLAN

Drawn By: EW Checked By: EW

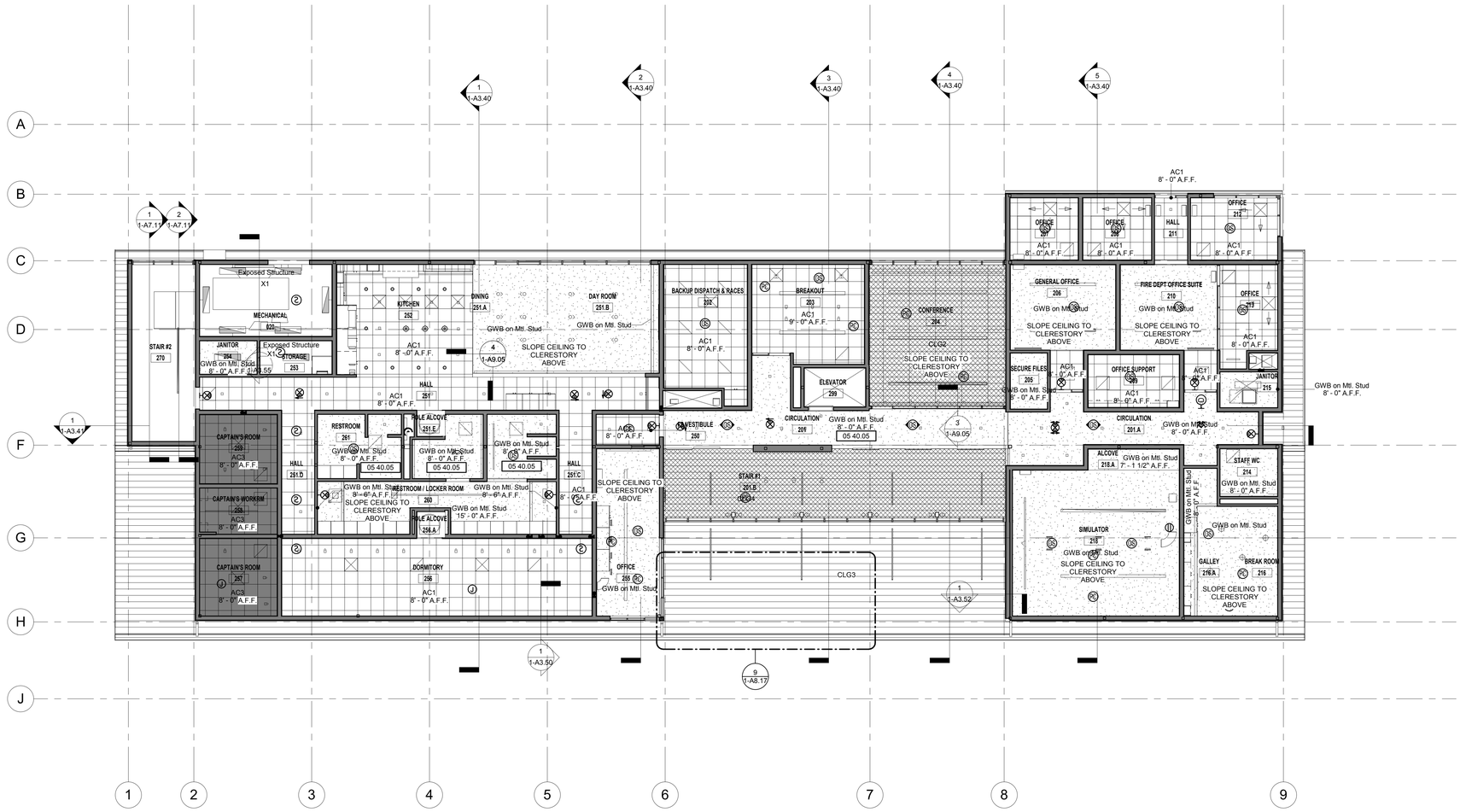
Scale: **As indicated**

Date: **October 4, 2019**

Project No. 2016039

1-A6.10
Drawing No.

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1 SECOND LEVEL REFLECTED CEILING PLAN
1/8" = 1'-0"

0' 2' 4' 8' 16'

GENERAL SHEET NOTES

1. DEVICES ARE SHOWN FOR LOCATION CRITERIA ONLY, SEE ASSOCIATED CONSULTANT DRAWINGS FOR COUNT AND ADDITIONAL INFORMATION.
2. DEVICES TO BE CENTERED IN 2'X2' GRID CEILINGS, U.O.N. OR IF DRAWING SHOWS ALIGNMENT WITH EDGE OF TILE.
3. DEVICES/LIGHT FIXTURES SHOULD BE ALIGNED WITH EDGE OF TILE WHERE SHOWN.
4. EXIT SIGNS TO BE CENTERED ON DOOR, U.O.N.
5. PROVIDE LAYOUT OF DEVICES AND CEILING GRIDS FOR ARCHITECTURAL APPROVAL PRIOR TO INSTALLATION.
6. REPORT ANY DISCREPANCIES BETWEEN CONSULTANT DRAWINGS AND ARCHITECTURAL DRAWINGS TO ARCHITECT UPON DISCOVERY.
7. SPRINKLER HEADS SHOWN FOR LOCATION CRITERIA ONLY, FINAL SHOP DRAWINGS REQUIRED.
8. DETAIL REFERENCES LISTED ARE PROVIDED FOR CONVENIENCE. ADDITIONAL DETAILS MAY NEED TO BE REFERENCED, TYPICAL.
9. OFFSET CEILING TILES REQUIRE BRACING AT EACH JOINT.
10. PROVIDE REQUIRED SEISMIC BRACING
11. SEE MECHANICAL DRAWINGS FOR COMPLETE SCOPE OF MECHANICAL WORK.
12. REFER TO DETAILS 9, 10 & 11 ON SHEET 1-A8.05 FOR BIRD DETERRENT ASSEMBLIES.
13. SEE STANDARD SUSPENDED CEILING INSTALLATION DETAILS ON SHEETS 1-A9.03 AND 1-A9.04

LEGEND

- LINEAR METAL CEILING PANEL; TYPE 1 - CLG 1
- LINEAR METAL PANEL CEILING; TYPE 2: WITH PERFORATION & ACOUSTIC BACKING - CLG2
- METAL SOFFIT PANEL; TYPE 1 - CLG 3
- METAL SOFFIT PANEL; TYPE2: W/ PERFORATION & ACOUSTIC BACKING - CLG 3
- GYPSUM BOARD - G1
- 2 x 2 ACOUSTIC LAY IN TILE - AC1
- 2 x 4 ACOUSTIC LAY IN TILE - AC2
- 2 x 2 ACOUSTIC LAY IN TILE - AC3
- EXPOSED STRUCTURE
  X1 - NOT PAINTED
  X2 - PAINT EXPOSED STRUCTRURE AND MECHANICAL SYSTEMS; COLOR1
  X3- ACOUSTICAL SPRAY, COLOR 1, PAINTED STRUCTIRE AND MECHANICAL SYSTEMS; COLOR 1.
- P — PENDANT LINEAR LIGHT
- RECESSED LINEAR LIGHT
- 30" x 30" ACCESS PANEL, CONFIGURE CEILING FRAMING / SUSPENSION AS REQ'D TO ACCOMODATE. SHOWN FOR LOCATION CRITERIA; REQ'D AT ALL EQUIPMENT & SYSTEMS REQUIRING MAINTENANCE ACCESS.

SHEET KEYNOTE LEGEND

05 40.05	PROVIDE METAL CEILING JOISTS AS NECESSARY TO SUPPORT GYPSUM BOARD CEILING IN COMPLIANCE WITH DETAIL 1/1-S1.30, TYPICAL

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
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CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION	
DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3-INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
9/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 1
SECOND FLOOR REFLECTED CEILING PLAN

Drawn By: EW Checked By: EW

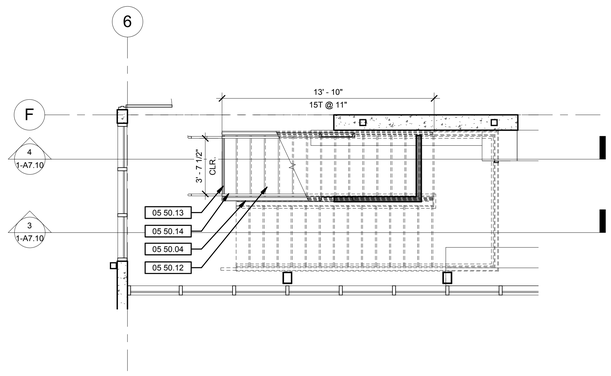
Scale: **As indicated**

Date: **October 4, 2019**

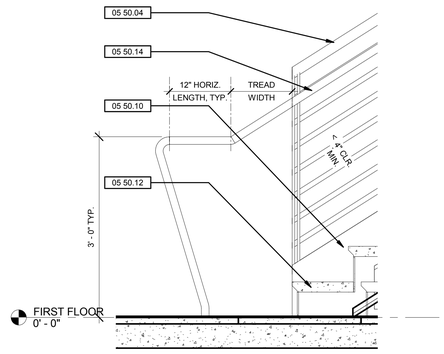
Project No. 2016039

1-A6.20
Drawing No.

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5 FP- 01B- FIRST FLOOR PLAN - EAST 1/2"
SCALE - ENLARGED STAIR #1
1/4" = 1'-0"



7 STAIR 1 BOTTOM LANDING
1" = 1'-0"

NOTE:
DETAIL DELINEATES MINIMUM CODE STANDARDS. REFER TO PLAN VIEWS OF SPECIFIC AREAS FOR EXACT REQUIREMENTS.

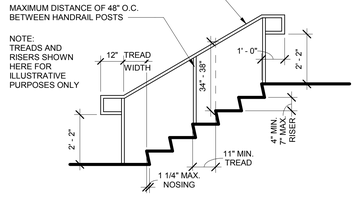
EXTERIOR STAIRS:
PROVIDE 2" STRIPE OF CONTRASTING COLOR LOCATED 1" BEHIND FACE OF RISER @ ALL TREADS.

INTERIOR STAIRS:
PROVIDE 2" STRIPE OF CONTRASTING COLOR LOCATED 1" BEHIND FACE OF RISER @ TOP & BOTTOM TREAD.

1-1/2" DIAMETER METAL HANDRAIL (GALV. @ EXTERIOR) W/ SMOOTH EDGES

MAXIMUM DISTANCE OF 48" O.C. BETWEEN HANDRAIL POSTS

NOTE:
TREADS AND RISERS SHOWN HERE FOR ILLUSTRATIVE PURPOSES ONLY

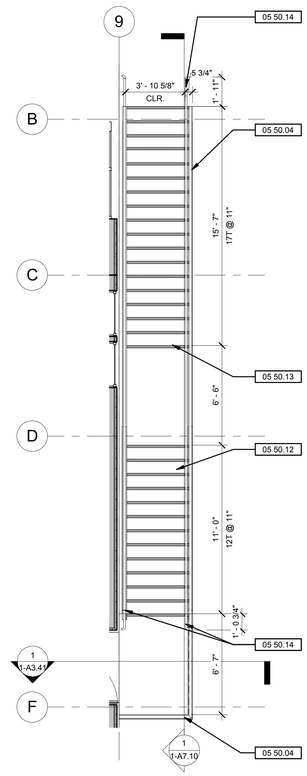


9 TYP. STAIR - HANDRAIL ELEVATION
3/8" = 1'-0"

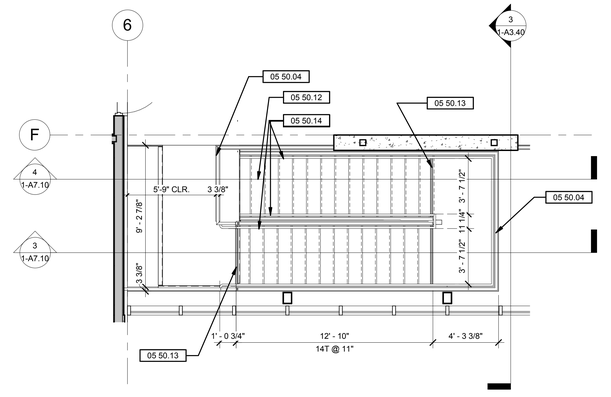
DETAILS KEYNOTE LEGEND

05 50.04	3'-6" HIGH PIPE GUARD, TYPICAL
05 50.10	FABRICATED METAL STAIR WITH HANDRAIL EACH SIDE, S.S.D.
05 50.12	CONCRETE FILLED STEEL PAN STAIR
05 50.13	CONTRASTING STRIPE FOR VISUALLY IMPAIRED
05 50.14	1-1/2" OD SS HANDRAIL
09 20.08	GYP. BD, PTD.

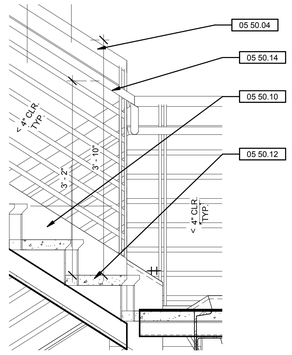
GENERAL NOTE:
REFER TO STAIR INFORMATION AND DETAILS ON 1/S7.10 AND 1/S7.20



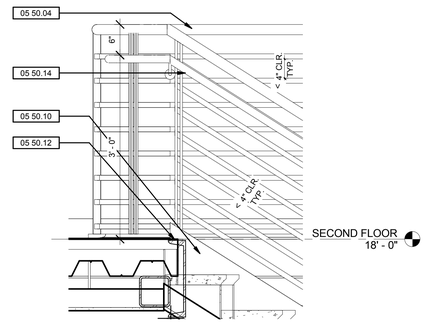
2 ENLARGED STAIR #3 PLAN
1/4" = 1'-0"



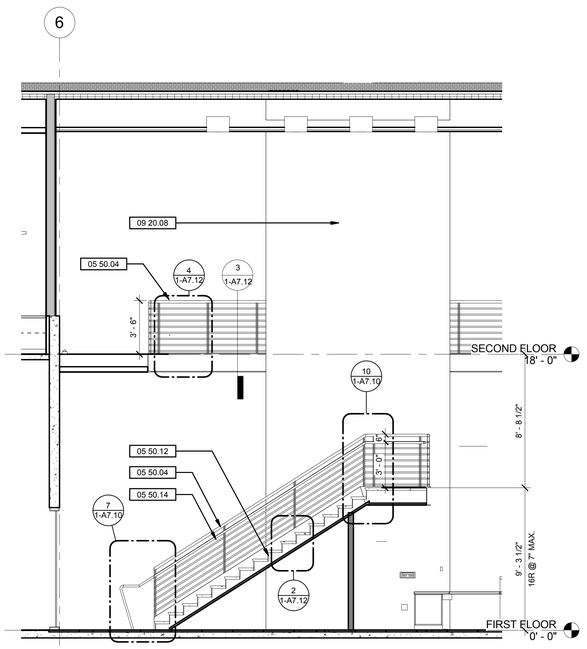
6 ENLARGED STAIR#1 PLAN
1/4" = 1'-0"



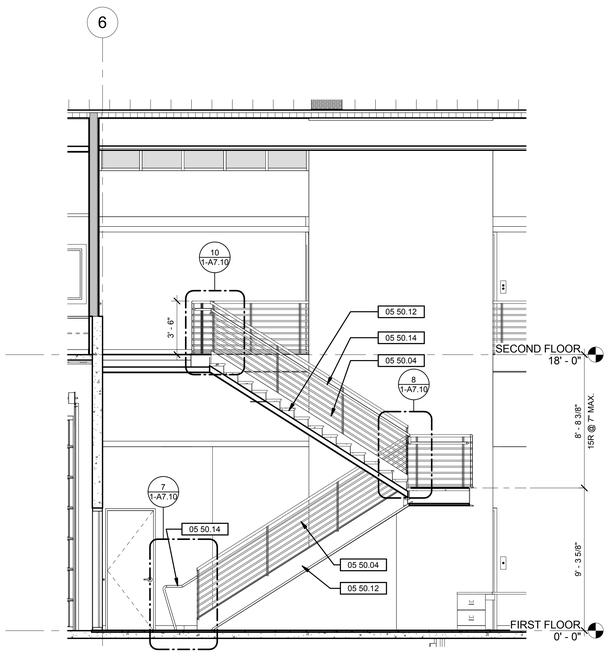
8 STAIR 1 MIDDLE LANDING
1" = 1'-0"



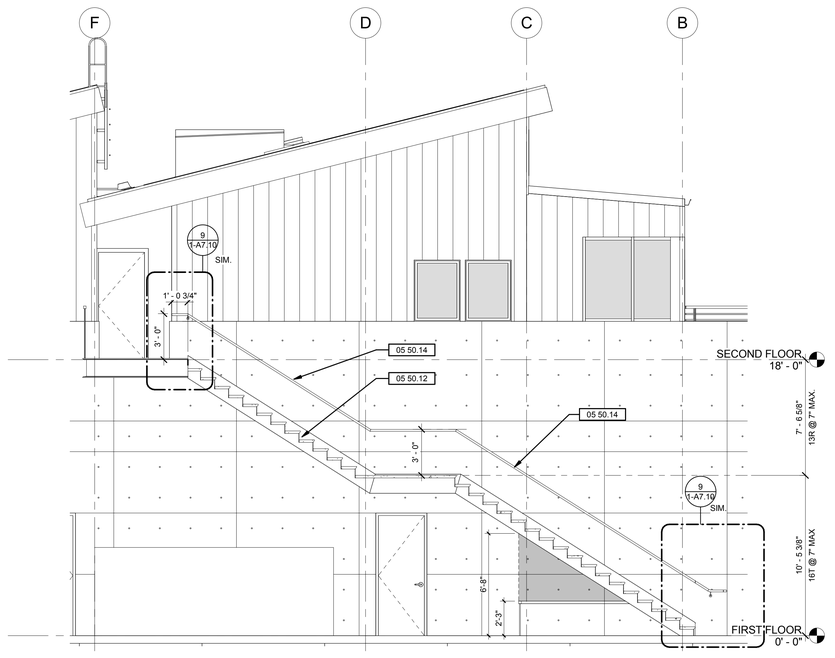
10 WS - STAIR 1 TOP LANDING
1" = 1'-0"



4 WS - STAIR 1 LONGITUDINAL SECTION B
1/4" = 1'-0"



3 WS - STAIR 1 LONGITUDINAL SECTION A
1/4" = 1'-0"



1 WS - STAIR 3 LONGITUDINAL
1/4" = 1'-0"

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

Ross Drulis Cusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY:	
KATHY GARCIA DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3- INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
9/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 1 STAIR SECTIONS AND DETAILS

Drawn By: TV Checked By: EW

Scale:
As indicated

Date:
October 4, 2019

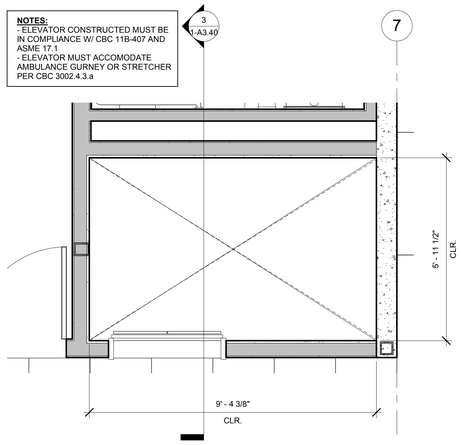
Project No. 2016039

1-A7.10
Drawing No.

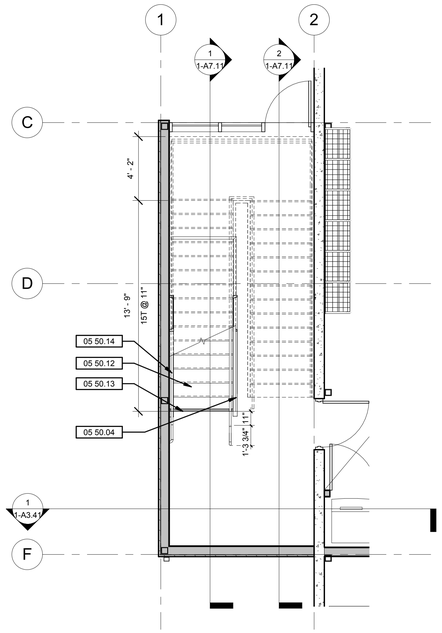
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DETAILS KEYNOTE LEGEND	
03 30.07	CAST-IN-PLACE CONCRETE WALL, S.S.D.
05 10.02	PAINTED STEEL BEAM, S.S.D.
05 40.06	METAL SHAFT WALL ASSEMBLY
05 50.04	3'-6" HIGH PIPE GUARD, TYPICAL
05 50.12	CONCRETE FILLED STEEL PAN STAIR
05 50.13	CONTRASTING STRIPE FOR VISUALLY IMPAIRED
05 50.14	1-1/2" OD SS HANDRAIL
09 20.10	GYP. BD. LEVEL 5 FINISH
14 20.02	ELEVATOR PIT LADDER IN COMPLIANCE WITH ASTM 17.1. SEE DETAIL 7/1-A7.12
14 20.03	ELECTRIC TRACTION ELEVATOR ASSEMBLY

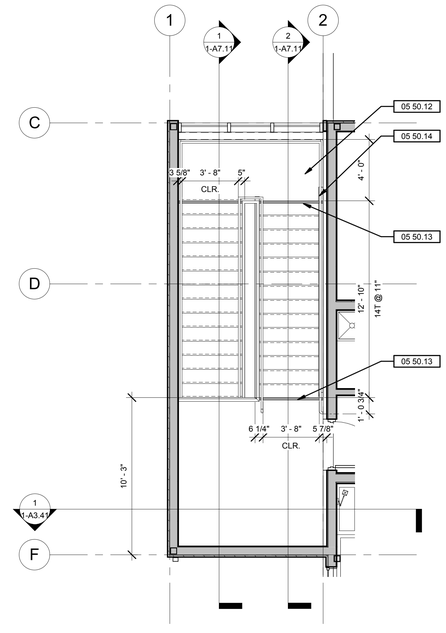
GENERAL NOTE:
REFER TO STAIR INFORMATION AND DETAILS ON 1/S7.10 AND 1/S7.20



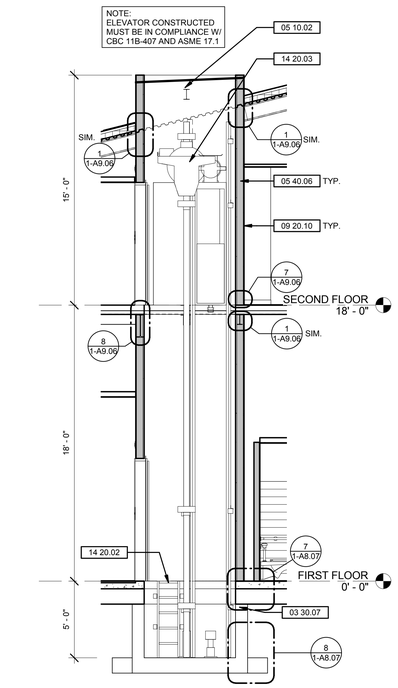
5 FP- 01B- FIRST FLOOR PLAN -ENLARGED ELEVATOR PLAN
1/2" = 1'-0"



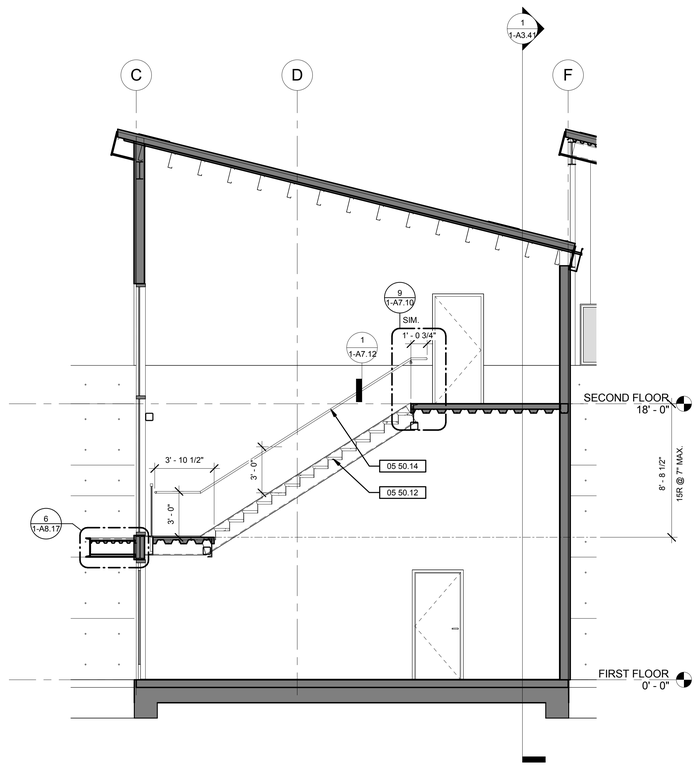
4 FP- 01A- FIRST FLOOR PLAN - ENLARGED STAIR #2
1/4" = 1'-0"



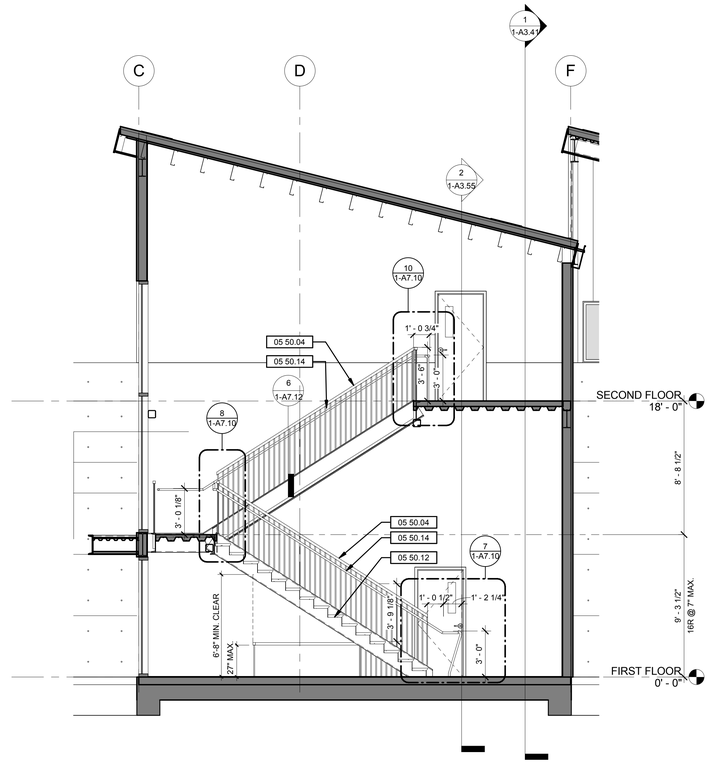
3 FP- 02A- SECOND FLOOR PLAN - ENLARGED STAIR #2
1/4" = 1'-0"



6 WS - ELEVATOR SECTION
1/4" = 1'-0"



2 WS - STAIR #2 LONGITUDINAL SECTION1
1/4" = 1'-0"



1 WS - STAIR #2 LONGITUDINAL SECTION
1/4" = 1'-0"

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION	
DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3- INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
RENEWAL DATE 8/31/21
STATE OF CALIFORNIA

Sheet Title

BUILDING 1 STAIR AND ELEVATOR SECTIONS AND DETAILS

Drawn By: TV
Checked By: EW

Scale:
As indicated

Date:
October 4, 2019

Project No. 2016039

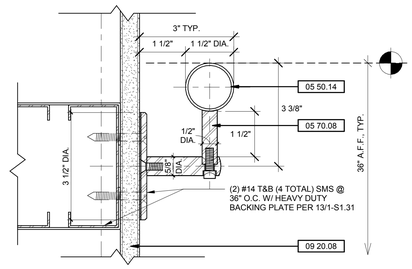
1-A7.11
Drawing No.

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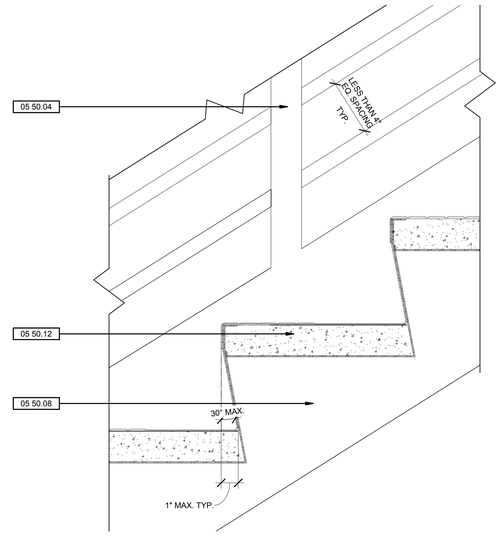
DETAILS KEYNOTE LEGEND

03 30.10	CONCRETE FLOOR SLAB, S.S.D.
05 10.02	PAINTED STEEL BEAM, S.S.D.
05 10.05	PAINTED STEEL CHANNEL FASCIA. MITER ALL EXPOSED CORNERS. COMPLY WITH AESS SPECIFICATION SECTION 05 1250 FOR FASCIA FABRICATION AND FINISH WITH HIGH-PERFORMANCE PAINT COATING
05 30.01	METAL DECK, S.S.D.
05 50.04	3'-6" HIGH PIPE GUARD, TYPICAL
05 50.08	PAINTED STEEL STAIR WITH LANDINGS, GUARDS, & HANDRAILS
05 50.12	CONCRETE FILLED STEEL PAN STAIR
05 50.14	1-1/2" OD SS HANDRAIL
05 50.15	1-1/2" OD TOP RAIL
05 50.16	2 X 2 X 3/16" STL. POST, POWDER COATED
05 50.17	1" OD SCH 40 STL. PIPE RAILING, HIGH PERFORMANCE PAINT COATING
05 70.08	STAINLESS STEEL WALL BRACKET
09 20.08	GYP. BD, PTD.

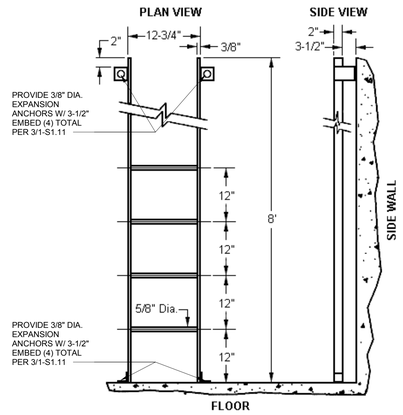
GENERAL NOTE:
REFER TO STAIR INFORMATION AND DETAILS ON 1/S7.10 AND 1/S7.20



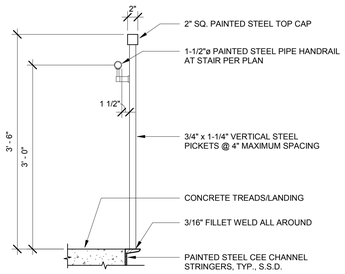
1 TYPICAL HANDRAIL/WALL BRACKET
6" = 1'-0"



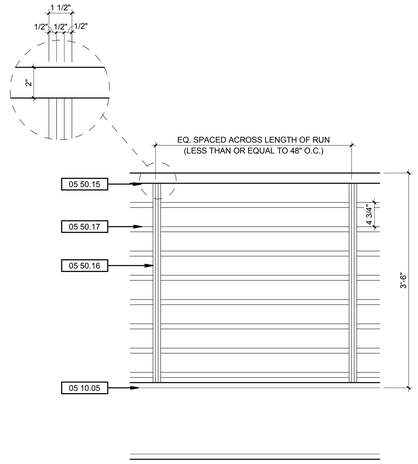
2 TYPICAL RISER SECTION
3" = 1'-0"



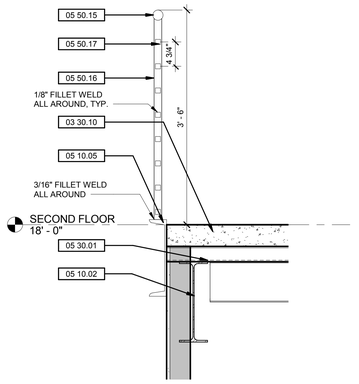
7 ELEVATOR PIT LADDER
12" = 1'-0"



6 GUARD & HANDRAIL @ STAIR
1" = 1'-0"



4 GUARDRAIL ELEVATION AT SECOND FLOOR LOBBY
1" = 1'-0"



3 GUARDRAIL AT SECOND FLOOR LOBBY
1" = 1'-0"

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC: 01
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DATE: 11/12/2019

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HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION	
DESIGNED BY:	CHECKED BY:
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APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3-INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
12/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 1 STAIR DETAILS

Drawn By: AA
Checked By: EW

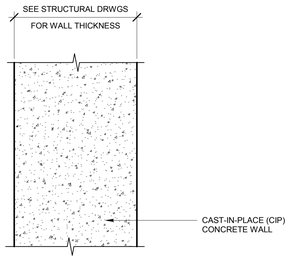
Scale:
As indicated

Date:
October 4, 2019

Project No. 2016039

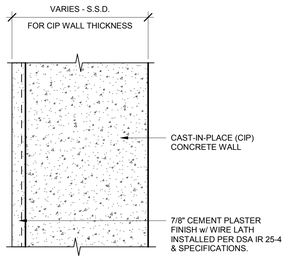
1-A7.12
Drawing No.

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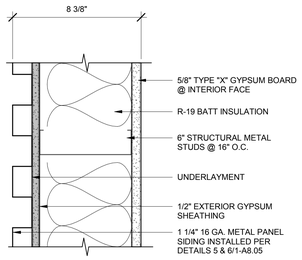


WALL TYPE 1

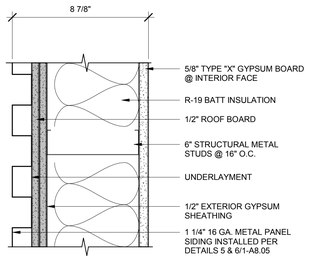
1-HOUR FIRE RATED



WALL TYPE 2

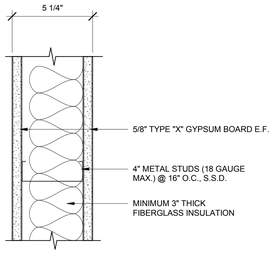


WALL TYPE 3

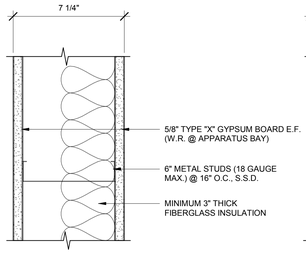


WALL TYPE 4

WALL TYPES - EXTERIOR

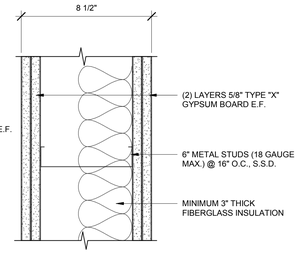


WALL TYPE 10

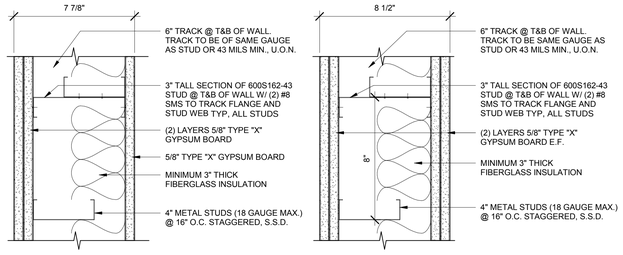


WALL TYPE 11 & 11A

WALL TYPE 11A INSTALLED
ON TOP OF 6" HIGH
CONCRETE CURB



WALL TYPE 12

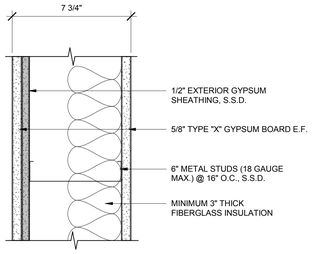


WALL TYPE 13

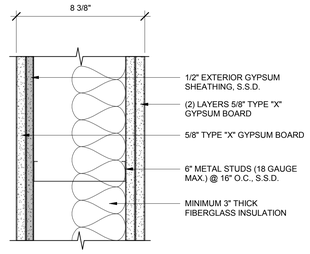
1-HOUR FIRE RATED (1/2-HOUR WHERE LISTED)
SIM. TO UL HW-D-0024

WALL TYPE 14

WALL TYPES - INTERIOR

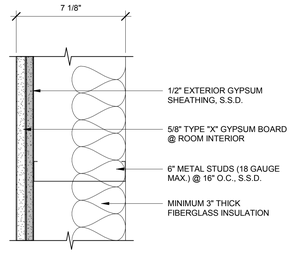


WALL TYPE 15

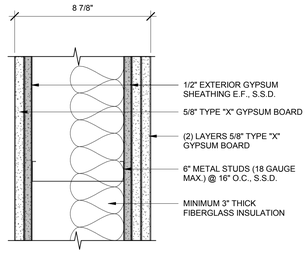


WALL TYPE 16

1/2-HOUR FIRE RATED
SIM. TO UL HW-D-0024

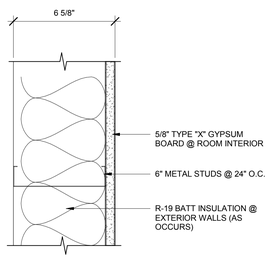


WALL TYPE 17

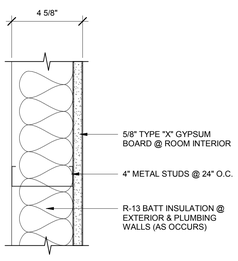


WALL TYPE 18

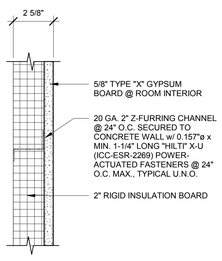
WALL TYPES - INTERIOR



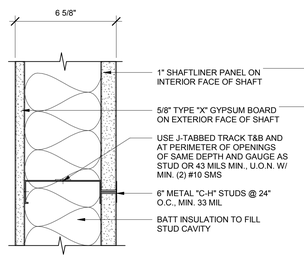
WALL TYPE 20



WALL TYPE 21

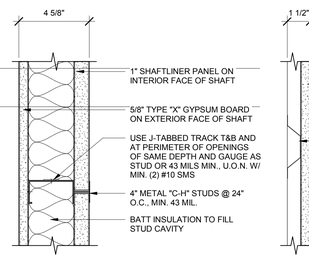


WALL TYPE 22



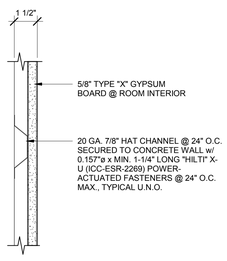
WALL TYPE 23

1-HOUR FIRE RATED
UL HW-D-0613 @ HEAD
UL BW-S-0016 @ SILL
UL HW-D-610 @ ELEVATOR HEAD



WALL TYPE 24

1-HOUR FIRE RATED
UL HW-D-0613 @ HEAD
UL BW-S-0016 @ SILL



WALL TYPE 25

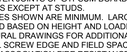
WALL TYPES - INTERIOR (SPECIALTY)

(1) WALL TYPES
3" = 1'-0"

GENERAL NOTES:
1. COORDINATE W/ 1/1-S1.30 FOR STUD TYPES, GAUGES AND STUD THICKNESSES
2. COORDINATE W/ 1-S1.30 AND 1-S1.31 FOR TYPICAL STUD WALL CONSTRUCTION

WALL TYPE DESIGNATIONS

1. WALL TYPES ARE INDICATED IN SQUARE BOXES LINKED TO THE WALL THEY DESCRIBE:



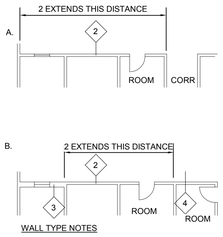
2. THE WALL TYPE EXTENDS THE ENTIRE LENGTH OF THE WALL WHERE IT IS SHOWN ACROSS DOORS, WINDOWS AND MINOR PROJECTIONS OR RECESSES (E.G. AT WATER FOUNTAINS). THE WALL TYPE ENDS AT THE INTERSECTION WITH ANOTHER SPACE, DEFINED BY AN INSIDE OR OUTSIDE CORNER, INCLUDING INTERVENING CORRIDORS, UNLESS OTHERWISE SPECIFICALLY NOTED ON THE DRAWINGS. SEE EXAMPLE A, B AND C BELOW.
3. THE INDICATED WALL TYPE INCLUDES ALL SIDES OF MINOR PROJECTIONS OR ALCOVES, SUCH AS AT RECESSED DOORS, AND WATER FOUNTAINS AND HEADS OVER DOORS AND WINDOWS. SEE EXAMPLE C BELOW.
4. IN SMALL SPACES, WALL TYPES MAY BE INDICATED BY A KEY IN ONE BOX, WITH HEAVY PERPENDICULAR LINES INDICATING THE WALLS WHICH HAVE THE SAME WALL TYPE. SEE EXAMPLE D.
5. ALL WALL COMPONENTS, INCLUDING DOOR AND WINDOW JAMBS SHALL BE COORDINATED WITH THE WALL TYPE SECTION. IF A CONFLICT WITH THE DOOR OR WINDOW SCHEDULE OCCURS, THE WALL SECTION SHALL DICTATE THE DIMENSIONAL REQUIREMENTS OF THE JAMBS.

WALL NOTES

1. ALL GYPSUM BOARD SHEETS TO RUN VERTICALLY.
2. TAPE OUTER JOINTS OF GYPSUM BOARD ONLY.
3. NO JOINTS EXCEPT AT STUDS.
4. STUD SIZES SHOWN ARE MINIMUM. LARGER SIZES MAY BE REQUIRED BASED ON HEIGHT AND LOADING. REFER TO STRUCTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
5. DRYWALL SCREW EDGE AND FIELD SPACING SHALL BE PER GYPSUM ASSOCIATION FIRE RESISTANCE DESIGN MANUAL FILE NUMBER INDICATED ON WALL TYPES AND GYPSUM BOARD MANUFACTURER'S RECOMMENDATIONS. ALL SCREWS SHALL PENETRATE STUDS.
6. FIBERGLASS BATT INSULATION SHALL BE FIBERGLASS NOISE BARRIER BATTS, OWENS-CORNING FIBERGLAS FRICTION FIT BUILDING INSULATION OR APPROVED EQUAL. FIBERGLASS THICKNESS TO EQUAL STUD DEPTH.

FIRE RATED AND ACOUSTIC WALL NOTES

1. CONSTRUCTION SHALL CONFORM TO THE REQUIREMENTS OF THE GYPSUM ASSOCIATION FIRE RESISTANCE DESIGN MANUAL, LATEST EDITION.
2. SEE WALL TYPE FOR REQUIRED NUMBER OF GYPSUM BOARD LAYERS AND FASTENER SPACING.
3. PROVIDE FIBER GLASS INSULATION, FRICTION FIT IN STUD SPACE WHERE REQUIRED PER WALL TYPE.
4. SEE FLOOR PLAN SHEETS FOR LOCATION AND RATING OF WALLS.



(2) WALL TYPE NOTES
3" = 1'-0"

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION	
DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3-INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
9/30/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 1 WALL TYPES

Drawn By: Author
Checked By: Checker

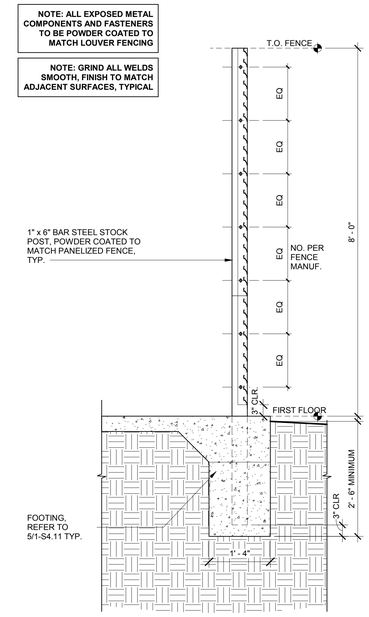
Scale: 3" = 1'-0"

Date: October 4, 2019

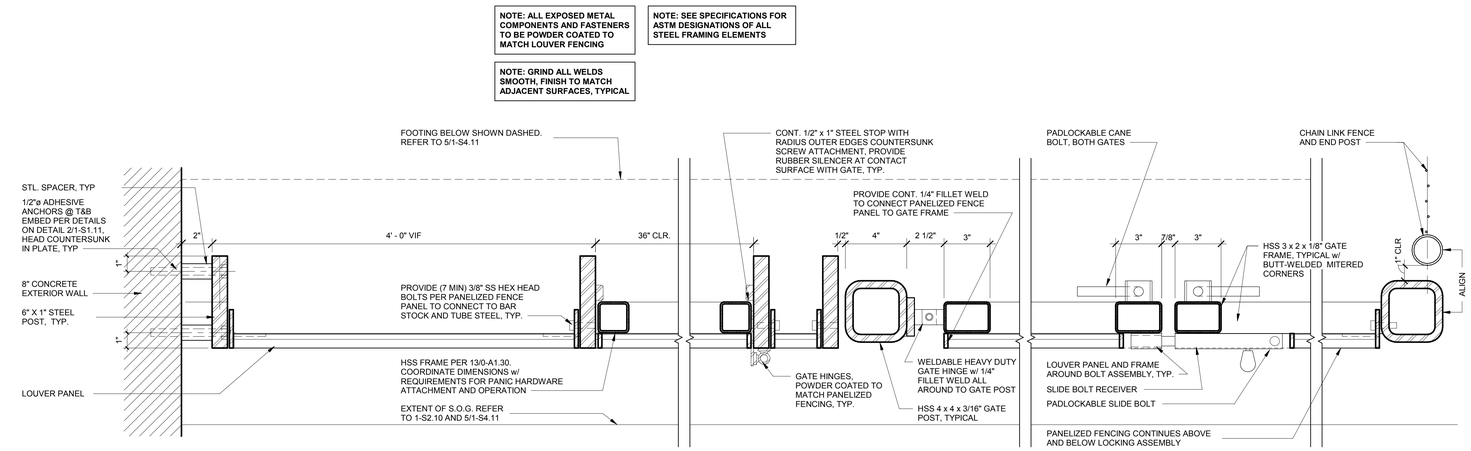
Project No. 2016039

1-A8.00
Drawing No.

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7 TYP. PANELIZED SITE FENCE - SECTION
3/4" = 1'-0"



8 GATE POST @ EDGE OF BUILDING
3" = 1'-0"

12 SITE FENCE - MIDDLE POST
3" = 1'-0"

19 TYP. CHAIN LINK FENCE ELEVATION
3/4" = 1'-0"

22 TYP. FENCE POST FOUNDATION DETAIL
3/4" = 1'-0"

23 SITE FENCE - GATE SECTION - BASE
3" = 1'-0"

24 SECTION THRU PLASTER WALL @ UTILITY YARD
1 1/2" = 1'-0"

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC: 01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542
ARCHITECTURE

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION	
DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

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MICHAEL B. ROSS
No. C-18867
12/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 1 EXTERIOR FENCE DETAILS

Drawn By: Author
Checked By: Checker

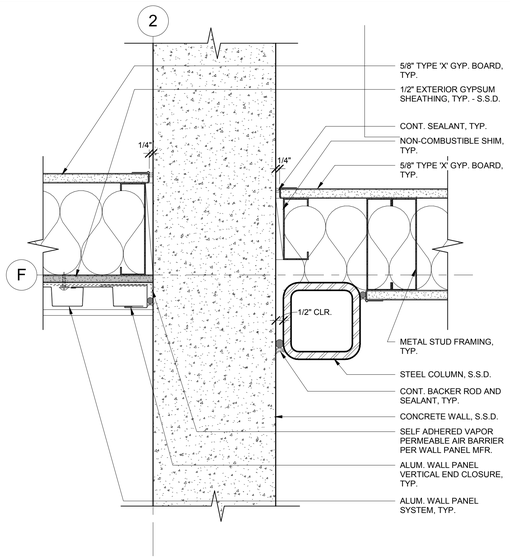
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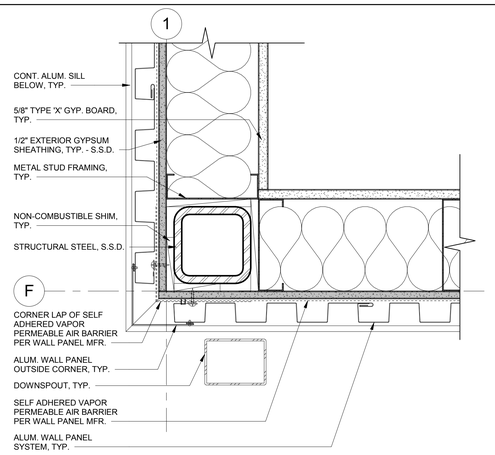
Project No. 2016039

1-A8.01
Drawing No.

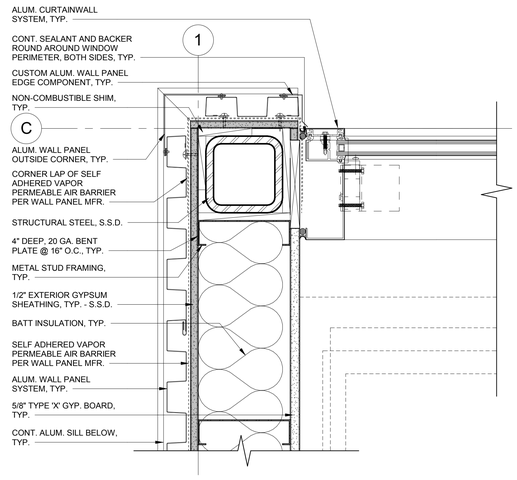
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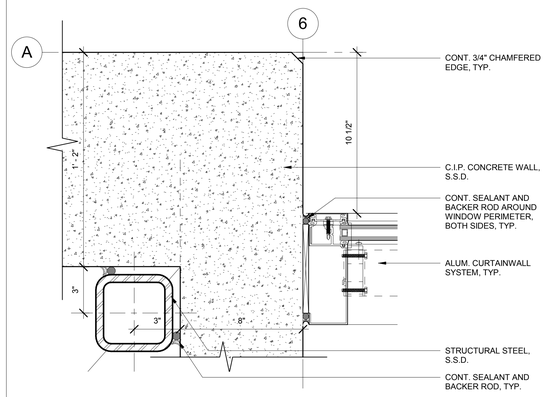
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3" = 1'-0"



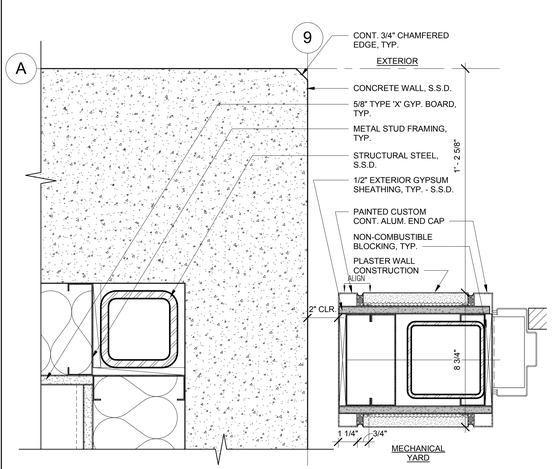
2 DETAIL- FIRST FLOOR WEST- GRIDS F-1
3" = 1'-0"



3 DETAIL- FIRST FLOOR WEST- GRIDS C-1
3" = 1'-0"



4 DETAIL- FIRST FLOOR WEST- GRIDS A-6
3" = 1'-0"



5 METAL WALL PANEL @ GRID 7
3" = 1'-0"

6 TYP. CURTAINWALL @ INTERIOR WALL END
3" = 1'-0"

7 TYP. CURTAINWALL WINDOW JAMB @ CONCRETE WALL
3" = 1'-0"

8 DETAIL- FIRST FLOOR EAST- GRIDS A-8
3" = 1'-0"

9 DETAIL- FIRST FLOOR EAST- GRIDS A-9
3" = 1'-0"

10 DETAIL- FIRST FLOOR EAST- GRID 9
3" = 1'-0"

11 DETAIL- FIRST FLOOR EAST- GRIDS J-9
3" = 1'-0"

12 TYP. METAL WALL PANEL TERMINATION @ CONCRETE WALL
3" = 1'-0"

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DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
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SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542
ARCHITECTURE

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3- INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
9/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 1 EXTERIOR DETAILS

Drawn By: Author
Checked By: Checker

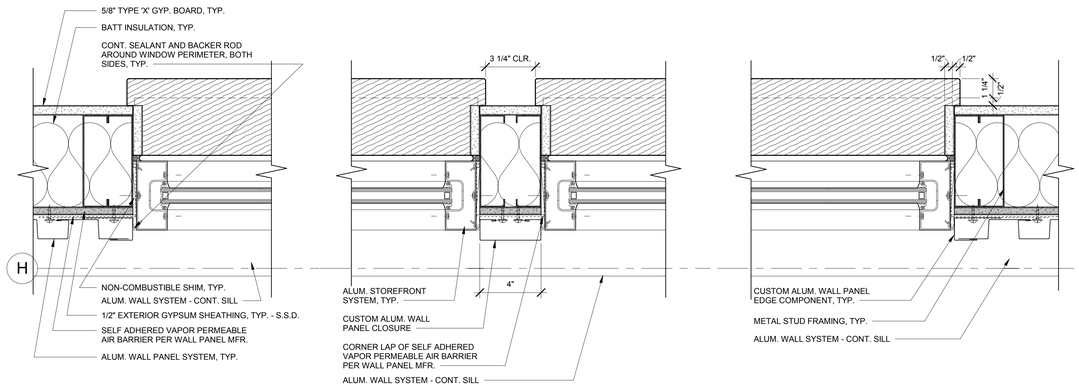
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Date: October 4, 2019

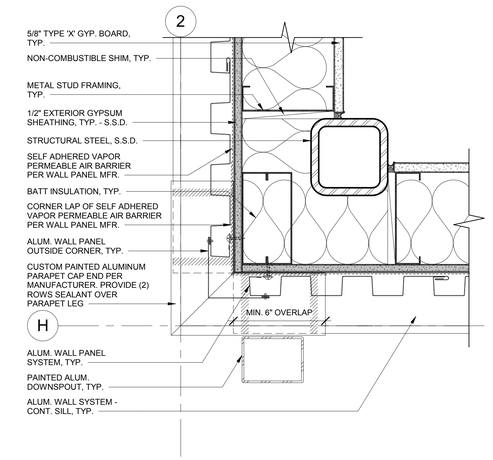
Project No. 2016039

1-A8.02
Drawing No.

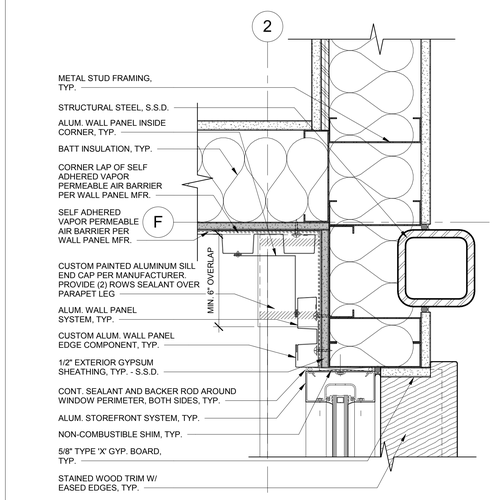
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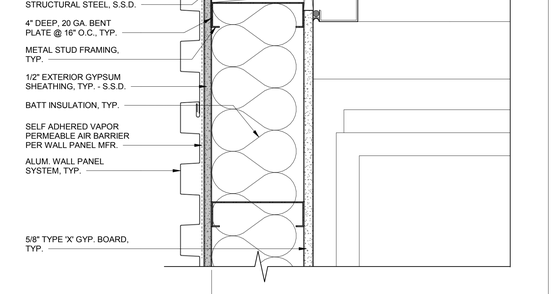
1 TYP. DETAIL @ DUAL STOREFRONT WINDOWS
3" = 1'-0"



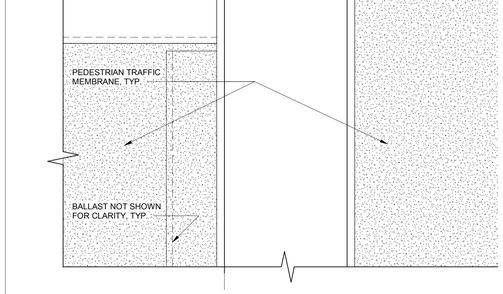
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3" = 1'-0"



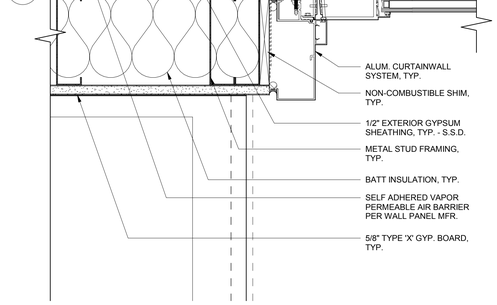
4 DETAIL- SECOND FLOOR WEST- F-2
3" = 1'-0"



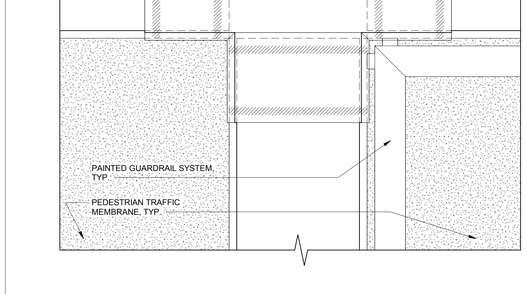
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3" = 1'-0"



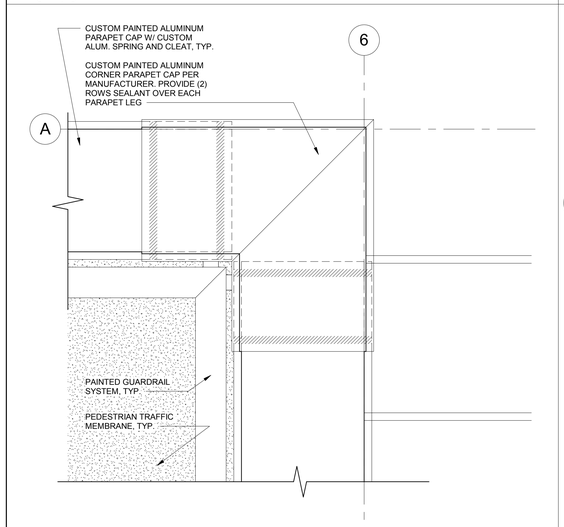
6 DETAIL- SECOND FLOOR WEST- GRID 2 NORTH
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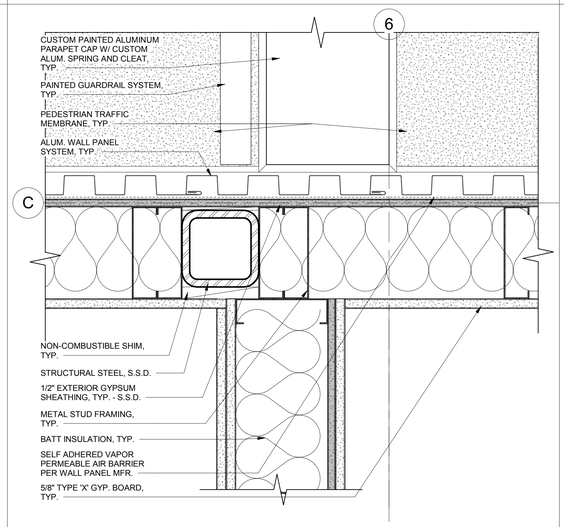
7 DETAIL- SECOND FLOOR WEST- GRID C NORTH
3" = 1'-0"



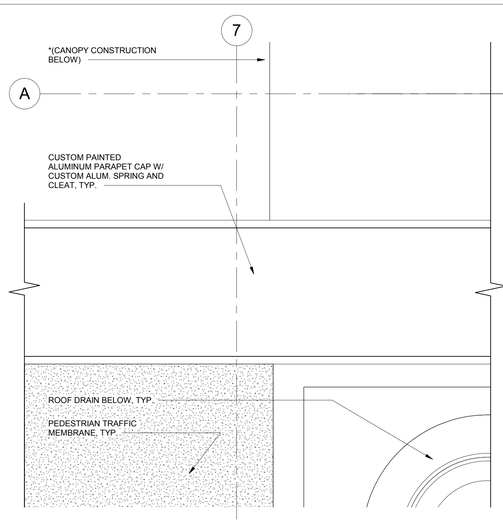
8 DETAIL- SECOND FLOOR WEST- GRID A NORTH
3" = 1'-0"



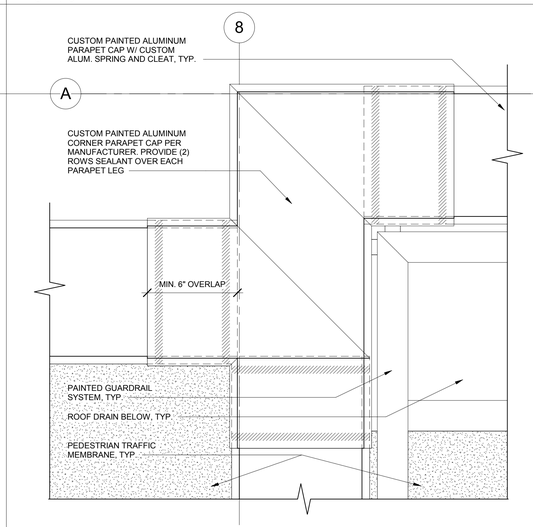
9 DETAIL- SECOND FLOOR WEST- GRIDS A-6
3" = 1'-0"



10 DETAIL- SECOND FLOOR WEST-GRIDS C-6
3" = 1'-0"



11 DETAIL- SECOND FLOOR EAST-GRIDS A-7
3" = 1'-0"



12 DETAIL- SECOND FLOOR EAST- GRIDS A-8
3" = 1'-0"

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DIV. OF THE STATE ARCHITECT
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RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVED REC'D:
APPROVED BY:	
KATHY GARCIA DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3-INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
9/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 1 EXTERIOR DETAILS

Drawn By: Author
Checked By: Checker

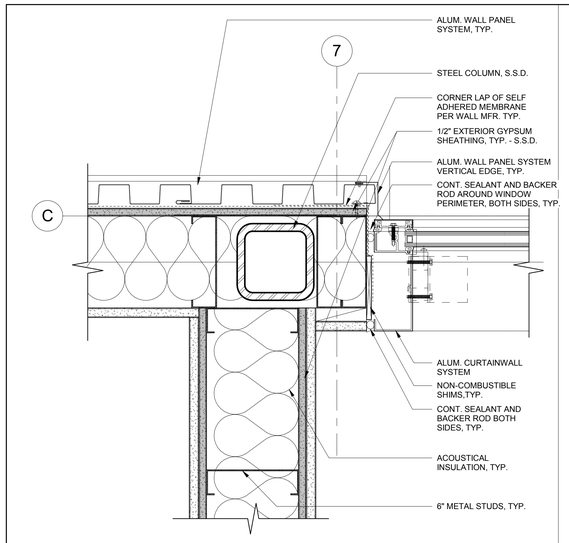
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3" = 1'-0"

Date:
October 4, 2019

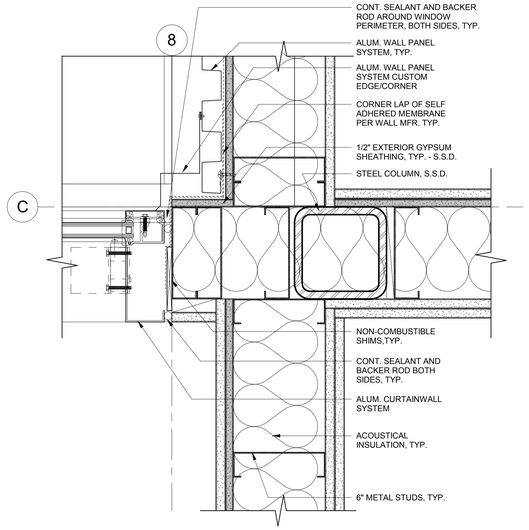
Project No. 2016039

1-A8.03
Drawing No.

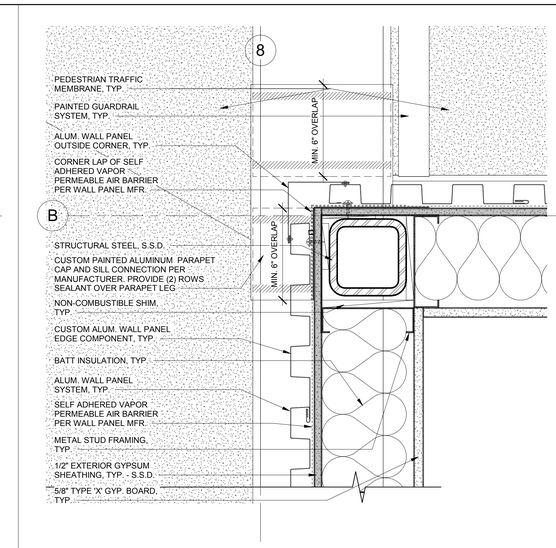
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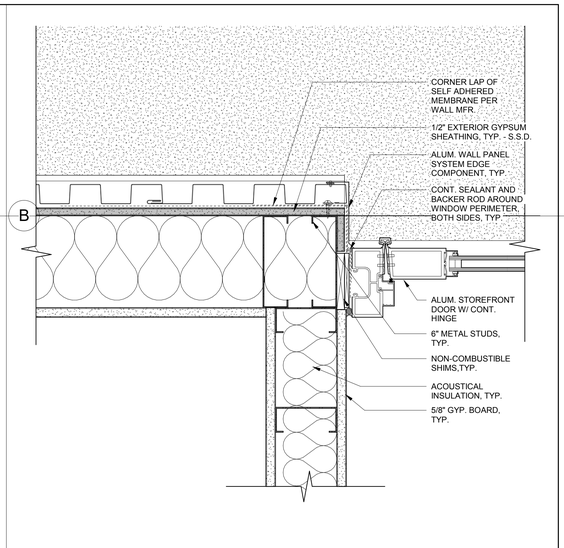
1 DETAIL- SECOND FLOOR EAST- CURTAINWALL TERMINATION @ GRIDS C-7
3" = 1'-0"



2 DETAIL- SECOND FLOOR EAST- CURTAINWALL TERMINATION @ GRIDS C-8
3" = 1'-0"



3 DETAIL- SECOND FLOOR EAST- GRIDS B-8
3" = 1'-0"



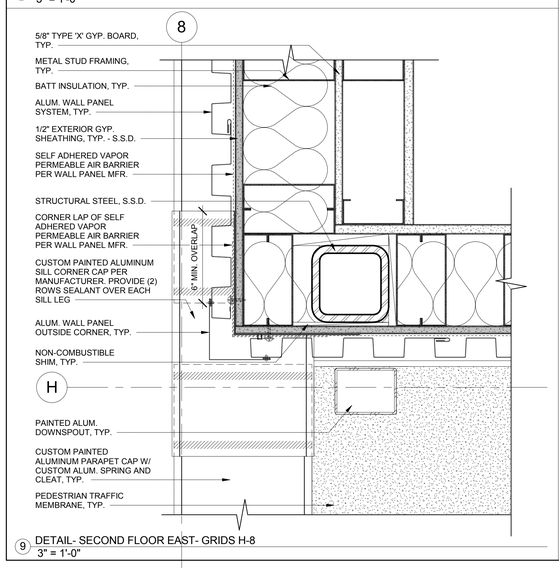
4 METAL WALL PANEL- STOREFRONT TERMINATION @ GRID B
3" = 1'-0"

5 METAL WALL PANEL- STOREFRONT TERMINATION @ GRID B
3" = 1'-0"

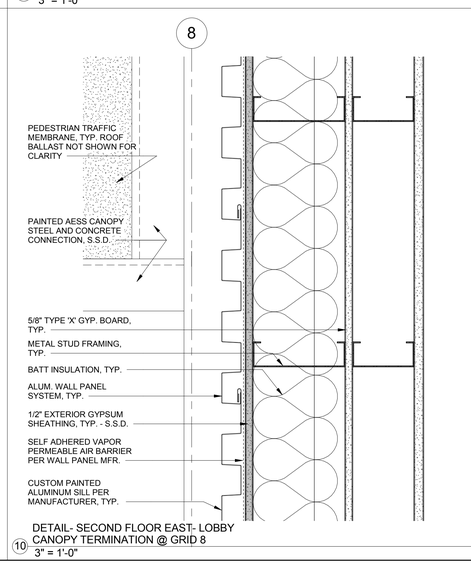
6 DETAIL- SECOND FLOOR EAST- GRIDS A-9
3" = 1'-0"

7 METAL WALL PANEL- OUTSIDE CORNER @ GRID 9
3" = 1'-0"

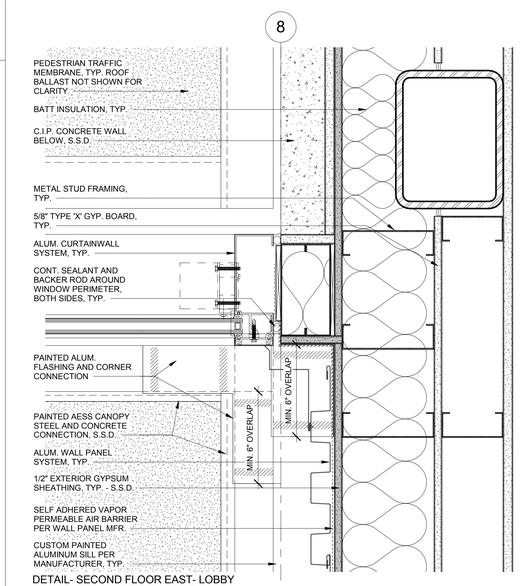
8 METAL WALL PANEL - INSIDE CORNER @ GRID 9
3" = 1'-0"



9 DETAIL- SECOND FLOOR EAST- GRIDS H-8
3" = 1'-0"



10 DETAIL- SECOND FLOOR EAST- LOBBY CANOPY TERMINATION @ GRID 8
3" = 1'-0"



11 DETAIL- SECOND FLOOR EAST- LOBBY CANOPY TERMINATION @ GRID 8
3" = 1'-0"

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

Ross Drulis Cusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY: **KATHY GARCIA** DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3- INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
9/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 1 EXTERIOR DETAILS

Drawn By: Author
Checked By: Checker

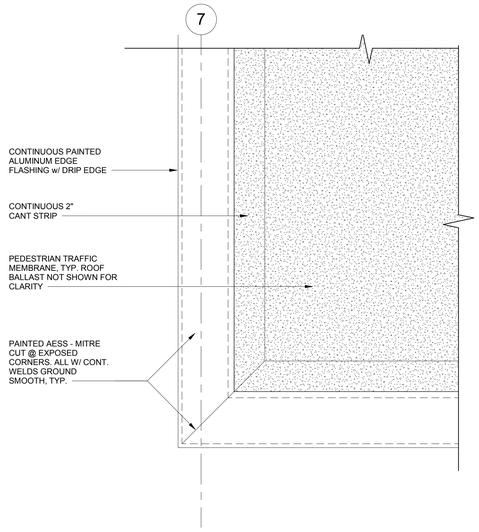
Scale:
3" = 1'-0"

Date:
October 4, 2019

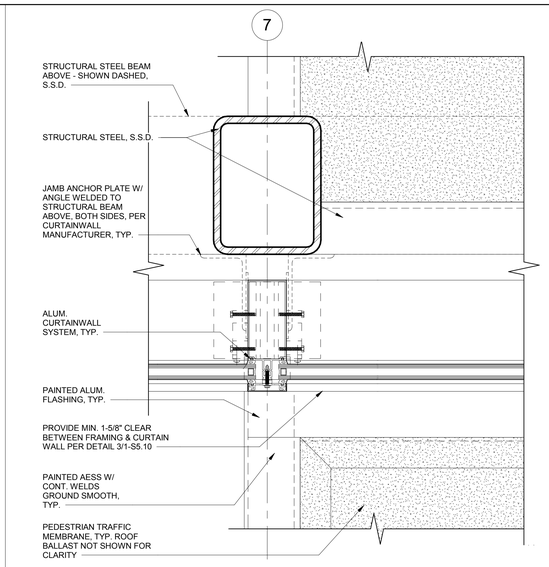
Project No. 2016039

1-A8.04
Drawing No.

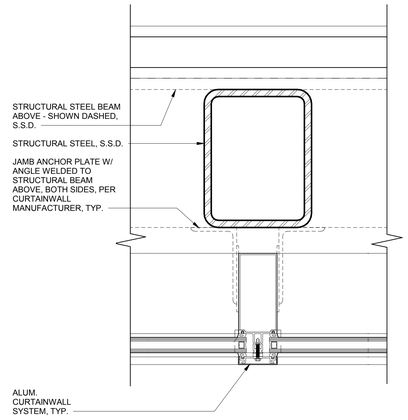
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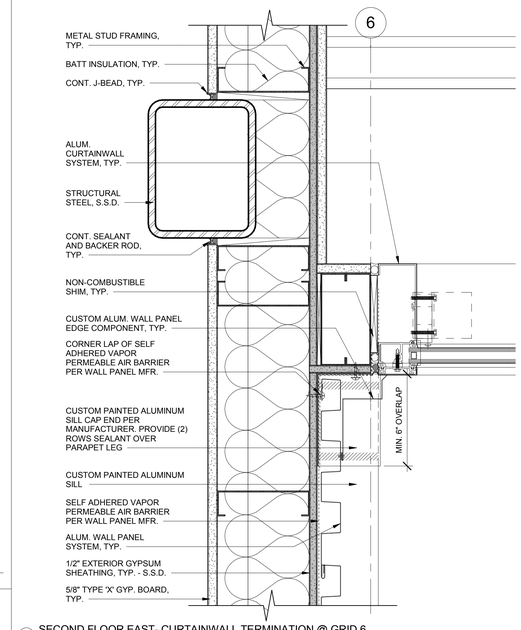
1 LOBBY CANOPY CORNER
3" = 1'-0"



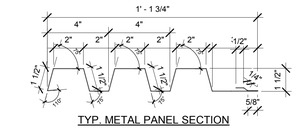
2 LOBBY CANOPY END @ CURTAINWALL
3" = 1'-0"



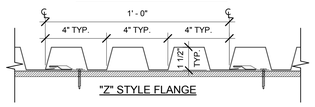
3 TYP. CURTAINWALL VERTICAL MULLION
3" = 1'-0"



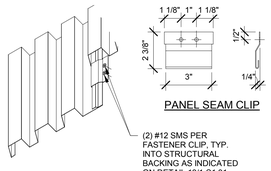
4 SECOND FLOOR EAST- CURTAINWALL TERMINATION @ GRID 6
3" = 1'-0"



TYP. METAL PANEL SECTION

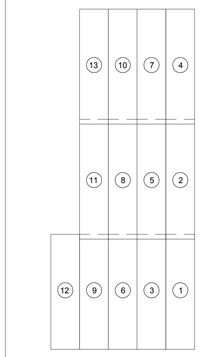


"Z" STYLE FLANGE



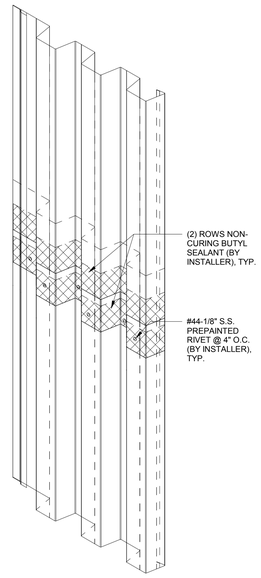
PANEL SEAM CLIP

5 TYP. ALUM. WALL PANEL SECTION
3" = 1'-0"

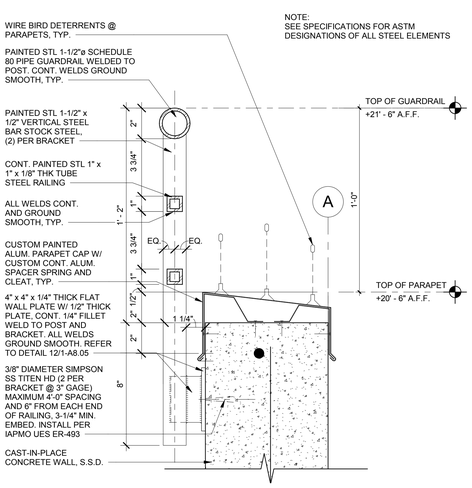


TYPICAL VERTICAL PANEL INSTALLATION PROCEDURE

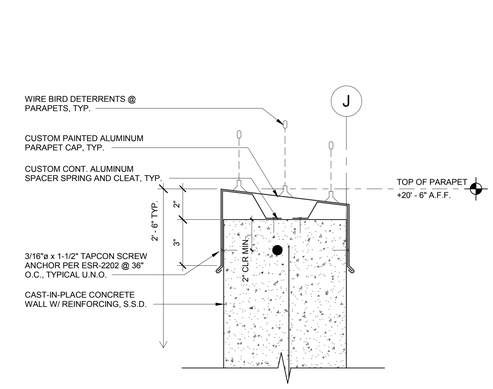
NOTE: AFTER LAPPING PANEL #2 OVER PANEL #1, INSTALL THE PANEL CLIP AT THE LAP PRIOR TO INSTALLATION OF PANEL #3. THIS PROCEDURE IS TYPICAL FOR ALL SUBSEQUENT PANELS



6 TYP. ALUM. WALL PANEL INSTALLATION
3" = 1'-0"

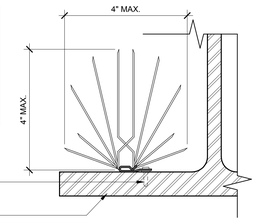


7 METAL GUARDRAIL @ CONCRETE WALL
3" = 1'-0"



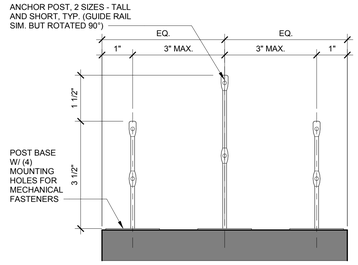
8 TYP. CONCRETE PARAPET
3" = 1'-0"

BIRD SPIKE REQUIREMENTS:
1. TO BE USED AT EXTERIOR FOR:
   A. EXPOSED WIDE FLANGE AND HSS BEAMS,
   B. AT VALLEYS AT CROSS BRACING
2. 100% STAINLESS STEEL WIRE ASSEMBLY
3. MIN. 120 WIRE POINTS PER FOOT
4. GAP FREE 180 DEGREES WIRE COVERAGE

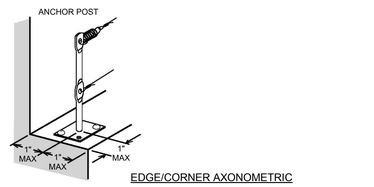


9 BIRD DETERRENTS - SPIKE ASSEMBLY
6" = 1'-0"

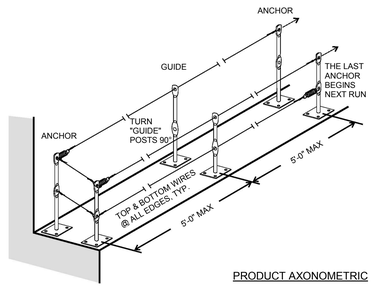
POST AND WIRE REQUIREMENTS:
1. TO BE USED AT BUILDING EXTERIOR AT PARAPET COPINGS
2. 100% STAINLESS STEEL WIRE ASSEMBLY
3. MAX. (3) ROWS OF POSTS PER PARAPET COPING
4. MAX 3" OF SPACE BETWEEN ROWS
5. MAX 1" OF SPACE BETWEEN ANY OUTSIDE EDGE OR WALL
6. MAX. SPACE BETWEEN ANCHOR POSTS IS 10'-0" O.C.
7. MAX. SPACE BETWEEN ANCHOR POSTS AND GUIDE POSTS IS 5'-0" O.C.
8. CABLE TO BE UV RESISTANT POLY-JACKET OVER 1x7 AIRCRAFT CABLE, 1/32" DIAMETER AND 110 LB BREAKING STRENGTH
9. CABLE SPRINGS ARE TO BE 1/4" x1/2" TENSION SPRINGS - CLOSED LOOP ON ONE END, QUARTER OPEN LOOP AT OTHER END
10. (2) 3/8" SCREW ANCHORS PER BASEPLATE. COORDINATE W. ANCHORAGE DETAILS ON 1/1-S1.11



10 BIRD DETERRENT - POST AND WIRE ASSEMBLY
6" = 1'-0"

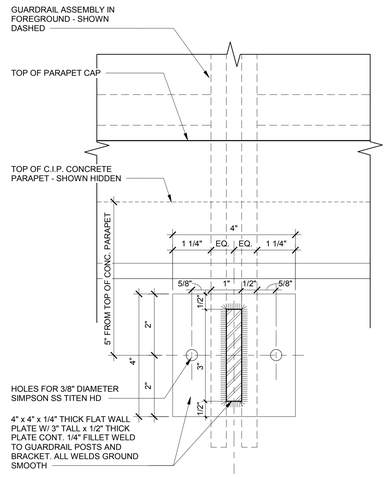


EDGE/CORNER AXONOMETRIC



PRODUCT AXONOMETRIC

11 TYP. BIRD DETERRENT INSTALLATION REQUIREMENTS
6" = 1'-0"



12 PARAPET GUARDRAIL ATTACHMENT DETAIL
6" = 1'-0"

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542
ARCHITECTURE

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION	
DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3-INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
5/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 1 EXTERIOR DETAILS

Drawn By: Author
Checked By: Checker

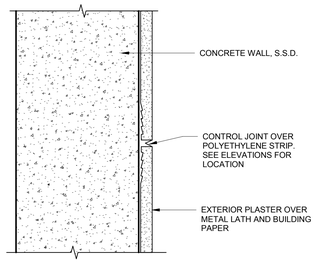
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Date: **October 4, 2019**

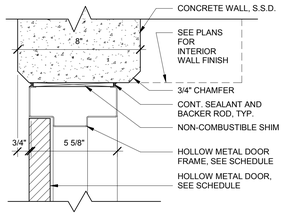
Project No. 2016039

1-A8.05
Drawing No.

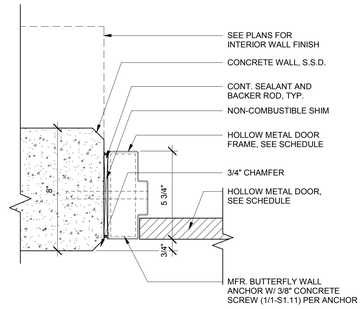
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1 TYP. EXTERIOR PLASTER CONTROL JOINT
3" = 1'-0"



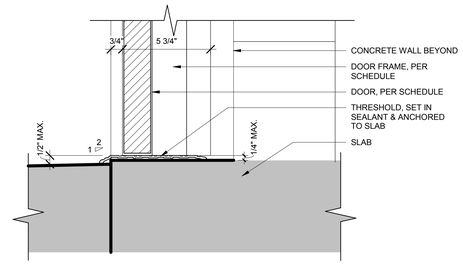
2 TYP. EXT/INT DOOR @ CONCRETE - HEAD
3" = 1'-0"



ANCHOR QUANTITIES:
- PROVIDE (3) ANCHORS PER JAMB THROUGH 7'-6" HEIGHT
- PROVIDE (4) ANCHORS OVER 7'-6" TO 12'-0" HEIGHT
- PROVIDE (1) SILL ANCHOR EACH JAMB SIDE W/ 3/8" CONCRETE SCREW ANCHOR PER 1/1-S1.11

ANCHOR LOCATIONS:
1. LOCATE ALL ANCHORS ON HINGE JAMB AS CLOSE TO TOP OF HINGE REINFORCEMENT AS POSSIBLE.
2. LOCATE ANCHORS ON STRIKE JAMB IN THE CORRESPONDING POSITION AS THE HINGE JAMB.

3 TYP. EXT/INT DOOR @ CONCRETE - JAMB
3" = 1'-0"



4 TYP. EXTERIOR DOOR @ CONCRETE - THRESHOLD
3" = 1'-0"

5 TYP. CURTAINWALL WINDOW SILL @ LOBBY
3" = 1'-0"

6 TYP. CURTAINWALL DOOR SILL @ LOBBY
3" = 1'-0"

7 EXT. DOOR SILL @ SPORTS FLOOR
3" = 1'-0"

8 TYP. H.M. DOOR HEAD @ METAL WALL PANELS
3" = 1'-0"

ANCHOR QUANTITIES:
- PROVIDE (3) ANCHORS PER JAMB THROUGH 7'-6" HEIGHT
- PROVIDE (4) ANCHORS OVER 7'-6" TO 12'-0" HEIGHT
- PROVIDE (1) SILL ANCHOR EACH JAMB SIDE W/ 3/8" CONCRETE SCREW ANCHOR PER 1/1-S1.11

ANCHOR LOCATIONS:
1. LOCATE ALL ANCHORS ON HINGE JAMB AS CLOSE TO TOP OF HINGE REINFORCEMENT AS POSSIBLE.
2. LOCATE ANCHORS ON STRIKE JAMB IN THE CORRESPONDING POSITION AS THE HINGE JAMB.

9 TYP. H.M. DOOR HEAD @ METAL WALL PANELS
3" = 1'-0"

10 OVERHEAD COILING DOOR - HEAD
1 1/2" = 1'-0"

NOTE: DOOR TRACK, FRAME AND HARDWARE BY COILING DOOR MANUFACTURER

11 OVERHEAD COILING DOOR - JAMB
3" = 1'-0"

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC: 01
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SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542
ARCHITECTURE

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

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REVISIONS

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MICHAEL B. ROSS
No. C-18867
12/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 1 EXTERIOR DETAILS

Drawn By: Author
Checked By: Checker

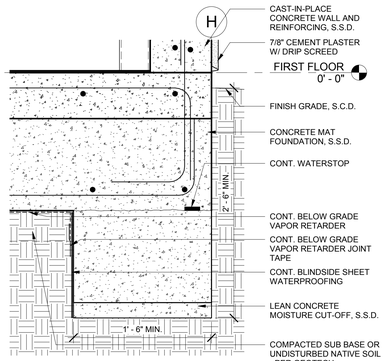
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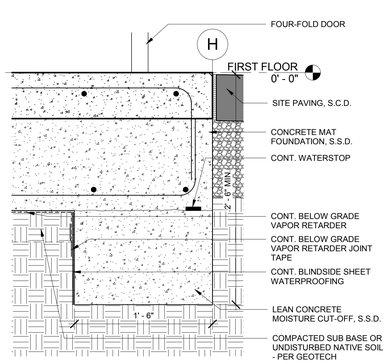
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Drawing No.

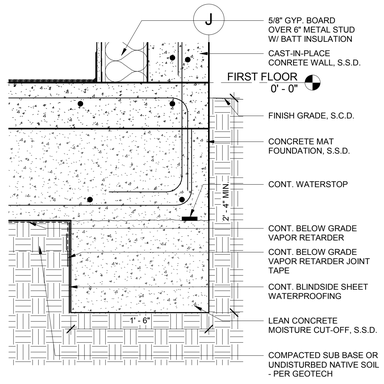
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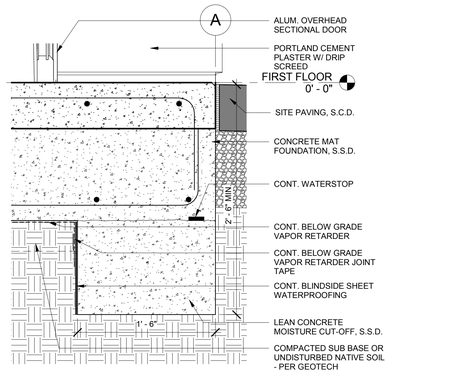
1 TYP. FOOTING @ 8" CONC. WALLS
1 1/2" = 1'-0"



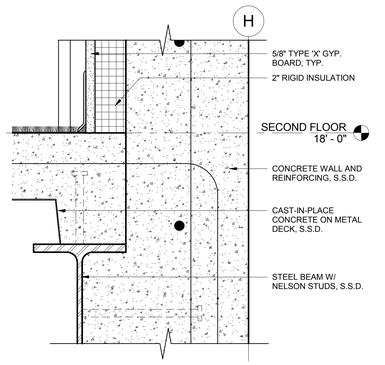
2 TYP. FOOTING @ APP BAY DOORS
1 1/2" = 1'-0"



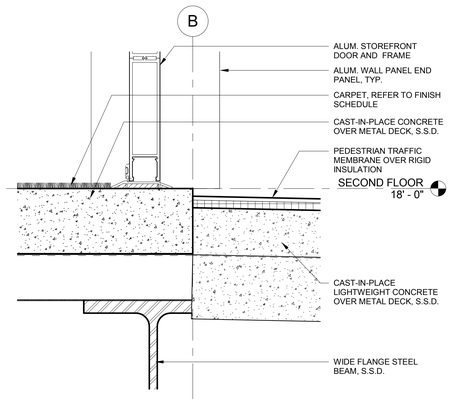
3 TYP. FOOTING @ CLASSROOM
1 1/2" = 1'-0"



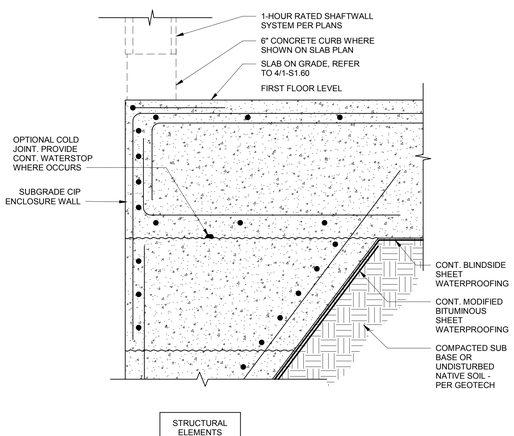
4 TYP. FOOTING @ 12" WALL OPENINGS
1 1/2" = 1'-0"



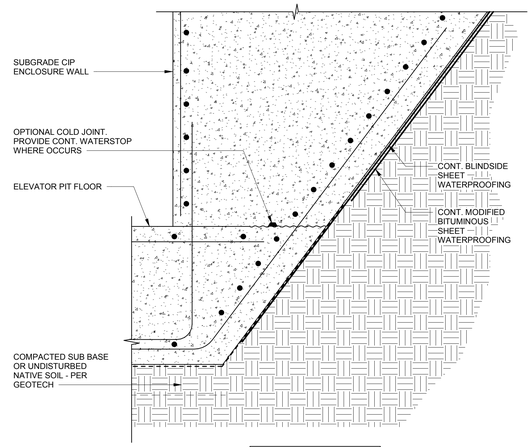
5 TYP. FLOOR TERMINATION @ CONCRETE WALL
3" = 1'-0"



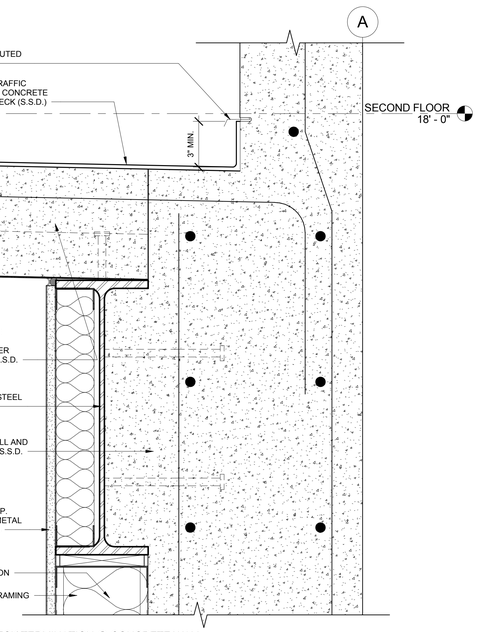
6 DOOR SILL @ ROOF DECK
3" = 1'-0"



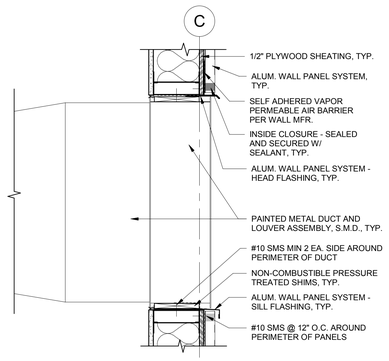
7 ELEVATOR PIT WALL TO SOG WATERPROOFING @ HEAD
1 1/2" = 1'-0"



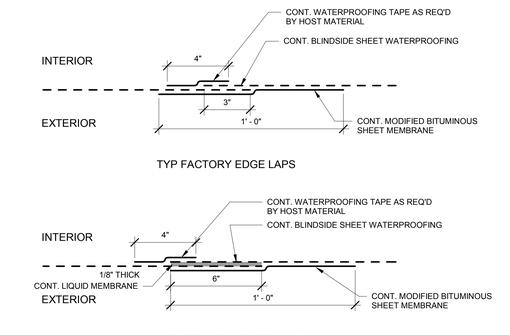
8 ELEVATOR PIT WATERPROOFING AT BASE
1 1/2" = 1'-0"



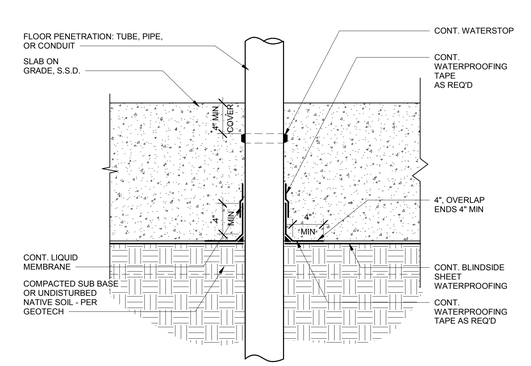
9 ROOF DECK TERMINATION @ CONCRETE WALL
3" = 1'-0"



10 DUCT TERMINATION AND LOUVER @ METAL PANEL WALL
1 1/2" = 1'-0"



11 BELOW GRADE WATERPROOFING MEMBRANE LAPS
3" = 1'-0"



12 TYP. LOWER LEVEL SOG PENETRATION WATERPROOFING
1 1/2" = 1'-0"

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DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

Ross Drulis Cusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3-INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
9/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 1 EXTERIOR DETAILS

Drawn By: Author
Checked By: Checker

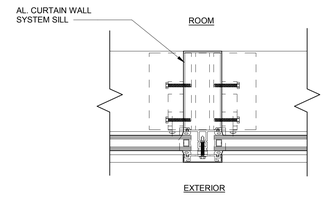
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Date: **October 4, 2019**

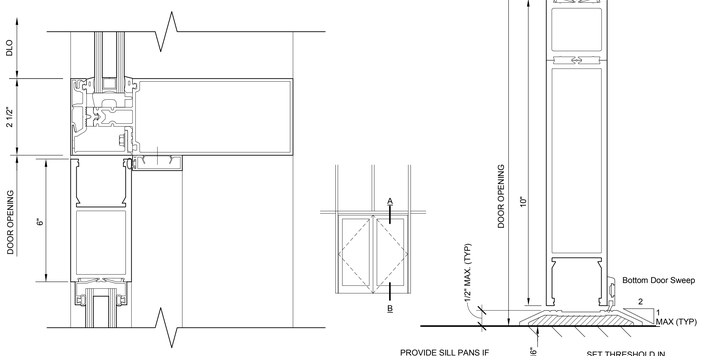
Project No. 2016039

1-A8.07
Drawing No.

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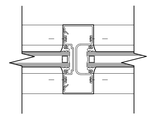


1 TYP. CURTAIN WALL VERTICAL MULLION
3" = 1'-0"

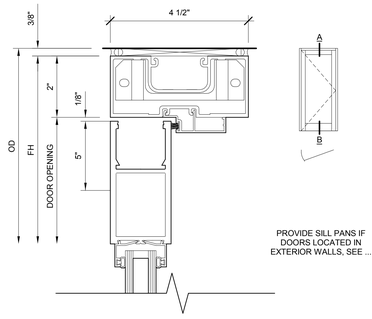


ENTRANCE DETAIL - (ADA)
OPTIONAL BOTTOM RAIL
10" BOTTOM RAIL

NOTE:
PROVIDE SOLID ALUMINUM PIVOT DOORS AND HARDWARE WHERE SHOWN ON THE CURTAINWALL WINDOW ELEVATIONS ON SHEET 1-A2.71

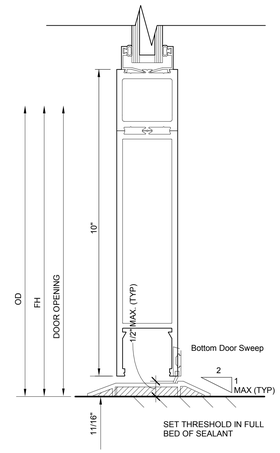


4 DV- STOREFRONT WINDOW VERTICAL JAMB
3" = 1'-0"

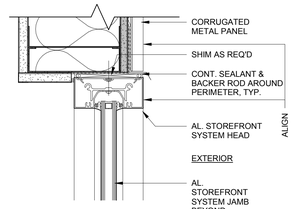


ENTRANCE DETAIL - A HEADER
SINGLE ACTING FOR SURFACE CLOSER

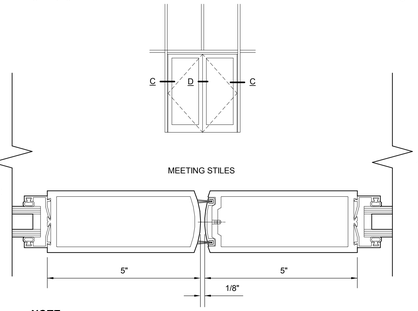
PROVIDE SILL PANS IF DOORS LOCATED IN EXTERIOR WALLS, SEE ...



ENTRANCE DETAIL - A (ADA)
10" BOTTOM RAIL
SINGLE ACTING



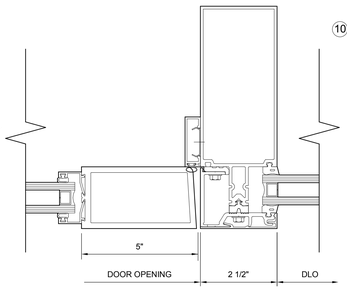
8 TYP. CURTAIN WALL DOOR HEAD
6" = 1'-0"



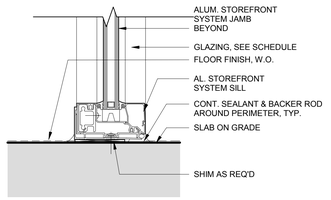
NOTE:
PROVIDE SOLID ALUMINUM PIVOT DOORS AND HARDWARE WHERE SHOWN ON THE CURTAINWALL WINDOW ELEVATIONS ON SHEET 1-A2.71

ENTRANCE DETAIL - C
MEETING STILES

9 TYP. CURTAIN WALL DOOR BASE
6" = 1'-0"

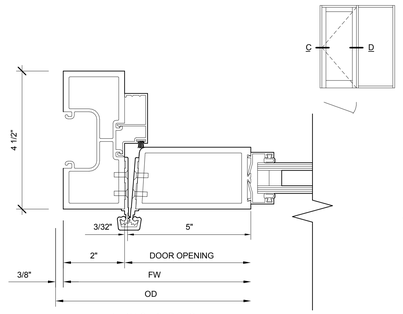


10 TYP. STOREFRONT WINDOW HEAD @ STUD WALL
3" = 1'-0"



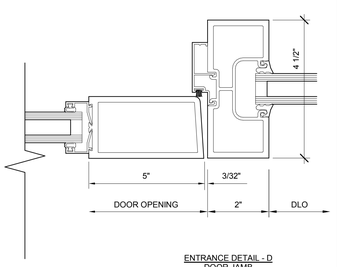
ENTRANCE DETAIL - D
SSG DOOR JAMB
WITH SIDELITE (1" INFILL)

11 TYP. STOREFRONT DOOR HEAD
6" = 1'-0"

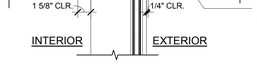


ENTRANCE DETAIL - C
DOOR JAMB
SINGLE ACTING

12 TYP. STOREFRONT DOOR BASE DETAIL
6" = 1'-0"



ENTRANCE DETAIL - D
DOOR JAMB
SINGLE ACTING
WITH SIDELITE (1" INFILL)



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DRAWN BY:	APPROVAL REC'D:
APPROVED BY: **KATHY GARCIA** DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

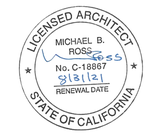
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REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3-INCREMENT #1



Sheet Title

BUILDING 1
EXTERIOR WINDOW DETAILS

Drawn By: Author
Checked By: Checker

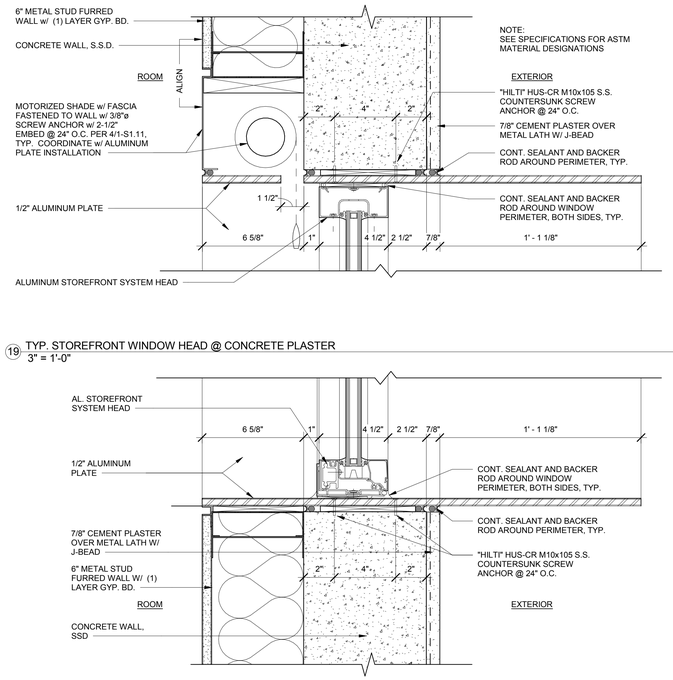
Scale:
As indicated

Date:
October 4, 2019

Project No. 2016039

1-A8.10
Drawing No.

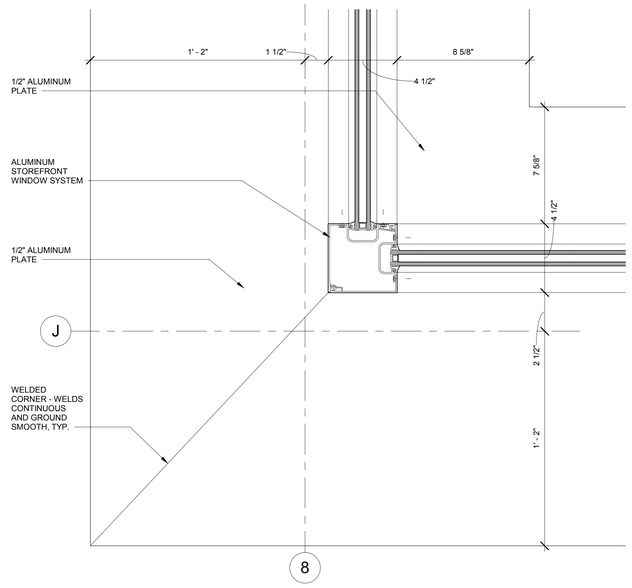
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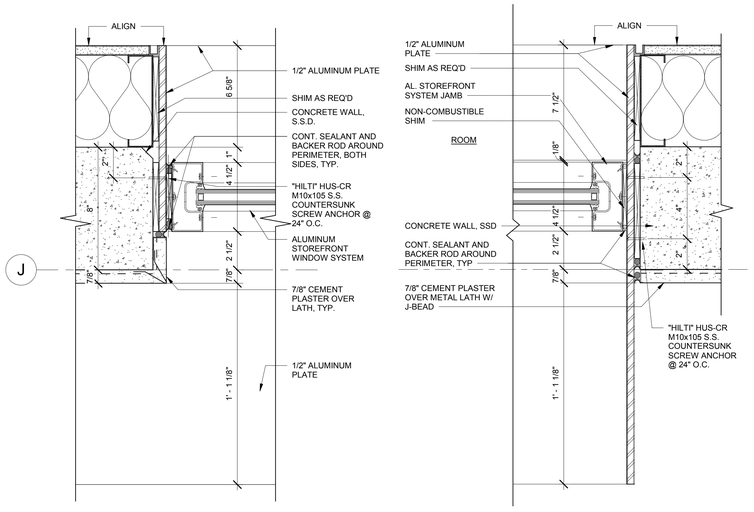
13 DETAIL @ LOBBY CURTAINWALL AND CANOPY INTERSECTION
1 1/2" = 1'-0"

14 TYP. CURTAINWALL DOOR JAMB
6" = 1'-0"

16 TYP. STOREFRONT INT. SILL DETAIL
(CURTAIN WALL SIM.)
3" = 1'-0"



17 TYP. STOREFRONT DOOR JAMB DETAILS
6" = 1'-0"



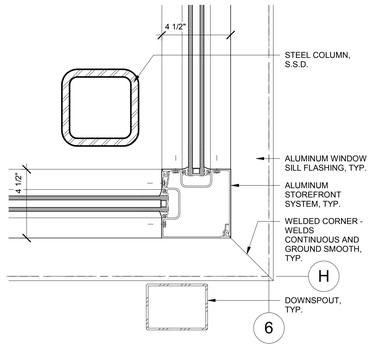
19 TYP. STOREFRONT WINDOW HEAD @ CONCRETE PLASTER
3" = 1'-0"

25 TYP. STOREFRONT WINDOW SILL @ CONCRETE PLASTER
3" = 1'-0"

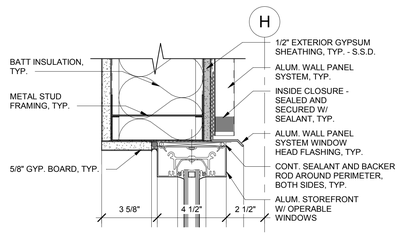
27 CORNER STOREFRONT W/ FIN
3" = 1'-0"

29 STOREFRONT WINDOW W/ FIN
3" = 1'-0"

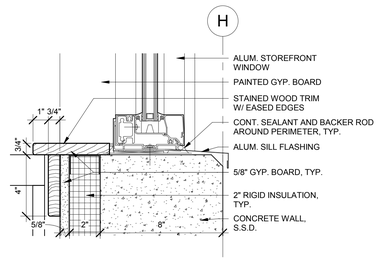
30 TYP. STOREFRONT WINDOW JAMB @ CONC. AND PLASTER DETAIL
3" = 1'-0"



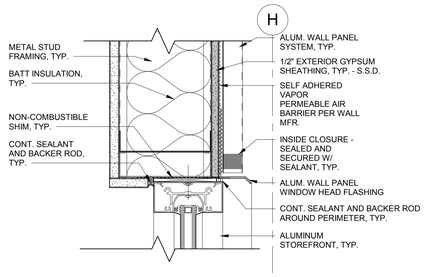
1 CORNER STOREFRONT- SILL FLASHING
3" = 1'-0"



2 TYP. DORMITORY WINDOW HEAD
3" = 1'-0"



3 TYP. STOREFRONT SILL @ CONC. WALL
3" = 1'-0"



4 TYP. STOREFRONT HEAD @ ALUM. WALL PANELS
3" = 1'-0"

5 TYP. STOREFRONT SILL @ METAL WALL PANELS
3" = 1'-0"

6 CURTAINWALL WINDOW HEAD @ STUD WALL
3" = 1'-0"

7 DETAIL- WINDOW CORNER @ GRIDS B-9
3" = 1'-0"

8 TYP. CLERESTORY AWNING HEAD DETAIL (JAMB SIM.)
3" = 1'-0"

9 TYP. CLERESTORY AWNING SILL DETAIL
3" = 1'-0"

10 TYP. CLERESTORY HEAD DETAIL (JAMB SIM.)
3" = 1'-0"

11 TYP. CLERESTORY SILL DETAIL
3" = 1'-0"

12 T.O. LOBBY CURTAINWALL ANCHOR DETAIL
3" = 1'-0"

APPROVED
DIV. OF THE STATE ARCHITECT
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ARCHITECTURE
18294
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CA 95476
TEL 707 996 8448
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CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION	
DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3- INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
12/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 1 EXTERIOR WINDOW DETAILS

Drawn By: AA
Checked By: EW

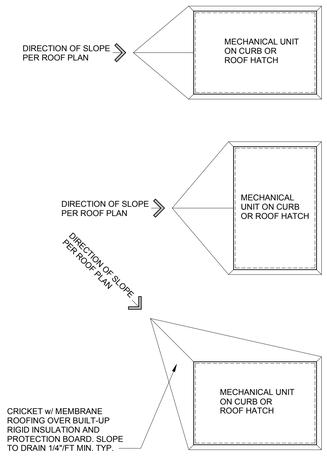
Scale: 3" = 1'-0"

Date: October 4, 2019

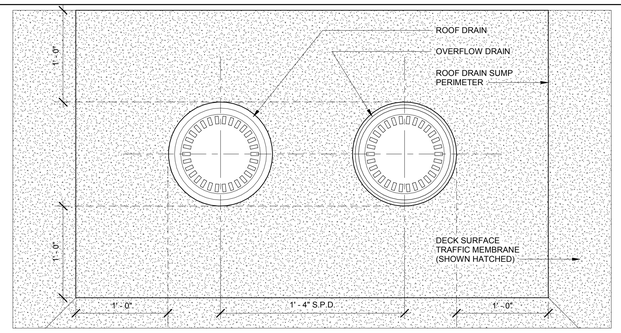
Project No. 2016039

1-A8.11
Drawing No.

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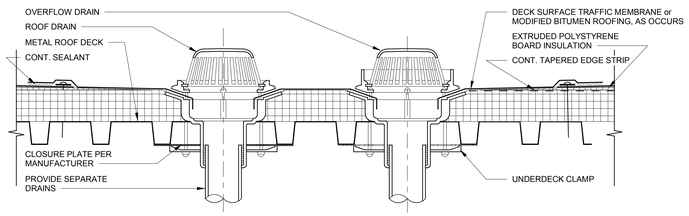


1 TYP. ROOF EQUIPMENT CRICKET
1" = 1'-0"

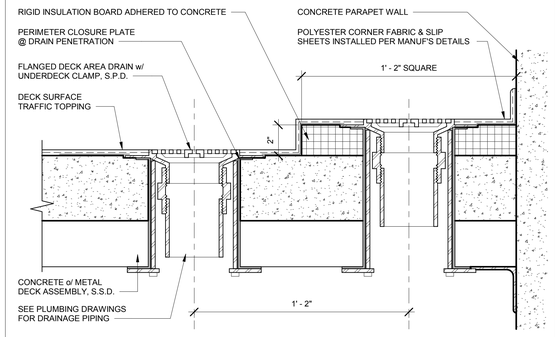


2 TYP. ROOF DRAIN PLAN
1 1/2" = 1'-0"

NOTE:
SLOPE ALL SURROUNDING SURFACES TOWARD DRAIN 1/4 INCH PER FOOT MIN. FOLLOW SPECS AND MANUFACTURER INSTRUCTION FOR INSTALLATION OF ROOFING MATERIALS



3 TYP. ROOF DRAIN SECTION
1 1/2" = 1'-0"



4 TYP. PATIO DECK DRAINS
3" = 1'-0"

5 TYP. ROOF HATCH & LADDER
1" = 1'-0"

6 TYP. SECTION @ GUTTER AND DOWNSPOUT
3" = 1'-0"

7 SECTION @ CUSTOM GUTTER AND DOWNSPOUT
3" = 1'-0"

8 TYP. HIGH ROOF EDGE W/ FASCIA TRIM
3" = 1'-0"

NOTE:
SEE SPECIFICATIONS FOR MATERIAL ASTM DESIGNATIONS, TYP.

9 TYP. ROOF EDGE W/ FASCIA TRIM
3" = 1'-0"

10 METAL WALL PANEL TERMINATION @ ROOF SOFFIT
3" = 1'-0"

11 TYP. METAL WALL PANEL TERMINATION @ ROOF SOFFIT
3" = 1'-0"

12 DORMITORY CEILING @ EXTERIOR WALL
3" = 1'-0"

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Sheet Title

BUILDING 1 ROOF DETAILS

Drawn By: Author
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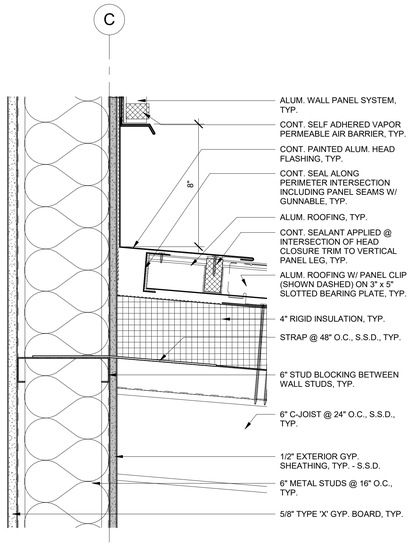
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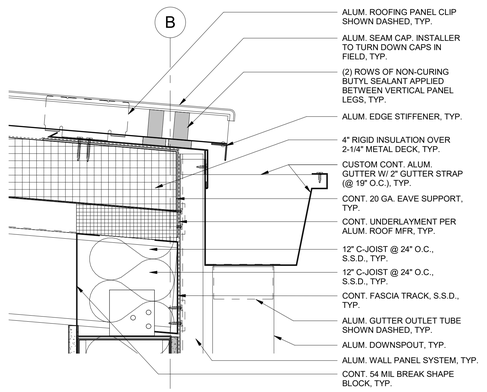
Project No. 2016039

1-A8.15
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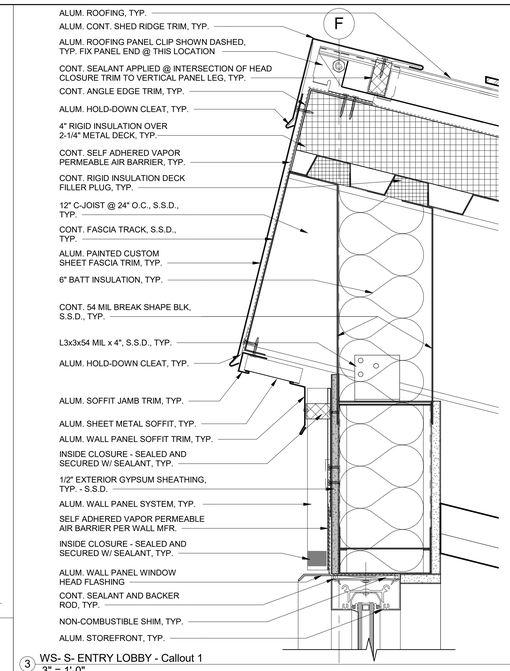
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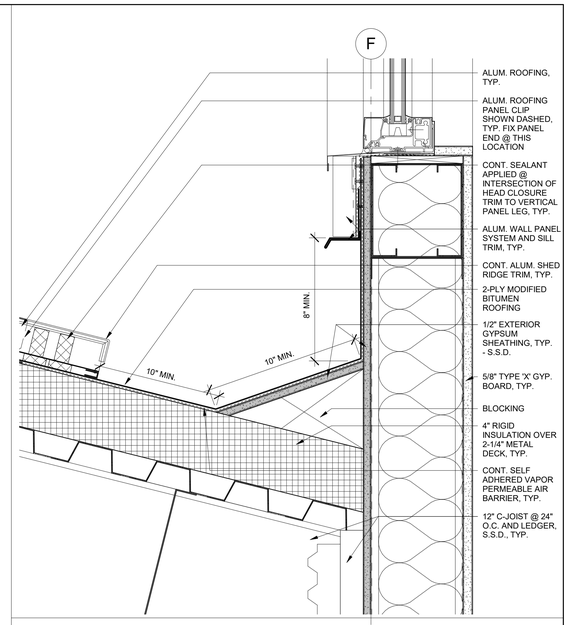
1 TYP. ROOF TERMINATION @ WALL
3" = 1'-0"



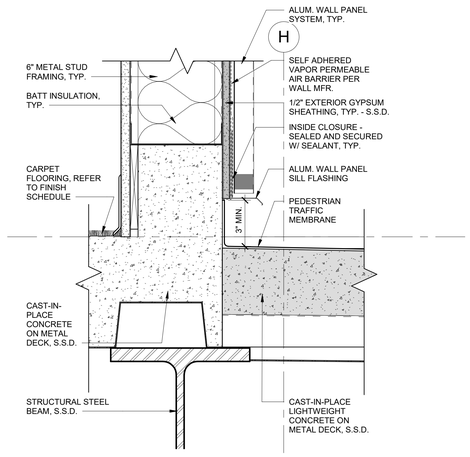
2 FASCIA GUTTER AND DOWNSPOUT
3" = 1'-0"



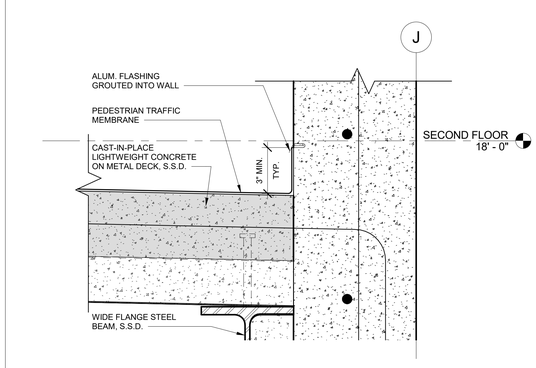
3 WS- S- ENTRY LOBBY - Callout 1
3" = 1'-0"



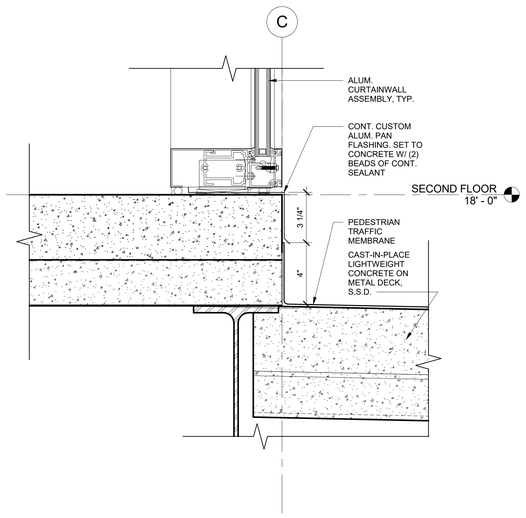
4 ROOF PANEL AND CRICKET @ LOW END
3" = 1'-0"



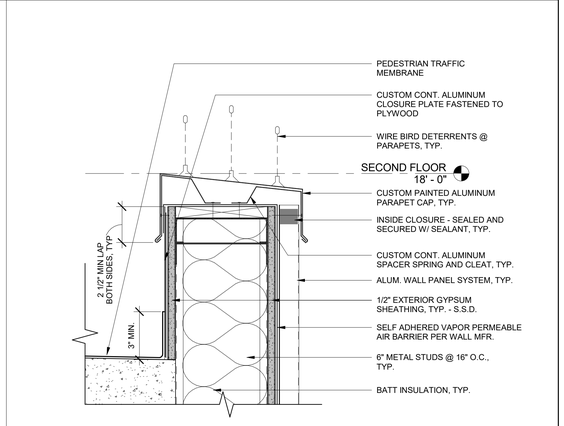
5 TYP. CONCRETE CURB @ EXTERIOR WALL ADJACENT TO ROOF DECK
3" = 1'-0"



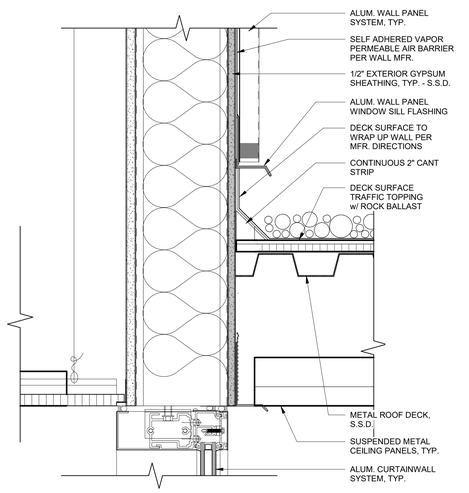
6 TYP. ROOF DECK TERMINATION @ CONCRETE WALL
3" = 1'-0"



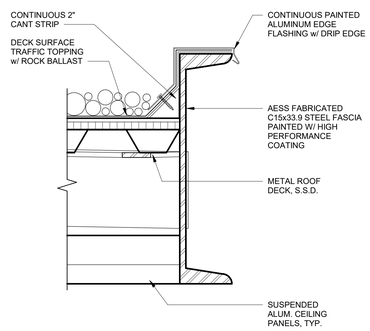
7 CURTAINWALL SILL CONDITION @ CONFERENCE ROOM
3" = 1'-0"



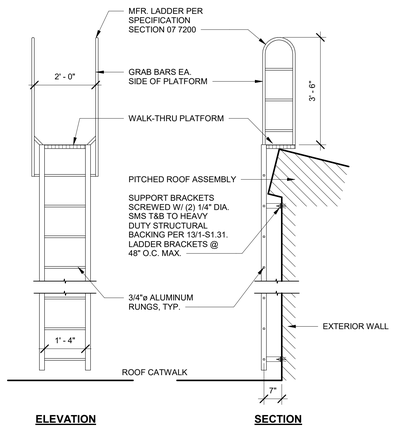
8 ROOF DECK TERMINATION @ STUD WALL
3" = 1'-0"



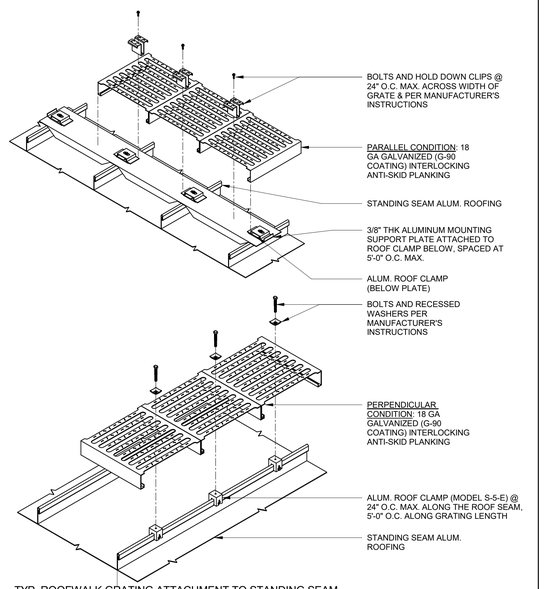
9 CANOPY INTERSECTION @ NORTH LOBBY WALL
3" = 1'-0"



10 TYP. CANOPY EDGE DETAIL
3" = 1'-0"



11 SAW TOOTH ROOF LADDER
1/2" = 1'-0"



TYP. ROOFWALK GRATING ATTACHMENT TO STANDING SEAM ALUM. ROOF
12 1" = 1'-0"

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION	
DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	INC 01_ADD_01_V1	12/06/2019

PERMIT SUBMITTAL V3-INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
2/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 1 ROOF DETAILS

Drawn By: AA
Checked By: EW

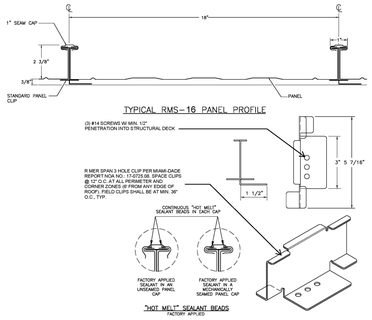
Scale: As indicated

Date: October 4, 2019

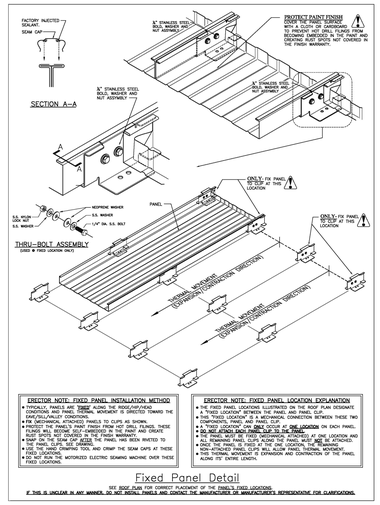
Project No. 2016039

1-A8.16
Drawing No.

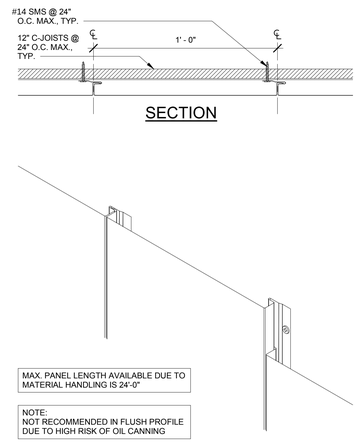
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1 TYP ROOF PANEL AND CLIPS
3" = 1'-0"



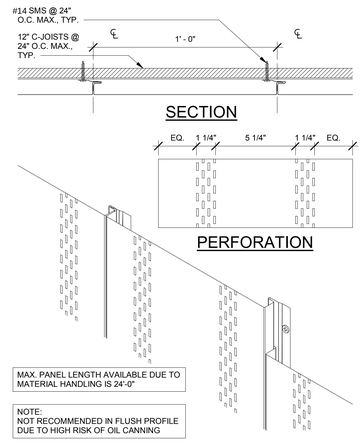
2 TYP. ROOF PANEL REQUIREMENTS
3" = 1'-0"



SPECIFICATIONS
MATERIAL: .040" SMOOTH ALUMINUM

FINISH: FLUOROCARBON-70% RESIN (KYNAR 500)

3 TYP. NON-PERF. ALUMINUM SOFFIT PANEL
3" = 1'-0"

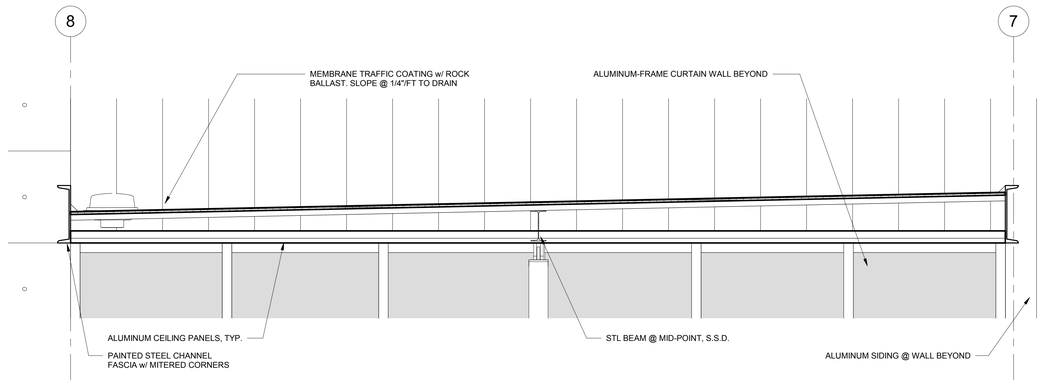


SPECIFICATIONS
VENTING: 3.2 SQUARE INCHES/LF OF OPEN AIR FLOW (2.2% / SQUARE FOOT AIR FLOW)

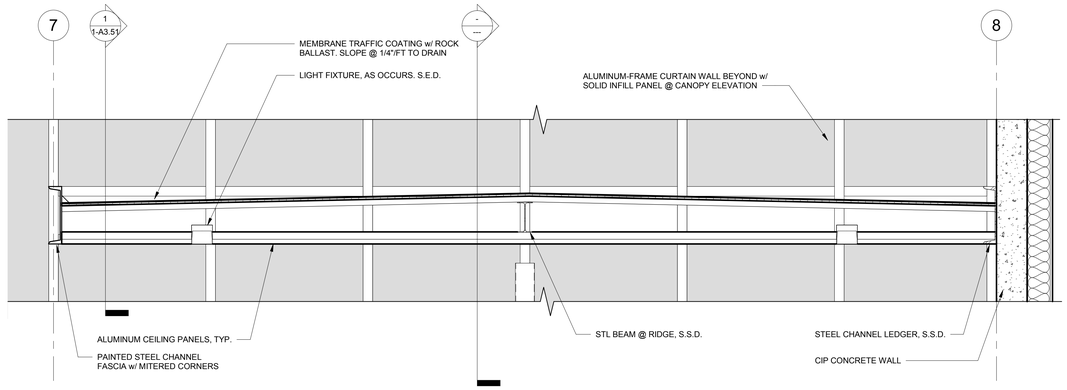
MATERIAL: .040" SMOOTH ALUMINUM

FINISH: FLUOROCARBON-70% RESIN (KYNAR 500)

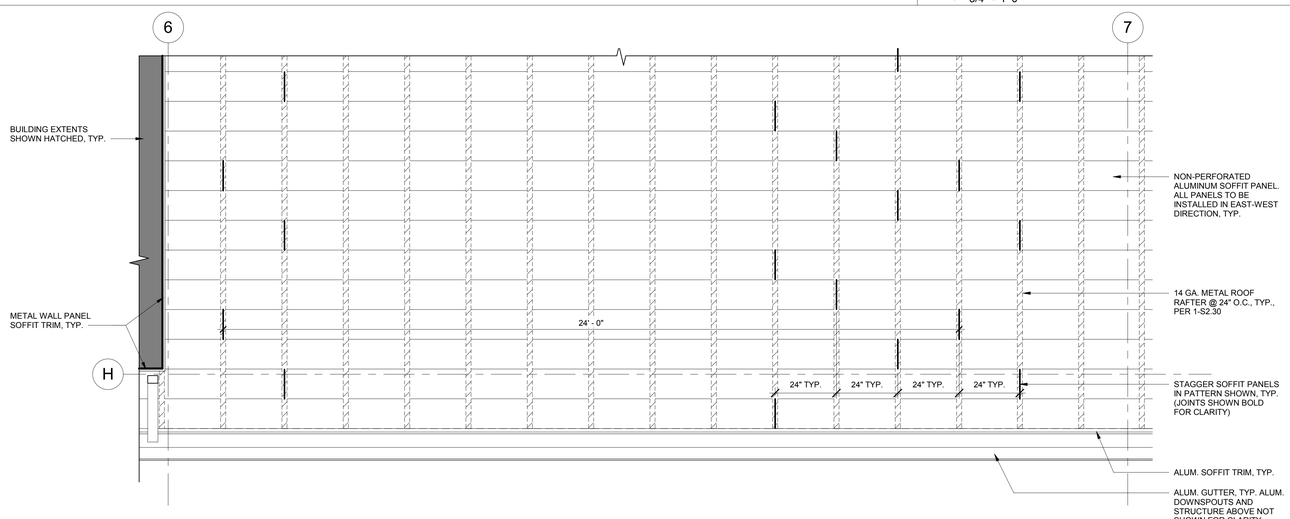
4 TYP. PERF. ALUMINUM SOFFIT PANEL
3" = 1'-0"



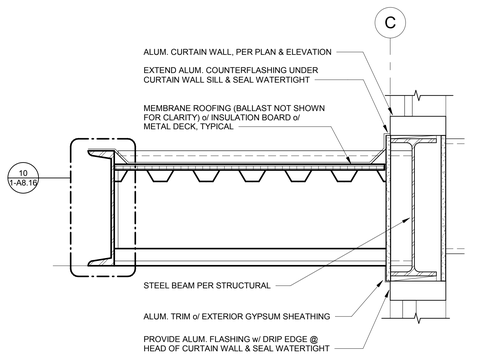
5 NORTH ENTRY CANOPY
3/4" = 1'-0"



7 SOUTH ENTRY CANOPY
3/4" = 1'-0"



9 TYP. METAL SOFFIT PANEL SPACING
1/2" = 1'-0"



6 ROOF CANOPY @ STAIR #2
1 1/2" = 1'-0"

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542
ARCHITECTURE

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3-INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
8/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 1 ROOF DETAILS

Drawn By: Author
Checked By: Checker

Scale:
As indicated

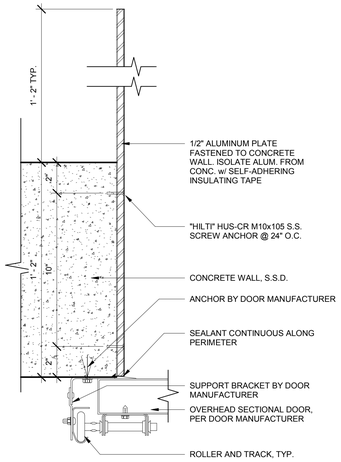
Date:
October 4, 2019

Project No. 2016039

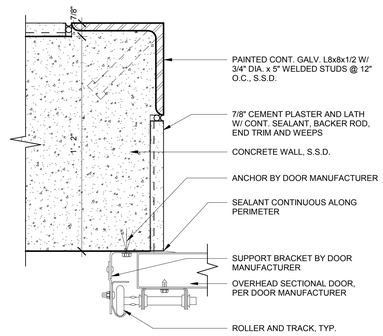
1-A8.17

Drawing No.

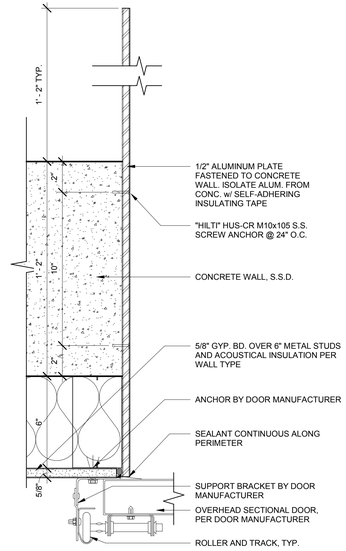
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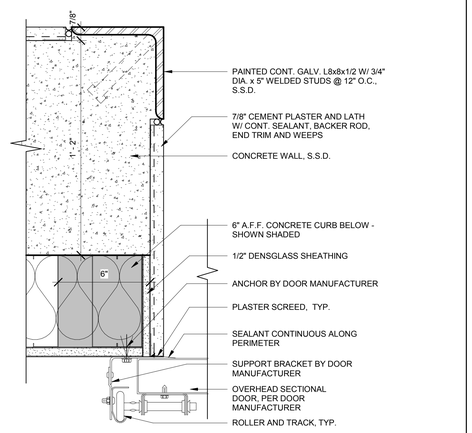
1 TYP. OVERHEAD DOOR JAMB DETAIL W/ FIN
3" = 1'-0"



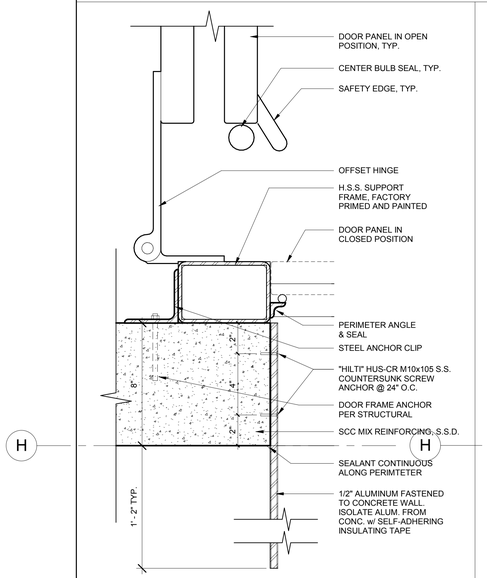
2 TYP. OVERHEAD DOOR JAMB DETAIL W/O FIN
3" = 1'-0"



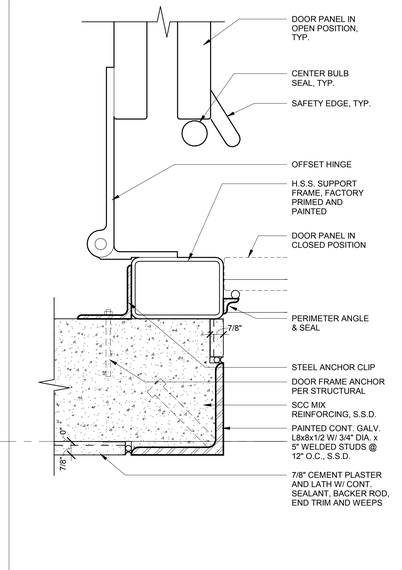
3 TYP. OVERHEAD DOOR JAMB DETAIL W/ FIN
3" = 1'-0"



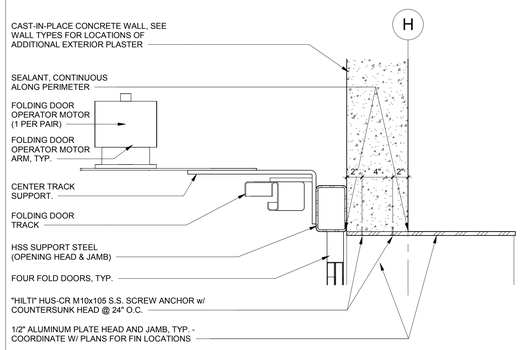
4 TYP. OVERHEAD DOOR JAMB DETAIL W/O FIN
3" = 1'-0"



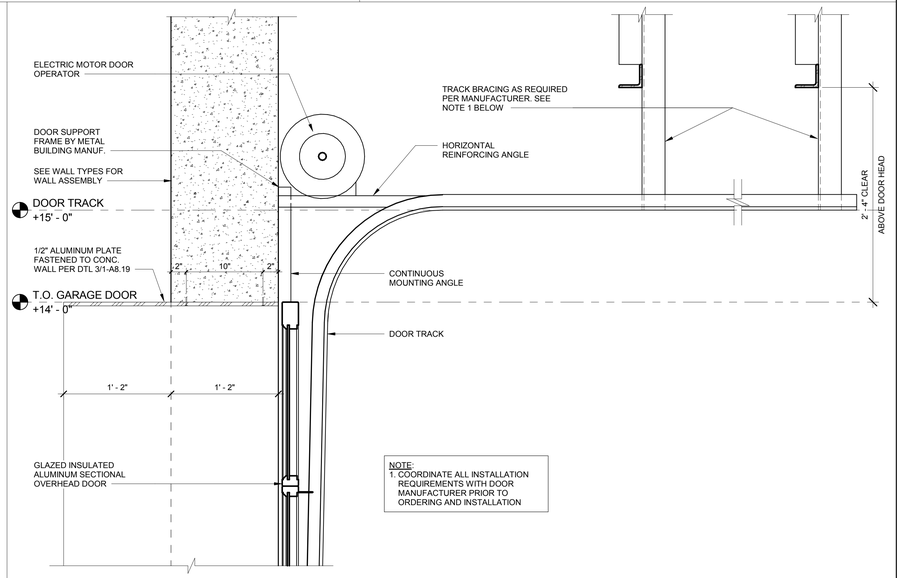
5 4-FOLD DOOR JAMB DETAIL W/ FIN
3" = 1'-0"



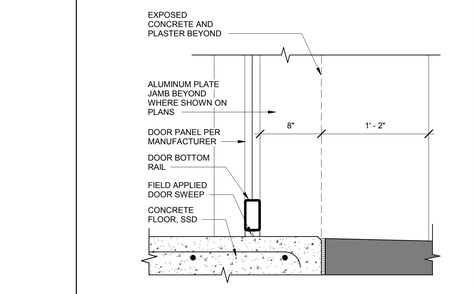
6 4-FOLD DOOR JAMB DETAIL W/O FIN
3" = 1'-0"



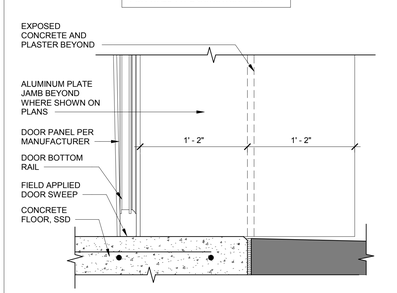
7 TYP. 4-FOLD DOOR SECTION
1 1/2" = 1'-0"



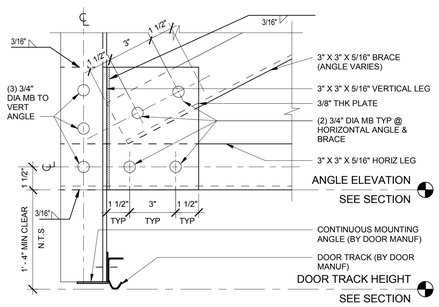
8 DV- SECTIONAL DOOR HEAD @ APPARATUS BAY
1 1/2" = 1'-0"



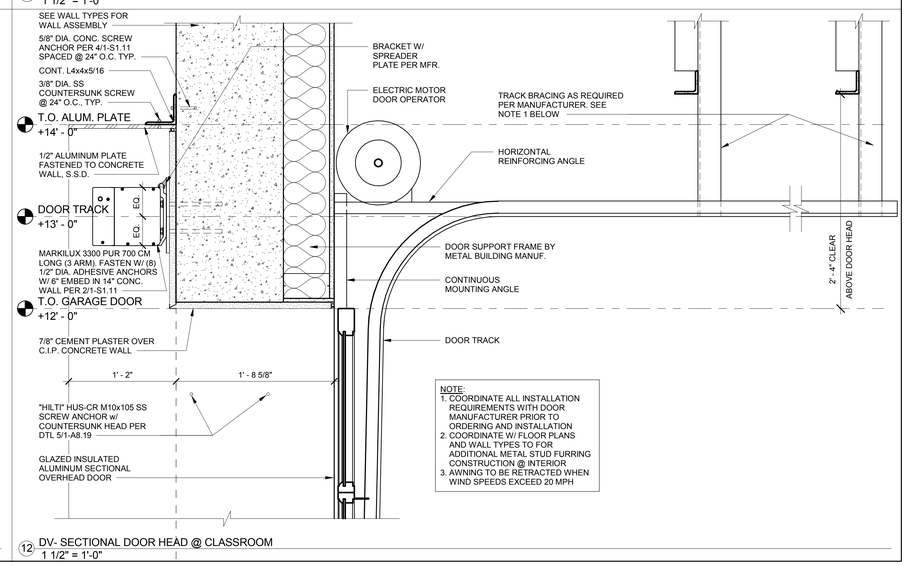
9 TYP. 4-FOLD DOOR SILL W/ FIN
1 1/2" = 1'-0"



10 DV- SECTIONAL GARAGE DOOR SILL
1 1/2" = 1'-0"



11 DV- SECTIONAL GARAGE DOOR TRACK SUPPORT FRAME
3" = 1'-0"



12 DV- SECTIONAL DOOR HEAD @ CLASSROOM
1 1/2" = 1'-0"

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION	
DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3-INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
9/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 1 APPARATUS BAY DOOR DETAILS

Drawn By: AA Checked By: EW

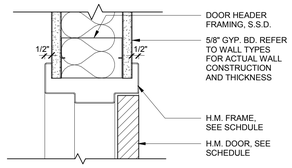
Scale: **As indicated**

Date: **October 4, 2019**

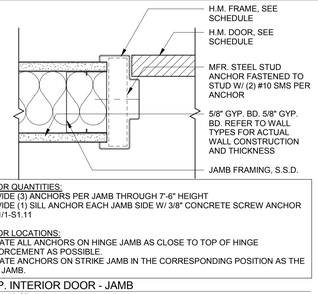
Project No. 2016039

1-A8.19
Drawing No.

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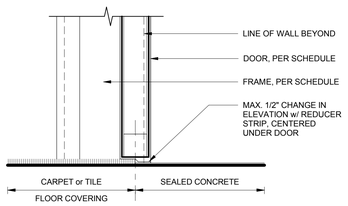
1 TYP. INTERIOR DOOR - HEAD
3" = 1'-0"



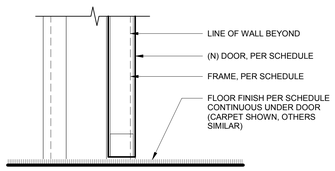
ANCHOR QUANTITIES:
- PROVIDE (3) ANCHORS PER JAMB THROUGH 7'-6" HEIGHT
- PROVIDE (1) SILL ANCHOR EACH JAMB SIDE W/ 3/8" CONCRETE SCREW ANCHOR PER 1/1-S1.11

ANCHOR LOCATIONS:
1. LOCATE ALL ANCHORS ON HINGE JAMB AS CLOSE TO TOP OF HINGE REINFORCEMENT AS POSSIBLE.
2. LOCATE ANCHORS ON STRIKE JAMB IN THE CORRESPONDING POSITION AS THE HINGE JAMB.

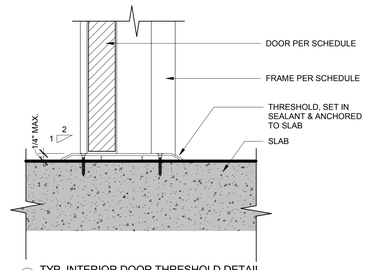
2 TYP. INTERIOR DOOR - JAMB
3" = 1'-0"



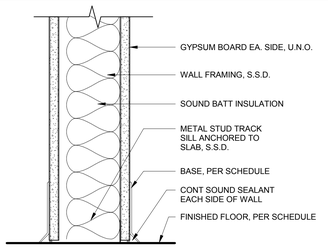
3 TYP. INTERIOR DOOR SILL
3" = 1'-0"



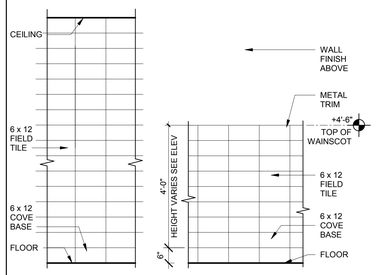
4 INTERIOR DOOR SILL W/O THRESHOLD
3" = 1'-0"



5 TYP. INTERIOR DOOR THRESHOLD DETAIL
3" = 1'-0"

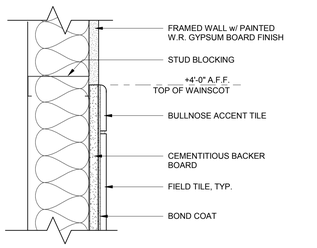


6 TYP. INTERIOR WALL BASE
3" = 1'-0"

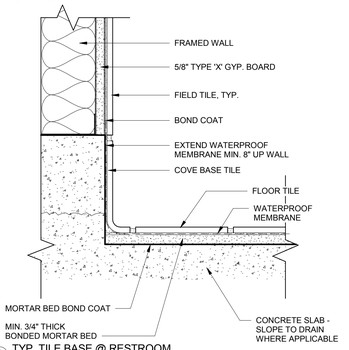


SHOWER RESTROOM

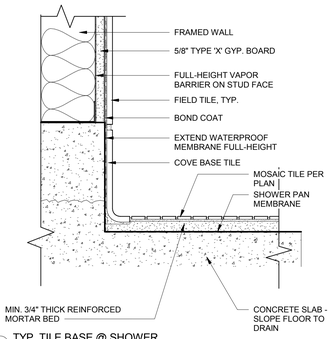
7 TYP. BATHROOM TILE LAYOUT
1/2" = 1'-0"



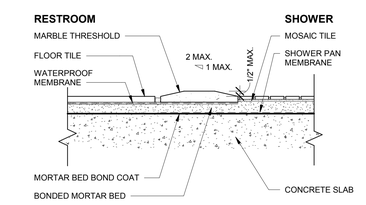
8 TYP. TILE @ FRAMED WALL
3" = 1'-0"



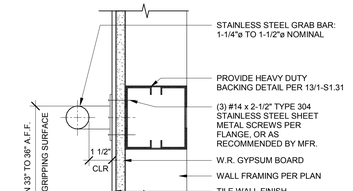
9 TYP. TILE BASE @ RESTROOM
3" = 1'-0"



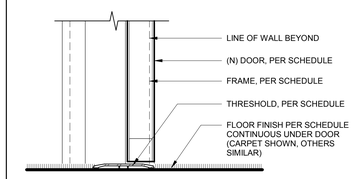
10 TYP. TILE BASE @ SHOWER
3" = 1'-0"



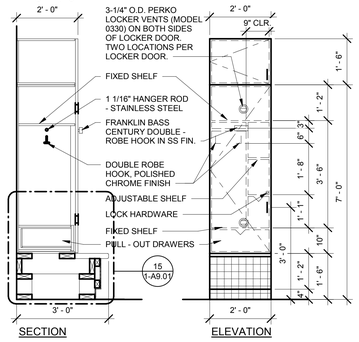
11 TYP. MARBLE THRESHOLD @ SHOWER
3" = 1'-0"



12 TYP. GRAB BAR MOUNTING
3" = 1'-0"

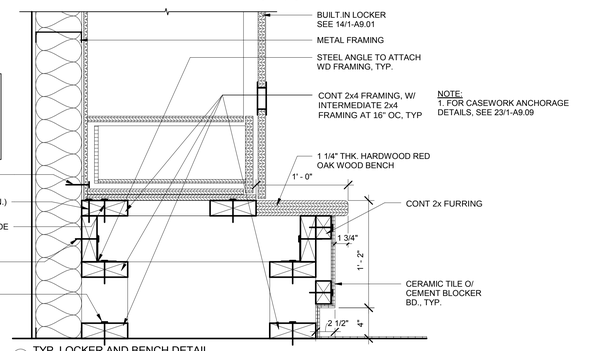


13 INTERIOR DOOR SILL W/ THRESHOLD
3" = 1'-0"



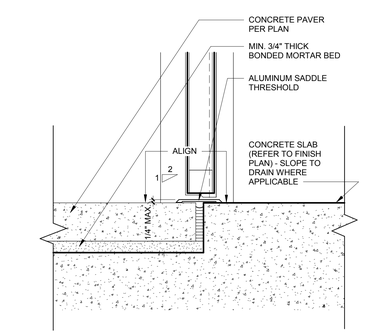
14 TYP. BUILT-IN PLAM LOCKERS
1/2" = 1'-0"

NOTE:
1. PROVIDE CABINETRY LOCK HARDWARE TO ALL LOCKERS.
2. FOR ADDITIONAL CASEWORK INFORMATION, SEE SPECIFICATIONS.

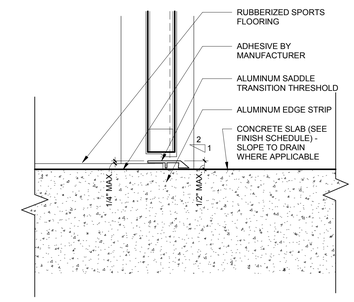


NOTE:
1. FOR CASEWORK ANCHORAGE DETAILS, SEE 23/1-A9.09

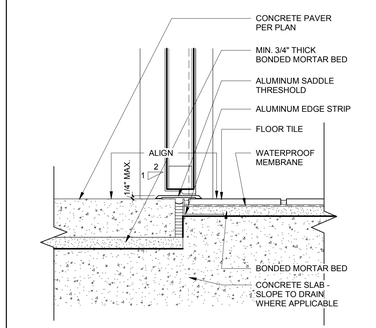
15 TYP. LOCKER AND BENCH DETAIL
1 1/2" = 1'-0"



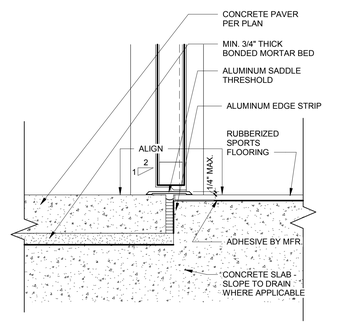
16 TRANSITION PAVERS TO CONCRETE
3" = 1'-0"



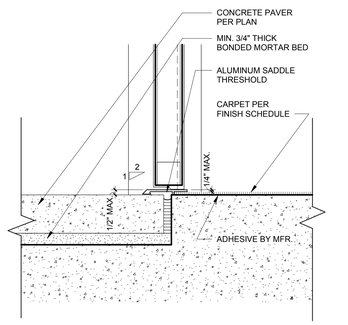
17 TRANSITION CONCRETE TO SPORTS FLOORING
3" = 1'-0"



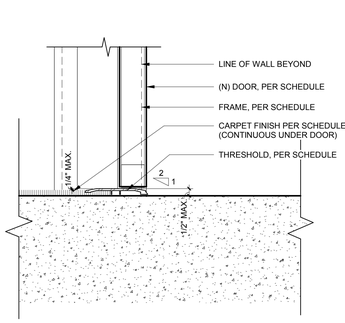
18 TRANSITION CERAMIC TILE TO CONCRETE
3" = 1'-0"



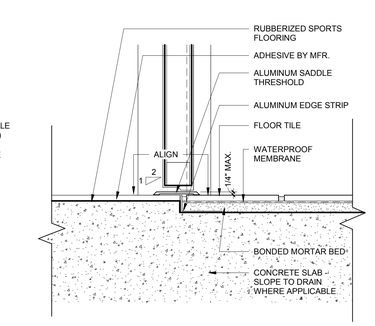
19 TRANSITION SPORTS FLOOR TO PAVERS
3" = 1'-0"



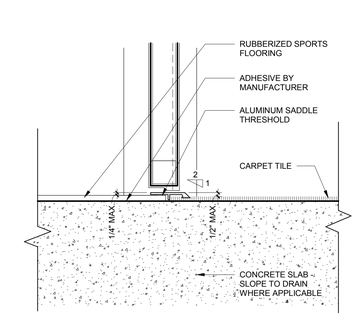
20 TRANSITION PAVERS TO CARPET
3" = 1'-0"



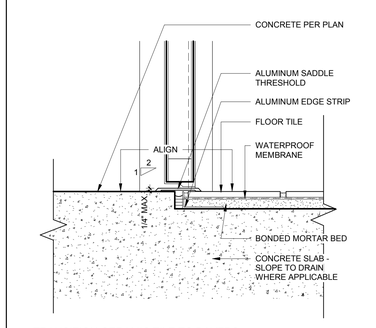
21 TRANSITION CARPET TO CONCRETE W/ THRESHOLD
3" = 1'-0"



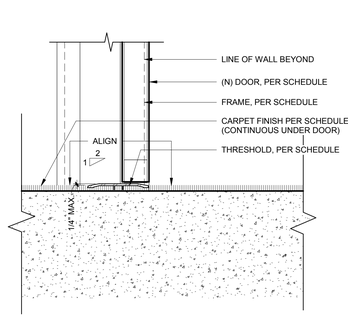
22 TRANSITION CERAMIC TILE TO SPORTS FLOORING
3" = 1'-0"



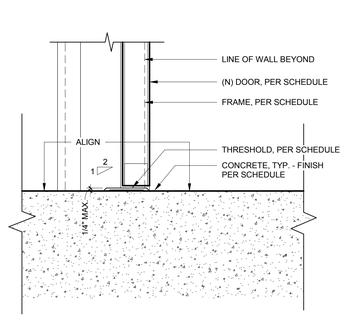
23 TRANSITION CARPET TO SPORTS FLOORING
3" = 1'-0"



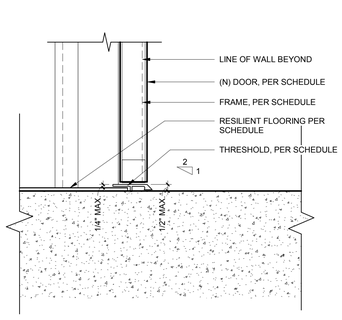
24 TRANSITION CERAMIC TILE TO PAVERS
3" = 1'-0"



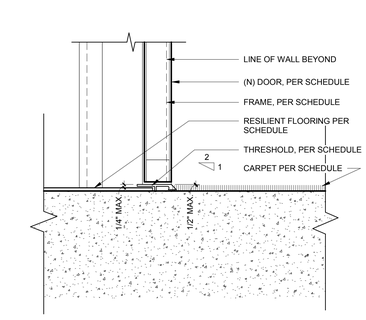
25 TRANSITION CARPET TO CARPET W/ THRESHOLD
3" = 1'-0"



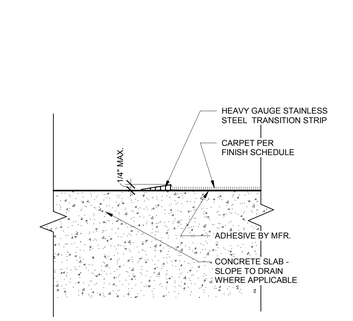
26 TRANSITION CONCRETE TO CONCRETE W/ THRESHOLD
3" = 1'-0"



27 TRANSITION RESILIENT FLOORING TO CONCRETE W/ THRESHOLD
3" = 1'-0"



28 TRANSITION RESILIENT FLOORING TO CARPET W/ THRESHOLD
3" = 1'-0"



29 TRANSITION CONCRETE TO CARPET W/O THRESHOLD
3" = 1'-0"

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION	
DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3-INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
9/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 1 INTERIOR DETAILS

Drawn By: Author
Checked By: Checker

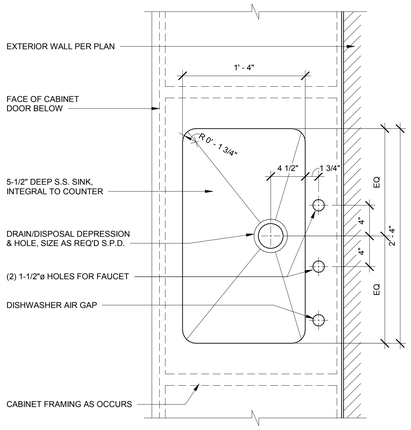
Scale: **As indicated**

Date: **October 4, 2019**

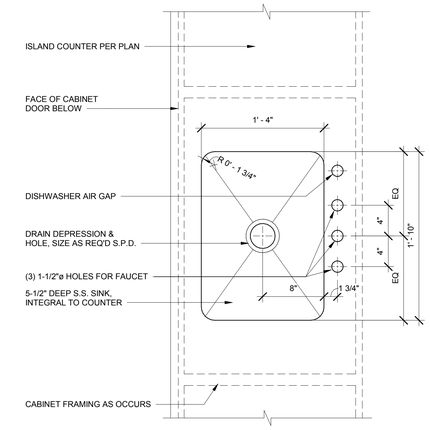
Project No. 2016039

1-A9.01
Drawing No.

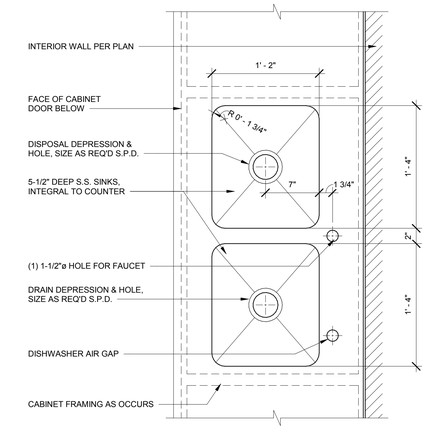
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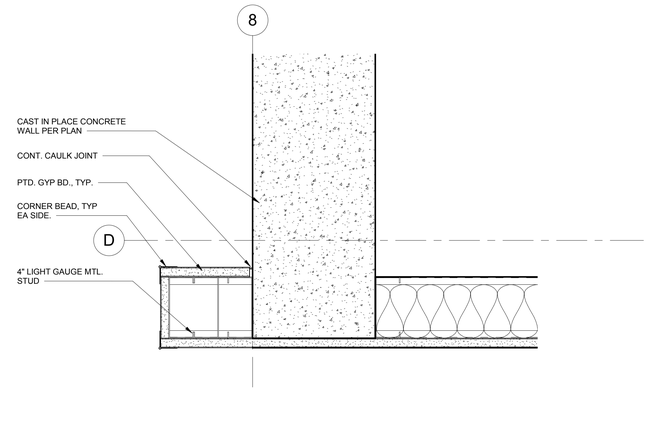
1 INTEGRAL KITCHEN SINK - SK1
1 1/2" = 1'-0"



2 INTEGRAL KITCHEN SINK - SK2
1 1/2" = 1'-0"



3 INTEGRAL KITCHEN SINK - SK6
1 1/2" = 1'-0"



4 WING WALL AT CLASSROOM ENTRY
3" = 1'-0"

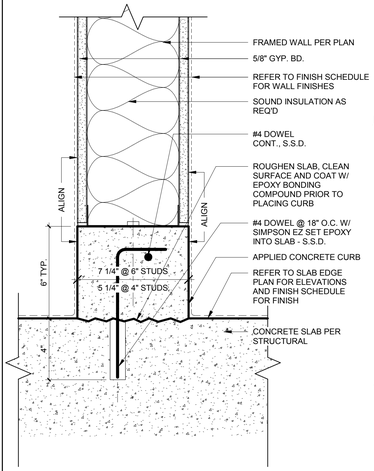
Ross Drulis Cusenbery
ARCHITECTURE
18294
Sonoma Highway
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APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
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SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

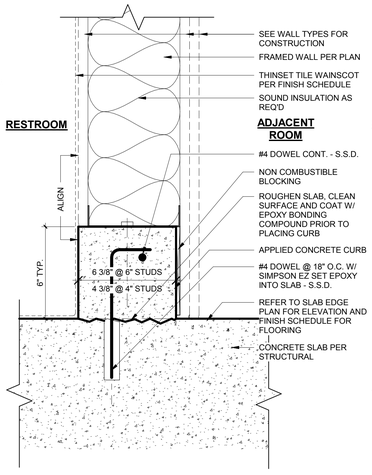
CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

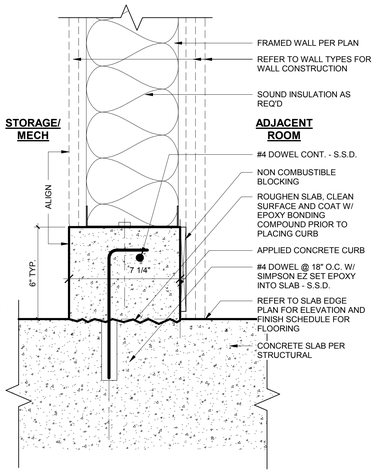
DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY:	
KATHY GARCIA DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**



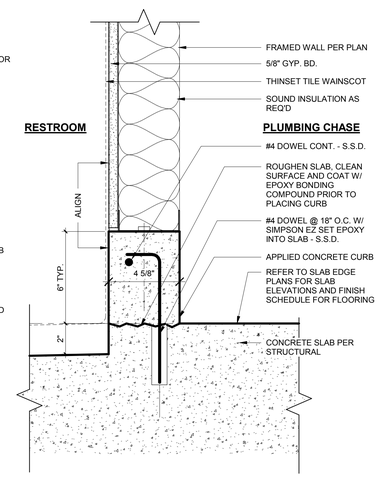
7 APPLIED CURB @ RESTROOM/APPARATUS BAY
3" = 1'-0"



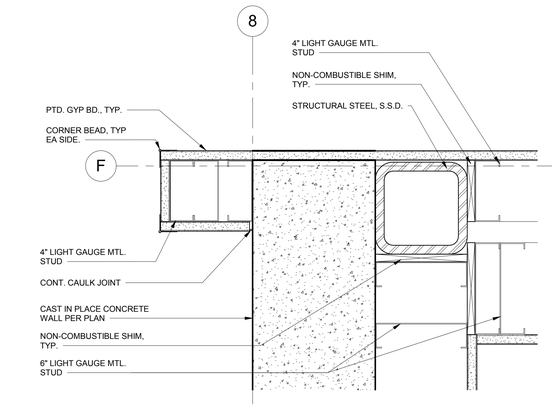
8 APPLIED CURB @ RESTROOM EXTERIOR WALL
3" = 1'-0"



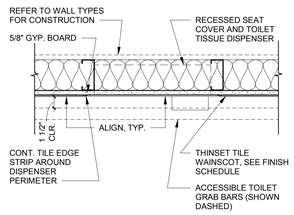
9 APPLIED CURB BETWEEN STORAGE/MECH. & ADJACENT ROOM
3" = 1'-0"



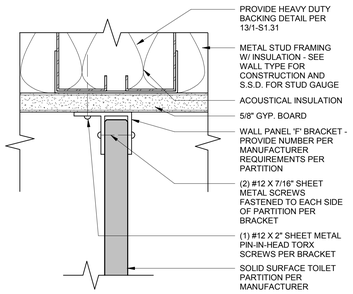
10 APPLIED CURB @ RESTROOM PLUMBING CHASE
3" = 1'-0"



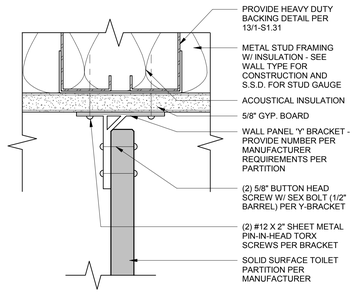
11 WING WALL AT CLASSROOM ENTRY
3" = 1'-0"



12 TYP. RECESSED TOILET TISSUE DISPENSER @ TILE WAINSCOT
1 1/2" = 1'-0"



13 TYP. TOILET PARTITION F BRACKET WALL ATTACHMENT
6" = 1'-0"



14 TYP. TOILET PARTITION Y BRACKET WALL ATTACHMENT
6" = 1'-0"

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3-INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
9/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 1 INTERIOR DETAILS

Drawn By: Author
Checked By: EW

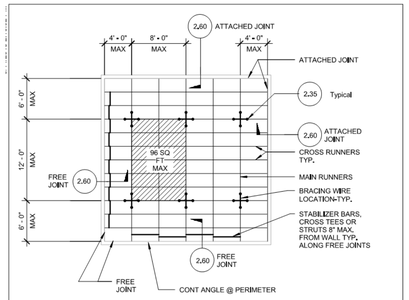
Scale:
As indicated

Date:
October 4, 2019

Project No. 2016039

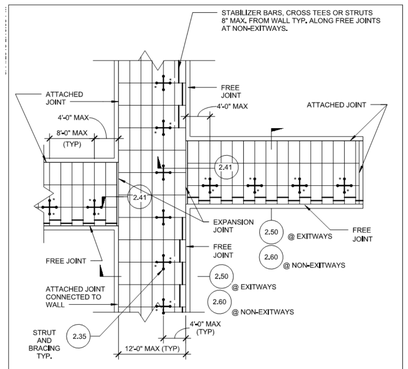
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Drawing No.

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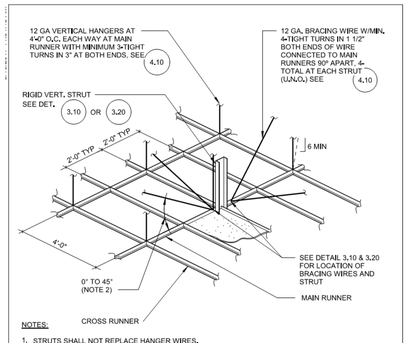
NOTE:
BRACING WIRES AND COMP. STRUT SHALL OCCUR AT EVERY 96 SQ. FT. MAX. IN ROOMS OVER 144 SQ. FT.

Basis Document : DSA IR 25-2.13			Sheet No:
Sheet Title : TYPICAL CEILING PLAN FOR 8'-0" x 12'-0" Brace Assembly Spacing	rev.	09-21-15	2.11
	rev.	03-10-17	



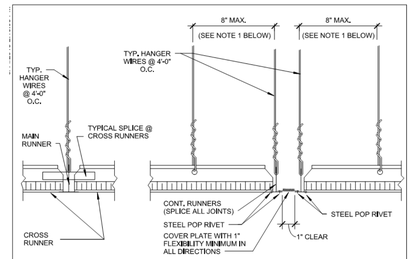
LOCATION OF EXPANSION/SLIP JOINTS IN CORRIDORS

Basis Document : DSA IR 25-2.13			Sheet No:
Sheet Title : SUSPENDED ACOUSTICAL CEILING- CORRIDOR CEILING PLAN (Essential Sevices Buildings)	rev.	09-21-15	2.31



NOTES:
1. STRUTS SHALL NOT REPLACE HANGER WIRES.
2. THE MINIMUM ACCEPTABLE ANGLE IS DETERMINED SUCH THAT THE WIRES DO NOT INTERFERE WITH THE RUNNERS, LIGHT FIXTURES, ETC. AND REMAIN STRAIGHT AND UNOBSTRUCTED.

Basis Document : DSA IR 25-2.13			Sheet No:
Sheet Title : SUSPENDED CEILING - SUSPENSION AND BRACING ASSEMBLY	rev.	09-21-15	2.35
	rev.	03-10-17	

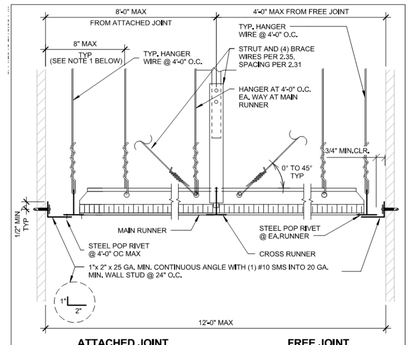


RUNNER SPLICE EXPANSION JOINT

EXPANSION JOINTS AT THE INTERSECTION OF CORRIDORS AND AT JUNCTIONS OF CORRIDORS AND LOBBIES OR OTHER SIMILAR AREAS

NOTES:
1. PROVIDE #12 GAGE HANGER WIRES AT THE ENDS OF ALL MAIN AND CROSS RUNNERS WITHIN EIGHT (8) INCHES OF THE SUPPORT OR WITHIN ONE-FOURTH (1/4) OF THE LENGTH OF THE END TEE, WHICHEVER IS LESS. FOR THE PERIMETER OF THE CEILING AREA, PERIMETER WIRES ARE NOT REQUIRED WHEN THE LENGTH OF THE END TEE IS EIGHT (8) INCHES OR LESS.

Basis Document : DSA IR 25-2.13			Sheet No:
Sheet Title : SUSPENDED ACOUSTICAL CEILING - EXPANSION JOINT AT INTERSECTIONS (Essential Services Buildings)	rev.	09-21-15	2.41

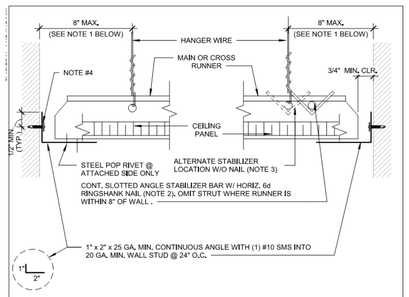


ATTACHED JOINT FREE JOINT

EXITWAY CORRIDOR DETAILS

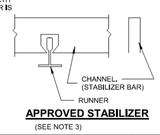
NOTES:
1. PROVIDE #12 GAGE HANGER WIRES AT THE ENDS OF ALL MAIN AND CROSS RUNNERS WITHIN EIGHT (8) INCHES OF THE SUPPORT OR WITHIN ONE-FOURTH (1/4) OF THE LENGTH OF THE END TEE, WHICHEVER IS LESS. FOR THE PERIMETER OF THE CEILING AREA, PERIMETER WIRES ARE NOT REQUIRED WHEN THE LENGTH OF THE END TEE IS EIGHT (8) INCHES OR LESS.

Basis Document : DSA IR 25-2.13			Sheet No:
Sheet Title : TYPICAL CEILING SECTION AT EXITWAY CORRIDORS (Essential Services Buildings)	rev.	09-21-15	2.50



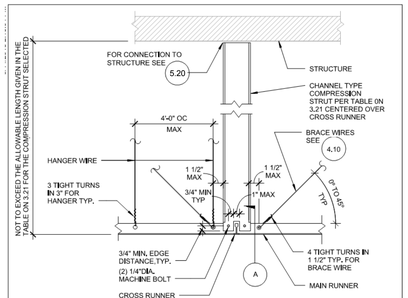
ATTACHED JOINT FREE JOINT

NOTES:
1. PROVIDE #12 GAGE HANGER WIRES AT THE ENDS OF ALL MAIN AND CROSS RUNNERS WITHIN EIGHT (8) INCHES OF THE SUPPORT OR WITHIN ONE-FOURTH (1/4) OF THE LENGTH OF THE END TEE, WHICHEVER IS LESS. FOR THE PERIMETER OF THE CEILING AREA, PERIMETER WIRES ARE NOT REQUIRED WHEN THE LENGTH OF THE END TEE IS EIGHT (8) INCHES OR LESS.
2. NAILS AT ENDS OF HORIZONTAL STABILIZERS ARE TO BE PLACED WITH NAIL HEAD TOWARD CENTER LINE OF SPAN OF STRUT.
3. STABILIZER BAR MAY BE SLOTTED APPROVED ANGLES OR CHANNELS WITH "DIAMOND POINTS" OF SPRING STEEL WHICH SNAP TIGHT TO PREVENT MOVEMENT OF STRUT.
4. (1) #10 SMS TO 20 GA. MIN. WALL STUD @ 24" O.C.

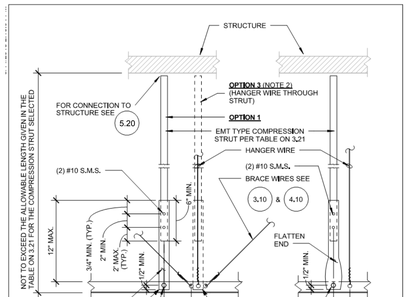


APPROVED STABILIZER (SEE NOTE 3)

Basis Document : DSA IR 25-2.13			Sheet No:
Sheet Title : CEILING PERIMETER	rev.	09-21-15	2.60
	rev.	03-10-17	



Basis Document : DSA IR 25-2.13			Sheet No:
Sheet Title : SUSPENDED ACOUSTICAL CEILING - CHANNEL TYPE STRUT	rev.	09-21-15	3.10



OPTION 1 & 3 **OPTION 2**

SEE OPTION 1 FOR INFORMATION NOT SHOWN

NOTES:
1. MACHINE BOLT IS NOT REQUIRED ON OPTION 3
2. APPLICABLE TO SAWN TIMBER WITHOUT GYPSUM BOARD ONLY.

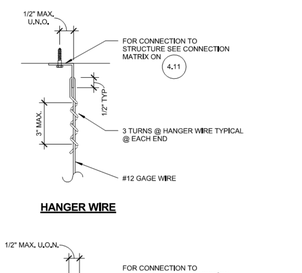
Basis Document : DSA IR 25-2.13			Sheet No:
Sheet Title : SUSPENDED ACOUSTICAL CEILING - EMT TYPE STRUT	rev.	09-21-15	3.20

COMPRESSION STRUT TABLE

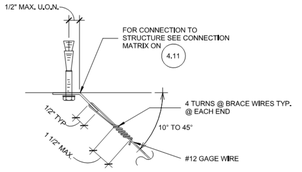
EMT COMPRESSION STRUT	MAXIMUM LENGTH
1/2" DIAMETER EMT (0.042" WALL THICKNESS)	3'-11"
3/4" DIAMETER EMT (0.049" WALL THICKNESS)	6'-4"
1" DIAMETER EMT (0.057" WALL THICKNESS)	9'-9"
1 1/4" DIAMETER EMT (0.065" WALL THICKNESS)	12'-9"
1 1/2" DIAMETER EMT (0.065" WALL THICKNESS)	14'-9"
2" DIAMETER EMT (0.065" WALL THICKNESS)	18'-10"

CHANNEL COMPRESSION STRUT	MAXIMUM LENGTH
250S125-33	5'-0"
250S137-33	6'-10"
362S137-33	8'-0"
250137-43	8'10"
400S137-43	10'-10"

Basis Document : DSA IR 25-2.13			Sheet No:
Sheet Title : COMPRESSION STRUT TABLE	rev.	09-21-15	3.21
	rev.	03-10-17	



HANGER WIRE

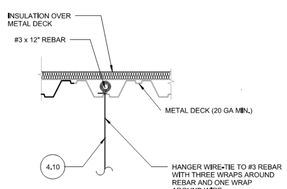


BRACING WIRE

Basis Document : DSA IR 25-2.13			Sheet No:
Sheet Title : HANGER AND BRACING WIRE CONNECTION - TYPICAL WIRE TURNS	rev.	09-21-15	4.10

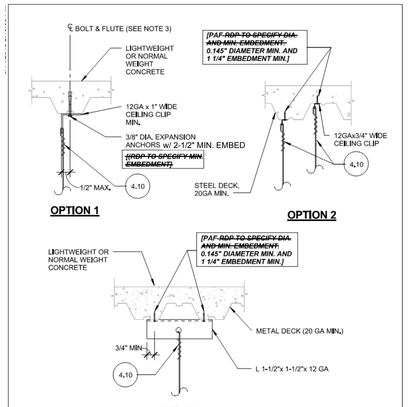
STRUCTURAL CONDITION OF FLOOR/ ROOF ABOVE SUSPENDED CEILING	APPLICABLE HANGER WIRE DETAIL	APPLICABLE BRACING WIRE DETAIL
METAL DECK	4.20	4.30
CONCRETE OVER METAL DECK	4.21	4.31
~~CONCRETE SLAB, BEAM, OR JOIST~~	~~4.22~~	~~4.32~~
~~STRUCTURAL STEEL~~	~~4.23~~	~~4.33~~
METAL STUD WALL	4.24	4.34
~~SAWN TIMBER~~	~~4.25, 4.29~~	~~4.35~~
~~WOOD I JOIST~~	~~4.26~~	~~4.36, 4.37~~
~~WOOD CHORD TRUSS~~	~~4.27, 4.29~~	~~4.38, 4.29~~
~~OPEN WEB STEEL JOIST~~	~~4.28, 4.29~~	~~4.39, 4.29~~

Basis Document : DSA IR 25-2.13			Sheet No:
Sheet Title : HANGER AND BRACING WIRE CONNECTION MATRIX	rev.	09-21-15	4.11



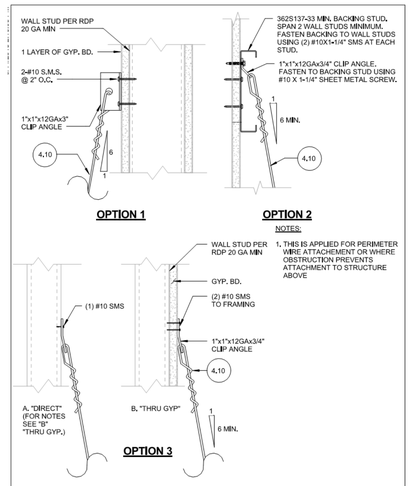
NOTES:
1. REFER TO 4,10 FOR ADDITIONAL DETAILS.

Basis Document : DSA IR 25-2.13			Sheet No:
Sheet Title : HANGER WIRE CONNECTION TO METAL DECK	rev.	09-21-15	4.20

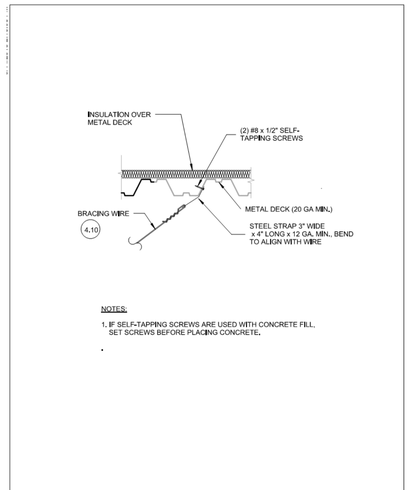


NOTES:
1. REFER TO 4,10 FOR ADDITIONAL DETAILS.
2. POST INSTALLED ANCHORS TO BE PLACED NO MORE THAN 1" OFFSET FROM CENTERLINE OF DECK LOW FLUTE.
3. TEST POST INSTALLED ANCHORS IN ACCORDANCE WITH CEILING NOTE 5.01.

Basis Document : DSA IR 25-2.13			Sheet No:
Sheet Title : HANGER WIRE CONNECTION TO CONCRETE OVER METAL DECK	rev.	09-21-15	4.21



Basis Document : DSA IR 25-2.13			Sheet No:
Sheet Title : HANGER WIRE CONNECTION TO METAL STUD WALL	rev.	09-21-15	4.24



NOTES:
1. IF SELF-TAPPING SCREWS ARE USED WITH CONCRETE FILL, SET SCREWS BEFORE PLACING CONCRETE.

Basis Document : DSA IR 25-2.13			Sheet No:
Sheet Title : BRACING WIRE CONNECTION AT METAL DECK	rev.	09-21-15	4.30

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY: KATHY GARCIA DEP. DIR. PUBLIC WORKS	ALEX AMERI INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3-INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
RENEWAL DATE 9/31/21
STATE OF CALIFORNIA

Sheet Title

BUILDING 1 CEILING DETAILS

Drawn By: AA Checked By: EW

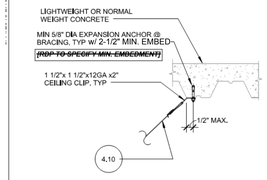
Scale:

Date: October 4, 2019

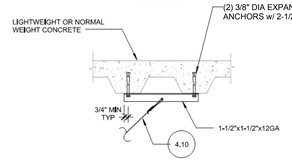
Project No. 2016039

1-A9.03
Drawing No.

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OPTION 1

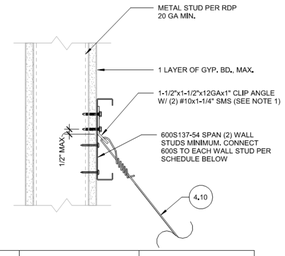


OPTION 2

NOTES:

1. TEST POST INSTALLED ANCHORS IN ACCORDANCE WITH CEILING NOTE 5.02
2. REFER TO 4.10 FOR ADDITIONAL DETAILS
3. POST INSTALLED ANCHORS TO BE PLACED NO MORE THAN 1" OFFSET FROM CENTERLINE OF DECK LOW FLUTE.

Basis Document: DSA IR 25-2.13			Sheet No:
Sheet Title: **BRACING WIRE CONNECTION TO CONCRETE OVER METAL DECK**	rev.	09-21-15	4.31

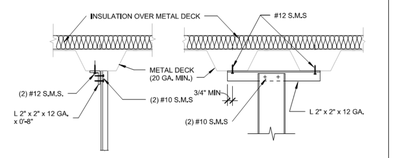


WALL STUD GAUGE	CONNECTION TO WALL STUD (WITH GYP. BD.)	CONNECTION TO WALL STUD (WITHOUT GYP. BD.)
20 GAUGE	(5) #10x1-1/4" SMS	(3) #10x1-1/4" SMS
18 GAUGE	(4) #10x1-1/4" SMS	(2) #10x1-1/4" SMS

NOTES:

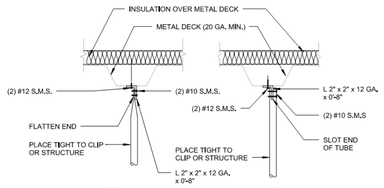
1. THE CLIP ANGLE CAN BE ATTACHED DIRECTLY TO THE WALL STUD FLANGE PROVIDED BOTH OF THE FOLLOWING CONDITIONS ARE MET:
   - THE WALL STUD IS 18 GA MIN. AND CAPABLE OF SUPPORTING THE BRACE FORCE.
   - THE BRACE WIRE ALIGNS WITH THE WALL STUD WEB.

Basis Document: DSA IR 25-2.13			Sheet No:
Sheet Title: **BRACING WIRE CONNECTION TO METAL STUD WALL**	rev. rev.	09-21-15 03-10-17	4.34



OPTION 1 **OPTION 2**

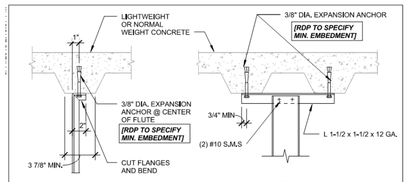
CHANNEL STRUT



OPTION 1 **OPTION 2**

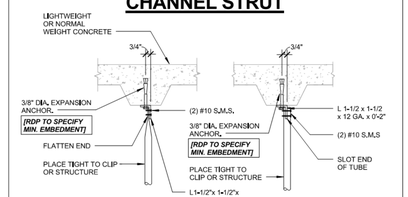
TUBE STRUT

Basis Document: DSA IR 25-2.13			Sheet No:
Sheet Title: **STRUT CONNECTION TO METAL DECK**	rev.	09-21-15	5.20



OPTION 1 **OPTION 2**

CHANNEL STRUT

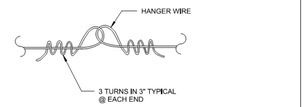


OPTION 1 **OPTION 2**

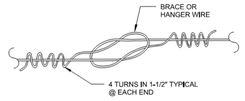
NOTES:
1. POST INSTALLED ANCHORS TO BE PLACED NO MORE THAN 1" OFFSET FROM CENTERLINE OF DECK LOW FLUTE
2. TEST POST INSTALLED ANCHORS IN ACCORDACE WITH CEILING NOTE 5.01

TUBE STRUT

Basis Document: DSA IR 25-2.13			Sheet No:
Sheet Title: **STRUT CONNECTION TO CONCRETE OVER METAL DECK**	rev.	09-21-15	5.21



HANGER WIRE ONLY



HANGER OR BRACE WIRE

NOTES:

WIRE SPLICES ARE SHOWN LOOSELY TIED FOR ILLUSTRATIVE PURPOSES ONLY AND SHALL BE DRAWN TIGHT TO COMPLETE INSTALLATION WHEN CONSTRUCTED.

Basis Document: DSA IR 25-2.13			Sheet No:
Sheet Title: **CEILING WIRE SPLICES**	rev.	09-21-15	6.10

1. CEILING SYSTEM GENERAL NOTES:

1.01 Ceiling system components shall comply with ASTM C635-07 and Section 5.1 of ASTM E580-10a.

1.02 The ceiling grid system must be rated heavy duty as defined by ASTM C635-08.

1.03 Ceiling systems. The following ceiling system(s) is/are part of the scope of this project: ***[For each system used, the RDP shall indicate in the construction documents, the information that follows]***

Manufacturer's Name _____.
Product Evaluation Report Type and Number _____.
Manufacturer's Model Number - main runner _____.
Manufacturer's catalog number - cross runner _____.

1.04 Seismic Wall Clip: ***[RDP to specify if used]***

Manufacturer's Model _____.

1.05 Ceiling panels shall not support any light fixtures, air terminals or devices.

1.06 For ceiling installations utilizing acoustical tile panels of mineral or glass fiber, it is not mandatory to provide ¾" clearance between the acoustical tile panels and the wall on the sides of the ceiling which are free to slip. For all other ceiling panel types, provide ¾" clearance between the ceiling panel and the wall on the sides of the ceiling free to slip.

2. MATERIALS:

2.01 Ceiling wire shall be Class 1 zinc coated (galvanized) carbon steel conforming to ASTM A641-09a. Wire shall be #12 gage (0.106" diameter) with soft temper and minimum tensile strength = 70 ksi.

2.02 Galvanized sheet steel (including that used for metal stud and track compression struts/post) shall conform to ASTM A653-11, or other equivalent sheet steel listed in Section A2.1 of the North American Specification for the Design of Cold-Formed Steel Structural Members 2007, including supplement 2 dated 2010 (AISI S100-07/S2-10). Material 43 mil (18 gage) and lighter shall have minimum yield strength of 33 ksi. Material 54 mil (16 gage) and heavier shall have a minimum yield strength of 50 ksi.

2.03 Electrical metallic tube (EMT) shall be ANSI C80.3/UL 797 carbon steel with G90 galvanizing. EMT shall have minimum yield strength (Fy) of 30 ksi and minimum ultimate strength (Fu) of 48 ksi.

Basis Document: DSA IR 25-2.13			Sheet No:
Sheet Title: **Ceiling Notes**	rev.	09-21-15	1.00

3. ATTACHMENT OF HANGER AND BRACING WIRES:

3.01 Separate all ceiling hanger and bracing wires at least six (6) inches from all unbraced ducts, pipes, conduit, etc.

3.02 Hanger and bracing wires shall not attach to or bend around obstructions including but not limited to: piping, ductwork, conduit and equipment.

3.03 Hanger wires that are more than one (horizontal) in six (vertical) out of plumb shall have counter-sloping wires.

3.04 Slack safety wires shall be considered hanger wires for installation and testing requirements.

3.05 Hanger and bracing wire anchorage to the structure shall be installed in such a manner that the direction of the anchorage aligns closely with the direction of the wire. (e.g. bracing wire ceiling clips must be bent as shown in the details and rotated as required to align closely with the direction of the wire, screw eyes in wood must be installed so they align closely with the direction of the wire, etc.)

4. FASTENERS AND WELDING:

4.01 Sheet metal screws shall comply with ASTM C1513-10, ASME B18.6.4-89 (R2005). Penetration of screws through joined material shall not be less than three exposed threads.

4.02 Expansion anchors shall be: ***[RDP to indicate manufacturer, product, evaluation report number and load for each size specified per CBC 1913A.7.2.]***

4.03 Power-Actuated Fasteners shall be: ***[RDP to indicate manufacturer, product, evaluation report number]***

4.04 If not otherwise specified in the evaluation report, power-actuated fasteners installed in steel shall be installed so the entire pointed end of the fastener is driven through the steel member.

4.05 Power-actuated fasteners in concrete are not permitted for bracing wires.

4.06 Concrete reinforcement and prestressing tendons shall be located by non-destructive means prior to installing post - installed anchor.

4.07 Welding shall be in accordance with AWS D1.3 using E60XX series electrodes.

5. TESTING: All field testing must be performed in the presence of the project inspector.

5.01 Post-installed anchors in concrete used to support hanger wires shall be tested at a frequency of 10 percent. Power actuated fasteners in concrete shall be field tested for 200 lbs. in tension. All other post-installed anchors in concrete shall be tested in accordance with CBC Section 1913A.7.

5.02 Post-installed anchors in concrete used to attach bracing wires shall be tested at a frequency of 50 percent in accordance with CBC Section 1913A.7.

Basis Document: DSA IR 25-2.13			Sheet No:
Sheet Title: **Ceiling Notes**	rev.	09-21-15	1.01

6. LIGHT FIXTURES:

6.01 All light fixtures shall be positively attached to the ceiling suspension systems by mechanical means to resist a horizontal force equal to the weight of the fixture. A minimum of two screws or approved fasteners are required at each light fixture, per ASTM E580, Section 5.3.1.

6.02 Surface-mounted light fixtures shall be attached to the main runner with at least two positive clamping devices. The clamping device shall completely surround the supporting ceiling runner and be made of steel with a minimum thickness of #14 gage. Rotational spring catches do not comply. A #12 gage slack safety wire shall be connected from each clamping device to the structure above. Provide additional supports when light fixtures are eight (8) feet or longer or exceed 56 lb. Maximum spacing between supports shall not exceed eight (8) feet.

6.03 Light fixtures weighing less than or equal to 10 lb. shall have a minimum of one (1) #12 gage slack safety wire connected from the fixture housing to the structure above.

6.04 Light fixtures weighing less than or equal to 10 lb. shall have a minimum of one (1) #12 gage slack safety wire connected from the fixture housing to the structure above.

6.05 Light fixtures weighing greater than 10 lb. but less than or equal to 56 lbs. may be supported directly on the ceiling runners, but they shall have a minimum of two (2) #12 gage slack safety wires connected from the fixture housing at diagonal corners to the structure above.

Exception: All light fixtures greater than two by four feet weighing less than 56 lbs. shall have a #12 gage slack safety wire at each corner.

6.06 All Light fixtures weighing greater than 56 lb. shall be independently supported by not less than four (4) taut #12 gage hanger wires (one at each corner) attached from the fixture housing to the structure above or other approved hangers. The four (4) taut #12 gage wires or other approved hangers, including their attachment to the structure above, shall be capable of supporting four (4) times the weight of the fixture.

7. SERVICES WITHIN THE CEILING:

7.01 All flexible sprinkler hose fitting mounting brackets, ceiling-mounted air terminals or other services shall be positively attached to the ceiling suspension systems by mechanical means. Screws or approved fasteners are required. A minimum of two attachments are required at each component.

7.02 Ceiling-mounted air terminals or other services weighing less than or equal to 20 lb. shall have one (1) #12 gage slack safety wire attached from the terminal or service to the structure above.

7.03 Flexible sprinkler hose fittings, ceiling-mounted air terminals or other services weighing more than 20 lb. but less than or equal to 56 lb. shall have two (2) #12 gage slack safety wires (at diagonal corners) connected from the terminal or service to the structure above.

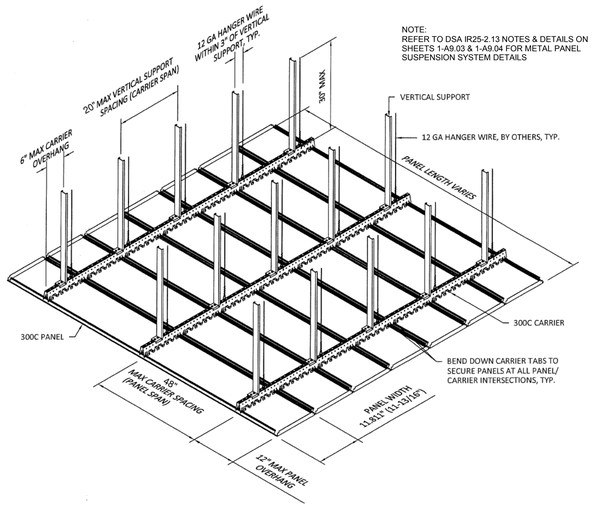
7.04 Flexible sprinkler hose fittings, ceiling-mounted air terminals or other services weighing more than 56 lb. shall be supported directly from the structure above by not less than four (4) taut #12 gage hanger wires attached from the terminal or service to the structure above or other approved hangers.

Basis Document: DSA IR 25-2.13			Sheet No:
Sheet Title: **Ceiling Notes**	rev.	09-21-15	1.02

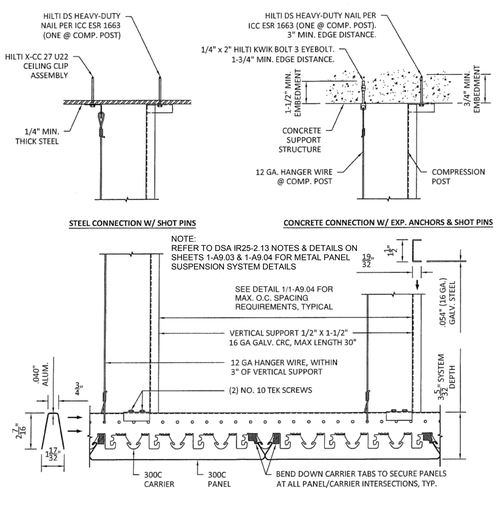
8. OTHER DEVICES WITHIN THE CEILING:

8.01 All lightweight miscellaneous devices, such as strobe lights, occupancy sensors, speakers, exit signs, etc., shall be attached to the ceiling grid. In addition, devices weighing more than 10 lbs. shall have a #12 gage slack safety wire anchored to the structure above. Devices weighing more than 20 lb. shall be supported independently from the structure above.

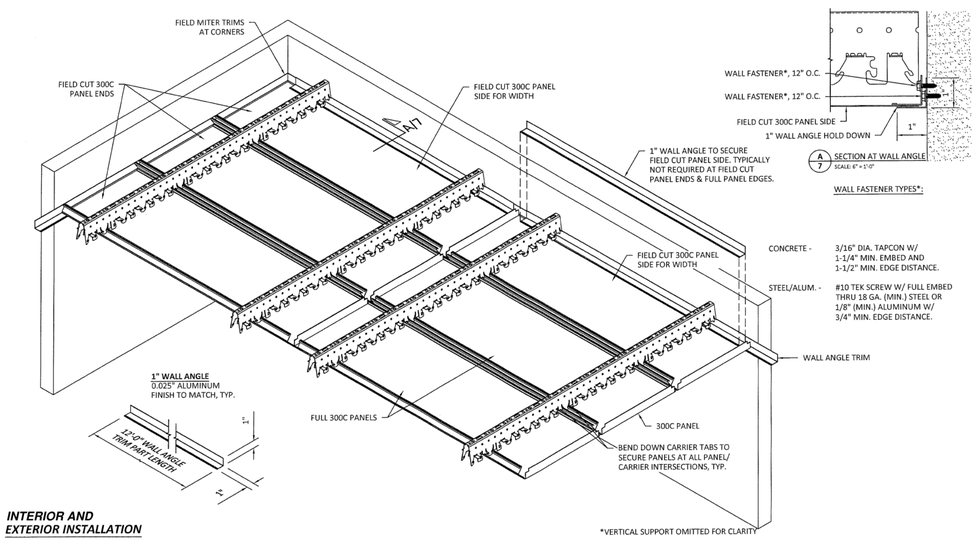
Basis Document: DSA IR 25-2.13			Sheet No:
Sheet Title: **Ceiling Notes**	rev.	09-21-15	1.03



1 SUSPENDED METAL CEILING PANEL SUPPORT SYSTEM



2 SUSPENDED METAL CEILING PANEL VERTICAL SUPPORT



INTERIOR AND EXTERIOR INSTALLATION

3 SUSPENDED METAL CEILING WALL ANGLE TRIM

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC: 01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

Ross Drulis Cusenbery
ARCHITECTURE
18294 Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY: **KATHY GARCIA** DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3-INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
9/30/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 1 CEILING DETAILS

Drawn By: Author Checked By: Checker

Scale:

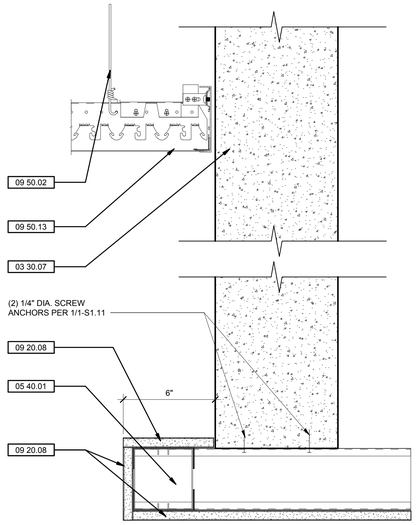
Date: **October 4, 2019**

Project No. 2016039

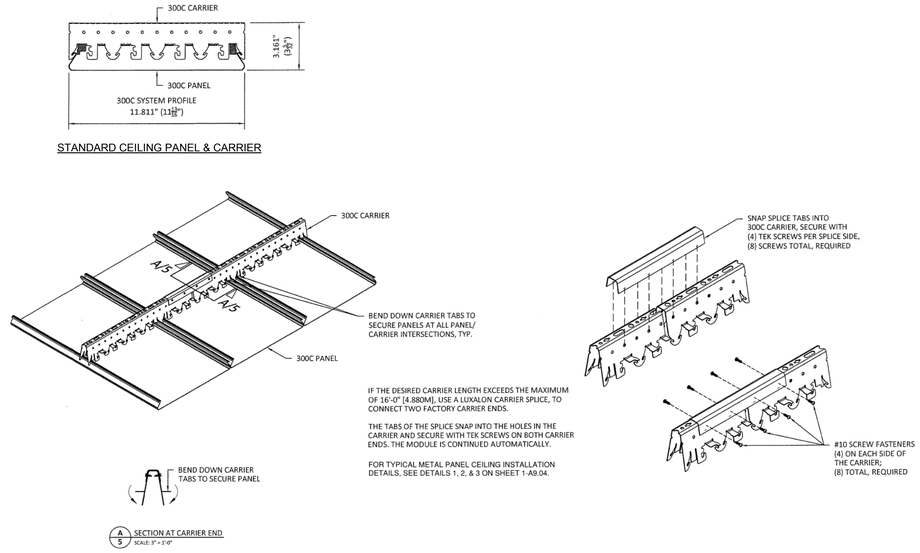
1-A9.04

Drawing No.

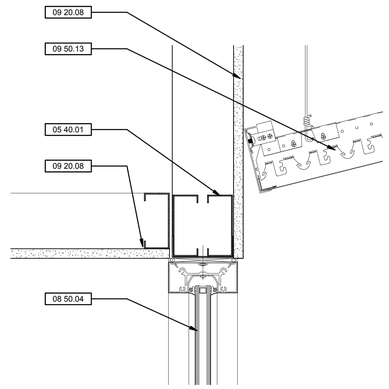
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1 GYPSUM BOARD CEILING EXTENSION @ LOBBY ALCOVE
3" = 1'-0"



2 SUSPENDED METAL CEILING PANELS, CARRIER PROFILE, AND CARRIER SPLICE



3 CEILING AT SECOND FLOOR LOBBY
3" = 1'-0"

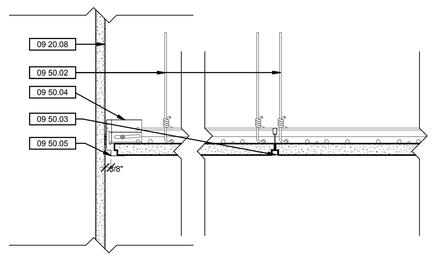
GENERAL SHEET NOTES

1. SEE SHEET 1-A0.11 FOR ACCESSIBLE MOUNTING HEIGHTS AND CLEARANCES.
2. INTERIOR OF STUD WALL AND COLUMN BOX DIMENSIONS MEASURED TO FACE OF FRAMING, U.O.N.
3. EXTERIOR WALL DIMENSIONS MEASURED TO FACE OF FINISH, U.O.N.
4. CONCRETE AND CMU WALL DIMENSIONS MEASURED TO FACE OF CONCRETE OR BLOCK, U.O.N.
5. FOR COMPLETE STAIR COMPONENT DIMENSIONS AND LOCATIONS, REFER TO ARCH. SHEET SERIES 1-A7
6. REFER TO SHEET 1-A8.00 FOR WALL TYPES
7. FOR DETAIL CALLOUTS, SEE WALL SECTIONS, ENLARGED PLANS, AND INTERIOR ELEVATIONS REFERENCED IN THE 1-A2 SERIES
8. FOR LOCATION AND DETAILED INFORMATION ON SIGNAGE, REFER TO "VOLUME 5 CONSTRUCTION DOCUMENT DRAWINGS (SIGNAGE)"
9. "ALIGN" ANNOTATIONS AT WALLS REFER TO FACE OF FINISH, U.O.N.
10. SEE PLUMBING DRAWINGS FOR FLOOR DRAIN AND CLEANOUT LOCATIONS

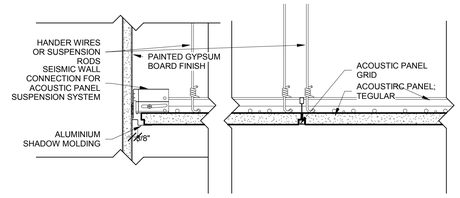
SHEET KEYNOTE LEGEND

03 30.07	CAST-IN-PLACE CONCRETE WALL, S.S.D.
05 40.01	METAL WALL STUDS, S.S.D.
08 50.04	ALUMINUM FRAME WINDOW WITH CLEAR GLAZING, TYPICAL. SEE WINDOW SCHEDULE
09 20.08	GYP. BD, PTD.
09 20.09	METAL CORNER GUARD
09 50.01	24" X 24" ACT CEILING
09 50.02	HANGER WIRES OR SUSPENSION RODS INSTALLED IN ACCORDANCE WITH DSA IR 25-2.13 DETAILS ON SHEETS 1-A9.03 & 1-A9.04
09 50.03	ACOUSTICAL PANEL CEILING SYSTEM
09 50.04	SEISMIC WALL CONNECTION FOR ACOUSTIC PANEL SUSPENSION SYSTEM IN ACCORDANCE TO DSA IR 25-2.13. SEE CEILING DETAILS ON SHEETS 1-A9.03 & 1-A9.04
09 50.05	ALUMINUM SHADOW MOLDING
09 50.06	SUSPENDED CEILING GRID
09 50.13	METAL PANEL PER FINISH SCHEDULE. INSTALL PER CEILING DETAILS 1.2, & 3 ON SHEET 1-A9.04

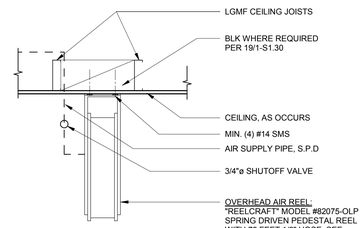
4 SUSPENDED CEILING @ GYPSUM BOARD COFFER
3" = 1'-0"



5 SUSPENDED CEILING (TYPE 1) @ WALL AND TRACK
3" = 1'-0"



6 SUSPENDED CEILING (TYPE 2) EDGE TRIM
3" = 1'-0"



MAXIMUM WEIGHT = 200 LBS

NOTE:
1. PROVIDE SIMILAR ATTACHMENT FOR THE ELECTRICAL REELS. PROVIDE 30 AMP ELECTRICAL CABLE REELS THAT CONSIST OF A 50-FT. LONG 3-CONDUCTOR #10 TYPE SO CABLE AND FEMALE CONNECTOR. "APPLETON" #RL233N-3 w/ "HUSSMUL" #091-159-CON-3P-120. VERIFY ACTUAL PIN CONFIGURATION PRIOR TO INSTALLATION.

7 TYP. OVERHEAD AIR & ELECTRICAL REELS
1" = 1'-0"

8 SUSPENDED TECTUM CEILING EDGE TRIM
3" = 1'-0"

9 METAL CEILING @ EXTERIOR CANOPY
3" = 1'-0"

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3-INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
9/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 1 CEILING DETAILS

Drawn By: TG
Checked By: EW

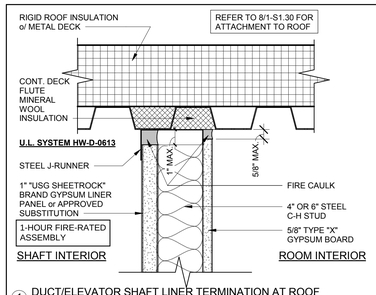
Scale: **As indicated**

Date: **October 4, 2019**

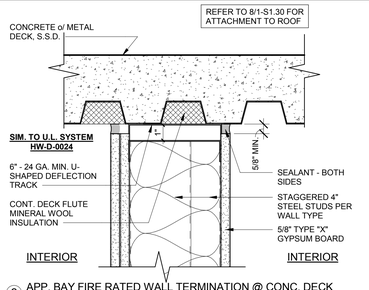
Project No. 2016039

1-A9.05
Drawing No.

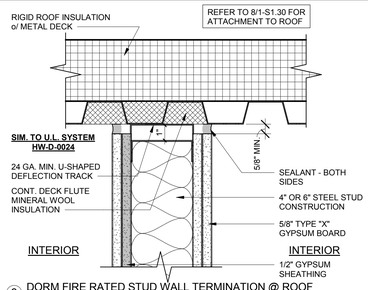
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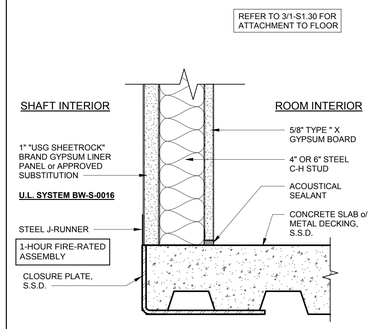
1 DUCT/ELEVATOR SHAFT LINER TERMINATION AT ROOF
3" = 1'-0"



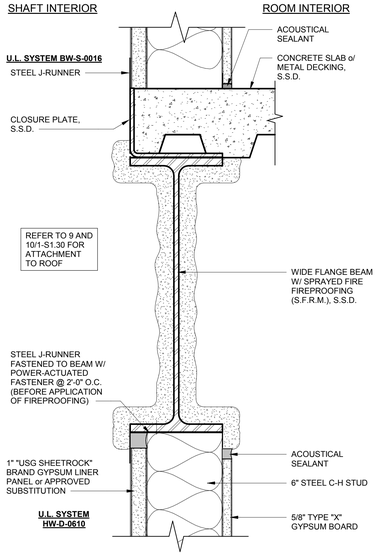
2 APP. BAY FIRE RATED WALL TERMINATION @ CONC. DECK
3" = 1'-0"



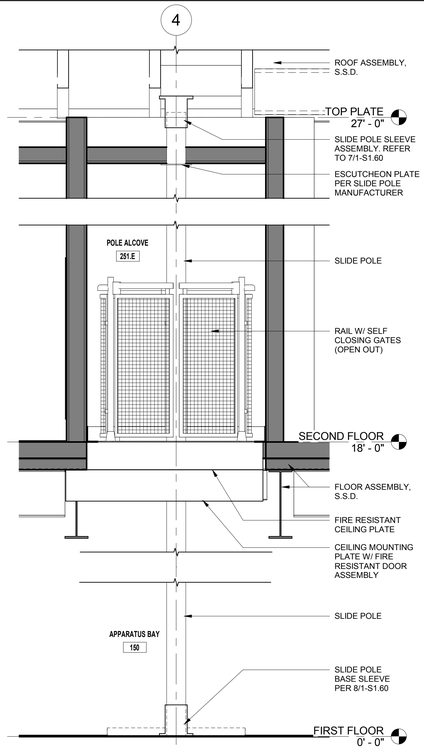
3 DORM FIRE RATED STUD WALL TERMINATION @ ROOF
3" = 1'-0"



7 DUCT/ ELEVATOR SHAFT WALL SILL
3" = 1'-0"



8 ELEVATOR SHAFT WALL TERMINATION @ BEAM
3" = 1'-0"



9 SLIDE POLE
3/4" = 1'-0"

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
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ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION	
DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3-INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
9/30/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 1 FIRE-RATED WALL TERMINATION DETAILS

Drawn By: AA Checked By: EW

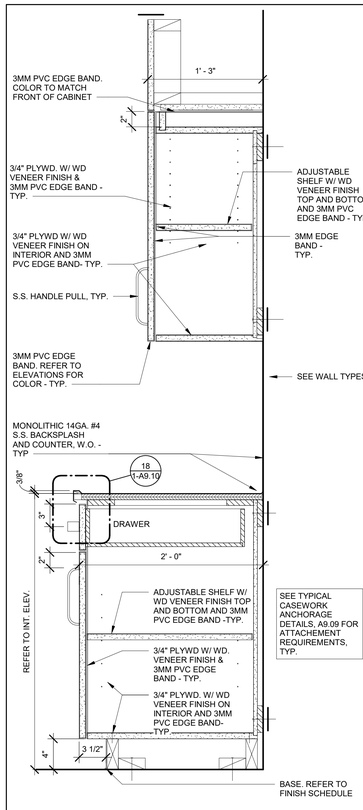
Scale:
As indicated

Date:
October 4, 2019

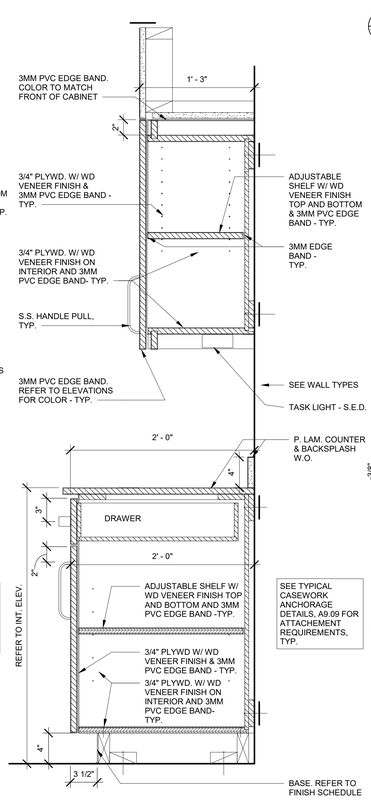
Project No. 2016039

1-A9.06
Drawing No.

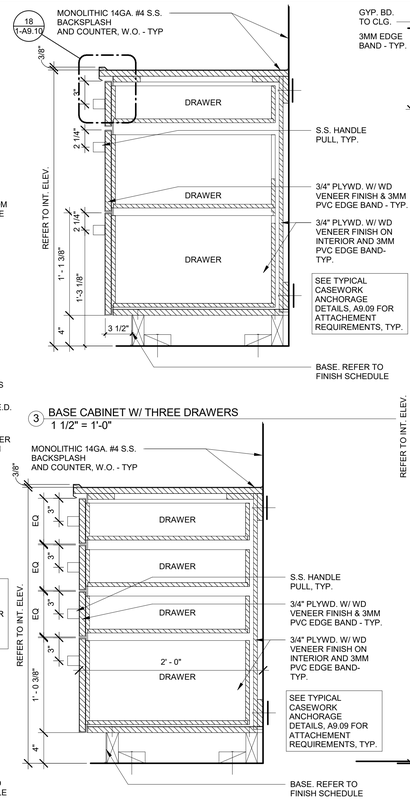
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13 TYP. UPPER AND LOWER CASEWORK W/ SS COUNTERTOP
1 1/2" = 1'-0"

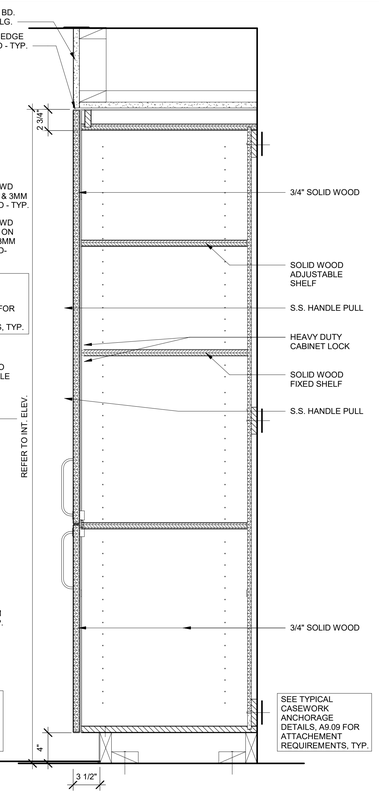


14 TYP. UPPER AND LOWER CASEWORK W/ PLAM COUNTERTOP
1 1/2" = 1'-0"

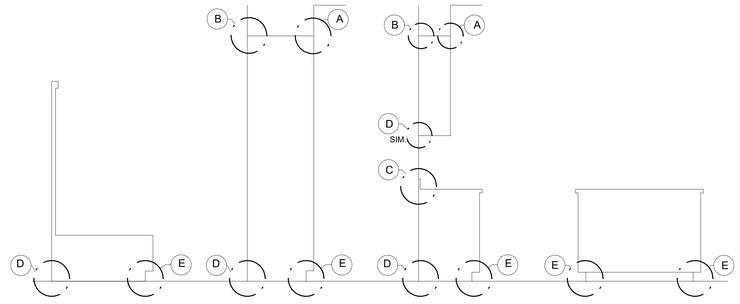


3 BASE CABINET W/ THREE DRAWERS
1 1/2" = 1'-0"

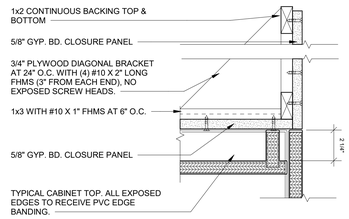
15 BASE CABINET W FOUR DRAWERS
1 1/2" = 1'-0"



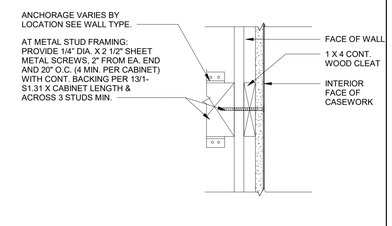
16 FULL HEIGHT PANTRY CABINET
1 1/2" = 1'-0"



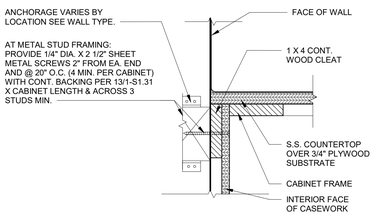
7 TYP. CASEWORK ANCHORAGE LOCATIONS
1/2" = 1'-0"



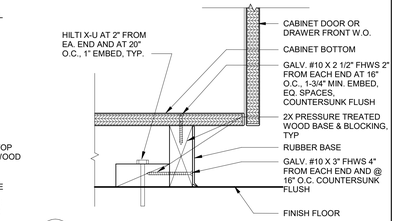
A CABINET TOP DETAIL



B CABINET ANCHORAGE DETAIL



C CABINET ANCHORAGE DETAIL

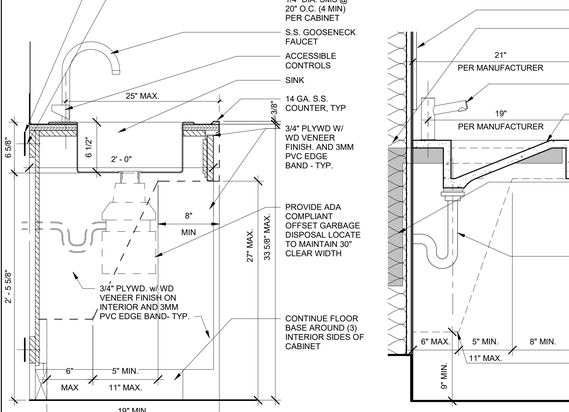


E CABINET BASE AT FLOOR ANCHORAGE

D CABINET BASE AT WALL ANCHORAGE

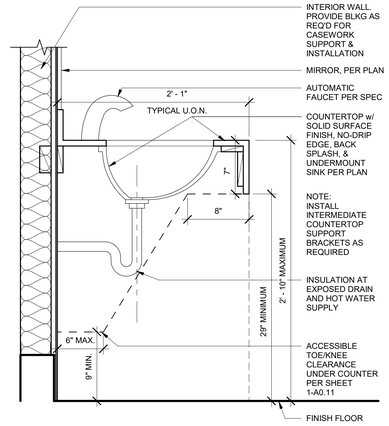
23 TYP. CASEWORK ANCHORAGE DETAILS
3" = 1'-0"

28 TYP. BASE CABINET W/ PLAM COUNTER
1 1/2" = 1'-0"

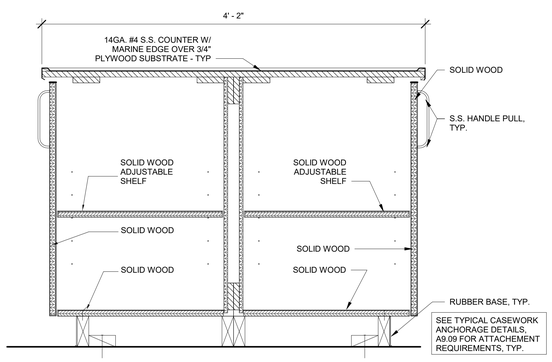


19 SINK CABINET SECTION
1 1/2" = 1'-0"

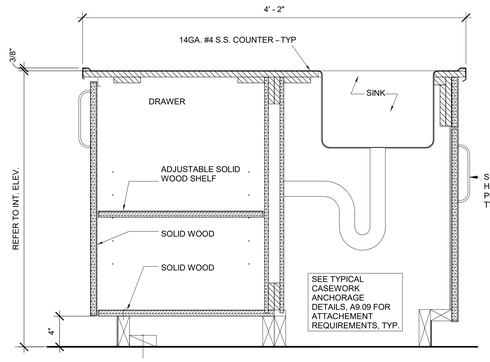
20 TYP. CONCRETE SINK AT FIRST FLOOR RESTROOMS
1 1/2" = 1'-0"



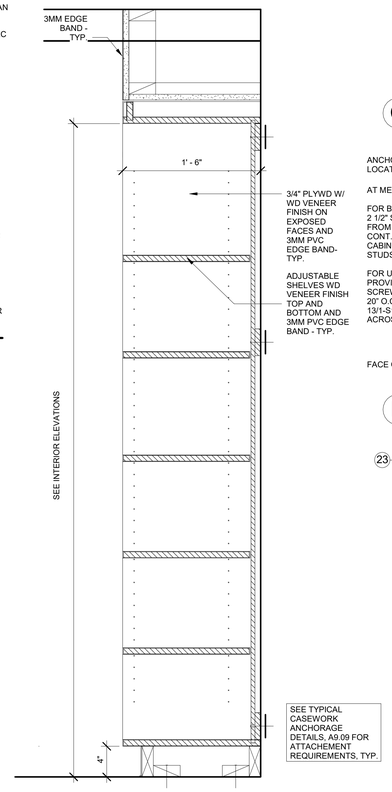
21 TYP. LAVATORY COUNTERTOP
1 1/2" = 1'-0"



24 ISLAND SINK CABINET
1 1/2" = 1'-0"



25 ISLAND SINK CABINET
1 1/2" = 1'-0"



26 OFFICE STORAGE CABINET
1 1/2" = 1'-0"

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION	
DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	INC 01_ADD_01_V1	12/06/2019

PERMIT SUBMITTAL V3-INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
RENEWAL DATE 08/31/21
STATE OF CALIFORNIA

Sheet Title

BUILDING 1 CASEWORK DETAILS

Drawn By: Author
Checked By: Checker

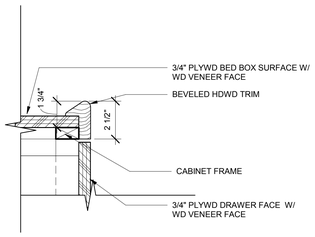
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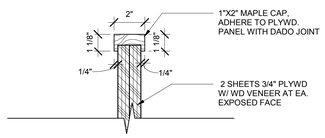
Date: October 4, 2019

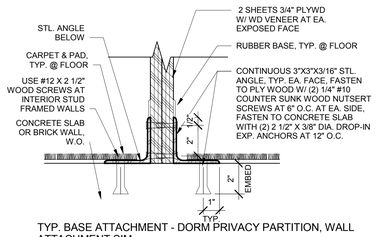
Project No. 2016039

1-A9.09
Drawing No.

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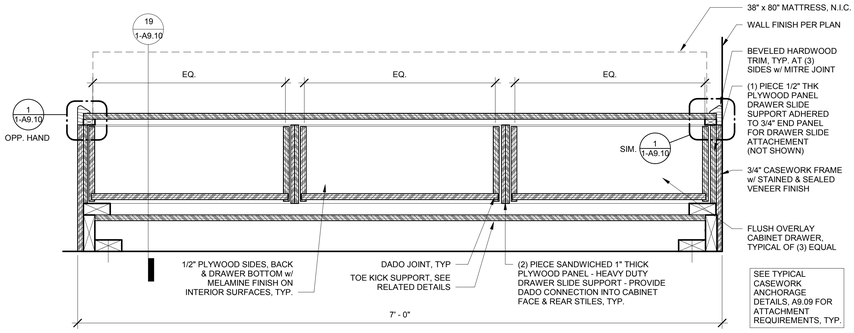




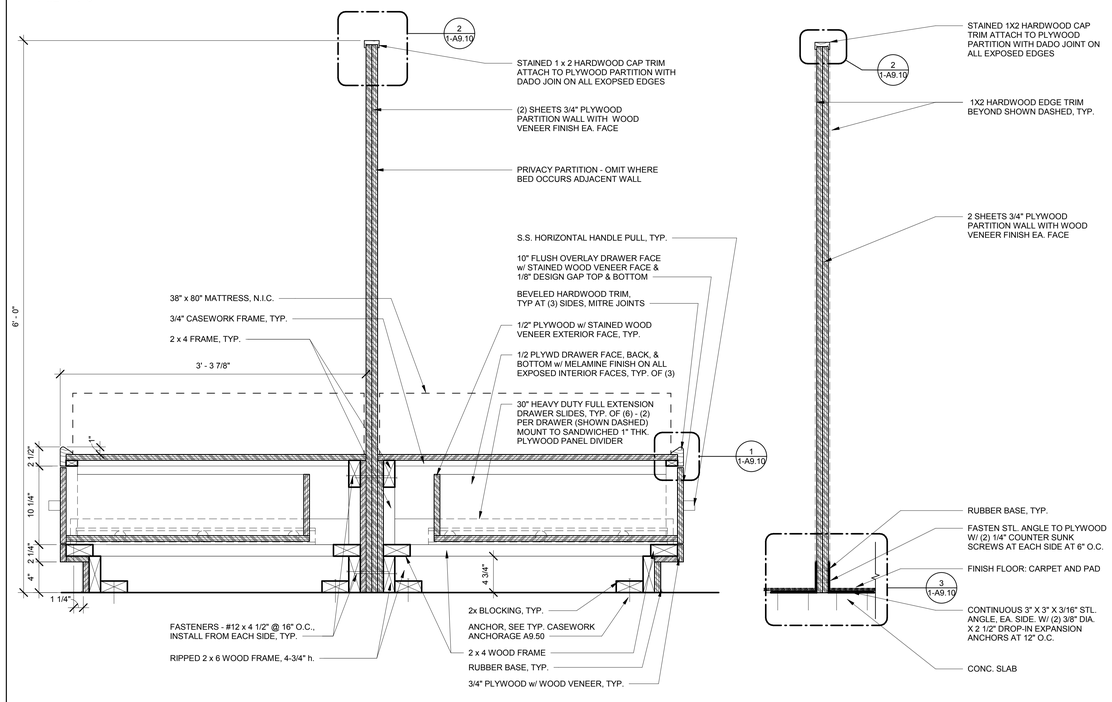
1 TYP. EDGE DETAIL - BED PLATFORM
3" = 1'-0"

2 TYP. EDGE DETAIL - DORM PRIVACY PARTITION
3" = 1'-0"

3 TYP. BASE ATTACHMENT - DORM PRIVACY PARTITION, WALL ATTACHMENT SIM
3" = 1'-0"

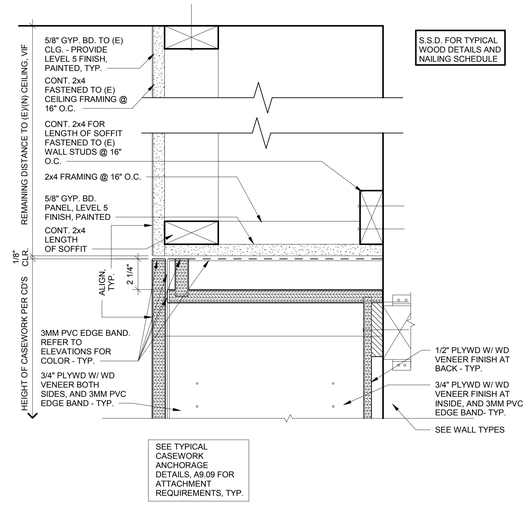


7 TYP. CAPTAIN'S BED-LONGITUDINAL SECTION
1 1/2" = 1'-0"

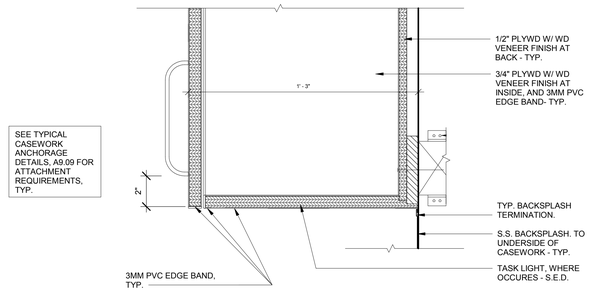


19 TYP. CAPTAIN'S BED- TRANSVERSE SECTION
1 1/2" = 1'-0"

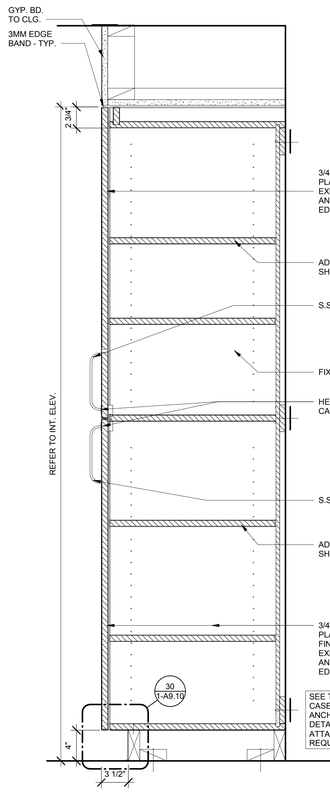
21 TYP. DORM PRIVACY PARTITION SECTION
1 1/2" = 1'-0"



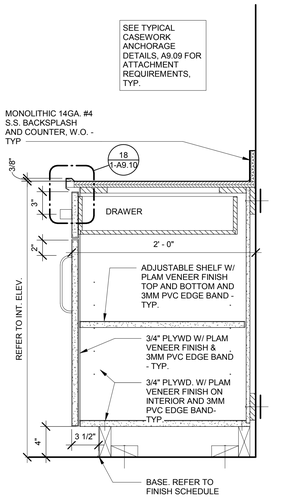
4 TYP. UPPER CABINET TOP DETAIL
3" = 1'-0"



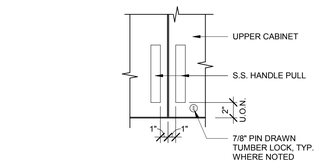
16 TYP. UPPER CABINET BOTTOM DETAIL
3" = 1'-0"



29 FULL HEIGHT PANTRY CABINET
1 1/2" = 1'-0"

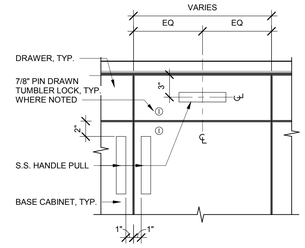


28 TYP. UPPER AND LOWER CASEWORK W/ SS COUNTERTOP
1 1/2" = 1'-0"



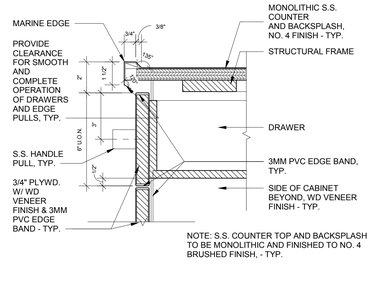
TYPICAL UPPER CABINET HARDWARE

6 TYP. UPPER CABINET HARDWARE LOCATIONS
1 1/2" = 1'-0"

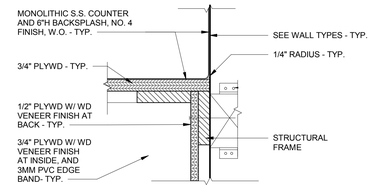


TYPICAL BASE CABINET HARDWARE

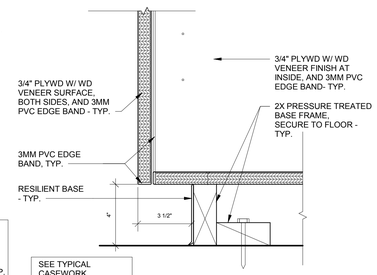
12 TYP. BASE CABINET DETAIL
1 1/2" = 1'-0"



18 TYP. S.S. COUNTER EDGE DETAIL
3" = 1'-0"



24 STAINLESS STEEL COUNTERTOP DETAIL
3" = 1'-0"



30 TYP. CABINET BASE DETAIL
3" = 1'-0"

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
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PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3- INCREMENT #1



Sheet Title

BUILDING 1 CASEWORK DETAILS

Drawn By: Author
Checked By: Checker

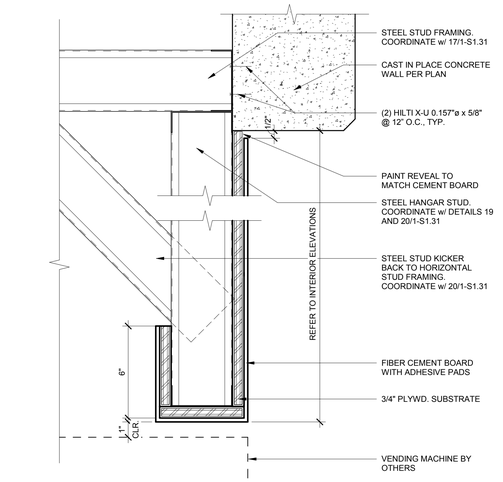
Scale: As indicated

Date: October 4, 2019

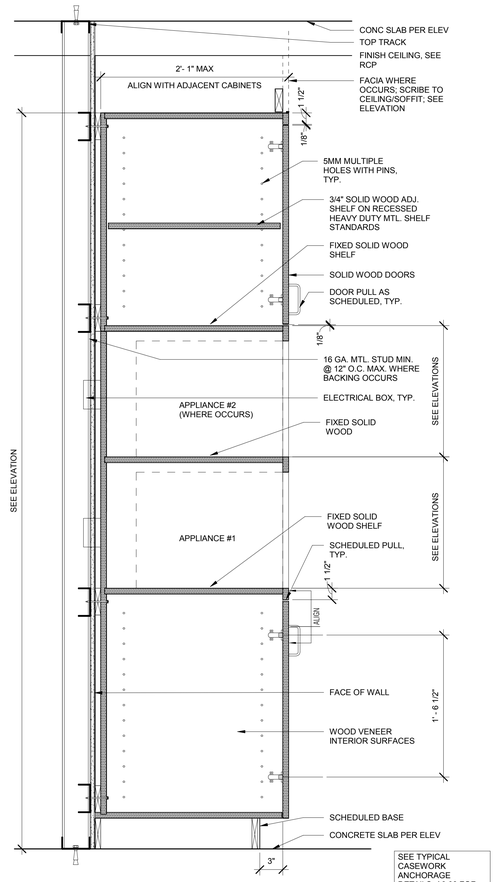
Project No. 2016039

1-A9.10
Drawing No.

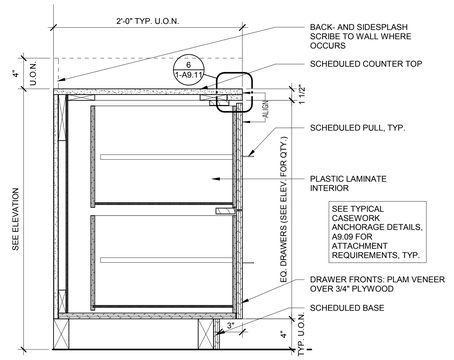
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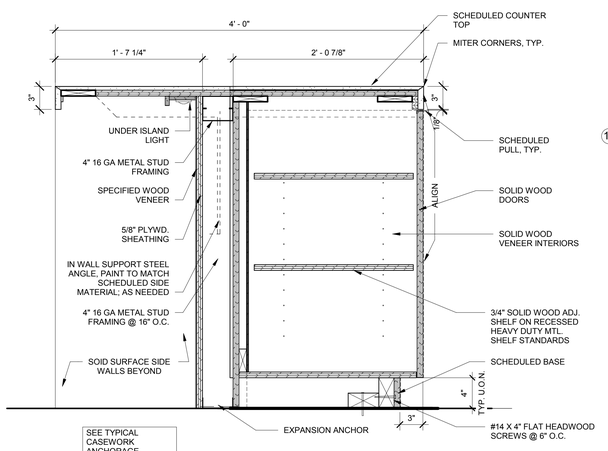
20 CEILING TO FACIA - LOBBY
3" = 1'-0"



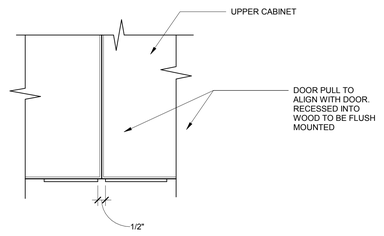
19 DV- MICROWAVE TOWER AND BASE (1-1/2" SCALE)
1 1/2" = 1'-0"



8 BASE CABINET WITH TWO DRAWERS
1 1/2" = 1'-0"

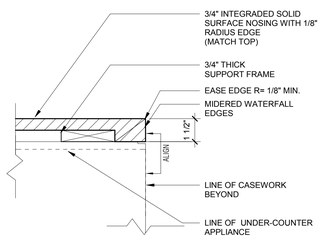


16 BREAK ISLAND
1 1/2" = 1'-0"

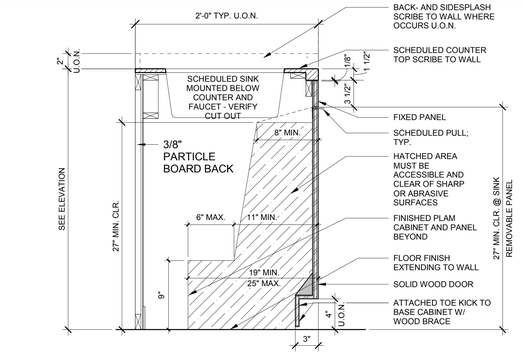


LOBBY UPPER CABINET HARDWARE

22 TYP. UPPER CABINET HARDWARE LOCATIONS
3" = 1'-0"

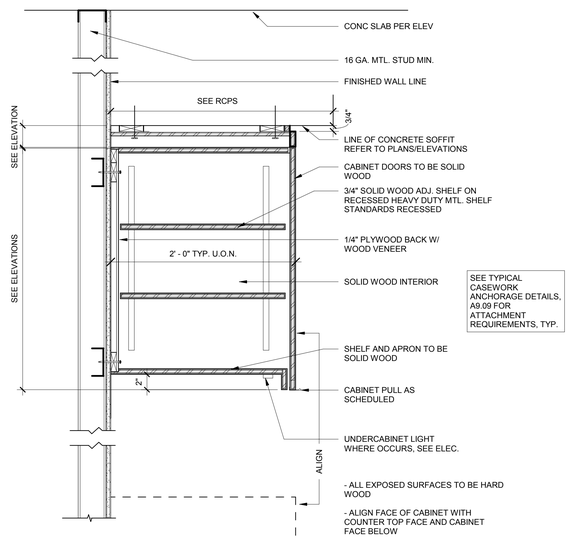


6 SOLID SURFACE COUNTER EDGE
3" = 1'-0"

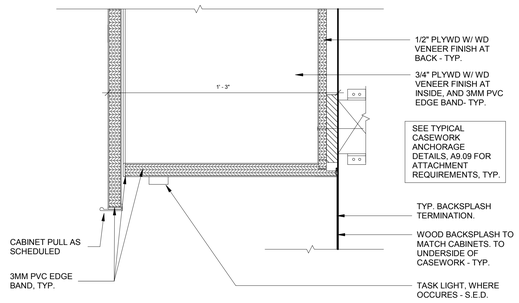


NOTES:
1. HOT WATER & DRAIN PIPES UNDER SINK SHALL BE INSULATED AND PROTECTED.
2. REACH TO ACCESSORIES CANNOT EXCEED THE KNEE CLEARENCE DEPTH PROVIDED UNDER HANDWASHING SINK.

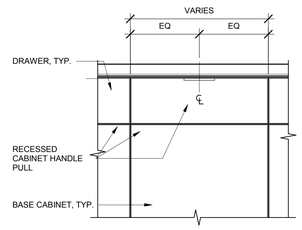
3 BASE CABINET W/ SINK - LOBBY
1 1/2" = 1'-0"



17 DV- UPPER CABINET AND BACKING (1 1/2" SCALE) - LOBBY
1 1/2" = 1'-0"



4 TYP. UPPER CABINET BOTTOM DETAIL
3" = 1'-0"



TYPICAL BASE CABINET HARDWARE

11 TYP. BASE CABINET DETAIL - LOBBY
1 1/2" = 1'-0"

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION	
DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3- INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
RENEWAL DATE 08.31.21
STATE OF CALIFORNIA

Sheet Title

BUILDING 1 CASEWORK DETAILS

Drawn By: Author
Checked By: Checker

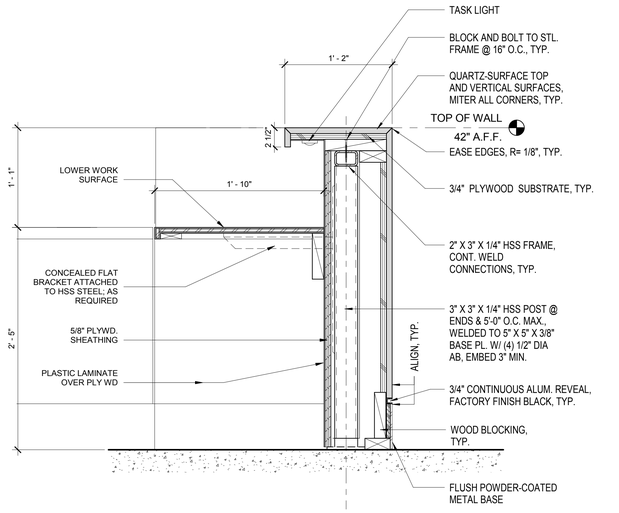
Scale: As indicated

Date: October 4, 2019

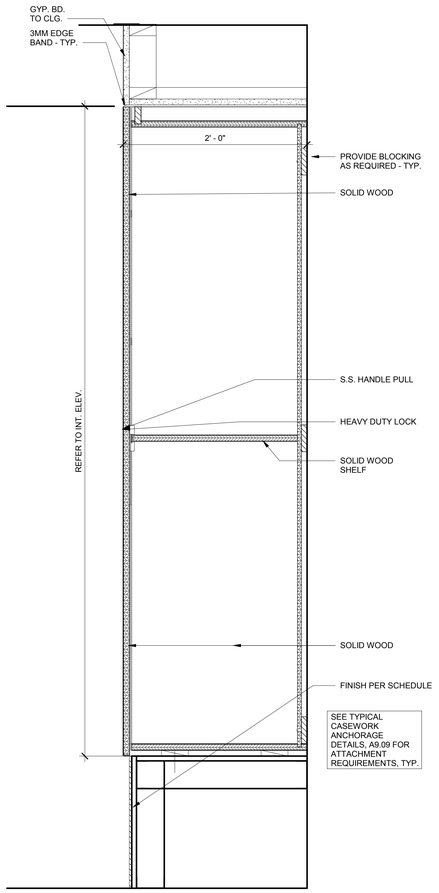
Project No. 2016039

1-A9.11
Drawing No.

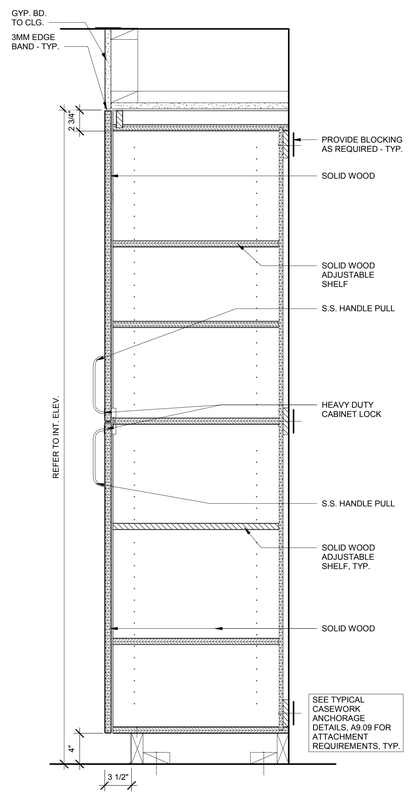
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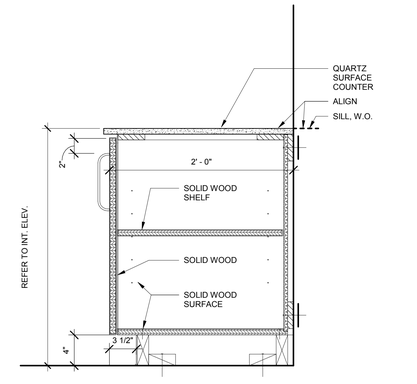
7 RECEPTION DESK
1 1/2" = 1'-0"



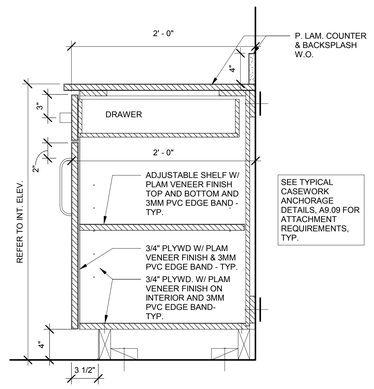
6 FULL HEIGHT WOOD LOCKER
1 1/2" = 1'-0"



5 FULL HEIGHT PANTRY CABINET
1 1/2" = 1'-0"



4 TYP. BASE CABINET W/ PLAM COUNTER
1 1/2" = 1'-0"



3 TYP. UPPER AND LOWER CASEWORK W/ PLAM COUNTERTOP
1 1/2" = 1'-0"

1 TYP. UPPER AND LOWER CASEWORK W/ SS COUNTERTOP
1 1/2" = 1'-0"

APPROVED
DIV. OF THE STATE ARCHITECT
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RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 1 CASEWORK DETAILS

Drawn By: Author
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Scale: 1 1/2" = 1'-0"

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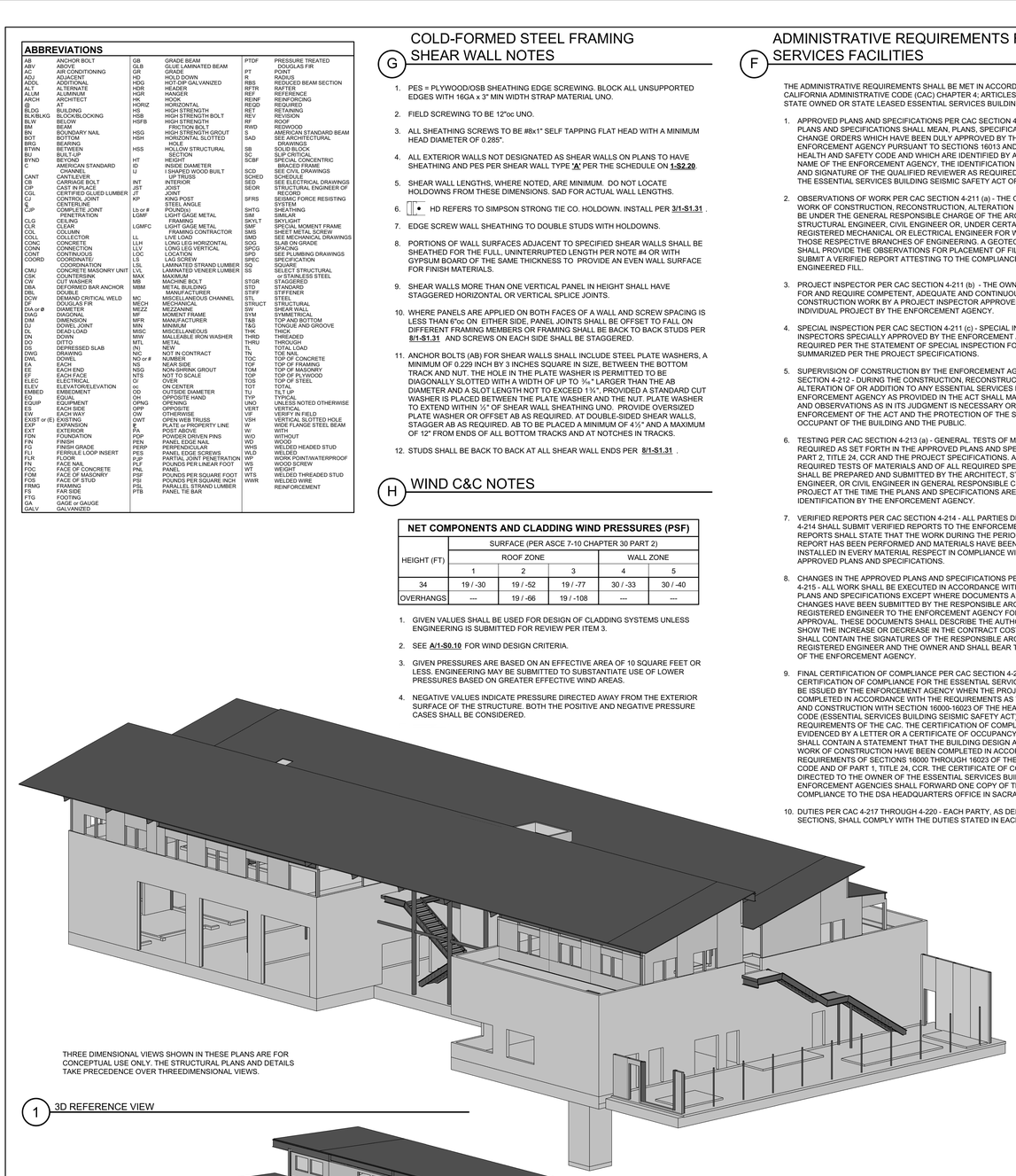
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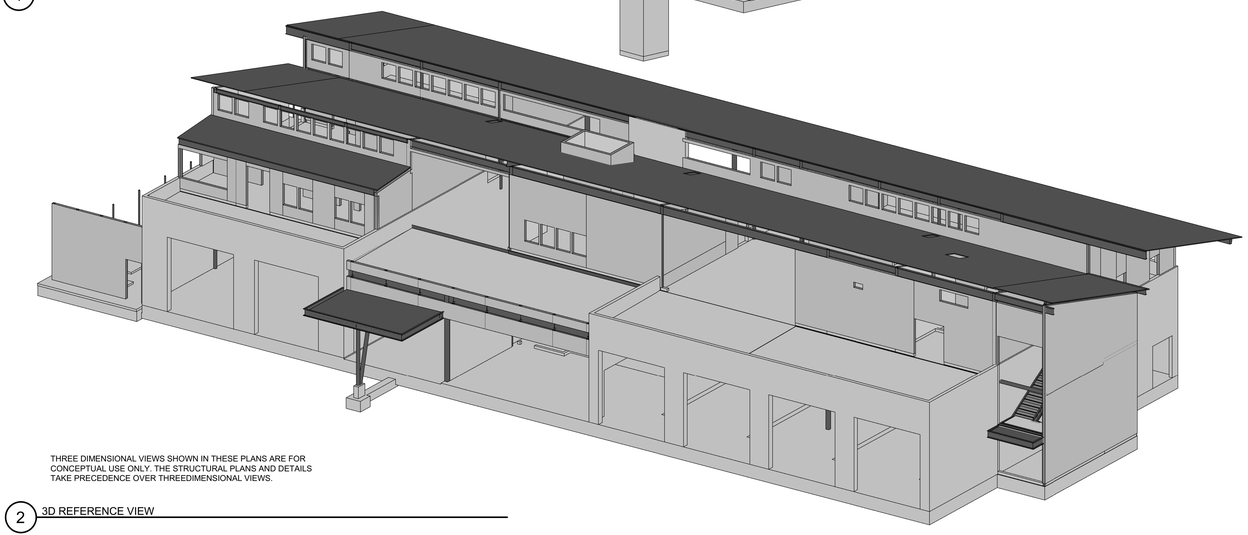
ABBREVIATIONS

AB	ANCHOR BOLT	GB	GRADE BEAM	PTDF	PRESSURE TREATED DOUGLAS FIR
ABV	ABOVE	GLB	GLUE LAMINATED BEAM	PT	POINT
AC	AIR CONDITIONING	GR	GRADE	R	RADIUS
ADJ	ADJACENT	HD	HOLD DOWN	RBS	REDUCED BEAM SECTION
ADDL	ADDITIONAL	HDG	HOT DIP GALVANIZED	RFTR	RAFTER
ALT	ALTERNATE	HDR	HEADER	REF	REFERENCE
ALUM	ALUMINUM	HGR	HANGER	REINF	REINFORCING
ARCH	ARCHITECT	HK	HOOK	REQD	REQUIRED
@	AT	HORIZ	HORIZONTAL	RET	RETAINING
BLDG	BUILDING	HS	HIGH STRENGTH	REV	REVISION
BLK/BLKG	BLOCK/BLOCKING	HSB	HIGH STRENGTH BOLT	RF	ROOF
BLW	BELOW	HSFB	HIGH STRENGTH FRICTION BOLT	RWD	REDWOOD
BM	BEAM	HSG	HIGH STRENGTH GROUT	S	AMERICAN STANDARD BEAM
BN	BOUNDARY NAIL	HSH	HORIZONTAL SLOTTED HOLE	SAD	SEE ARCHITECTURAL DRAWINGS
BOT	BOTTOM	HSS	HOLLOW STRUCTURAL SECTION	SB	SOLID BLOCK
BTWN	BETWEEN	HT	HEIGHT	SC	SCHED CONCENTRIC
BW	BOTTOM OF WALL	ID	INSIDE DIAMETER	SCBF	SPECIAL CONCENTRIC BRACED FRAME
BYND	BEYOND	IJ	CHANNEL	SCD	SEE CIVIL DRAWINGS
C	AMERICAN STANDARD	INT	UP TRUSS	SCHED	SCHEDULE
CANT	CANTILEVER	JST	INTERIOR	SED	SEE ELECTRICAL DRAWINGS
CB	CARRIAGE BOLT	JT	JOIST	SEOR	STRUCTURAL ENGINEER OF RECORD
CIP	CAST IN PLACE	KP	JOINT	SFRS	SEISMIC FORCE RESISTING SYSTEM
COL	CERTIFIED GLUED LUMBER	L	KING POST	SHTG	SHEATHING
CJ	CONTROL JOINT	L b-nr #	ANGLE	SIM	SIMILAR
CL	CENTER LINE	LGMF	L(POUND)s	SKYLT	SKYLIGHT
C/P	COMPLETE JOINT PENETRATION		LIGHT GAGE METAL FRAMING	SMF	SPECIAL MOMENT FRAME
CLG	CEILING	LGMRF	LIGHT GAGE METAL FRAMING	SMS	SHEET METAL SCREW
CLR	CLEAR	LL	LIVE LOAD	SMS	SEE MECHANICAL DRAWINGS
COL	COLUMN	LLH	LONG LEG HORIZONTAL	SOG	SLAB ON GRADE
CONC	CONCRETE	LLV	LONG LEG VERTICAL	SPCD	SPACING
CONN	CONNECTION	LOC	LOCATION	SPDG	SEE PLUMBING DRAWINGS
COORD	COORDINATE/ COORDINATION	LS	LAG SCREW	SPEC	SPECIFICATION
		LSL	LAMINATED STRAND LUMBER	SQ	SQUARE
CMU	CONCRETE MASONRY UNIT	LVL	LAMINATED VENEER LUMBER	SS	SELECT STRUCTURAL or STAINLESS STEEL
CSK	COUNTERSINK	MAX	MAXIMUM	STGR	STAGGERED
CW	CURTAIN WALL	MB	MACHINE BOLT	STD	STANDARD
DBA	DEFORMED BAR ANCHOR	MBM	METAL BUILDING MANUFACTURER	STIFF	STIFFENER
DBL	DOUBLE	MC	MISCELLANEOUS CHANNEL	STL	STEEL
DCW	DEMAND CRITICAL WELD	MECH	MECHANICAL	STRUCT	STRUCTURAL
DIA or ø	DIAMETER	MEZZ	MEZZANINE	SW	SHEAR WALL
DIAG	DIAGONAL	MF	MOMENT FRAME	SYM	SYMMETRICAL
DIM	DIMENSION	MFR	MANUFACTURER	T&B	TOP AND BOTTOM
DJ	DOWEL JOINT	MIN	MINIMUM	T&G	TONGUE AND GROOVE
DL	DEAD LOAD	MISC	MISCELLANEOUS	THK	THICK
DN	DOWN	MIW	MALLEABLE IRON WASHER	THRD	THREADED
DO	DITTO	MTL	METAL	THRU	THROUGH
DS	DEPRESSED SLAB	(N)	NEW	TL	TOTAL LOAD
DWG	DRAWINGS	NIC	NOT IN CONTRACT	TOC	TOP OF CURB
DWL	DOWEL	NO- or #	NUMBER	TOC	TOP OF CONCRETE
EA	EACH	NS	NEAR SIDE	TOF	TOP OF FRAMING
EE	EACH END	NSG	NON-SHRINK GROUT	TOM	TOP OF MASONRY
EF	EACH FACE	NTS	NOT TO SCALE	TOP	TOP OF PLYWOOD
ELEC	ELECTRICAL	OI	OVER	TOS	TOP OF STEEL
ELEV	ELEVATOR/ELEVATION	oc	ON CENTER	TOT	TOTAL
EMBED	EMBEDMENT	OD	OUTSIDE DIAMETER	TJ	TILT-UP
EQ	EQUAL	OH	OPPOSITE HAND	TYP	TYPICAL
EQUIP	EQUIPMENT	OPNG	OPENING	UNO	UNLESS NOTED OTHERWISE
ES	EACH SIDE	OPP	OPPOSITE	VERT	VERTICAL
EW	EACH WAY	OW	OTHERWISE	VIF	VERIFY IN FIELD
EXIST or (E)	EXISTING	OWT	OPEN WEB TRUSS	VSH	VERTICAL SLOTTED HOLE
EXP	EXPANSION	℄	PLATE or PROPERTY LINE	W	WIDE FLANGE STEEL BEAM
EXT	EXTERIOR	PA	POST ABOVE	WITH	WITH
FDN	FOUNDATION	PDP	POWDER DRIVEN PINS	W/O	WITHOUT
FIN	FINISH	PEN	PANEL EDGE NAIL	WD	WOOD
FG	FINISH GRADE	PERP	PERPENDICULAR	WHS	WELDED HEADED STUD
FHCS	FLAT HEAD CAP SCREWS	PJP	PARTIAL JOINT PENETRATION	WP	WORK POINT
FLR	FLOOR	PLF	POUNDS PER LINEAR FOOT	WP	WORK POINT/WATERPROOF
FN	FACE NAIL	PSF	POUNDS PER SQUARE FOOT	WS	WOOD SCREW
FOC	FACE OF CONCRETE	PSI	POUNDS PER SQUARE INCH	WT	WEIGHT
FOM	FACE OF MASONRY	PSL	PARALLEL STRAND LUMBER	WTHS	WELDED THREADED STUD
FOS	FACE O' STUD	PTB	PANEL TIE BAR	WWR	WELDED WIRE REINFORCEMENT
FRMG	FRAMING				
FS	FAR SIDE				
FTG	FOOTING				
GA	GAGE or GAUGE				
GALV	GALVANIZED				



THREE DIMENSIONAL VIEWS SHOWN IN THESE PLANS ARE FOR CONCEPTUAL USE ONLY. THE STRUCTURAL PLANS AND DETAILS TAKE PRECEDENCE OVER THREEDIMENSIONAL VIEWS.

1 3D REFERENCE VIEW



THREE DIMENSIONAL VIEWS SHOWN IN THESE PLANS ARE FOR CONCEPTUAL USE ONLY. THE STRUCTURAL PLANS AND DETAILS TAKE PRECEDENCE OVER THREEDIMENSIONAL VIEWS.

2 3D REFERENCE VIEW

G COLD-FORMED STEEL FRAMING SHEAR WALL NOTES

1. PES = PLYWOOD/OSB SHEATHING EDGE SCREWING. BLOCK ALL UNSUPPORTED EDGES WITH 16GA x 3" MIN WIDTH STRAP MATERIAL UNO.
2. FIELD SCREWING TO BE 12"oc UNO.
3. ALL SHEATHING SCREWS TO BE #8x1" SELF TAPPING FLAT HEAD WITH A MINIMUM HEAD DIAMETER OF 0.285".
4. ALL EXTERIOR WALLS NOT DESIGNATED AS SHEAR WALLS ON PLANS TO HAVE SHEATHING AND PES PER SHEAR WALL TYPE **'A'** PER THE SCHEDULE ON **1-S2.20**.
5. SHEAR WALL LENGTHS, WHERE NOTED, ARE MINIMUM. DO NOT LOCATE HOLDOWNS FROM THESE DIMENSIONS. SAD FOR ACTUAL WALL LENGTHS.
6. HD REFERS TO SIMPSON STRONG TIE CO. HOLDOWN. INSTALL PER **3/1-S1.31** .
7. EDGE SCREW WALL SHEATHING TO DOUBLE STUDS WITH HOLDOWNS.
8. PORTIONS OF WALL SURFACES ADJACENT TO SPECIFIED SHEAR WALLS SHALL BE SHEATHED FOR THE FULL, UNINTERRUPTED LENGTH PER NOTE #4 OR WITH GYPSUM BOARD OF THE SAME THICKNESS TO PROVIDE AN EVEN WALL SURFACE FOR FINISH MATERIALS.
9. SHEAR WALLS MORE THAN ONE VERTICAL PANEL IN HEIGHT SHALL HAVE STAGGERED HORIZONTAL OR VERTICAL SPLICE JOINTS.
10. WHERE PANELS ARE APPLIED ON BOTH FACES OF A WALL AND SCREW SPACING IS LESS THAN 6"oc ON EITHER SIDE, PANEL JOINTS SHALL BE OFFSET TO FALL ON DIFFERENT FRAMING MEMBERS OR FRAMING SHALL BE BACK TO BACK STUDS PER **8/1-S1.31** AND SCREWS ON EACH SIDE SHALL BE STAGGERED.
11. ANCHOR BOLTS (AB) FOR SHEAR WALLS SHALL INCLUDE STEEL PLATE WASHERS, A MINIMUM OF 0.229 INCH BY 3 INCHES SQUARE IN SIZE, BETWEEN THE BOTTOM TRACK AND NUT. THE HOLE IN THE PLATE WASHER IS PERMITTED TO BE DIAGONALLY SLOTTED WITH A WIDTH OF UP TO 3/16" LARGER THAN THE AB DIAMETER AND A SLOT LENGTH NOT TO EXCEED 1¾", PROVIDED A STANDARD CUT WASHER IS PLACED BETWEEN THE PLATE WASHER AND THE NUT. PLATE WASHER TO EXTEND WITHIN ½" OF SHEAR WALL SHEATHING UNO. PROVIDE OVERSIZED PLATE WASHER OR OFFSET AB AS REQUIRED. AT DOUBLE-SIDED SHEAR WALLS, STAGGER AB AS REQUIRED. AB TO BE PLACED A MINIMUM OF 4½" AND A MAXIMUM OF 12" FROM ENDS OF ALL BOTTOM TRACKS AND AT NOTCHES IN TRACKS.
12. STUDS SHALL BE BACK TO BACK AT ALL SHEAR WALL ENDS PER **8/1-S1.31** .

H WIND C&C NOTES

NET COMPONENTS AND CLADDING WIND PRESSURES (PSF)

HEIGHT (FT)	SURFACE (PER ASCE 7-10 CHAPTER 30 PART 2)				
	ROOF ZONE			WALL ZONE	
	1	2	3	4	5
34	19 / -30	19 / -52	19 / -77	30 / -33	30 / -40
OVERHANGS	---	19 / -66	19 / -108	---	---

1. GIVEN VALUES SHALL BE USED FOR DESIGN OF CLADDING SYSTEMS UNLESS ENGINEERING IS SUBMITTED FOR REVIEW PER ITEM 3.
2. SEE **A/1-S0.10** FOR WIND DESIGN CRITERIA.
3. GIVEN PRESSURES ARE BASED ON AN EFFECTIVE AREA OF 10 SQUARE FEET OR LESS. ENGINEERING MAY BE SUBMITTED TO SUBSTANTIATE USE OF LOWER PRESSURES BASED ON GREATER EFFECTIVE WIND AREAS.
4. NEGATIVE VALUES INDICATE PRESSURE DIRECTED AWAY FROM THE EXTERIOR SURFACE OF THE STRUCTURE. BOTH THE POSITIVE AND NEGATIVE PRESSURE CASES SHALL BE CONSIDERED.

F ADMINISTRATIVE REQUIREMENTS FOR ESSENTIAL SERVICES FACILITIES

THE ADMINISTRATIVE REQUIREMENTS SHALL BE MET IN ACCORDANCE WITH THE CALIFORNIA ADMINISTRATIVE CODE (CAC) CHAPTER 4; ARTICLES 1, AND 3 FOR NON-STATE OWNED OR STATE LEASED ESSENTIAL SERVICES BUILDINGS.

1. APPROVED PLANS AND SPECIFICATIONS PER CAC SECTION 4-207 - APPROVED PLANS AND SPECIFICATIONS SHALL MEAN, PLANS, SPECIFICATIONS, ADDENDA AND CHANGE ORDERS WHICH HAVE BEEN DULY APPROVED BY THE APPROPRIATE ENFORCEMENT AGENCY PURSUANT TO SECTIONS 16013 AND 16016 OF THE HEALTH AND SAFETY CODE AND WHICH ARE IDENTIFIED BY A STAMP BEARING THE NAME OF THE ENFORCEMENT AGENCY, THE IDENTIFICATION NUMBER, THE DATE AND SIGNATURE OF THE QUALIFIED REVIEWER AS REQUIRED IN SECTION 16011 OF THE ESSENTIAL SERVICES BUILDING SEISMIC SAFETY ACT OF 1986 (ACT).
2. OBSERVATIONS OF WORK PER CAC SECTION 4-211 (a) - THE OBSERVATION OF WORK OF CONSTRUCTION, RECONSTRUCTION, ALTERATION OR ADDITION SHALL BE UNDER THE GENERAL RESPONSIBLE CHARGE OF THE ARCHITECT, STRUCTURAL ENGINEER, CIVIL ENGINEER OR, UNDER CERTAIN CONDITIONS, A REGISTERED MECHANICAL OR ELECTRICAL ENGINEER FOR WORK INVOLVING ONLY THOSE RESPECTIVE BRANCHES OF ENGINEERING. A GEOTECHNICAL ENGINEER SHALL PROVIDE THE OBSERVATIONS FOR PLACEMENT OF FILLS AND SHALL SUBMIT A VERIFIED REPORT ATTESTING TO THE COMPLIANCE OF THE ENGINEERED FILL.
3. PROJECT INSPECTOR PER CAC SECTION 4-211 (b) - THE OWNER MUST PROVIDE FOR AND REQUIRE COMPETENT, ADEQUATE AND CONTINUOUS INSPECTION OF ALL CONSTRUCTION WORK BY A PROJECT INSPECTOR APPROVED FOR EACH INDIVIDUAL PROJECT BY THE ENFORCEMENT AGENCY.
4. SPECIAL INSPECTION PER CAC SECTION 4-211 (c) - SPECIAL INSPECTION BY INSPECTORS SPECIALLY APPROVED BY THE ENFORCEMENT AGENCY MAY BE REQUIRED PER THE STATEMENT OF SPECIAL INSPECTION FORM AND AS SUMMARIZED PER THE PROJECT SPECIFICATIONS.
5. SUPERVISION OF CONSTRUCTION BY THE ENFORCEMENT AGENCY PER CAC SECTION 4-212 - DURING THE CONSTRUCTION, RECONSTRUCTION, REPAIR, ALTERATION OF OR ADDITION TO ANY ESSENTIAL SERVICES BUILDING, THE ENFORCEMENT AGENCY AS PROVIDED IN THE ACT SHALL MAKE SUCH SITE VISITS AND OBSERVATIONS AS IN ITS JUDGMENT IS NECESSARY OR PROPER FOR ENFORCEMENT OF THE ACT AND THE PROTECTION OF THE SAFETY OF THE OCCUPANT OF THE BUILDING OR PUBLIC.
6. TESTING PER CAC SECTION 4-213 (a) - GENERAL. TESTS OF MATERIALS ARE REQUIRED AS SET FORTH IN THE APPROVED PLANS AND SPECIFICATIONS AND IN PART 2, TITLE 24, CCR AND THE PROJECT SPECIFICATIONS. A LIST OF ALL REQUIRED TESTS OF MATERIALS AND OF ALL REQUIRED SPECIAL INSPECTIONS SHALL BE PREPARED AND SUBMITTED BY THE ARCHITECT, STRUCTURAL ENGINEER OR CIVIL ENGINEER IN GENERAL RESPONSIBLE CHARGE OF THE PROJECT AT THE TIME THE PLANS AND SPECIFICATIONS ARE STAMPED FOR IDENTIFICATION BY THE ENFORCEMENT AGENCY.
7. VERIFIED REPORTS PER CAC SECTION 4-214 - ALL PARTIES DEFINED IN SECTION 4-214 SHALL SUBMIT VERIFIED REPORTS TO THE ENFORCEMENT AGENCY. THESE REPORTS SHALL STATE THAT THE WORK DURING THE PERIOD COVERED BY THE REPORT HAS BEEN PERFORMED AND MATERIALS HAVE BEEN USED AND INSTALLED IN EVERY MATERIAL RESPECT IN COMPLIANCE WITH THE DULY APPROVED PLANS AND SPECIFICATIONS.
8. CHANGES IN THE APPROVED PLANS AND SPECIFICATIONS PER CAC SECTION 4-215 - ALL WORK SHALL BE EXECUTED IN ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS EXCEPT WHERE DOCUMENTS AUTHORIZING CHANGES HAVE BEEN SUBMITTED BY THE RESPONSIBLE ARCHITECT OR REGISTERED ENGINEER TO THE ENFORCEMENT AGENCY FOR REVIEW AND APPROVAL. THESE DOCUMENTS SHALL DESCRIBE THE AUTHORIZED CHANGES, SHOW THE INCREASE OR DECREASE IN THE CONTRACT COST INVOLVED AND SHALL CONTAIN THE SIGNATURES OF THE RESPONSIBLE ARCHITECT OR REGISTERED ENGINEER AND THE OWNER AND SHALL BEAR THE APPROVAL STAMP OF THE ENFORCEMENT AGENCY.
9. FINAL CERTIFICATION OF COMPLIANCE PER CAC SECTION 4-216 - THE CERTIFICATION OF COMPLIANCE FOR THE ESSENTIAL SERVICES BUILDING SHALL BE ISSUED BY THE ENFORCEMENT AGENCY WHEN THE PROJECT HAS BEEN COMPLETED IN ACCORDANCE WITH THE REQUIREMENTS AS TO SAFETY OF DESIGN AND CONSTRUCTION WITH SECTION 16000-16023 OF THE HEALTH AND SAFETY CODE (ESSENTIAL SERVICES BUILDING SEISMIC SAFETY ACT) AND WITH THE REQUIREMENTS OF THE CAC. THE CERTIFICATION OF COMPLIANCE WILL BE EVIDENCED BY A LETTER OR A CERTIFICATE OF OCCUPANCY EACH OF WHICH SHALL CONTAIN A STATEMENT THAT THE BUILDING DESIGN AND REVIEW OF THE WORK OF CONSTRUCTION HAVE BEEN COMPLETED IN ACCORDANCE WITH THE REQUIREMENTS OF SECTIONS 16000 THROUGH 16023 OF THE HEALTH AND SAFETY CODE AND OF PART 1, TITLE 24, CCR. THE CERTIFICATE OF COMPLIANCE WILL BE DIRECTED TO THE OWNER OF THE ESSENTIAL SERVICES BUILDING. LOCAL ENFORCEMENT AGENCIES SHALL FORWARD ONE COPY OF THE CERTIFICATION OF COMPLIANCE TO THE DSA HEADQUARTERS OFFICE IN SACRAMENTO.
10. DUTIES PER CAC 4-217 THROUGH 4-220 - EACH PARTY, AS DEFINED IN THESE SECTIONS, SHALL COMPLY WITH THE DUTIES STATED IN EACH SECTION.

C FOUNDATION NOTES

FOUNDATION DESIGN PRESSURES ARE:

2.
- SHALLOW FOOTINGS:
  DEAD LOAD + LIVE LOAD = 3,000 PSF
  DEAD LOAD + LIVE LOAD + LATERAL = 4,000 PSF

2. ALL SOILS WORK SHALL BE DONE IN ACCORDANCE WITH THE SPECIFICATIONS, THE REQUIREMENTS OF THE GEOTECHNICAL REPORT NOTED BELOW AND CHAPTER 18A OF THE CBC, TITLE 24, PART 2. ALL FOUNDATIONS SHALL BEAR ON FIRM, UNDISTURBED, NATIVE SOILS OR ENGINEERED FILL AT OR EXCEEDING DEPTHS SHOWN ON THE DRAWINGS. ENGINEERED FILL TO BE COMPACTED PER GEOTECHNICAL REPORT. INCREASE FILL AND OR FOOTING DEPTH AS REQUIRED BY GEOTECHNICAL ENGINEER. ALL FOOTING EXCAVATIONS SHALL BE AS NEAT AS PRACTICABLE. OVER-EXCAVATIONS IN WIDTH SHALL BE FILLED WITH CONCRETE, AND IN DEPTH MAY BE FILLED WITH LEAN CONCRETE OR COMPACTED APPROVED BACKFILL. ALL LOOSE SOILS SHALL BE REMOVED FROM EXCAVATIONS PRIOR TO PLACEMENT OF REINFORCING OR CONCRETE. GEOTECHNICAL REPORT BY:

   ROCKRIDGE GEOTECHNICAL
   REPORT NO. 15-919B
   DATED: SEPTEMBER 21, 2018

3. USE 5/8" DIAMETER x 12" (18" AT CURBS) ANCHOR BOLTS (AB) AT 48"oc WHERE NOT OTHERWISE NOTED. MINIMUM EMBEDMENT INTO CONCRETE IS 7" (EXCLUDING CURB) UNLESS DETAILED OTHERWISE. ANCHOR BOLTS ARE TO BE TIED IN PLACE PRIOR TO PLACEMENT OF CONCRETE. SEE SHEAR WALL SCHEDULE FOR ADDITIONAL REQUIREMENTS. MINIMUM TWO ANCHOR BOLTS PER SILL PIECE.
4. ALL SLAB ON GRADES AND MAT FOUNDATIONS PER PLAN SHALL BEAR ON VAPOR RETARDER OVER 12" MINIMUM OF NON-EXPANSIVE SOIL CONSISTING OF COMPACTED IMPORTED SELECT FILL OR LIME TREATED ON-SITE SOIL PER GEOTECHNICAL RECOMMENDATIONS, AND AS APPROVED BY THE GEOTECHNICAL ENGINEER. DO NOT DRIVE CONCRETE TRUCKS OR LARGE SCREED MACHINES ON VAPOR BARRIER WITHOUT ADDITIONAL BUFFER MATERIAL AND APPROVAL FROM THE STRUCTURAL ENGINEER.
5. REFER TO ARCHITECTURAL AND PLUMBING DRAWINGS FOR DEPRESSED SLABS FOR ARCHITECTURAL FLOORING OR INSERTS, SLOPED SLABS TO DRAIN AND PIPES OR CONDUITS AT SLAB. SEE **9/1-S1.10** & **10/1-S1.10** AT DEPRESSED SLAB AND **6/1-S1.10**, **7/1-S1.10** , & **8/1-S1.10** FOR PIPES AND CONDUITS.
6. PROVIDE CONTROL JOINTS AT SLAB-ON-GRADE PER **3/1-S1.10** (OR CONSTRUCTION/DOWEL JOINTS AT CONTRACTOR'S OPTION) AS SHOWN ON PLAN AND AS REQUIRED TO MEET A MAXIMUM SPACING IN FEET OF 3 TIMES THE SLAB DEPTH IN INCHES (FOR EXAMPLE 3x4" = 12'-0"oc MAX). PROVIDE CONSTRUCTION/DOWEL JOINTS PLAN, BUT NOT GREATER THAN 60'-0"oc EACH WAY. INSTALL JOINTS TO DIVIDE SLAB INTO RECTANGULAR AREAS WITH LONG DIMENSION LESS THAN 1.5 x SHORT DIMENSION. INSTALL JOINTS AT FACE OF STUDS OF WALL WHERE POSSIBLE. SUBMIT JOINT LAYOUT PLAN FOR REVIEW PRIOR TO PLACEMENT.
7. TOP OF FOOTING ELEVATIONS TO BE DETERMINED BY THE CONTRACTOR BASED ON INFORMATION FROM THE CIVIL DRAWINGS, GEOTECHNICAL REPORT, LANDSCAPE, ETC.

D MATERIAL DATA

(INFORMATION SHOWN IS FOR STRUCTURAL DESIGN REFERENCE ONLY. SEE THE PROJECT SPECIFICATIONS FOR ALL MATERIAL SPECIFICATIONS.)

CONCRETE 28-DAY ULTIMATE COMPRESSIVE STRENGTH:
- F'_c = 5,000 PSI FOUNDATIONS, MAT SLAB
- F'_c = 3,000 PSI EXTERIOR SLAB ON GRADE (4,000 PSI AT 56 DAYS)
- F'_c = 5,000 PSI WALLS, COLUMNS, ELEVATED SLABS
- F'_c = 5,000 PSI CONCRETE FILL OVER METAL DECK

REINFORCING STEEL YIELD STRENGTH:
- F_y = 40,000 PSI AT #3 AND SMALLER, UNO
- F_y = 60,000 PSI AT #4 AND LARGER, UNO
- ALL SPECIAL CONCRETE SHEARWALL REINFORCING SHALL BE A706 GR. 60.
- MAT SLAB REINFORCING SHALL BE A615 GR. 80, UNO

STEEL YIELD STRENGTH (UNO):
- F_y = 50,000 PSI W SHAPES
- F_y = 36,000 PSI ANGLES, CHANNELS, AND PLATES
- F_y = 50,000 PSI PLATES AT MOMENT OR BRACE FRAME CONNECTIONS
- F_y = 46,000 PSI RECTANGULAR HSS
- F_y = 42,000 PSI ROUND HSS
- F_y = 35,000 PSI PIPES

FASTENERS:
- MACHINE BOLTS SHALL BE ASTM A307
- HIGH STRENGTH BOLTS, NUTS, AND HARDENED WASHERS SHALL BE ASTM F3125 GRADE A325, ASTM A563, AND ASTM F436, RESPECTIVELY.
- WELDED HEADED STUDS SHALL BE ASTM A108 F_y = 51 KSI
- ANCHOR RODS SHALL BE ASTM F1554 GR 36 UNO
- ARC-WELDING ELECTRODES SHALL BE E70
- PDP TO BE 0.157"ø x MINIMUM 1¼" LONG HILTI X-U (ICC-ESR-2269) UNO. AT STRUCTURAL STEEL USE 0.157"ø x ¾" LONG HILTI X-U UNO. AT METAL DECK ATTACHMENT USE 0.177"ø x ⅞" LONG HILTI X-ENP-19 L15 (ICC-ESR-2776).

COLD FORMED METAL FRAMING YIELD STRENGTH:
- F_y = 33,000 PSI 33 & 43 MILS (20 & 18 GAUGE)
- F_y = 50,000 PSI 54, 68, & 97 MILS (16, 14, & 12 GAUGE)

MASONRY COMPRESSIVE STRENGTH:
- F'_m = 2,000 PSI

FOR METAL CONNECTOR DESIGNATION REFER TO SIMPSON STRONG-TIE PER SPECIFICATIONS.

E STEEL NOTES

1. COORDINATE TOP OF FOOTING ELEVATIONS AS DETERMINED BY THE CONTRACTOR PER **C/1-S0.10** NOTE #7.
2. TOP OF STEEL ELEVATIONS ARE TO BE DETERMINED BY THE CONTRACTOR BASED ON ARCHITECTURAL DRAWINGS AND STRUCTURAL DRAWINGS.
3. WHERE INDICATED ON PLAN "C" INDICATES MIDSPAN CAMBER IN INCHES.
4. ALL FRAMING AND CONNECTIONS ALONG GRID LINES OR OTHERWISE INDICATED AS (SFRS) ARE PART OF THE SEISMIC FORCE RESISTING SYSTEM. TESTING AND INSPECTION OF FRAMING AND CONNECTIONS INDICATED AS SFRS SHALL MEET ALL REQUIREMENTS OF AISC 341 AND AWS D1.8. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
5. ALL BOLTS THAT ARE A PART OF THE SFRS ARE TO BE SLIP CRITICAL.
6. DEMAND CRITICAL WELDS ARE AS INDICATED ON PLANS, ADDITIONALLY ALL COLUMN SPLICES AND COLUMN TO BASE PLATE WELDS IN THE SFRS ARE DEMAND CRITICAL. DEMAND CRITICAL WELDS AND THE TESTING AND INSPECTION OF THEM ARE TO MEET ALL REQUIREMENTS OF AISC 341, AWS D1.1, AND AWS D1.8. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS. ALL DEMAND CRITICAL WELDS USED IN MEMBERS OF THE SFRS SHALL BE MADE WITH FILLER METALS MEETING THE REQUIREMENTS OF AWS D1.8 CLAUSE 6.3.

A DESIGN CRITERIA

DESIGN CRITERIA: 2016 CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 2 (CBC)
FLOOR LIVE LOAD: SEE **3/1-S0.11** .
ROOF LIVE LOAD: 20 PSF (REDUCIBLE)
FUTURE SOLAR: 4 PSF
RISK CATEGORY: IV
WIND DATA: ULTIMATE WIND SPEED (3 SEC GUST) IN MPH: 115
NOMINAL WIND SPEED (3 SEC GUST) IN MPH: 89
WIND EXPOSURE: C
INTERNAL WIND PRESSURE COEFFICIENT (GCPI) = ±0.18
COMPONENTS AND CLADDING DESIGN PRESSURES FOR SYSTEMS DESIGNED BY OTHERS SHALL COMPLY WITH THE "ASCE 7" DESIGN STANDARD. SEE **H/1-S0.10** .

EARTHQUAKE DATA: SEISMIC IMPORTANCE FACTOR, I_e: 1.5
MCE SPECTRAL RESPONSE ACCELERATIONS: S_{MS} = 1.99; S_{M1} = 1.97
SITE CLASS: D
DESIGN SPECTRAL RESPONSE COEFFICIENTS: S_{DS} = 1.32; S_{D1} = 1.43
SEISMIC DESIGN CATEGORY = E
SEISMIC FORCE RESISTING SYSTEM(S): SPECIAL REINFORCED NON-BEARING CONCRETE SHEAR WALLS (LEVEL 1), LGMF SHEAR WALLS SHEATHED W/ WOOD STRUCTURAL PANELS (LEVEL 2)
RESPONSE MODIFICATION FACTOR(S): R = 6 (ALL LEVELS)
DESIGN BASE SHEAR: 810 K (LRFD)
SEISMIC RESPONSE COEFFICIENT(S), C_S = 0.231 (LRFD)
ANALYSIS PROCEDURE USED: EQUIVALENT LATERAL FORCE
HORIZONTAL IRREGULARITIES: REENTRANT CORNER IRREGULARITY, OUT-OF-PLANE OFFSET IRREGULARITY
VERTICAL IRREGULARITIES: IN-PLANE DISCONTINUITY IN VERTICAL SFRS ELEMENT IRREGULARITY
ENTRY CANOPY ROOFS ARE LATERALLY SUPPORTED BY THE BUILDING PRIMARY FRAMING SYSTEM

MAXIMUM ANTICIPATED STORY DRIFT = 0.015 X HEIGHT
PROVIDE DEFORMATION COMPATIBILITY PER ASCE 7 SECTION 12.12.5 FOR NON-STRUCTURAL ITEMS, INCLUDING CLADDING, STAIRS, GLAZING, APPARATUS DOORS, DEFERRED DESIGN ITEMS, ETC.

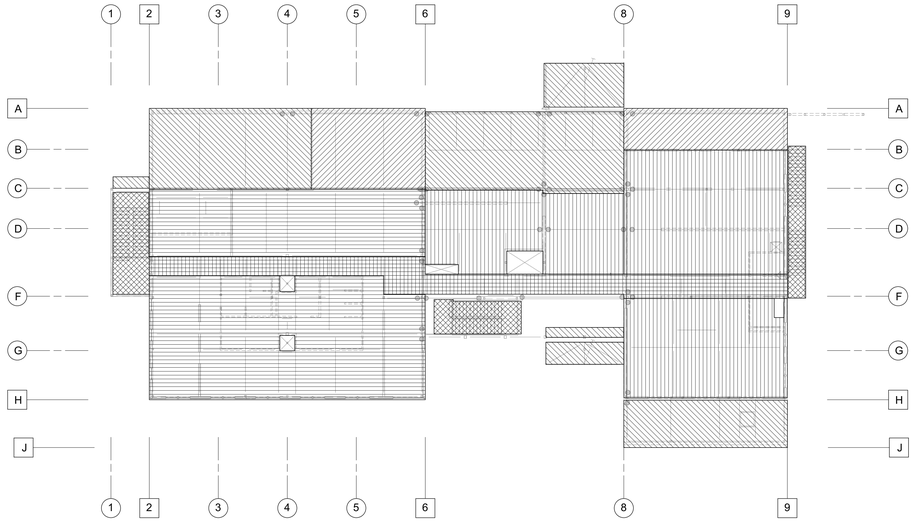
NARRATIVE: BUILDING #1: FIRE STATION & TRAINING ROOM

GENERAL DESCRIPTION: 2-STORY, CIP CONCRETE WALL BUILDING STRUCTURE FOR A BUILDING IS TO BE DESIGNED AS AN ESSENTIAL SERVICE FACILITY AND WILL BE USED FOR THAT PURPOSE.

- FIRE SPRINKLERED THROUGHOUT
- TWO-STAGE ANALYSIS
- LATERAL SYSTEM: LGMF SHEAR WALLS BELOW ROOF, CIP CONCRETE SHEAR WALLS BELOW LEVEL 2
- GRAVITY FRAMING SYSTEM: UNFILLED METAL DECK SUPPORTED BY LGMF ROOF RAFTERS AND STEEL FRAMING AT ROOF, CONCRETE FILLED METAL DECK SUPPORTED BY STEEL FRAMING AT LEVEL 2

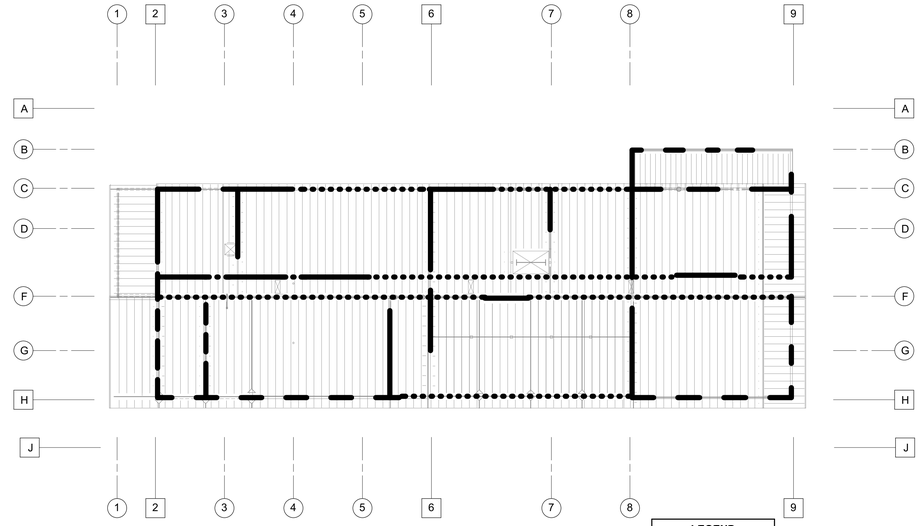
B GENERAL NOTES

1. REFER TO SHEETS **1-S1.10** THROUGH **1-S1.60** FOR STANDARD DETAILS OF CONSTRUCTION. REFER TO THE PROJECT SPECIFICATIONS FOR MATERIALS AND METHODS.
2. BUILDING DIMENSIONS SHOWN ARE FOR GENERAL REFERENCE ONLY. SEE ARCHITECTURAL DRAWINGS (SAD) FOR ALL ACTUAL BUILDING DIMENSIONS. ANY DISCREPANCIES ARE TO BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER SO CLARIFICATION CAN BE MADE PRIOR TO COMMENCING WORK.
3. STRUCTURAL DRAWINGS SHALL NOT BE SCALED. ALL DIMENSIONS AND FIT SHALL BE DETERMINED AND VERIFIED BY THE CONTRACTOR PRIOR TO COMMENCING WORK.
4. DETAILS NOT FULLY OR SPECIFICALLY SHOWN SHALL BE OF SAME NATURE AS OTHER SIMILAR CONDITIONS.
5. REFER TO ARCHITECTURAL DRAWINGS FOR SIDEWALK SLABS AND DIMENSIONS.
6. COORDINATION OF MECHANICAL, ELECTRICAL, PLUMBING, AND SITE UTILITY SYSTEMS WITH THE STRUCTURAL SYSTEM IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR. USE DETAILS **2/1-S1.10**, **6/1-S1.10**, **7/1-S1.10** AND **8/1-S1.10** .
7. AT CONDITIONS WHERE THESE DETAILS DO NOT APPEAR TO APPLY, NOTIFY THE STRUCTURAL ENGINEER PRIOR TO INSTALLATION. AT CONDITIONS WHERE FIELD MODIFICATIONS OF MECHANICAL, ELECTRICAL, PLUMBING, OR SITE UTILITIES AFFECT STRUCTURAL SYSTEMS, NOTIFY STRUCTURAL ENGINEER PRIOR TO INSTALLATION.
8. VERIFY WEIGHTS AND LOCATIONS OF MECHANICAL UNITS WITH MECHANICAL ENGINEER PRIOR TO PLACEMENT. UNITS VARYING OVER 10% IN WEIGHT SHALL BE REVIEWED BY THE STRUCTURAL ENGINEER PRIOR TO INSTALLATION (MECHANICAL WEIGHTS SHOWN ARE MAXIMUM). CONTRACTOR TO VERIFY MECHANICAL UNIT SIZES AND WEIGHTS AS INSTALLED PRIOR TO INSTALLATION OF SPECIAL FRAMING TO ENSURE CORRECT PLACEMENT UNDER CURBS, ETC. SEE **10/1-S1.50A**, **15/1-S1.50**
9. SHORING AND BRACING DESIGN, MATERIALS AND INSTALLATION SHALL BE PROVIDED BY THE GENERAL CONTRACTOR, AND SHALL BE ADEQUATE FOR ALL LOADS. LEAVE IN PLACE AS LONG AS MAY BE REQUIRED FOR SAFETY AND UNTIL FINAL STRUCTURAL CONSTRUCTION IS COMPLETED. THE CONTRACTOR SHALL ENGAGE A LICENSED CIVIL OR STRUCTURAL ENGINEER TO PROVIDE SHORING.
10. SPECIAL INSPECTIONS ARE REQUIRED PER THE TESTING AND INSPECTION FORM, SEE SPECIFICATIONS.
11. VEHICULAR TRAFFIC, HEAVY EQUIPMENT AND MATERIAL STAGING SHALL NOT BE ALLOWED ADJACENT TO ANY RETAINING/BASEMENT WALL, NEW OR EXISTING WITHIN A HORIZONTAL DISTANCE EQUAL TO THE WALL HEIGHT MEASURED FROM THE BOTTOM OF FOOTING OR 5'-0" WHICHEVER IS GREATER, UNLESS APPROVED BY THE STRUCTURAL ENGINEER OR NOTED OTHERWISE. WITHIN THIS ZONE, ONLY HAND-OPERATED EQUIPMENT ("WHACKERS", VIBRATORY PLATES, OR PNEUMATIC COMPACTORS) SHALL BE USED TO COMPACT THE BACKFILL SOILS.
12. SITE REVIEWS BY ZFA ARE REQUIRED FOR THE FOLLOW

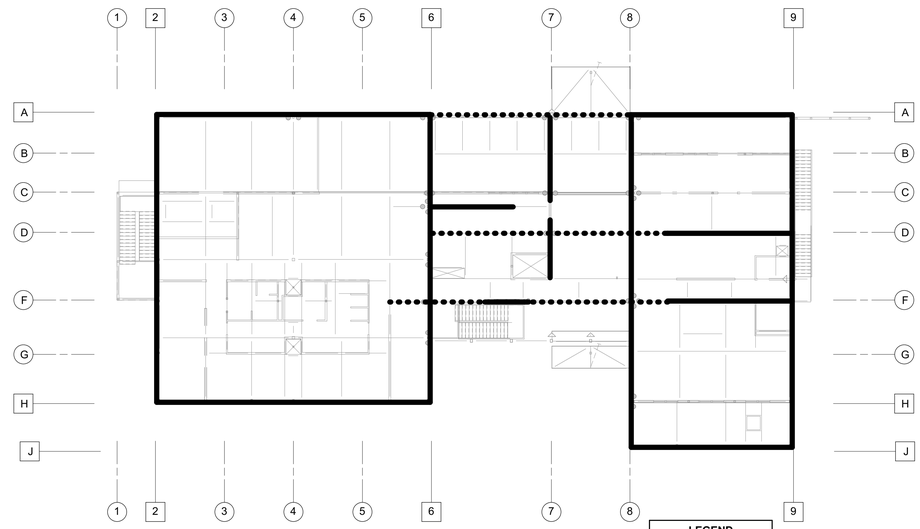


LEGEND	
CORRIDOR ABOVE 1ST FLOOR L = 80 PSF (REDUCIBLE)	OFFICES L = 50 PSF (REDUCIBLE) + 15 PSF (PARTITIONS)
STAIRS L = 100 PSF (REDUCIBLE)	DWELLINGS L = 40 PSF (REDUCIBLE) + 15 PSF (PARTITIONS)
ROOF ORDINARY Lr = 20 PSF (REDUCIBLE)	BALCONY (150% OF OCCUPANCY SERVED MIN) L = 75 PSF (REDUCIBLE)

3 SECOND FLOOR LIVE LOAD KEY PLAN
1/16" = 1'-0"



1 ROOF SFRS KEY PLAN
1/16" = 1'-0"



2 SECOND FLOOR SFRS KEY PLAN
1/16" = 1'-0"

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC: 01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION	
DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA DEP. DIR. PUBLIC WORKS	ALEX AMERI INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date
		December 6, 2018
1	DSA Third Party Review Comment Response	May 22 2019

PERMIT SUBMITTAL V2-INCREMENT #1

ZFA STRUCTURAL ENGINEERS
1390 el camino real | suite 100 zfa.com
san carlos ca 94070 650.394.8869
zfa job no.17143

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REGISTERED PROFESSIONAL ENGINEER
KEVIN G. ZUCCO
STRUCTURAL
No. 4861
STATE OF CALIFORNIA

Sheet Title

BUILDING 1
GENERAL NOTES AND KEY PLANS

Drawn By: Author
Checked By: Checker

Scale:
As indicated

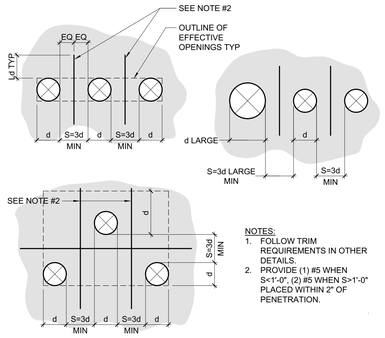
Date:
July 19, 2019

Project No. 17143

1-S0.11
Drawing No.

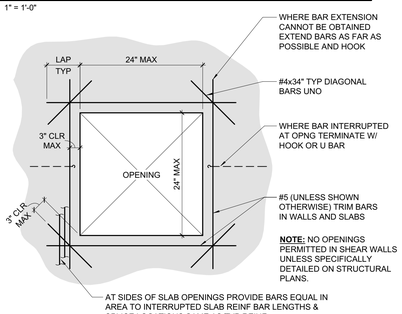
If this drawing is not 30" x 42", it is a reduced print - scale accordingly. All rights reserved. Material may not be reproduced in any form without permission from RossDrulisCusenbery Architecture, Inc.

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NOTES:
1. FOLLOW TRIM REQUIREMENTS IN OTHER DETAILS.
2. PROVIDE (1) #5 WHEN S<1'-0", (2) #5 WHEN S>1'-0" PLACED WITHIN 2" OF PENETRATION.

16 MULTIPLE WALL PENETRATIONS
1" = 1'-0"



NOTE: NO OPENINGS PERMITTED IN SHEAR WALLS UNLESS SPECIFICALLY DETAILED ON STRUCTURAL PLANS.

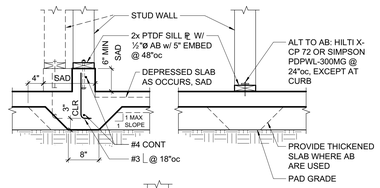
17 SMALL WALL PENETRATIONS
1" = 1'-0"

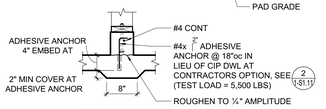
NOTE:
LOCATION OF JOINTS TO BE SUBMITTED TO ARCHITECT/ENGINEER FOR REVIEW PRIOR TO PLACEMENT OF CONCRETE

18 FOOTING CONSTRUCTION JOINT
3/4" = 1'-0"

19 TYPICAL WALL CORNER PROTECTION
1" = 1'-0"

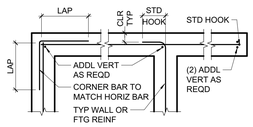
20 GENERATOR SITE PAD
3/4" = 1'-0"



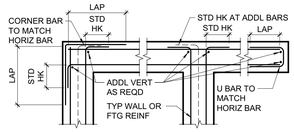


ALT CURB OPTION

11 NON-BEARING STUD WALL AT SLAB
3/4" = 1'-0"



PLAN VIEW - SINGLE LAYER



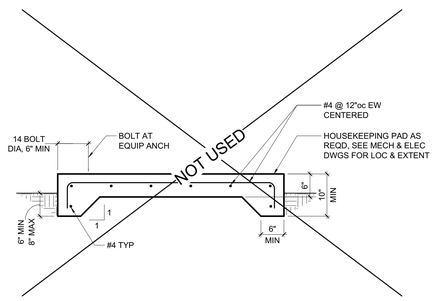
PLAN VIEW - 2 OR MORE LAYERS

NOTE:
FOOTING REINFORCING AT CORNER AND INTERSECTION TO BE SIMILAR

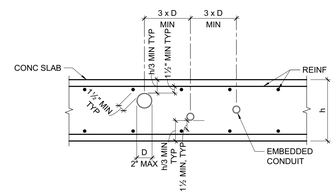
12 TYPICAL CORNER, INTERSECTION AND END REINFORCING
3/4" = 1'-0"

13 TYPICAL HOUSEKEEPING PAD AT SLAB ON GRADE
3/4" = 1'-0"

14 TYPICAL HOUSEKEEPING PAD AT STRUCTURAL SLAB
3/4" = 1'-0"



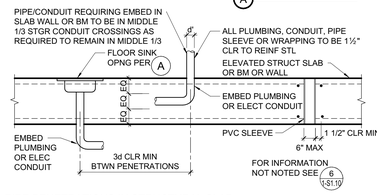
15 EQUIPMENT SITE PAD
3/4" = 1'-0"



NOTES:
1. WHERE MORE THAN ONE SIZE CONDUIT IS USED, D, IS THE OUTSIDE DIAMETER OF THE LARGEST CONDUIT.
2. ALUMINIUM CONDUIT IS NOT PERMITTED.
3. PRESSURIZED PIPE SHALL NOT BE USED WITHOUT SEOR WRITTEN APPROVAL.
4. CONDUITS SHALL BE PLACED BETWEEN TOP AND BOTTOM LAYERS OF REINFORCING. WHERE ONLY ONE LAYER IS SPECIFIED IN PLAN AN ADDITIONAL LAYER SHALL BE PLACED NORMAL TO THE EMBEDDED CONDUIT WITH IDENTICAL SIZE AND SPACING TO THE SPECIFIED LAYER.
5. NO MORE THAN ONE LAYER OF CONDUIT IS PERMITTED IN EACH DIRECTION

6 TYPICAL DETAIL AT EMBEDDED CONDUITS IN STRUCTURAL SLAB
1" = 1'-0"



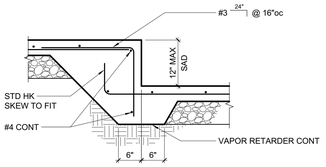


NOTES:
1. LOCATION OF PIPE/CONDUIT BY OTHERS.
2. PROVIDE SLEEVE AT PIPE PER 2 1-S1.10 SIM. SLEEVE NOT REQUIRED AT CONDUIT.

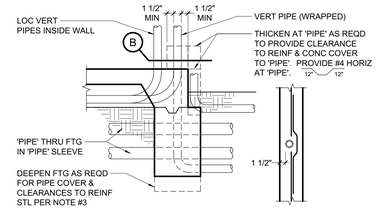
PIPE/CONDUIT REQUIRING EMBEDMENT IN CONC | **PIPE/CONDUIT IN COMPACTED ROCK**

8 CONDUIT & PIPE AT SLAB ON GRADE
3/4" = 1'-0"

9 DEPRESSED SLAB - 4" MAX
3/4" = 1'-0"

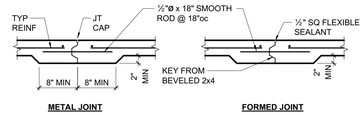


10 DEPRESSED SLAB - 12" MAX
3/4" = 1'-0"



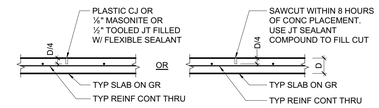
NOTES:
1. 'PIPE' = ANY PENETRATION THRU OR EMBEDDED IN FOUNDATION.
2. ALL PIPES THROUGH FOOTINGS TO BE WRAPPED OR SLEEVED AS FOLLOWS:
   a. SLEEVES: PROVIDE 1" MIN CLEAR ALL AROUND O.D. PIPE TO I.D. SLEEVE, UNO. SEAL SLEEVE ENDS W/ MASTIC OR PLASTIC BITUMINOUS CEMENT.
   b. WRAPPED VERTICAL PIPES: PROVIDE ¼" NOMINAL SHEET FOAM W/ (3) WRAPS MINIMUM, UNO.
   c. WRAPPED HORIZONTAL PIPES: PROVIDE ¼" NOMINAL SHEET FOAM W/ (8) WRAPS MINIMUM, UNO.
   d. UNDERGROUND FIRE LINES 4" AND LARGER;
      1. SLEEVES: PROVIDE 2" MIN CLEAR ALL AROUND O.D. PIPE TO I.D. SLEEVE. SEAL ENDS PER ABOVE.
      2. WRAPPED: PROVIDE ¼" NOMINAL SHEET FOAM W/ (15) WRAPS MINIMUM.
3. WRAPPED AND SLEEVED PIPES SHALL HAVE 1½" MIN CLEAR TO REINF STEEL. MINIMUM CONCRETE COVER AT PIPES TO BE 3".
4. CLEARANCE BETWEEN 'PIPES' TO BE 3d MIN TYP W/ A MAXIMUM OF (8) PIPES PER 48", GROUPS OF PIPES MAY BE BUNDLED AS SHOWN, EXCEPT IN PAD FOOTINGS.
5. NO 'PIPE' TO RUN PARALLEL IN FOOTINGS, STEM OR CURBS.
6. PVC CONDUIT ('PIPE') EMBEDDED IN CURB/STEM MAY BE WIRE TIED TO HORIZONTAL REINF. SLEEVES NOT REQUIRED AT CONDUIT.
7. NO HORIZONTAL PIPES ALLOWED THROUGH FOOTING WITHIN 2'-0" EACH SIDE OF HOLDOWNS OR STEEL COLUMNS. NO VERTICAL PIPES ALLOWED IN FOOTINGS AT BRACED FRAMES.
8. PROVIDE 18" MIN OF COMPACTED FILL ABOVE PIPES UP TO 12"ø, FOR LARGER PIPES INCREASE COMPACTED FILL DEPTH 1'-0" OF FOR EACH 6" INCREASE IN PIPE DIAMETER. OTHERWISE DEEPEN FOOTING AS SHOWN.
9. PROVIDE IMPERMEABLE CLSM PLUG EXTENDING 3' FROM EXTERIOR EDGE OF FOOTING/ MAT WHERE PIPES ENTER BUILDING AS REQIRED PER GEOTECHNICAL REPORT.

2 PIPES THRU FOOTING
3/4" = 1'-0"



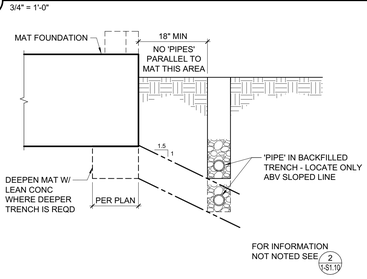
METAL JOINT | **FORMED JOINT**

A CONSTRUCTION/DOWEL JOINT

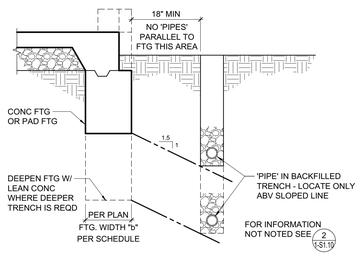


B CONTROL JOINT

3 SLAB ON GRADE JOINTS
3/4" = 1'-0"



4 TRENCHING ADJACENT TO MAT FOUNDATION
3/4" = 1'-0"



5 TRENCHING ADJACENT TO FOOTING
3/4" = 1'-0"

	DEVELOPMENT LENGTHS (ld) GR60*								
	SIZE								
LOCATION	#3	#4	#5	#6	#7	#8	#9	#10	#11
CONCRETE fc = 3000 PSI AT 28 DAYS — TOP	12"	22"	32"	43"	69"	86"	103"	122"	141"
CONCRETE fc = 3000 PSI AT 28 DAYS — OTHER	12"	17"	25"	33"	53"	66"	80"	94"	109"
CONCRETE fc = 4000 PSI AT 28 DAYS — TOP	12"	19"	28"	37"	60"	74"	90"	106"	122"
CONCRETE fc = 4000 PSI AT 28 DAYS — OTHER	12"	15"	21"	29"	46"	57"	69"	81"	94"
CONCRETE fc = 5000 PSI AT 28 DAYS — TOP	12"	17"	25"	34"	54"	67"	80"	95"	109"
CONCRETE fc = 5000 PSI AT 28 DAYS — OTHER	12"	13"	19"	26"	42"	51"	62"	73"	84"

*=INCREASE DEVELOPMENT LENGTHS BY 1/3 FOR GRADE 80 REINF

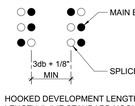
	HOOKED DEVELOPMENT LENGTHS (Ldh) GR 60*								
	SIZE								
LOCATION	#3	#4	#5	#6	#7	#8	#9	#10	#11
CONCRETE fc = 3000 PSI AT 28 DAYS — ANY	9"	11"	14"	17"	20"	22"	25"	28"	-
CONCRETE fc = 4000 PSI AT 28 DAYS — ANY	8"	10"	12"	15"	17"	19"	22"	24"	-
CONCRETE fc = 5000 PSI AT 28 DAYS — ANY	7"	9"	11"	13"	15"	17"	20"	22"	-

*=INCREASE HOOKED DEVELOPMENT LENGTHS BY 1/3 FOR GRADE 80 REINF

	LAP SPLICE LENGTHS (Ls) GR60*								
	SIZE								
LOCATION	#3	#4	#5	#6	#7	#8	#9	#10	#11
CONCRETE fc = 3000 PSI AT 28 DAYS — TOP	17"	28"	41"	56"	90"	112"	134"	158"	183"
CONCRETE fc = 3000 PSI AT 28 DAYS — OTHER	13"	22"	32"	43"	69"	86"	103"	122"	141"
CONCRETE fc = 4000 PSI AT 28 DAYS — TOP	15"	25"	36"	49"	78"	97"	116"	137"	159"
CONCRETE fc = 4000 PSI AT 28 DAYS — OTHER	12"	19"	28"	37"	60"	74"	90"	106"	122"
CONCRETE fc = 5000 PSI AT 28 DAYS — TOP	13"	22"	32"	44"	70"	87"	104"	123"	142"
CONCRETE fc = 5000 PSI AT 28 DAYS — OTHER	12"	17"	25"	34"	54"	67"	80"	95"	109"

*=INCREASE LAP SPLICE LENGTHS BY 1/3 FOR GRADE 80 REINF

NOTES:
1. TOP REINFORCING IS HORIZONTAL REINFORCEMENT WITH MORE THAN TWELVE INCHES (12") OF CONCRETE PLACED BELOW IT.
2. IF THE LAP SPLICE REINFORCEMENT DOES NOT HAVE A MINIMUM SPACING 3db + 1/8 INCHES & A MINIMUM COVER OF db + 1/8 INCHES, USE WELDED SPLICE OR MECHANICAL CONNECTOR.



3. HOOKED DEVELOPMENT LENGTHS (Ldh) MAY BE USED IN LIEU OF DEVELOPMENT LENGTH (Ld) IF STANDARD HOOK IS PROVIDED AT END OF BAR.
4. MECHANICAL CONNECTORS SHALL BE TENSION-COMPRESSION TYPE WITH THE ABILITY TO DEVELOP 125% OF THE YIELD STRENGTH FOR THE SPLICED REINFORCEMENT (75 KSI). MECHANICAL CONNECTORS SHALL HAVE & BE INSTALLED PER AN ICC EVALUATION REPORT.
5. WWR SHALL LAP MINIMUM (3) BAR CROSSINGS.

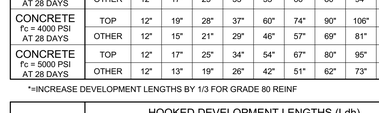
CONCRETE COVER FOR REINFORCING STEEL — **'CLR'**

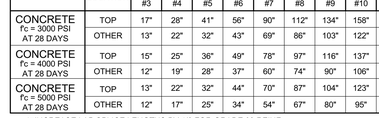
CAST AGAINST EARTH OR GRADE . . . . . 3"

EXPOSED TO EARTH (FORMED) OR WEATHER;
#5 AND SMALLER . . . . . 1½"
#6 AND LARGER . . . . . 2"

NOT EXPOSED TO EARTH OR WEATHER;
#5 AND SMALLER . . . . . 1"
#6 AND LARGER, AND ALL BEAM STIRRUPS, COLUMN TIES AND SPIRALS . . . 1½"

ALL REINFORCING BARS SHALL EXTEND AS FAR AS POSSIBLE AND END IN A STANDARD 90° OR 180° HOOK UNLESS DETAILED OTHERWISE.





PRINCIPAL REINF

REINF	Dmin
#3 TO #8	6 db
#9 TO #11	8 db
#14 TO #18	10 db

CROSSTIES, HOOPS & STIRRUPS

REINF	Dmin
#3	1 1/2"
#4	2"
#5	2 1/2"

NOTE:
1. ALL BENDS SHALL BE MADE COLD.

1 REINFORCING LAPS AND SPLICES AND BENDS
1" = 1'-0"

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

Ross Drulis Cusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVED REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date
		December 6, 2018
1	DSA Third Party Review Comment Response	May 22 2019
3	Plan Check 2 Revision	Oct 10 2019

PERMIT SUBMITTAL V2-INCREMENT #1

ZFA STRUCTURAL ENGINEERS
1390 el camino real | suite 100 zfa.com
san carlos ca 94070 650.394.8869
zfa job no.17143

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REGISTERED PROFESSIONAL ENGINEER KEVIN G. ZUCCO STRUCTURAL No. 49611 STATE OF CALIFORNIA

Sheet Title

BUILDING 1 TYPICAL CONCRETE DETAILS

Drawn By: LS Checked By: SRP

Scale: **As indicated**

Date: **July 19, 2019**

Project No. 17143

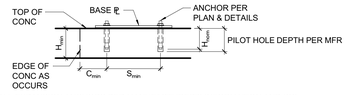
1-S1.10
Drawing No.

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CARBON STL EXPANSION ANCHORS IN 2500 PSI MIN CONC

ANCHOR TYPE	ANCHOR & PILOT HOLE DIA	MIN NOMINAL EMBED H_{nom}	MIN EDGE DISTANCE C_{min}	MIN SPCG S_{min}	MIN CONC THICKNESS H_{min}	INSTALL TORQUE (FT-LB)
SIMPSON STRONG-BOLT 2 (ICC-ESR 3037)	⅜"	1⅞"	6"	3"	3½"	30
	½"	2¾"	6"	6"	4"	60
	⅝"	3⅜"	6½"	5"	5½"	90
	¾"	4⅛"	6½"	8"	6¾"	150
	1"	5¼"	8"	8"	9"	230
HILTI KWIK BOLT TZ (ICC-ESR 1917)	⅜"	2⅜"	2½"	5"	4"	25
	½"	2⅞"	2¾"	5¾"	4"	40
	⅝"	3⅜"	3⅜"	6¾"	5"	60
	¾"	4⅜"	4¾"	10½"	6"	110

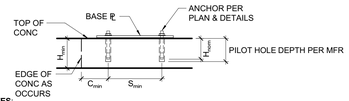


NOTES:
1. INSTALL EXPANSION ANCHORS PER MANUFACTURER'S INFORMATION AND ICC REPORT INSTRUCTIONS. SPECIAL INSPECTION IS REQUIRED PER SECTION 1705A AND THE REQUIREMENTS OF THE ICC REPORTS.
2. CONTRACTOR TO VERIFY MINIMUM EDGE DISTANCES, SPACING AND THICKNESS ARE IN ACCORDANCE W/ SCHEDULE PRIOR TO INSTALLING ANCHOR.
3. WHEN INSTALLING DRILLED-IN ANCHORS IN EXISTING REINFORCED CONCRETE, USE CARE AND CAUTION TO AVOID CUTTING OR DAMAGING THE EXISTING REINFORCING BARS. MAINTAIN A REASONABLE CLEARANCE BETWEEN REINFORCEMENT AND THE DRILLED-IN ANCHOR. FILL ABANDONED HOLES W/ HIGH STRENGTH GROUT.
4. THE SPECIAL INSPECTOR MUST BE ON THE JOBSITE PERIODICALLY DURING ANCHOR INSTALLATION TO VERIFY ANCHOR TYPE, ANCHOR DIMENSIONS, HOLE CLEANLINESS, EMBEDMENT DEPTH, CONCRETE TYPE, CONCRETE COMPRESSIVE STRENGTH, DRILL BIT DIAMETER, HOLE DEPTH, EDGE DISTANCE(S), ANCHOR SPACING(S), CONCRETE THICKNESS, AND TIGHTENING TORQUE.
5. TEST ANCHORS IN ACCORDANCE W/ CBC SECTION 1910A.5.

5 EXPANSION ANCHOR IN CONCRETE
3/4" = 1'-0"

STAINLESS STL EXPANSION ANCHORS IN 2500 PSI MIN CONC

ANCHOR TYPE	ANCHOR & PILOT HOLE DIA	MIN NOMINAL EMBED H_{nom}	MIN EDGE DISTANCE C_{min}	MIN SPACING S_{min}	MIN CONC THICKNESS H_{min}	INSTALL TORQUE (FT-LB)
SIMPSON STRONG-BOLT 2 (ICC-ESR 3037)	⅜"	1⅞"	6"	10"	3½"	30
	½"	2¾"	6½"	8"	4½"	65
	⅝"	3⅜"	4"	8"	5½"	80
	¾"	4⅛"	6"	6½"	6¾"	150
HILTI KWIK BOLT TZ (ICC-ESR 1917)	⅜"	2⅜"	2½"	5"	4"	25
	½"	2⅞"	2¼"	5¾"	4"	40
	⅝"	3⅜"	3¼"	5½"	5"	60
	¾"	4⅜"	4¼"	10"	6"	110

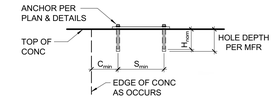


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2. CONTRACTOR TO VERIFY MINIMUM EDGE DISTANCES, SPACING AND THICKNESS ARE IN ACCORDANCE W/ SCHEDULE PRIOR TO INSTALLING ANCHOR.
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4. THE SPECIAL INSPECTOR MUST BE ON THE JOB SITE PERIODICALLY DURING ANCHOR INSTALLATION TO VERIFY ANCHOR TYPE, ANCHOR DIMENSIONS, HOLE CLEANLINESS, EMBEDMENT DEPTH, CONCRETE TYPE, CONCRETE COMPRESSIVE STRENGTH, DRILL BIT DIAMETER, HOLE DEPTH, EDGE DISTANCE(S), ANCHOR SPACING(S), CONCRETE THICKNESS, AND TIGHTENING TORQUE.
5. TEST ANCHORS IN ACCORDANCE W/ CBC SECTION 1910A.5.

3 STAINLESS STEEL EXPANSION ANCHOR IN CONCRETE
3/4" = 1'-0"

SCREW ANCHOR IN 2500 PSI MIN CONCRETE

ANCHOR TYPE	ANCHOR AND PILOT HOLE DIA	MINIMUM EMBEDMENT H_{nom}	MINIMUM EDGE DIST C_{min}	MINIMUM SPCG S_{min}	MINIMUM CONCRETE DEPTH H_{min}	INSTALL TORQUE (FT-LB)	MAX INSTALL TORQUE (FT-LB)
SIMPSON TITEN HD (ICC-ESR 2713)	¼"	1⅝"	1½"	1½"	3¼"	10	24
	⅜"	2½"	1¾"	3"	4"	10	50
	½"	3¼"	1¾"	3"	5"	10	65
	⅝"	4"	1¾"	3"	6"	10	100
	¾"	5½"	1¾"	3"	8¾"	20	150
HILTI KH-EZ (ICC-ESR 3027)	¼"	1⅝"	2"	1½"	3¼"	10	18
	⅜"	2½"	1½"	3"	4"	10	40
	½"	3"	1¾"	3"	4¾"	10	45
	⅝"	3¼"	1¾"	4"	5"	10	85
	¾"	4"	1¾"	4"	6"	20	115

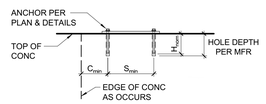


NOTES:
1. INSTALL SCREW ANCHORS PER MANUFACTURER'S INFORMATION AND ICC REPORT INSTRUCTIONS. SPECIAL INSPECTION IS REQUIRED PER SECTION 1705A OF THE CBC AND THE REQUIREMENTS OF THE ICC REPORTS. INSTALLED ANCHORS SHALL BRING CONNECTED PLIES INTO FIRM CONTACT, MEETING THE INSTALL TORQUE BUT NOT EXCEEDING THE MAXIMUM INSTALL TORQUE.
2. CONTRACTOR TO VERIFY MINIMUM EDGE DISTANCES, SPACING AND THICKNESS ARE IN ACCORDANCE W/ SCHEDULE PRIOR TO INSTALLING ANCHOR.
3. HOLES TO BE DRILLED W/ ROTARY DRILL ONLY. WHEN INSTALLING DRILLED-IN ANCHORS IN EXISTING REINFORCED CONCRETE, USE CARE AND CAUTION TO AVOID CUTTING OR DAMAGING THE EXISTING REINFORCING BARS. MAINTAIN A REASONABLE CLEARANCE BETWEEN REINFORCEMENT AND THE DRILLED-IN ANCHOR. FILL ABANDONED HOLES W/ HIGH STRENGTH GROUT.
4. THE SPECIAL INSPECTOR MUST BE ON THE JOBSITE PERIODICALLY DURING ANCHOR INSTALLATION TO VERIFY ANCHOR TYPE, ANCHOR DIMENSIONS, HOLE CLEANLINESS, EMBEDMENT DEPTH, CONCRETE TYPE, CONCRETE COMPRESSIVE STRENGTH, DRILL BIT DIAMETER, HOLE DEPTH, EDGE DISTANCE(S), ANCHOR SPACING(S), CONCRETE THICKNESS, AND TIGHTENING TORQUE.
5. TEST ANCHORS IN ACCORDANCE W/ CBC SECTION 1910A.5.

1 SCREW ANCHOR IN CONCRETE
3/4" = 1'-0"

STAINLESS STEEL SCREW ANCHOR IN 2500 PSI MIN CONCRETE

ANCHOR TYPE	ANCHOR AND PILOT HOLE DIA	MINIMUM EMBEDMENT H_{nom}	MINIMUM EDGE DIST C_{min}	MINIMUM SPCG S_{min}	MINIMUM CONCRETE DEPTH H_{min}	INSTALL TORQUE (FT-LB)	MAX INSTALL TORQUE (FT-LB)
SIMPSON TITEN HDSS (IAPMO UES ER-493)	⅜"	2½"	1¾"	3"	4"	10	40
	½"	3¼"	1¾"	4"	5"	10	70
	⅝"	4"	1¾"	3"	6"	10	85
	¾"	5½"	1¾"	3"	8¾"	20	150

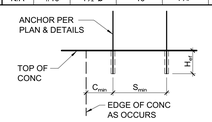


NOTES:
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2. CONTRACTOR TO VERIFY MINIMUM EDGE DISTANCES, SPACING, AND THICKNESS ARE IN ACCORDANCE W/ SCHEDULE PRIOR TO INSTALLING ANCHOR.
3. HOLES TO BE DRILLED W/ ROTARY DRILL ONLY. WHEN INSTALLING DRILLED-IN ANCHORS IN EXISTING REINFORCED CONCRETE, USE CARE AND CAUTION TO AVOID CUTTING OR DAMAGING THE EXISTING REINFORCING BARS. MAINTAIN A REASONABLE CLEARANCE BETWEEN REINFORCEMENT AND THE DRILLED-IN ANCHOR. FILL ABANDONED HOLES W/ HIGH STRENGTH GROUT.
4. THE SPECIAL INSPECTOR MUST BE ON THE JOBSITE PERIODICALLY DURING ANCHOR INSTALLATION TO VERIFY ANCHOR TYPE, ANCHOR DIMENSIONS, HOLE CLEANLINESS, EMBEDMENT DEPTH, CONCRETE TYPE, CONCRETE COMPRESSIVE STRENGTH, DRILL BIT DIAMETER, HOLE DEPTH, EDGE DISTANCE(S), ANCHOR SPACING(S), CONCRETE THICKNESS, AND TIGHTENING TORQUE.
5. TEST ANCHORS IN ACCORDANCE W/ CBC SECTION 1910A.5.

4 STAINLESS STEEL SCREW ANCHOR IN CONCRETE
3/4" = 1'-0"

ADHESIVE ANCHOR IN 2500 PSI MIN CONCRETE

ADHESIVE TYPE	ANCHOR: THRD ROD	ANCHOR: REBAR	PILOT HOLE	MIN EMBED UNO H_{ef}	MIN EDGE DISTANCE C_{min}	MIN SPCG S_{min}	MIN CONC DEPTH H_{min}
SIMPSON SET-XP (ICC-ESR 2508)	¾"Ø	#3	½"Ø	3"	1½"	3"	5"
	½"Ø	#4	⅝"Ø	4"	1½"	3"	6½"
	⅝"Ø	#5	¾"Ø	5"	1⅝"	3"	8¼"
	¾"Ø	#6	⅞"Ø	6"	1⅝"	3"	9⅜"
	⅞"Ø	#7	1"Ø	7"	1⅝"	3"	11½"
	1"Ø	#8	1⅛"Ø	8"	1½"	3"	13"
	1¼"Ø	#10	1⅜"Ø	10"	2⅜"	6"	16¼"
HILTI HIT-HY 200R (ICC-ESR 3187)	¾"Ø	N/A	⅞"Ø	3"	1½"	3"	5"
	N/A	#3	½"Ø	3"	1½"	1¼"	4¼"
	½"Ø	N/A	⅝"Ø	4"	1⅜"	2½"	5½"
	N/A	#4	⅝"Ø	4"	1⅜"	2½"	5½"
	⅝"Ø	#5	¾"Ø	5"	1⅜"	3⅛"	6½"
	¾"Ø	#6	⅞"Ø	6"	1½"	3¾"	7¾"
	⅞"Ø	#7	1"Ø	7"	1¾"	4⅜"	9"
	1"Ø	#8	1⅛"Ø	8"	1¾"	5"	10¼"
	N/A	#9	1⅛"Ø	9"	1¾"	5⅝"	11⅜"
	1¼"Ø	N/A	1⅜"Ø	10"	1¾"	6¼"	12⅜"
	N/A	#10	1⅜"Ø	10"	1¾"	6¼"	13"



NOTES:
1. INSTALL ADHESIVE ANCHORS PER MANUFACTURER'S INFORMATION AND ICC REPORT.
2. CONTRACTOR TO VERIFY MINIMUM EDGE DISTANCES, SPACING, AND THICKNESS ARE IN ACCORDANCE W/ SCHEDULE PRIOR TO INSTALLING ANCHOR.
3. HOLES TO BE DRILLED W/ ROTARY DRILL ONLY. WHEN DRILLING HOLES IN EXISTING CONCRETE, USE CARE AND CAUTION TO AVOID CUTTING OR DAMAGING THE EXISTING REINFORCING BARS. MAINTAIN A REASONABLE CLEARANCE BETWEEN REINFORCEMENT AND THE DRILLED-IN ANCHOR. FILL ABANDONED HOLES W/ HIGH STRENGTH GROUT.
4. SPECIAL INSPECTION IS REQUIRED PER SECTION 1705A AND THE REQUIREMENTS OF THE ICC REPORTS. THE SPECIAL INSPECTOR MUST BE ON THE JOB SITE PERIODICALLY DURING ANCHOR INSTALLATION TO VERIFY ANCHOR TYPE, ANCHOR DIMENSIONS, HOLE CLEANLINESS, EMBEDMENT DEPTH, CONCRETE TYPE, CONCRETE COMPRESSIVE STRENGTH, DRILL BIT DIAMETER, HOLE DEPTH, EDGE DISTANCE(S), ANCHOR SPACING(S), CONCRETE THICKNESS, AND ADHESIVE INJECTION. TEST ANCHORS IN ACCORDANCE W/ CBC SECTION 1910A.5. **SEE DRAWINGS FOR SPECIFIC TENSION TEST LOADS FOR ANCHORS.**

2 ADHESIVE ANCHOR IN CONCRETE
3/4" = 1'-0"

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: **KATHY GARCIA** DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date
		December 6, 2018

PERMIT SUBMITTAL V2-INCREMENT #1

ZFA STRUCTURAL ENGINEERS
1390 el camino real | suite 100 zfa.com
san carlos ca 94070 650.394.8869
zfa job no. 17143

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LICENSED PROFESSIONAL ENGINEER
KEVIN G. ZUCCO
STRUCTURAL
No. 4861
STATE OF CALIFORNIA

Sheet Title

BUILDING 1 TYPICAL CONCRETE DETAILS

Drawn By: Author
Checked By: Checker

Scale:
3/4" = 1'-0"

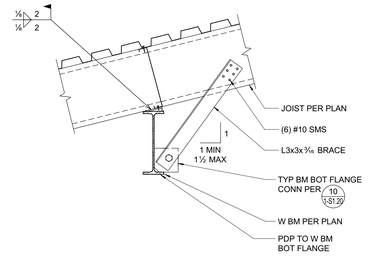
Date:
July 19, 2019

Project No. 17143

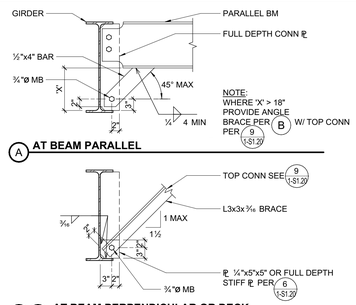
1-S1.11
Drawing No.

If this drawing is not 30" x 42", it is a reduced print - scale accordingly. All rights reserved. Material may not be reproduced in any form without permission from RossDrulisCusenbery Architecture, Inc.

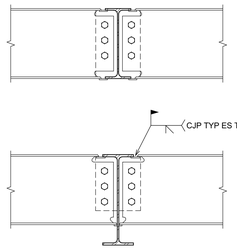
10/11/2019 11:10:42 AM C:\revit_local\RCU\T 2017\17143_B1 - FSHR Classroom_S17C_jamiek.rvt



14 TYPICAL BEAM BOTTOM FLANGE LGMF BRACE
1" = 1'-0"



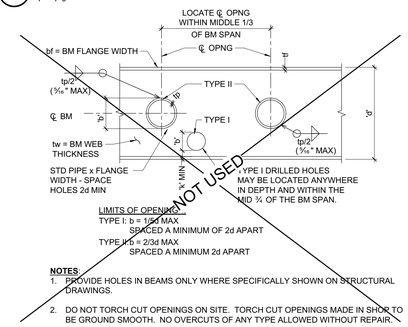
10 TYPICAL BEAM BOTTOM FLANGE BRACE
3/4" = 1'-0"



NOTES:
1. CANTILEVER BEAM SIZE TO MATCH ADJACENT BACK SPAN BEAM SIZE, UNO.
2. SHORE CANTILEVER AS REQUIRED.

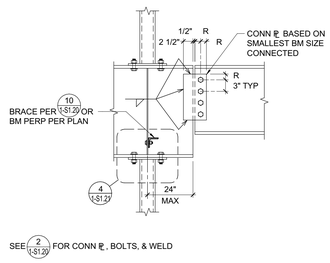
FOR INFORMATION NOT NOTED SEE 2 1-S1.20

11 BEAM TO BEAM MOMENT CONNECTION
1" = 1'-0"



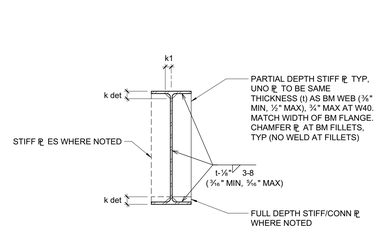
NOTES:
1. PROVIDE HOLES IN BEAMS ONLY WHERE SPECIFICALLY SHOWN ON STRUCTURAL DRAWINGS.
2. DO NOT TORCH CUT OPENINGS ON SITE. TORCH CUT OPENINGS MADE IN SHOP TO BE GROUND SMOOTH. NO OVERCUTS OF ANY TYPE ALLOWED WITHOUT REPAIR.

12 OPENING IN STEEL BEAM
3/4" = 1'-0"

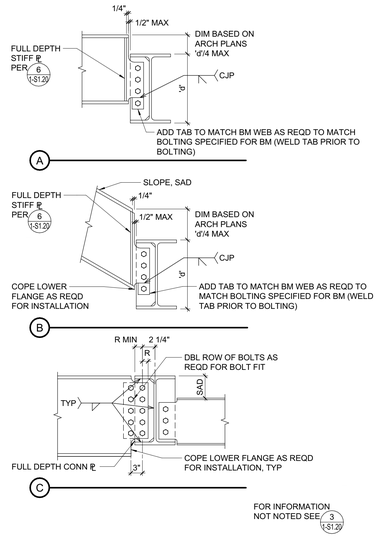


SEE 2 1-S1.20 FOR CONN ₵, BOLTS, & WELD

13 CANTILEVER BEAM CONNECTION
3/4" = 1'-0"

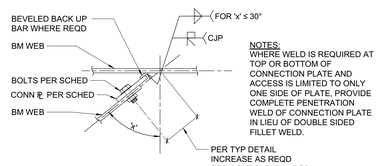


6 TYPICAL BEAM WEB STIFFENER PLATE DETAIL
3/4" = 1'-0"

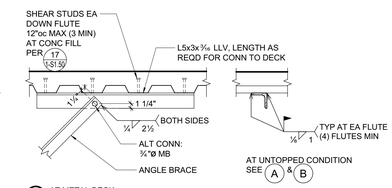


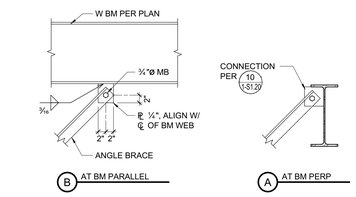
FOR INFORMATION NOT NOTED SEE 3 1-S1.20

7 TYPICAL BEAM TO BEAM CONNECTIONS
3/4" = 1'-0"



8 SKEWED BEAM CONNECTION - AT WEB
1 1/2" = 1'-0"



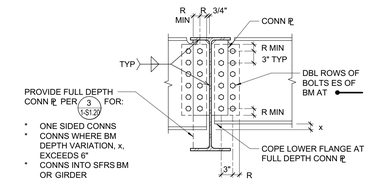


9 TOP OF BRACE
3/4" = 1'-0"

BM DEPTH	NO. BOLTS PER ROW	CONN. PLATE	WELD SIZE
W8, W10	2	₵ ¾"	⅜"
W12, W14	3	₵ ¾"	⅜"
W16	4	₵ ¾"	⅜"
W18	5	₵ ¾"	⅜"
W21	5	₵ ½"	⅜"
W24	6	₵ ½"	⅜"
W27	7	₵ ½"	⅜"
W30	8	₵ ½"	⅜"
W33	9	₵ ½"	⅜"
W36	10	₵ ½"	¾"

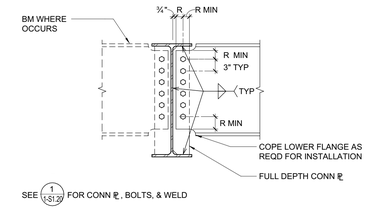
NOTES:
1. R = 1¾" SEE TYP CONNECTION DETAILS. BOLT SPACING AND EDGE DISTANCE SHALL CONFORM TO AISC SPECIFICATIONS.
2. HIGH STRENGTH BOLTS (HSB) ARE GRADE A325-N UNO. PREPARE MATING SURFACES & TIGHTEN "SNUG TIGHT" AS DEFINED IN THE SPECIFICATIONS. ALL BOLTED CONNECTIONS THAT ARE PART OF THE SFRS SHALL BE A325-X "SC" BOLTS AS DEFINED IN THE SPECIFICATIONS.
3. USE ASTM A36 CONNECTION PLATES, UNO.
4. A COMPLETE PENETRATION BEVEL WELD MAY BE SUBSTITUTED FOR THE FILLET WELDS SPECIFIED.
5. HOLE SIZE = BOLT SIZE +⅛". SHORT SLOTTED HOLES (+⅜" VERT, + ¼" HORIZ) MAY BE SUBSTITUTED (EXCEPT AS NOTED) ROUND HOLES ARE REQUIRED AT SFRS CONNECTIONS.
6. USE SAME CONNECTIONS AT CHANNELS. FOR W6, C6 & ANGLES USE PLATE, WELD & BOLT SIZE PER W8 & SEE **4/1-S1.20**.

1 ⅞"ø HIGH STRENGTH BOLT (HSB) CONNECTION SCHEDULE
3/4" = 1'-0"



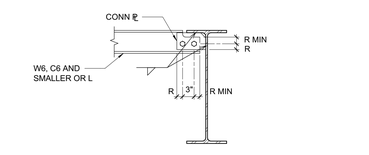
SEE 1 1-S1.20 FOR CONN ₵, BOLTS, & WELD

2 TYPICAL BEAM TO BEAM CONNECTION
3/4" = 1'-0"



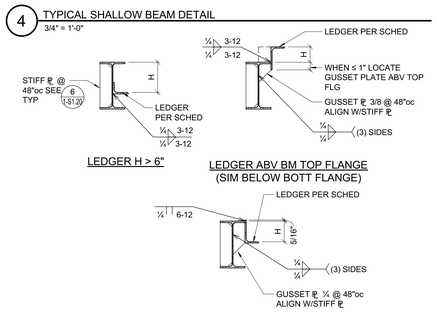
SEE 1 1-S1.20 FOR CONN ₵, BOLTS, & WELD

3 TYPICAL FULL DEPTH BEAM TO BEAM CONNECTION
3/4" = 1'-0"



SEE 1 1-S1.20 FOR CONN ₵, BOLTS, & WELD

4 TYPICAL SHALLOW BEAM DETAIL
3/4" = 1'-0"



5 LEDGER DETAIL
3/4" = 1'-0"

Ross Drulis Cusenbery ARCHITECTURE
18294 Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date
		December 6, 2018
1	DSA Third Party Review Comment Response	May 22 2019
3	Plan Check 2 Revision	Oct 10 2019

PERMIT SUBMITTAL V2-INCREMENT #1

ZFA STRUCTURAL ENGINEERS
1390 el camino real | suite 100 zfa.com
san carlos ca 94070 650.394.8869
zfa job no.17143

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LICENSED PROFESSIONAL ENGINEER KEVIN G. ZUCCO STRUCTURAL No. 4861 STATE OF CALIFORNIA

Sheet Title

BUILDING 1 TYPICAL STEEL FRAMING DETAILS

Drawn By: LS Checked By: SRP

Scale: **As indicated**

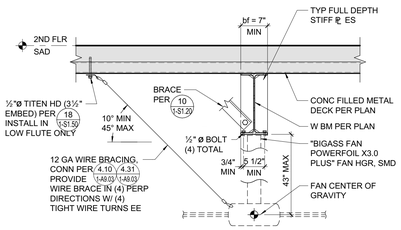
Date: **July 19, 2019**

Project No. 17143

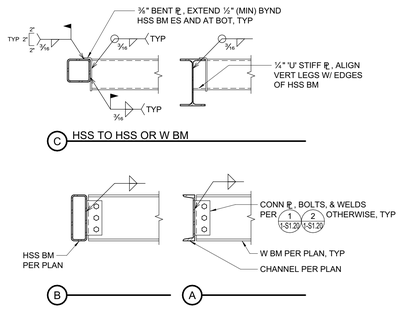
1-S1.20
Drawing No.

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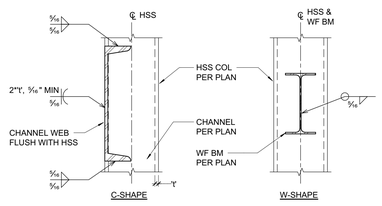
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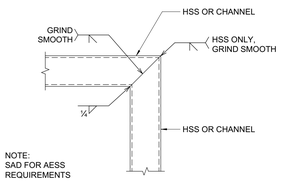
16 CEILING FAN SUPPORT
3/4" = 1'-0"



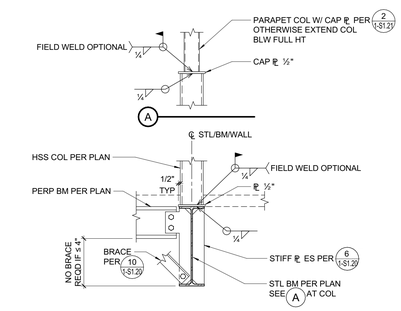
17 BEAM TO HSS OR C CHANNEL
3/4" = 1'-0"



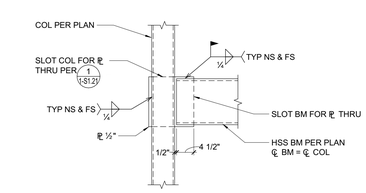
18 GRAVITY MOMENT CONNECTION AT HSS COLUMN
1 1/2" = 1'-0"



19 HSS OR CHANNEL MITERED CORNER CONNECTION
1 1/2" = 1'-0"

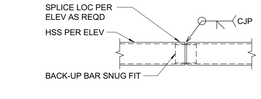


11 HSS PARAPET COLUMN TO BEAM OR TOP OF COLUMN
3/4" = 1'-0"



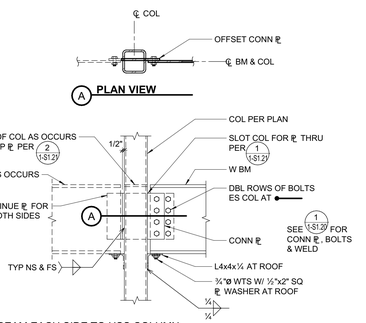
12 HSS BEAM TO HSS COLUMN
3/4" = 1'-0"

13 TYPICAL HSS TO HSS CONNECTION
3/4" = 1'-0"

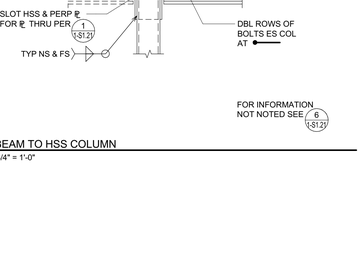


14 HSS SPLICE
3/4" = 1'-0"

15 HSS COLUMN BASE PLATE
3/4" = 1'-0"

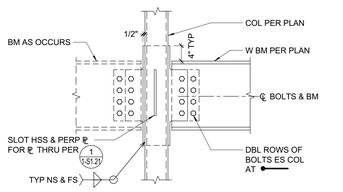


6 BEAM EACH SIDE TO HSS COLUMN
3/4" = 1'-0"

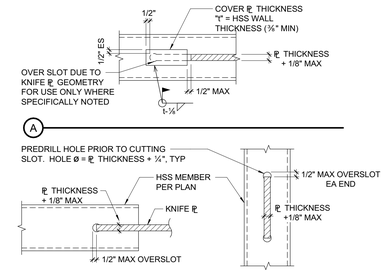


7 BEAM TO HSS COLUMN (2-WAY)
3/4" = 1'-0"

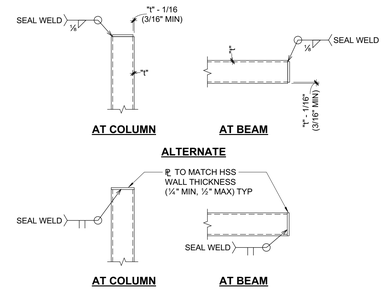
8 BEAM TO HSS COLUMN (2-WAY)
3/4" = 1'-0"



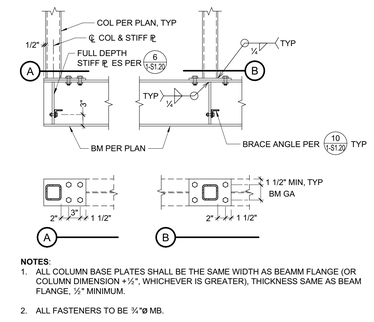
9 BEAM TO HSS COLUMN
3/4" = 1'-0"



1 TYPICAL SLOTTED HSS FOR GUSSET CONNECTION
1 1/2" = 1'-0"

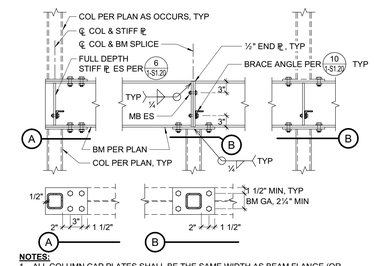


2 TYPICAL CAP PLATE
3/4" = 1'-0"



NOTES:
1. ALL COLUMN BASE PLATES SHALL BE THE SAME WIDTH AS BEAMM FLANGE (OR COLUMN DIMENSION +½", WHICHEVER IS GREATER), THICKNESS SAME AS BEAM FLANGE, ½" MINIMUM.
2. ALL FASTENERS TO BE ¾"ø MB.

3 COLUMN TO BEAM CONNECTION
3/4" = 1'-0"



NOTES:
1. ALL COLUMN CAP PLATES SHALL BE THE SAME WIDTH AS BEAM FLANGE (OR COLUMN DIMENSION +½", WHICHEVER IS GREATER), THICKNESS SAME AS BEAM FLANGE, ½" MINIMUM.
2. ALL FASTENERS TO BE ¾"ø MB.

4 COLUMN ABOVE AND BELOW
3/4" = 1'-0"

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION	
DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date
		December 6, 2018
1	DSA Third Party Review Comment Response	May 22 2019
3	Plan Check 2 Revision	Oct 10 2019

PERMIT SUBMITTAL V2-INCREMENT #1

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Sheet Title

BUILDING 1 TYPICAL STEEL FRAMING DETAILS

Drawn By: LS Checked By: SRP

Scale: **As indicated**

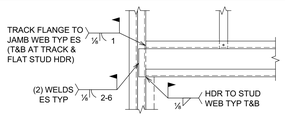
Date: **July 19, 2019**

Project No. 17143

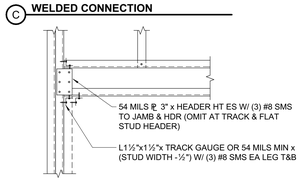
1-S1.21
Drawing No.

If this drawing is not 30" x 42", it is a reduced print - scale accordingly. All rights reserved. Material may not be reproduced in any form without permission from RossDrulisCusenbery Architecture, Inc.

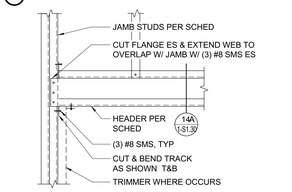
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C **WELDED CONNECTION**

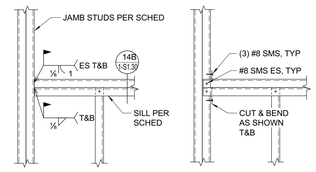


B **ALT SCREWED CONNECTION**



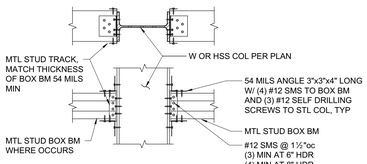
A **SCREWED CONNECTION**

16 TYPICAL HEADER CONNECTION
1" = 1'-0"

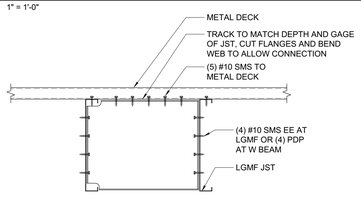


A **WELDED CONNECTION** B **ALT CONNECTION**

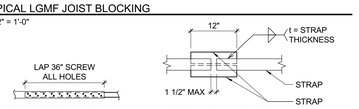
17 TYPICAL SILL CONNECTION
1" = 1'-0"



18 BOX HEADER CONN TO STEEL FRAMING
1" = 1'-0"



19 TYPICAL LGMF JOIST BLOCKING
1 1/2" = 1'-0"



SCREWED LAP SPLICE **ALTERNATE - WELDED LAP SPLICE**

TIE STRAP SCHEDULE

MARK	STRAP	MIN. SCREWING ES OF ✦	MAX. SCREW SPACING (SEE NOTE #1) CASE 1	CASE 2 EL	CASE 2 RL	MIN. END LENGTH (EL)
Ⓐ	CS16	(10) #10	#10 @ 4"oc STGR	FILL ALL HOLES	#10 @ 4"oc STGR	12"
Ⓑ	CS14	(13) #10	#10 @ 4"oc STGR	FILL ALL HOLES	#10 @ 4"oc STGR	16"
Ⓒ	CMSTC16	(25) #10	#10 @ 3"oc STGR	FILL ALL HOLES	#10 @ 3"oc STGR	24"
Ⓓ	CMST14	(33) #10	#10 @ 3½"oc STGR	FILL ALL HOLES	#10 @ 3½"oc STGR	32"
Ⓔ	CMST12	(43) #10	#10 @ 3½"oc STGR	FILL ALL HOLES	#10 @ 3½"oc STGR	48"

1. CASE 1 APPLIES UNLESS END LENGTH (EL) IS NOTED ON PLANS. WHERE END LENGTH (EL) IS NOTED, SEE CASE 2.



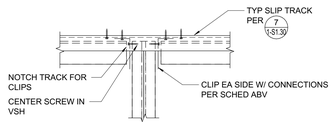
CASE 1 **CASE 2**

2. AS REQUIRED, PROVIDE CLOSER SCREW SPACING TO MEET MINIMUM SCREWING EACH SIDE OF ✦.
3. LOCATE STRAPS OVER SHEATHING AND BLOCK UNDER STRAP W/ FLAT TRACK OR STUD TO MATCH TYP STUD/JOIST WHERE NO FRAMING OCCURS, UNO.
4. SEE PLANS FOR STRAP LENGTHS, LOCATIONS AND DETAILS, UNO.
5. SPLICE STRAPS AS SHOWN WHERE LENGTH PER PLAN EXCEEDS AVAILABLE PRODUCT LENGTH

20 TIE STRAP SCHEDULE
3/4" = 1'-0"

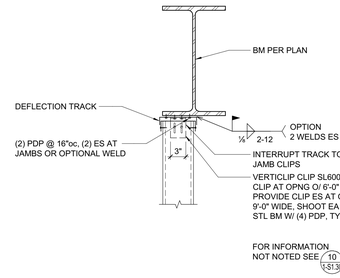
CLIP	CONN TO STUD	CONN TO ABV	MIN JAMB STUD THICKNESS	NOTES
SIMPSON SCW	(2) #14	(2) #12	43 MILS	
STL NETWORK SL CLIP	(3) #12	(3) #12	43 MILS	
4"x2"x97MILSx4" CLIP W/ ¼"x2" VSH	(2) #12	(2) #12	43 MILS	

NOTE: PROVIDE CLIP ES JAMB STUD AT ALL OPENING GREATER THAN 4'-0"



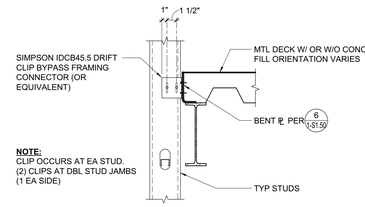
ELEVATION

11 JAMB STUD DEFLECTION TRACK
1 1/2" = 1'-0"

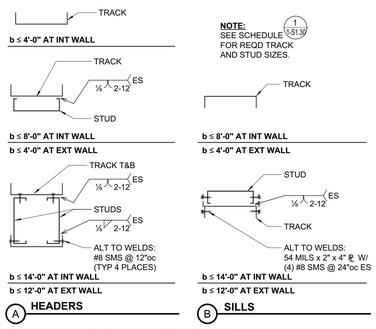


FOR INFORMATION NOT NOTED SEE 10 1-S1.30

12 ATTACHMENT OF JAMB STUDS TO STEEL BEAM
1" = 1'-0"

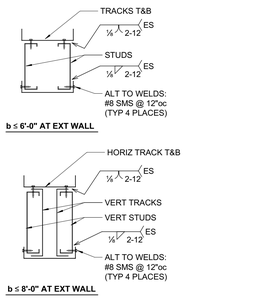


13 EXTERIOR WALL
1" = 1'-0"

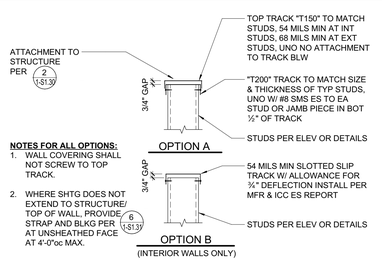


A **HEADERS** B **SILLS**

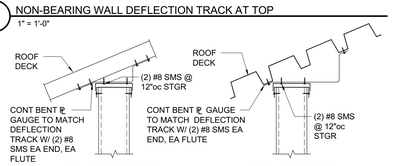
14 TYPICAL NON-BEARING HEADER AND SILLS
1 1/2" = 1'-0"

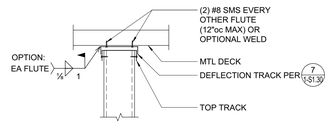


15 TYPICAL BEARING HEADERS
1 1/2" = 1'-0"

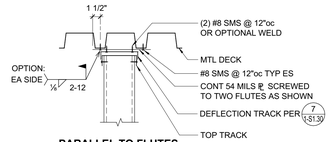


7 NON-BEARING WALL DEFLECTION TRACK AT TOP
1" = 1'-0"



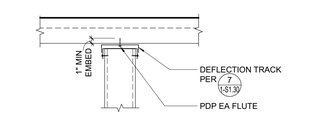


PERPENDICULAR TO FLUTES

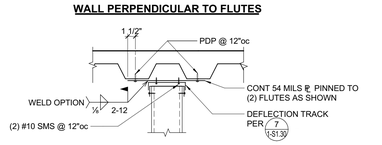


PARALLEL TO FLUTES

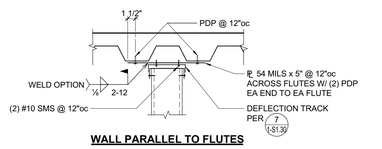
8 ATTACHMENT OF NON-BEARING STUDS TO METAL DECK
1" = 1'-0"



WALL PERPENDICULAR TO FLUTES

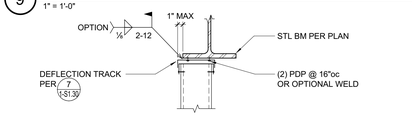


WALL ANGLED TO FLUTES

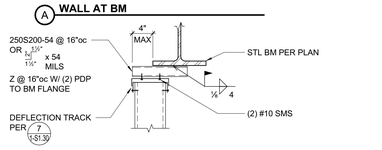


WALL PARALLEL TO FLUTES

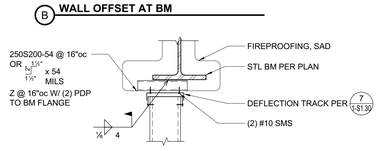
9 ATTACHMENT OF NON-BEARING STUDS TO METAL DECK WITH CONCRETE FILL
1" = 1'-0"



A **WALL AT BM**

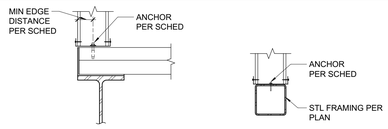


B **WALL OFFSET AT BM**

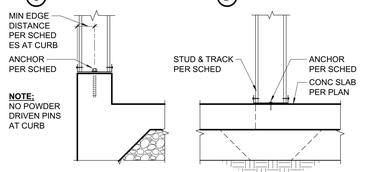


C **WALL AT BM W/ FIREPROOFING**

10 ATTACHMENT OF NON-BEARING STUDS TO STEEL BEAM
1" = 1'-0"



C **CONC OVER METAL DECK** D **STL FRAMING**

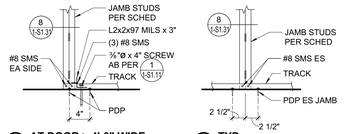


A **AT CURB OR CONC WALL** B **AT SLAB ON GRADE**

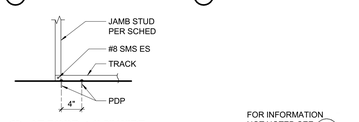
LOCATION	ANCHOR TYPE, DIAMETER AND SPACING: SCREW ANCHOR	POWDER DRIVEN PINS	EXPANSION ANCHOR	CAST-IN-PLACE	DETAIL
EXTERIOR WALL SLAB ON GRADE (H=20'-0" MAX)	½"ø @ 24"oc	NOT PERMITTED	½"ø @ 24"oc	½"ø @ 36"oc	Ⓐ
INTERIOR WALL SLAB ON GRADE	½"ø @ 48"oc	0.157"ø @ 16"oc	½"ø @ 48"oc	½"ø @ 48"oc	Ⓑ
INTERIOR WALL SLAB ON MTL DECK	NOT PERMITTED	0.157"ø @ 16"oc	¾"ø @ 48"oc	N/A	Ⓒ
EXTERIOR WALL SLAB ON MTL DECK (H=15'-0" MAX)	NOT PERMITTED	NOT PERMITTED	¾"ø @ 16"oc	N/A	Ⓒ
STL FRAMING (H=14'-0" MAX)	N/A	0.157"ø @ 16"oc	N/A	N/A	Ⓓ
MIN CONC EDGE DISTANCE	1¾"	3"	3"	3"	
REF DETAIL & NOTES	1 1-S1.11	STAGGER PINS	3 1-S1.11	NOTE #4	

NOTES:
1. PROVIDE (2) ANCHORS MIN PER TRACK SEGMENT.
2. FOUNDATION AND SLAB REINFORCING PER OTHER DETAILS.
3. CENTER FASTENERS W/ TRACK, UNO.
4. SEE PLAN AND SCHEDULE FOR ADDITIONAL ANCHORAGE REQUIREMENTS, AS OCCURS.

3 TYPICAL BOTTOM TRACK ANCHORS AT CONCRETE
1" = 1'-0"



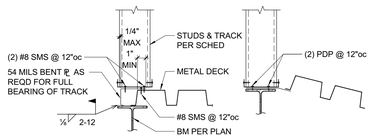
B **AT DOOR > 4'-0" WIDE** C **TYP**



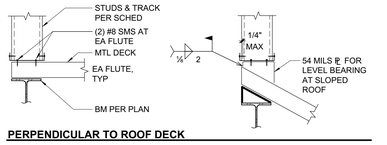
A **AT DOOR < 4'-0" WIDE**

FOR INFORMATION NOT NOTED SEE 2 1-S1.30

4 INTERIOR BOXED STUD BASE
1" = 1'-0"

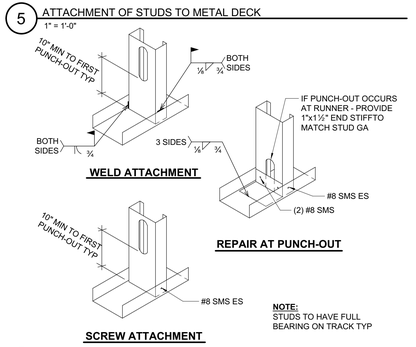


PARALLEL TO DECK



PERPENDICULAR TO ROOF DECK

5 ATTACHMENT OF STUDS TO METAL DECK
1" = 1'-0"



WELD ATTACHMENT **REPAIR AT PUNCH-OUT**

SCREW ATTACHMENT

NOTE:
STUDS TO HAVE FULL BEARING ON TRACK TYP

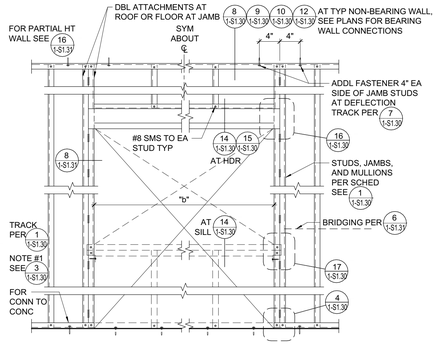
6 STUD OR JOIST TO TRACK
1" = 1'-0"

LIGHT GAUGE FRAMING SCHEDULE

LOCATION	MINIMUM MEMBER SIZE	MAX SPAN/LENGTH	MAX SPACING UNO	REFERENCE DETAIL
EXTERIOR STUDS	600S162-43	15'-0"	16"oc	
	800S162-54	20'-0"	16"oc	
EXTERIOR HEADERS (NON-BEARING)	(2) 800S162-43 STUDS AND (2) 600T150-68 TRACKS	b ≤ 12'-0"		SEE 14 1-S1.30
	(2) 600S162-43 STUDS AND (2) 600T150-43 TRACKS	b ≤ 8'-0"		
	600S162-43 STUD AND 600T150-43 TRACK	b ≤ 4'-0"		
EXTERIOR HEADERS (BEARING)	(2) 800S200-68 STUDS VERT + (2) 800T150-54 TRACKS VERT + (2) 600S150-54 TRACKS HORIZ	b ≤ 8'-0"		SEE 15 1-S1.30
	(2) 600S200-54 STUDS VERT + (2) 600T150-54 TRACKS HORIZ +	b ≤ 6'-0"		
	(2) 400S162-54 STUDS VERT + (2) 600T150-54 TRACKS HORIZ +	b ≤ 4'-0"		
EXTERIOR SILLS	600S162-54 STUD AND 600T150-68 TRACK	b ≤ 12'-0"		SEE 14 1-S1.30
	600S162-43 STUD AND 600T150-43 TRACK	b ≤ 8'-0"		
	600T150-43	b ≤ 4'-0"		
EXTERIOR JAMBS	(3) 600S162-68	15'-0"	b ≤ 12'-0"	SEE 8 1-S1.31
	(2) 600S162-97	15'-0"	b ≤ 8'-0"	
	(2) 600S162-43	15'-0"	b ≤ 4-0"	
PARAPET SILLS	600S162-54 STUD AND 600T150-54 TRACK			SEE 14 1-S1.30
INTERIOR STUDS	400S162-43	12'-0"	16"oc	
	600S162-33	18'-0"	16"oc	
INTERIOR STUDS W/ SHELVING OR EQUIPMENT ANCHORAGE	400S162-54	15'-0"	16"oc	
	600S162-43	15'-0"	16"oc	
INTERIOR HEADERS	(2) 600S162-33 STUDS AND (2) 400T150-43 TRACKS	b ≤ 12'-0"		SEE 14 1-S1.30
	(2) 800S162-54 STUDS AND (2) 600T150-33) TRACKS			
	(2) 400S162-33 STUDS AND (2) 400T150-43 TRACKS	b ≤ 8'-0"		
	400T200-43 (OR 600T200-43)	b ≤ 4'-0"		
INTERIOR SILLS	400S162-43 STUD AND 400T150-43 TRACK (OR 600S162-33 AND 600T150-33)	b ≤ 14'-0"		SEE 14 1-S1.30
	400T150-43 (OR 600T150-43)	b ≤ 8'-0"		
INTERIOR JAMBS	(2) 400S162-43 (OR (2) 600S162-33)	15'-0"	b ≤ 12'-0"	SEE 8 1-S1.31
	400S162-43 (OR 600S162-33)	15'-0"	b ≤ 4-0"	
CEILING JOISTS	400S162-33	10'-0"	16"oc	SEE 17 1-S1.31
	600S162-43	17'-0"	16"oc	
CEILING HANGERS	400S162-43	h ≤ 6'-0"		SEE 19 1-S1.31
	400S162-43 & 400T150-43	h ≤ 8'-0"		

1. TYP TRACK TO BE SAME GAUGE AS STUD OR 43 MILS MIN, UNO. FLANGE TO BE 1⅛" MIN.
2. AT EXTERIOR WALL W/ BUMP OUT BOTH MAIN WALL & FURRING WALL ARE EXTERIOR STUDS. PROVIDE BRIDGING @ 4'-0"oc MAX PER 6/1-S1.31 AT BOTH WALLS.
3. A WALL W/ ANY PORTION HAVING EXTERIOR EXPOSURE SHALL BE FRAMED ENTIRELY AS AN EXTERIOR WALL.
4. MULTIPLE ADJACENT WINDOWS TO EACH HAVE INDIVIDUAL HEADERS AND FULL JAMB STUDS BETWEEN WINDOWS.
5. TYP WALL BRIDGING/BLKG PER 6/1-S1.31 .
6. TYP STUD/JOIST TO TRACK PER 8/1-S1.30 .
7. COORDINATE STUD DEPTH W/ ARCH DRAWINGS. INCREASE MIN HDR, SILL OR JAMB MEMBER DEPTHS AS REQD TO MATCH ACTUAL WALL STUD DEPTH.
8. "b" INDICATES OPENING WIDTH PER 2/1-S1.30 .

1 SCHEDULE - LIGHT GAUGE METAL FRAMING, UNO
3/4" = 1'-0"



2 TYPICAL WALL FRAMING (OPENING AS OCCURS)
1" = 1'-0"

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA DEP. DIR. PUBLIC WORKS	ALEX AMERI INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	DSA Third Party Review Comment Response	December 6, 2018 May 22 2019
3	Plan Check 2 Revision	Oct 10 2019

PERMIT SUBMITTAL V2-INCREMENT #1

ZFA STRUCTURAL ENGINEERS
1390 el camino real | suite 100 zfa.com
san carlos ca 94070 650.394.8869
zfa job no.17143

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REGISTERED PROFESSIONAL ENGINEER KEVIN G. ZUCCO STRUCTURAL No. 4861 STATE OF CALIFORNIA

Sheet Title

BUILDING 1 TYPICAL METAL STUD ELEVATION AND CONNECTION DETAILS

Drawn By: LS Checked By: SRP

Scale: **As indicated**

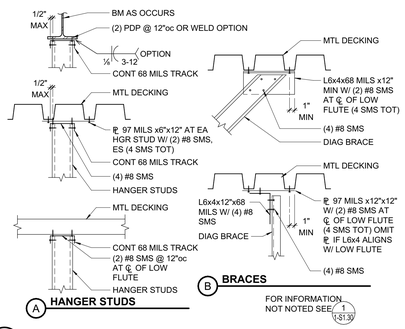
Date: **July 19, 2019**

Project No. 17143

1-S1.30
Drawing No.

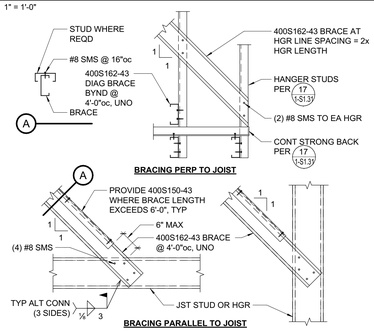
If this drawing is not 30" x 42", it is a reduced print - scale accordingly. All rights reserved. Material may not be reproduced in any form without permission from RossDrulisCusenbery Architecture, Inc.

10/11/2019 11:10:57 AM C:\revit_local\RCUT 20\17\17143_B1 - FSWt Classroom_STTC_jamieb.rvt



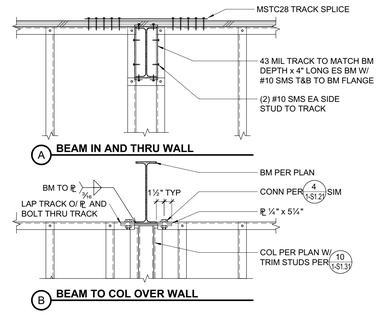
19 HANGERS & BRACES AT METAL DECK

1" = 1'-0"



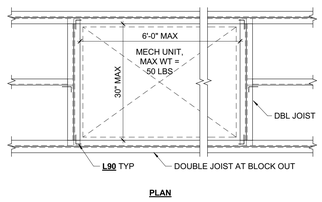
20 TYPICAL BRACE CONNECTIONS

1" = 1'-0"



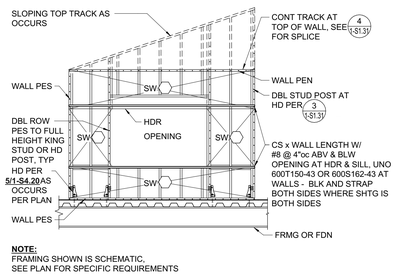
21 TYPICAL BEAM IN WALL

1" = 1'-0"



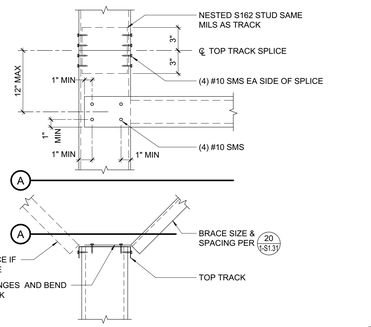
22 TYPICAL CEILING JOIST BLOCK OUT

3/4" = 1'-0"



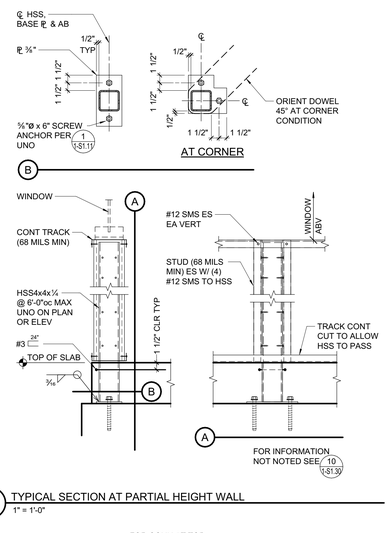
23 SCHEMATIC SHEAR WALL ELEVATION

1/4" = 1'-0"



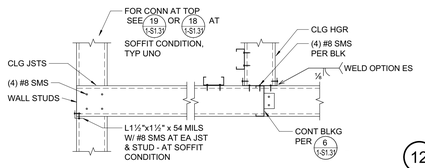
15 TYPICAL BRACE AT TOP OF PARTIAL HT WALL

1 1/2" = 1'-0"

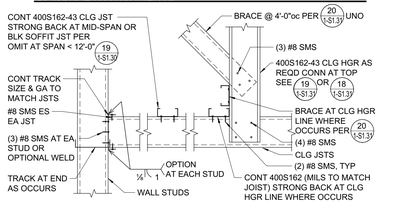


16 TYPICAL SECTION AT PARTIAL HEIGHT WALL

1" = 1'-0"

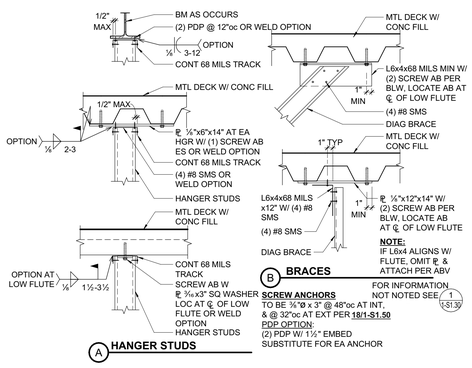


OPTIONAL ATTACHMENTS



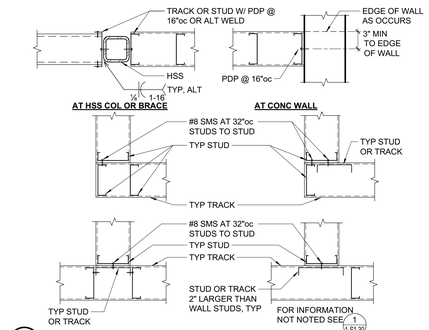
17 TYPICAL CEILING JOIST FRMG AT FULL HEIGHT METAL STUDS

1" = 1'-0"



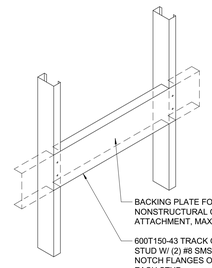
18 HANGERS & BRACES AT METAL DECK WITH CONC FILL

1" = 1'-0"



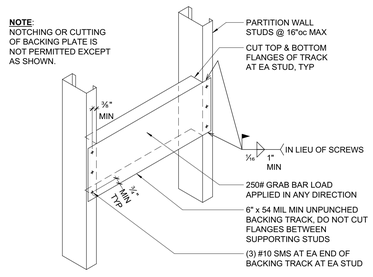
10 TYPICAL CORNERS AND INTERSECTIONS

1" = 1'-0"



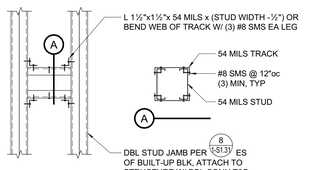
11 WALL BACKING PLATE

1" = 1'-0"



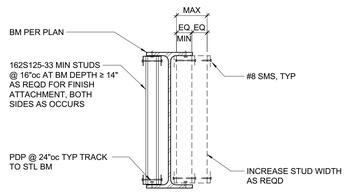
12 BACKING PLATE DETAIL FOR GRAB BAR

1 1/2" = 1'-0"



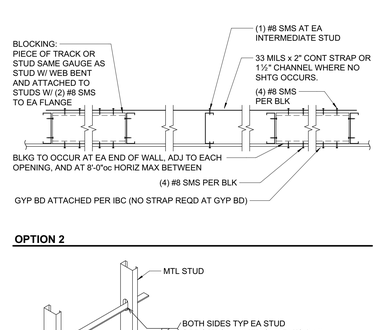
13 HEAVY DUTY WALL BACKING PLATE

1" = 1'-0"



14 INFILL AT STEEL BEAM

1 1/2" = 1'-0"



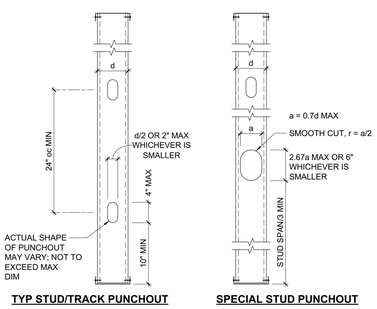
OPTION 2

OPTION 1

NOTES:
1. BRIDGING MAY BE PER OPTION 1 OR 2.
2. PROVIDE BRIDGING @ 4'-0"oc.
3. BRIDGING IS NOT REQUIRED WHERE PROPERLY ATTACHED SHEATHING OCCURS ON BOTH SIDES OF STUDS.
4. THE MAX STUD DEPTH FOR OPTION 1 IS 8" MAX.
5. PROVIDE BLOCKING PER OPTION 2 AT LOCATIONS INDICATED ON DRAWINGS OR OTHER DETAILS

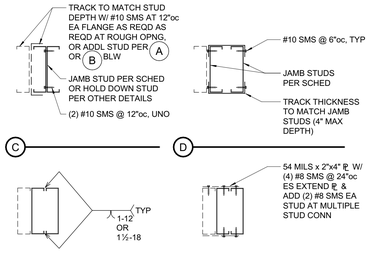
6 WALL BRIDGING/BLOCKING

1" = 1'-0"



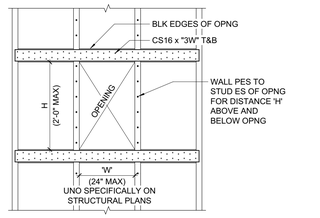
7 TYPICAL STUD PUNCHOUT

1" = 1'-0"



8 TYPICAL MULTIPLE STUD CONNECTION

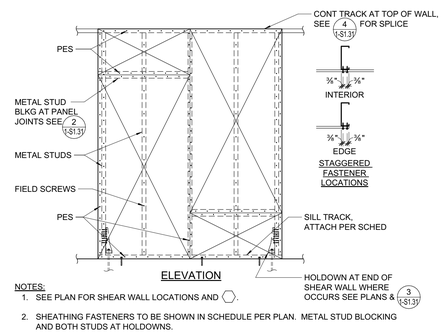
1 1/2" = 1'-0"



NOTES:
1. OPENINGS < 6" SQ DO NOT REQUIRE BLKG AND STRAPPING.
2. NO ADDITIONAL OPENINGS WITHIN 4'-0" ALL AROUND.
3. NO OPENINGS PERMITTED IN SW Ⓒ OR HIGHER OR IN SHEAR WALLS LESS THAN 10'-0" LONG UNLESS SPECIFICALLY DETAILED ON STRUCTURAL PLANS. CONTACT STRUCTURAL ENGINEER FOR ASSISTANCE.
4. FRAME OPENINGS PER 2 S1.31 WHERE STUDS ARE INTERRUPTED.

9 SINGLE LARGE HOLE IN SHEAR WALL PANEL

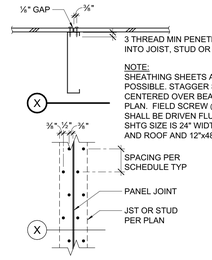
3/4" = 1'-0"



NOTES:
1. SEE PLAN FOR SHEAR WALL LOCATIONS AND Ⓒ.
2. SHEATHING FASTENERS TO BE SHOWN IN SCHEDULE PER PLAN. METAL STUD BLOCKING AND BOTH STUDS AT HOLDOWNS.
3. PROVIDE PES AT ALL SHEET EDGES, SILL TRACKS, TOP TRACKS, METAL STUD BLOCKING AND BOTH STUDS AT HOLDOWNS.
4. EDGE SCREWS SHALL BE @ 6"oc MIN UNO ON PLAN. FIELD SCREWS SHALL BE @ 12"oc.
5. PROVIDE 18GA FLAT BLOCKING AND PES AT ALL UNSUPPORTED EDGES WHERE BLOCKING AND NAILING ARE INDICATED ON PLAN.
6. STAGGER SHEATHING JOINTS VERTICALLY (NO CONTINUOUS HORIZONTAL PANEL JOINTS) AS SHOWN WHERE SHEAR WALL IS MORE THAN ONE PANEL IN HEIGHT. MINIMUM PANEL WIDTH IS 24".

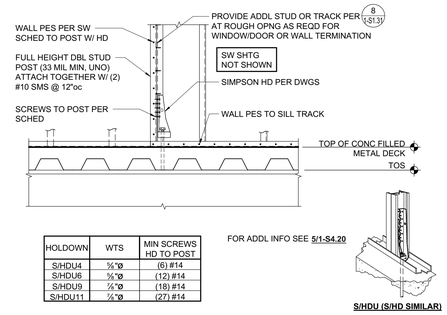
1 SHEAR WALL FASTENING

3/8" = 1'-0"



2 SHEATHING SCREWING

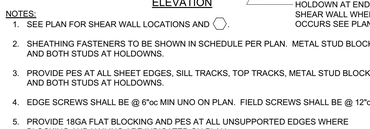
1 1/2" = 1'-0"



HOLDOWN	WTS	MIN SCREWS HD TO POST
S/HDU4	⅝"ø	(6) #14
S/HDU6	⅝"ø	(12) #14
S/HDU9	⅞"ø	(18) #14
S/HDU11	⅞"ø	(27) #14

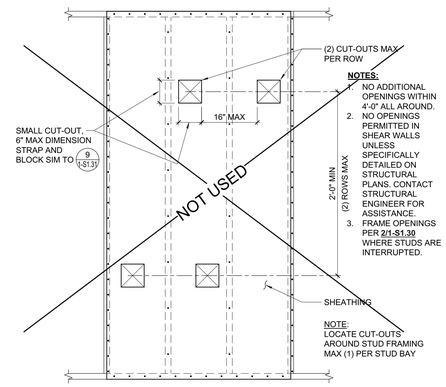
3 HOLD-DOWNS AND TENSION TIES

3/4" = 1'-0"



4 TYPICAL SPLICE AT TOP TRACK

1 1/2" = 1'-0"



5 SMALL HOLES IN SHEAR WALL PANEL

3/4" = 1'-0"

Ross Drulis Cusenbery ARCHITECTURE
18294 Sonoma Highway Sonoma CA 95476
TEL 707 996 8448
FAX 707 996 8542

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date
		December 6, 2018
1	DSA Third Party Review Comment Response	May 22 2019
3	Plan Check 2 Revision	Oct 10 2019

PERMIT SUBMITTAL V2-INCREMENT #1

ZFA STRUCTURAL ENGINEERS
1390 el camino real | suite 100 zfa.com
san carlos ca 94070 650.394.8869
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LICENSED PROFESSIONAL ENGINEER KEVIN G ZUCCO STRUCTURAL No. 4861 STATE OF CALIFORNIA

Sheet Title

BUILDING 1 TYPICAL METAL STUD SHEARWALL, SOFFIT, & MISCELLANEOUS DETAILS

Drawn By: LS Checked By: SRP

Scale: As indicated

Date: July 19, 2019

Project No. 17143

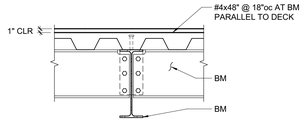
1-S1.31

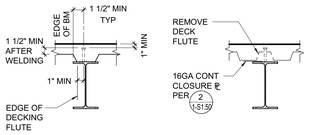
Drawing No.

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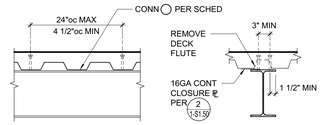
10/11/2019 11:11:03 AM C:\revit_local\R20\JT 2017\17143_B1 - FS#6_Classroom_S17C_jamiah.rvt

16 TYPICAL ADDL DECK SLAB REINF OVER PARALLEL BEAMS
3/4" = 1'-0"





LOW FLUTE AT PARALLEL BM **SPLIT DECK AT PARALLEL BM**



DOUBLE ROW

NOTES:
1. (#) DENOTES QUANTITY OF ¾"ø SHEAR STUDS ON BEAM. PROVIDE ADDITIONAL STUDS WHERE REQUIRED TO MAINTAIN MAX SPACING.
2. WHERE DECK IS PERPENDICULAR (OR AT AN ANGLE) TO BEAM, START SHEAR STUD LAYOUT AT FIRST LOW FLUTE AT EACH END OF BEAM. WHEN ALL LOW FLUTES ARE FULL, REMAINING STUDS SHALL BE PLACED IN DOUBLE ROWS STARTING AT FIRST LOW FLUTE FROM EACH END OF BEAM.
3. WHERE DECK IS PARALLEL TO BEAM SHEAR, STUD LAYOUT SHALL BE EQUALLY SPACED SINGLE ROW OR DBL ROW AS REQUIRED TO MAINTAIN MIN SPACING.
4. IF FLANGE IS LESS THAN ⅜" THK PLACE SHEAR STUD AT WEB ℄ ONLY.
5. NO CONSTRUCTION JOINTS ALLOWED PARALLEL TO AND WITHIN 4'-0" OF STUDS.
6. SEE **16/1-S1.50** OTHERWISE.

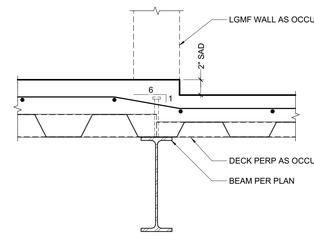
17 TYPICAL COMPOSITE BEAM SHEAR STUDS
3/4" = 1'-0"

TITEN HD ANCHOR OR **HILTI X-U**

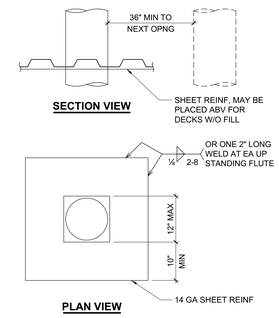
ANCHOR TYPE	ANCHOR DIA	MINIMUM EMBEDMENT H_{nom}	MAXIMUM INSTALL TORQUE (FT-LB)
HILTI X-U	0.157	1¼"	N/A
TITEN HD	⅝"	1½"	50
TITEN HD	⅝"	2½"	50
TITEN HD	½"	3½"	65

NOTES:
1. INSTALL ANCHORS PER MANUFACTURER'S INFORMATION AND ICC REPORT INSTRUCTIONS AND IN CONFORMANCE W/ PROJECT DETAILS.
2. ACCEPTABLE ANCHORS ARE: HILTI LOW VELOCITY PDP, ICC ESR-2269 OR APPROVED EQUAL AND SIMPSON TITEN HD, ICC ESR-2713 OR APPROVED EQUAL.
3. CONTRACTOR TO VERIFY MINIMUM EDGE DISTANCES, SPACING AND THICKNESS ARE IN ACCORDANCE W/ DETAILS PRIOR TO INSTALLING ANCHOR.
4. FOR TITEN HD:
   a. HOLE DIAMETER IN THE STEEL DECK MUST NOT EXCEED THE DIAMETER OF THE HOLE IN THE CONCRETE BY MORE THAN ⅛".
   b. THE SPECIAL INSPECTOR MUST BE ON THE JOB SITE CONTINUOUSLY DURING ANCHOR INSTALLATION TO VERIFY ANCHOR TYPE, ANCHOR DIMENSIONS, HOLE CLEANLINESS, EMBEDMENT DEPTH, CONCRETE TYPE, CONCRETE COMPRESSIVE STRENGTH, DRILL BIT DIAMETER, HOLE DEPTH, EDGE DISTANCES(S), ANCHOR SPACING(S), CONCRETE THICKNESS, AND TIGHTENING TORQUE.

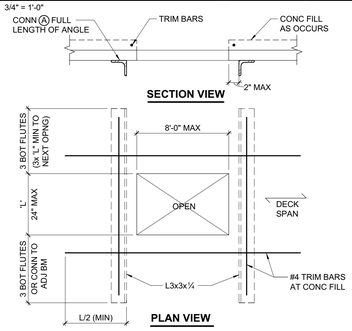
18 ANCHORS IN METAL DECK AND CONCRETE
1 1/2" = 1'-0"



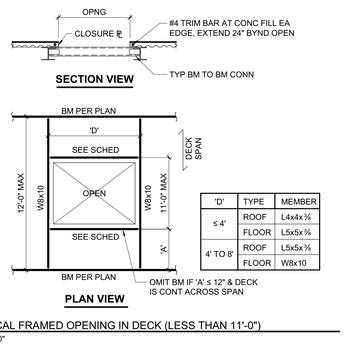
19 DEPRESSED SLAB AT DECK CHANGE
1 1/2" = 1'-0"



11 TYPICAL REINFORCED OPENING IN DECK (LESS THAN 12")
3/4" = 1'-0"



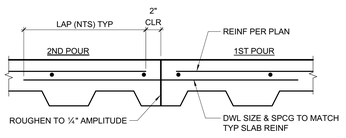
12 TYPICAL REINFORCED OPENING IN DECK (LESS THAN 24")
1" = 1'-0"



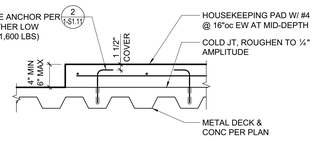
'D'	TYPE	MEMBER
≤ 4'	ROOF	L4x4x¼
	FLOOR	L5x5x⅝
4' TO 8'	ROOF	L5x5x⅝
	FLOOR	W8x10

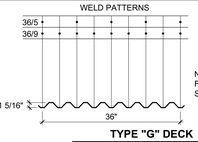
13 TYPICAL FRAMED OPENING IN DECK (LESS THAN 11'-0")
1" = 1'-0"

14 CONC ON METAL DECK CONSTRUCTION JOINT
1 1/2" = 1'-0"



15 TYPICAL HOUSEKEEPING PAD ON DECK WITH CONCRETE FILL
3/4" = 1'-0"

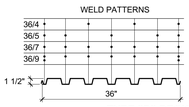




PROPERTIES F_y=60 ksi	
GAGE	I (in⁴/ft)
22 GA	0.123
20 GA	0.143

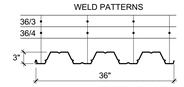
NOTE:
FOR SCREW / PDP ATTACHMENT, SEE **8/1-S1.50**

TYPE "G" DECK
VERCO DEEP VERCOR OR APPROVED EQUAL



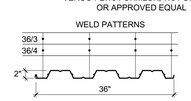
PROPERTIES F_y=38 KSI	
GAGE	I (in⁴/ft)
22 GA	0.175
20 GA	0.216
18 GA	0.302
16 GA	0.377

TYPE "D" DECK
VERCO PLB, HSB, OR APPROVED EQUAL



PROPERTIES F_y=38 ksi	
GAGE	I (in⁴/ft)
22 GA	0.718
20 GA	0.896
18 GA	1.203
16 GA	1.509

TYPE "B" DECK
VERCO PLW3 FORMLOK, W3 FORMLOK, OR APPROVED EQUAL



PROPERTIES F_y=38 ksi	
GAGE	I (in⁴/ft)
22 GA	0.340
20 GA	0.423
18 GA	0.555
16 GA	0.694

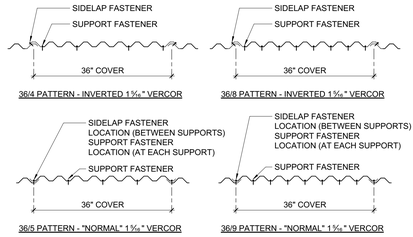
TYPE "A" DECK
VERCO PLW2 FORMLOK, W2 FORMLOK, OR APPROVED EQUAL

7 DECKING TYPE AND CONNECTION PATTERN
3/4" = 1'-0"

1. SCHEDULED OR REFERENCED DECKS ARE BASED ON ALLOWABLE DESIGN LOADS PER IAPMO ER-0217 VERCO MANUFACTURING PHOENIX, ARIZONA - EQUIVALENT DECK MUST HAVE EQUIVALENT ALLOWABLE LOADS.
2. SCREWS FOR DECK TO DECK SEAM FASTENING SHALL BE No. 12-14 x ⅜" TEKS 1. SCREWS / PDP FOR DECK SUPPORT FASTENING SHALL BE ONE OF THE FOLLOWING:

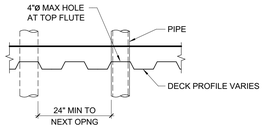
FASTENER DESCRIPTION	SUPPORT THICKNESS
#12-14 x ¾" TEKS 3	16 GAGE TO ⅜"
#12-24 x ⅞" TEKS 4	⅛" TO ½"
#12-24 x 1⅛" TEKS 5	⅛" TO ½"
HILTI X-ENP-19 L15	¼" OR GREATER

3. SEE ICC-ES ER-3056 AND ESR-1976 FOR ADDITIONAL DETAILS ON TEKS SCREWS. SEE ICC-ES ESR-2776 FOR ADDITIONAL DETAILS ON HILTI X-ENP-19 L15 PDP.
4. DECK SUPPORT FASTENER PATTERNS ARE AS DESCRIBED IN (A).
5. EIGHT OR FOUR SCREWS USED FOR INVERTED 1⅜" VERCOR. NINE OR FIVE SCREWS USED FOR "NORMAL" 1⅜" VERCOR.

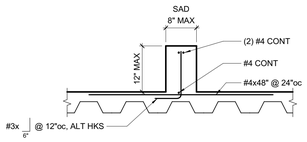


Ⓐ TEKS FASTENER PATTERN FOR 1⅜" VERCOR

8 DECKING SCHEDULE - SCREW CONNECTIED
3/4" = 1'-0"



9 TYPICAL UNREINFORCED OPENING IN DECK (≤ 4")
3/4" = 1'-0"

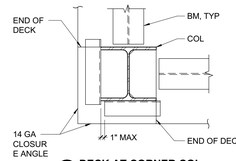


10 TYPICAL CURB ON DECK WITH CONCRETE FILL
3/4" = 1'-0"

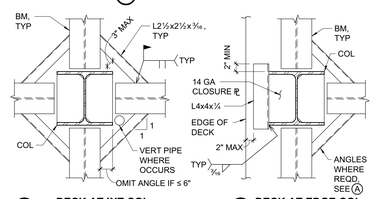
MARK	STEEL DECK GAGE & PROFILE TYPE SEE 7/1-S1.50	DECK CONNECTIONS						MINIMUM SLAB FILL THICKNESS ABV DECK	MINIMUM SLAB FILL REINFORCING	REMARKS
		END/INT BEARING CONN Ⓐ		SIDE BEARING CONN Ⓑ		SIDELAP CONNECTION Ⓒ				
		SIZE & TYPE	PATTERN	SIZE & TYPE	SPACING	SIZE & TYPE	SPACING			
1	B - 18 GA	¾"ø PW	36/4	¾"ø PW	12"	1½" TSW	12"	4½" CONCRETE MIN (7½" TOT THICKNESS MIN)	#4 @ 18"oc EW AT MID HEIGHT	SEE 17/1-S1.50 FOR SHEAR STUDS
2	B - 18 GA	¾"ø PW	36/4	¾"ø PW	12"	1½" TSW	12"	4½" CONCRETE MIN (7½" TOT THICKNESS MIN)	#4 @ 12"oc EW AT MID HEIGHT	SEE 17/1-S1.50 FOR SHEAR STUDS
3	G - 20 GA	¾"ø PW	36/9	¾"ø PW	12"	1½" TSW OR SCREWS	12"	NO CONCRETE COVER. SAD FOR INSUL	N/A	SEE 8/1-S1.50 FOR SCREW / PDP CONN
4	A - 18 GA	¾"ø PW	36/4	¾"ø PW	12"	1½" TSW	12"	3½" CONCRETE MIN (5½" TOT THICKNESS MIN)	#4 @ 18"oc EW AT MID HEIGHT	SEE 17/1-S1.50 FOR SHEAR STUDS
5	D - 20 GA	¾"ø PW	36/7	¾"ø PW	12"	1½" TSW OR ⅜"x1½" ASW	12"	2½" CONCRETE MIN (4" TOT THICKNESS MIN)	#3 @ 16"oc EW AT MID HEIGHT	STAIR LANDINGS, USE LIGHTWEIGHT CONC

NOTES:
1. " = ¾"ø MIN OF FUSION (EFFECTIVE WELD). ATTACH DECK TO ALL STEEL SUPPORT FRAMING AS OCCURS.
2. ALL DECK TYPES TO RECEIVE CONCRETE FILL TO HAVE FACTORY PUNCHED VENT TABS.
3. PW = PUDDLE WELD.
4. TSW = TOP SEAM WELD (⅛" FILLET).
5. ASW = ARC SEAM WELD.
6. BP = BUTTON PUNCH.
7. VSC2 = VERCO SIDE LAP CONNECTION.
8. PINS = HILTI X-ENP-19 PER ICC ESR-2197.
9. ABOVE REFERENCED DECKS AND COMPOSITE DEPTHS ARE BASED ON ALLOWABLE DESIGN LOADS PER IAPMO ER-0217 VERCO MANUFACTURING, ESR-2047 EPIC METAL DECK CORP - EQUIVALENT DECK MUST HAVE EQUIVALENT ALLOWABLE VERTICAL LOADS, DIAPHRAGM SHEAR VALUES, AND FLEXIBILITY FACTORS.
10. SHORING OF DECK REQUIRED AT SINGLE SPAN & 2 SPAN CONDITIONS. NOT REQUIRED AT 3 SPAN CONDITIONS. AT CONTRACTOR'S OPTION, HEAVIER DECK MAY BE USED TO AVOID SHORING PER SEOR WRITTEN APPROVAL.
11. PROVIDE EXTRA CONCRETE TOPPING TO PROVIDE FLAT LEVEL SURFACE, 1" MAX.
12. WHERE A WELDED HEADED STUD OCCURS COINCIDENT WITH A TYPE 'A' DECK ATTACHMENT, THE TYPE 'A' ATTACHMENT MAY BE OMITTED.
13. PROVIDE FULL WIDTH DECK SHEET ON EACH SIDE OF BEAMS IN THE SFRS, AND AT THE BUILDING PERIMETER.

1 DECKING SCHEDULE
3/4" = 1'-0"

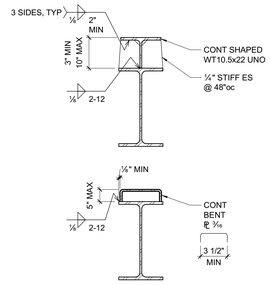


Ⓒ **DECK AT CORNER COL**

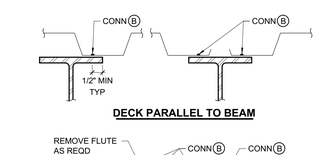


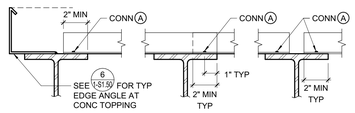
Ⓐ **DECK AT INT COL** Ⓑ **DECK AT EDGE COL**

4 TYPICAL DECK SUPPORT AT COLUMN
3/4" = 1'-0"

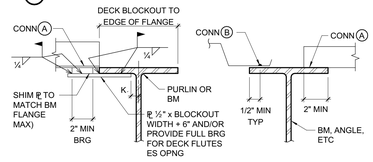


5 TYPICAL RAISED AND DEPRESSED DECK SUPPORT
1 1/2" = 1'-0"



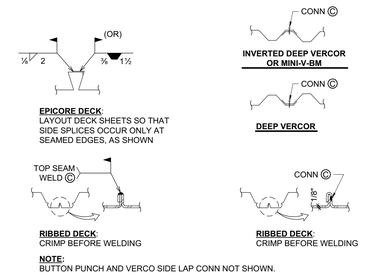


Ⓐ **WELDING (OR OTHER DECK FASTENING)**



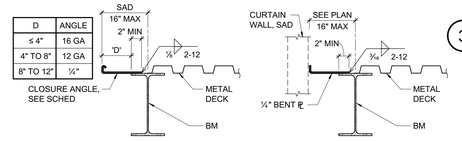
NOTES:
1. WELD OR DECK FASTENERS PER SCHEDULE. FOR DECKING SCHEDULE SEE **1/1-S1.50** AS SHOWN IN THIS DETAIL. PROVIDE ARC SEAM WELD "⌓" AT SAME SPACING AS ARC SPOT WELD "◯" PER **1/1-S1.50**

2 TYPICAL STEEL DECK SUPPORT AND WELDING
3/4" = 1'-0"

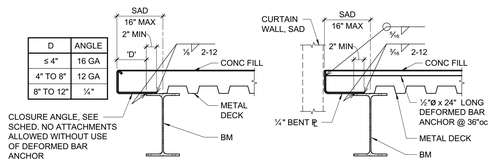


NOTE:
BUTTON PUNCH AND VERCO SIDE LAP CONN NOT SHOWN.

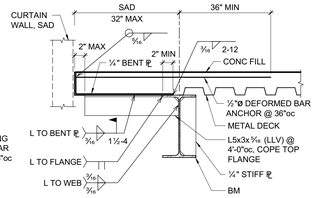
3 TYPICAL DECK SIDE LAP CONNECTION
3" = 1'-0"



UNTOPPED DECK AT OPENING **UNTOPPED DECK AT CURTAIN WALL**



TOPPED DECK AT OPENING **TOPPED DECK AT CURTAIN WALL**



TOPPED DECK AT LARGE OVERHANG

6 TYPICAL EDGE OF DECK
1" = 1'-0"

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

CITY OF HAYWARD
HEART OF THE BAY
DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: **KATHY GARCIA** DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	DSA Third Party Review Comment Response	December 6, 2018 May 22 2019

PERMIT SUBMITTAL V2-INCREMENT #1

ZFA STRUCTURAL ENGINEERS
1390 el camino real | suite 100 zfa.com
san carlos ca 94070 650.394.8869
zfa job no.17143

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LICENSED PROFESSIONAL ENGINEER KEVIN G ZUCCO STRUCTURAL No. 4867 STATE OF CALIFORNIA

Sheet Title

BUILDING 1 TYPICAL METAL DECKING DETAILS

Drawn By: LS Checked By: SRP

Scale: **As indicated**

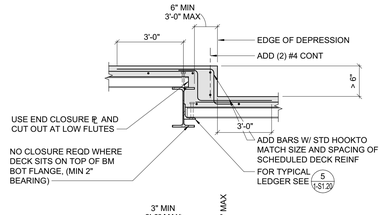
Date: **July 19, 2019**

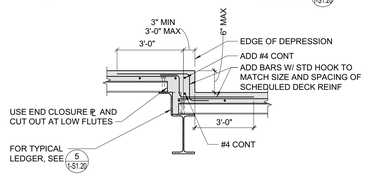
Project No. 17143

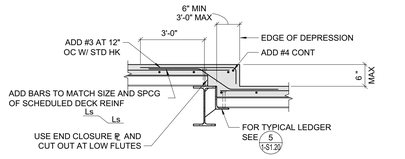
1-S1.50
Drawing No.

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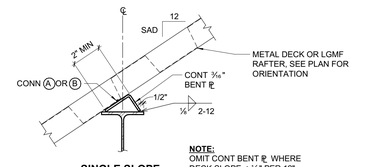




NOTES:

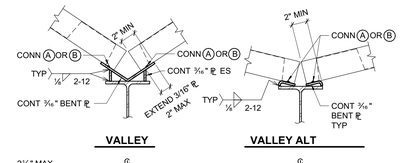
1. LOCATE ALL ADD REINF AT ¾" CLR FROM TOP OF CONC. ADD REINF AT METAL DECK EDGE TAKES PRECEDENCE OVER ANY OTHER REINF AND IS LOCATED AT THE OUTERMOST LAYER.
2. SEE SPECIFIC DETAILS FOR ADDL REQUIREMENTS.
3. PROVIDE MIN ¾"ø WHS TO ALL ANGEES AT MIN 24" OC SIM TO **17/1-S1.50**

5 STEP AT CONCRETE DECK (DECK PERPENDICULAR)
3/4" = 1'-0"

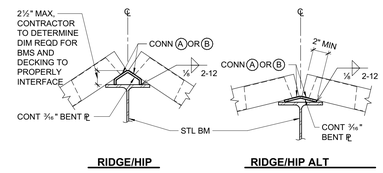


SINGLE SLOPE

NOTE:
OMIT CONT BENT ℄ WHERE
DECK SLOPE < ½" PER 12"



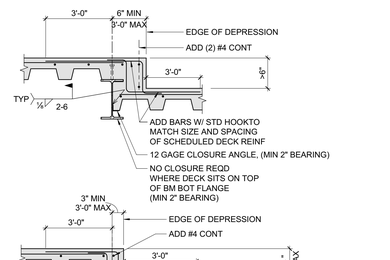
VALLEY **VALLEY ALT**

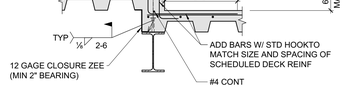


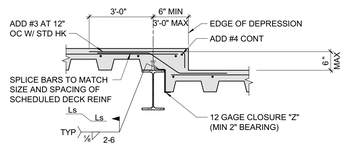
RIDGE/HIP **RIDGE/HIP ALT**

NOTE:
OMIT CONTINOUS BENT ℄ WHERE DECK SLOPE < ½" PER 12"

1 TYPICAL SLOPED DECK SUPPORT
1 1/2" = 1'-0"



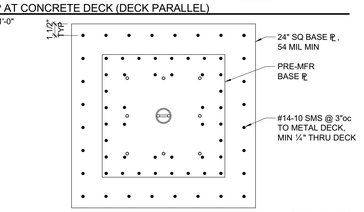




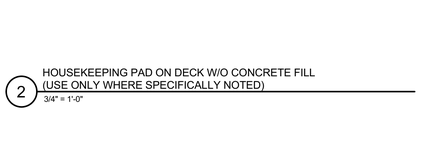
NOTES:

1. LOCATE ALL ADD REINF AT ¾" CLR FROM TOP OF CONC. ADD REINF AT METAL DECK EDGE TAKES PRECEDENCE OVER ANY OTHER REINF AND IS LOCATED AT THE OUTERMOST LAYER.
2. SEE SPECIFIC DETAILS FOR ADDL REQUIREMENTS.
3. ATTACH DECK TO GA METAL CLOSURES W CONN Ⓑ PER **2/1-S1.50**

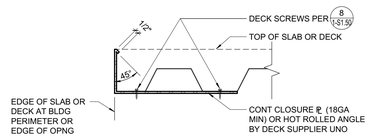
6 STEP AT CONCRETE DECK (DECK PARALLEL)
3/4" = 1'-0"



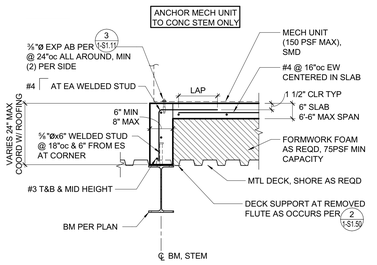
7 FALL RESTRAINT ANCHOR
1 1/2" = 1'-0"



2 HOUSEKEEPING PAD ON DECK W/O CONCRETE FILL
(USE ONLY WHERE SPECIFICALLY NOTED)
3/4" = 1'-0"



3 TYPICAL EDGE ANGLE
1 1/2" = 1'-0"



4 RAISED EQUIPMENT PAD ON BARE METAL DECK
3/4" = 1'-0"

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: **KATHY GARCIA** DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	INC 01_ADD_01_V1	12/6/2019

PERMIT SUBMITTAL V3-INCREMENT #1

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san carlos ca 94070 650.394.8869
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KEVIN G. ZUCCO — STRUCTURAL — No. 4861 — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

Sheet Title

BUILDING 1 TYPICAL METAL DECKING DETAILS

Drawn By: LS Checked By: SRP

Scale: **As indicated**

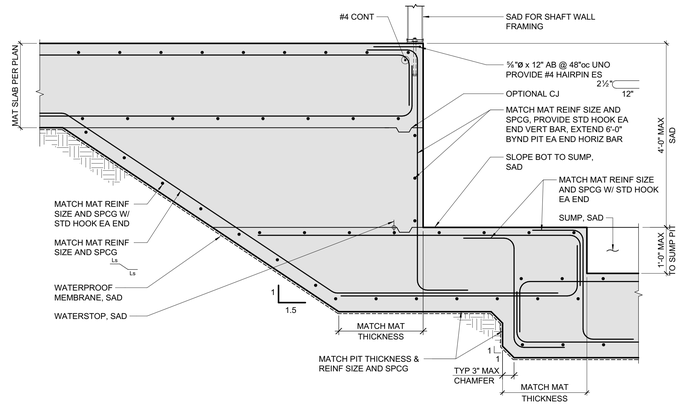
Date: **July 19, 2019**

Project No. 17143

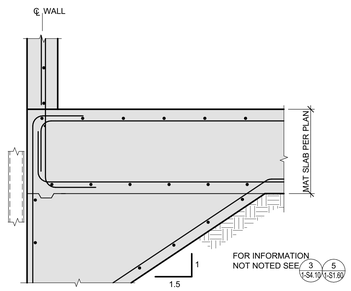
1-S1.51
Drawing No.

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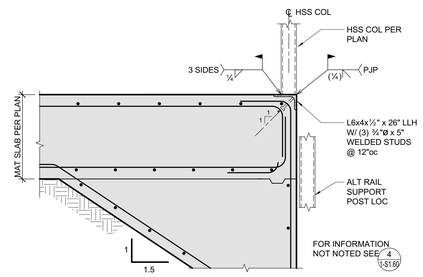
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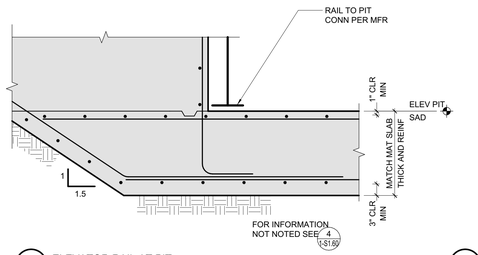
4 ELEVATOR PIT
3/4" = 1'-0"



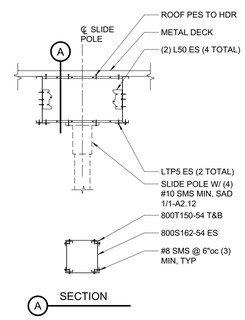
9 ELEVATOR RAIL SUPPORT AT PIT
3/4" = 1'-0"



5 ELEVATOR RAIL SUPPORT AT PIT
3/4" = 1'-0"

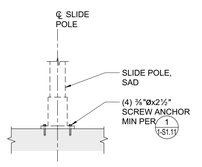


6 ELEVATOR RAIL AT PIT
3/4" = 1'-0"

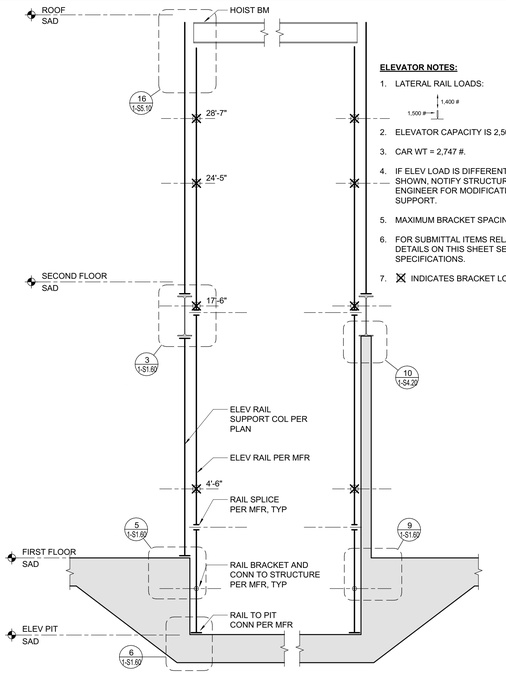


A SECTION

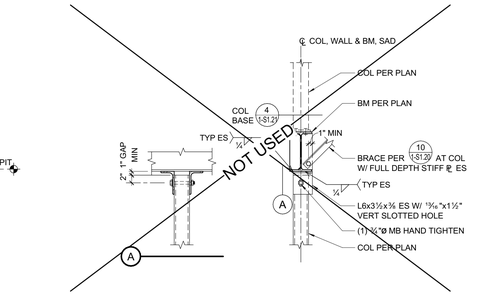
7 SLIDE POLE BRACING DETAIL AT ROOF
3/4" = 1'-0"



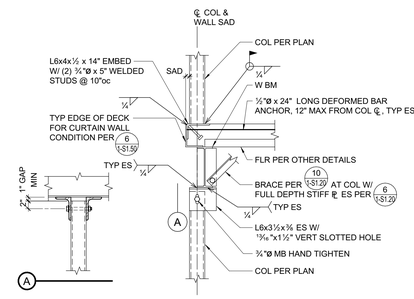
8 SLIDE POLE BRACING DETAIL AT FOUNDATION
3/4" = 1'-0"



1 ELEVATOR RAIL
1/4" = 1'-0"



2 HSS ELEVATOR RAIL SUPPORT CONNECTION
3/4" = 1'-0"



3 HSS ELEVATOR RAIL SUPPORT CONNECTION
3/4" = 1'-0"

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date
		December 6, 2018
1	DSA Third Party Review Comment Response	May 22 2019
3	Plan Check 2 Revision	Oct 10 2019

PERMIT SUBMITTAL V2-INCREMENT #1

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san carlos ca 94070 650.394.8869
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KEVIN G ZUCCO — REGISTERED PROFESSIONAL ENGINEER — STRUCTURAL No. 4861 — STATE OF CALIFORNIA

Sheet Title

BUILDING 1 TYPICAL ELEVATOR AND SLIDE POLE ELEVATION AND DETAILS

Drawn By: LS Checked By: SRP

Scale: **As indicated**

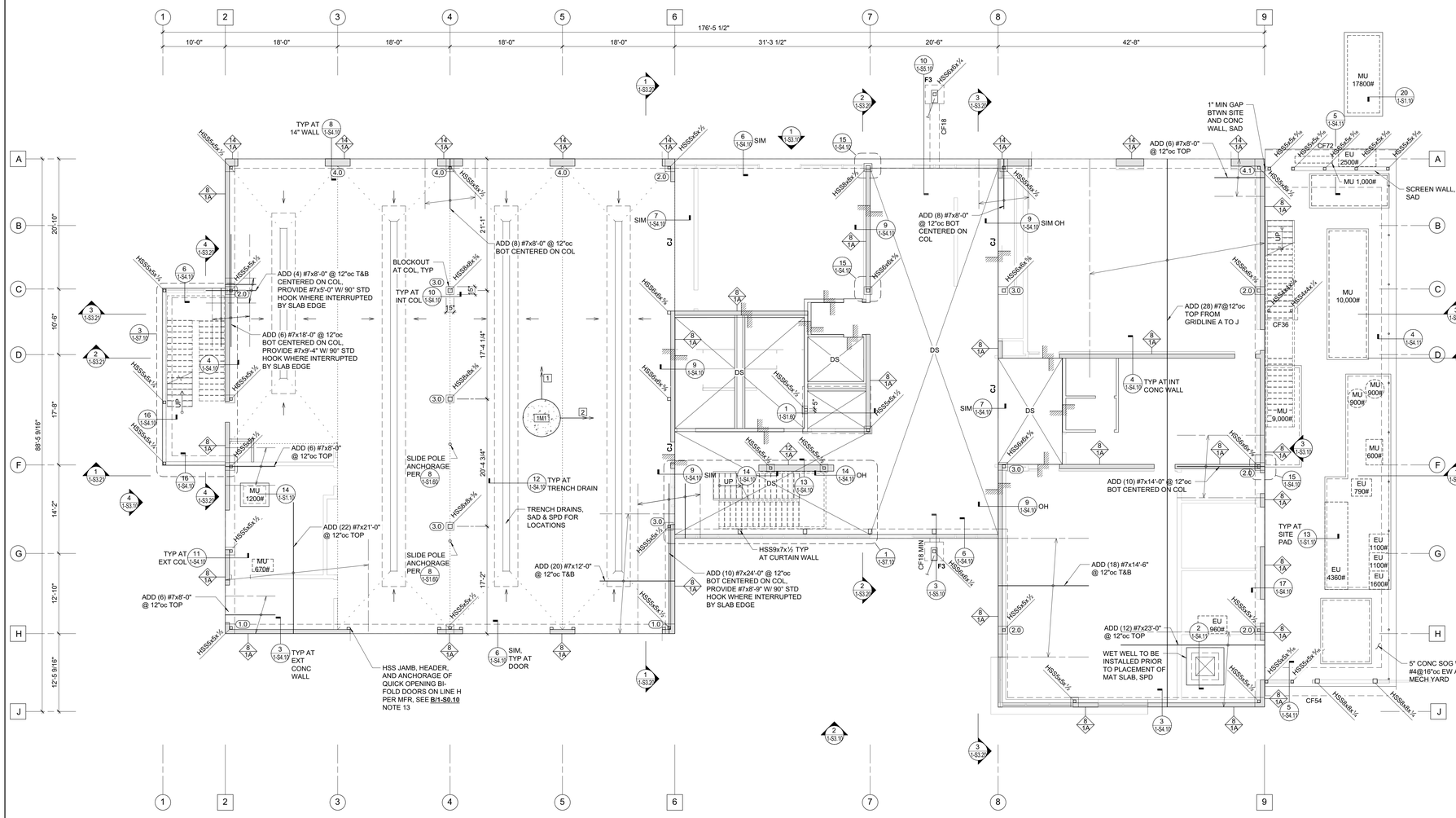
Date: **July 19, 2019**

Project No. 17143

1-S1.60
Drawing No.

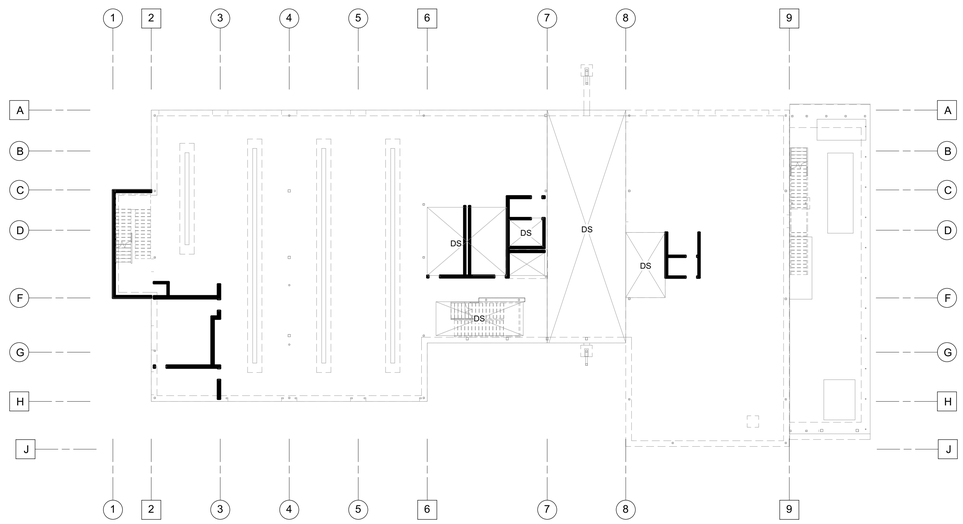
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FOUNDATION PLAN

1/8" = 1'-0"



FOUNDATION CURB PLAN

1/16" = 1'-0"

FOUNDATION PLAN NOTES:

1. REFER TO SHEETS **1-S0.10** THROUGH **1-S1.60** FOR GENERAL NOTES AND TYPICAL DETAILS. THE FOLLOWING DETAIL REFERENCES ARE PROVIDED FOR THE CONTRACTOR'S CONVENIENCE ONLY. ALL GENERAL NOTES AND TYPICAL DETAILS NOTED ABOVE ARE APPLICABLE AND SHALL BE FOLLOWED.
2. COORDINATE ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS PRIOR TO CONSTRUCTION. NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES.
3. SEE DETAILS OR CURB PLAN FOR CURB LOCATIONS. COORDINATE WITH ARCHITECTURAL DRAWINGS PRIOR TO CONSTRUCTION. NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES.
4. PLUMBING AND ELECTRICAL CONDUIT AND GROUND STRAP SHALL NOT BE LAID WITHIN FOUNDATIONS. NO UTILITY PIPES OR CONDUITS SHALL BE LOCATED THRU COLUMN FOOTINGS OR FRAME FOOTINGS. NO PIPES OR CONDUITS THRU SILL PLATES SHALL BE WITHIN 12" OF HOLDOWN BOLTS. NO MECHANICAL, ELECTRICAL, OR PLUMBING OPENINGS SHALL BE LOCATED IN SHEAR WALLS UNLESS SHOWN AND DETAILED ON THE STRUCTURAL DRAWINGS. NO VERTICAL OR HORIZONTAL PIPES OR CONDUITS SHALL BE LOCATED THROUGH STEEL FRAMES, STEEL COLUMNS, OR STEEL BASE PLATES. PROVIDE FURRING AND/OR THICKENED CONCRETE WHERE REQUIRED TO CLEAR UTILITY SYSTEMS. NOTIFY STRUCTURAL ARCHITECT/ENGINEER PRIOR TO ANY INSTALLATION NOT CONFORMING TO THESE DETAILS.

   PIPES THROUGH MAT SLAB SHALL BE PER **6/1-S1.10** AND **7/1-S1.10** .

   PIPES THROUGH FOOTINGS SHALL BE PER **2/1-S1.10** .

   PIPES PARALLEL TO FOOTINGS SHALL BE PER **4/1-S1.10** AND **5/1-S1.10** .

   PIPES AT SLAB ON GRADE SHALL BE PER **8/1-S1.10** .
5. ELEVATION OF THE TOP OF FINISHED SLAB = 0'-0", UNLESS NOTED OTHERWISE.

PLAN LEGEND

SYMBOL	REFERENCE DETAIL	DESCRIPTION
1 / 1A	1/1-S4.12	INDICATES CAST IN PLACE CONCRETE WALL PANEL W/ THICKNESS "t" AND REINFORCING TYPE "1A" PER SCHEDULE TYP, UNO.
	2/1-S1.30	INDICATES NONSTRUCTURAL COLD FORMED STEEL WALL.
		INDICATES STEEL COLUMN.
DS	9/1-S1.10 10/1-S1.10	INDICATES DEPRESSED SLAB, SEE ARCHITECTURAL AND PLUMBING DRAWINGS FOR COMPLETE LOCATIONS, DEPTH AND SLOPE INFORMATION.
		INDICATES FOUNDATION.
CF2		INDICATES CONTINUOUS FOOTING SIZE AND REINFORCING PER SCHEDULE.
F2		INDICATES PAD FOOTING SIZE AND REINFORCING PER SCHEDULE.
88		INDICATES GRIDLINE AT FACE OF STUD.
88		INDICATES GRIDLINE AT CENTERLINE OF COLUMN.
	9/1-S1.10 10/1-S1.10	INDICATES STEP IN ELEVATION, SEE ARCHITECTURAL DRAWINGS.
		INDICATES SLOPE AND DIRECTION, SAD.
		INDICATES SLOPE VALLEY, SAD.
		INDICATES SLOPE RIDGE, SAD.
1 / S3.1		INDICATES ELEVATION.
1.0	1/1-S4.11	INDICATES STUDRAILS IN SLAB AT COLUMN, SEE STUDRAIL SCHEDULE.
1 / 1M1 / 2	1/1-S4.10	INDICATES CONCRETE MAT FOUNDATION TYPE "1M1" PER SCHEDULE AND REINF LAYER DIRECTIONS. INCREASE SLAB THICKNESS AS REQUIRED TO SLOPE TOP OF SLAB TO DRAINS PER ARCH. MAT TO BE PLACED OVER VAPOR BARRIER OVER 12" OF NON-EXPANSIVE SOIL CONSISTING OF COMPACTED IMPORTED SELECT FILL OR LIME TREATED ON-SITE SOIL. DOUBLE ARROWHEAD INDICATES FULL EXTENT UNO.
CJ	7/1-S4.10 9/1-S4.10	INDICATES MAT SLAB CONSTRUCTION JOINT.
MU 1,000#	13/1-S1.10 14/1-S1.10 15/1-S1.10	INDICATES APPROXIMATE LOCATION, SIZE AND MAXIMUM WEIGHT OF MECHANICAL UNIT. SEE MECHANICAL DRAWINGS FOR ANCHORAGE AND ADDITIONAL INFORMATION.

CONTINUOUS FOOTING SCHEDULE

MARK	'b'	'd'	REINF 'a'	STIRRUPS
CF18	18"	24"	(3) #6 T&B	#4 TIES @ 12"oc
CF36	36"	24"	(4) #6 T&B	#4 TIES @ 9"oc
CF54	54"	24"	(5) #6 T&B	#4 TIES @ 9"oc
CF72	72"	24"	(5) #6 T&B	#4 TIES @ 9"oc

PAD FOOTING SCHEDULE

MARK	SIZE	REINFORCING
F3	3'-0" SQ x 24" DEEP	(4) #5 T&B

APPROVED
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RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date
		December 6, 2018
1	DSA Third Party Review Comment Response	May 22 2019
3	Plan Check 2 Revision	Oct 10 2019

PERMIT SUBMITTAL V2-INCREMENT #1

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LICENSED PROFESSIONAL ENGINEER KEVIN G ZUCCO STRUCTURAL No. 44621 STATE OF CALIFORNIA

Sheet Title

BUILDING 1 FOUNDATION PLAN

Drawn By: LS Checked By: SRP

Scale: **As indicated**

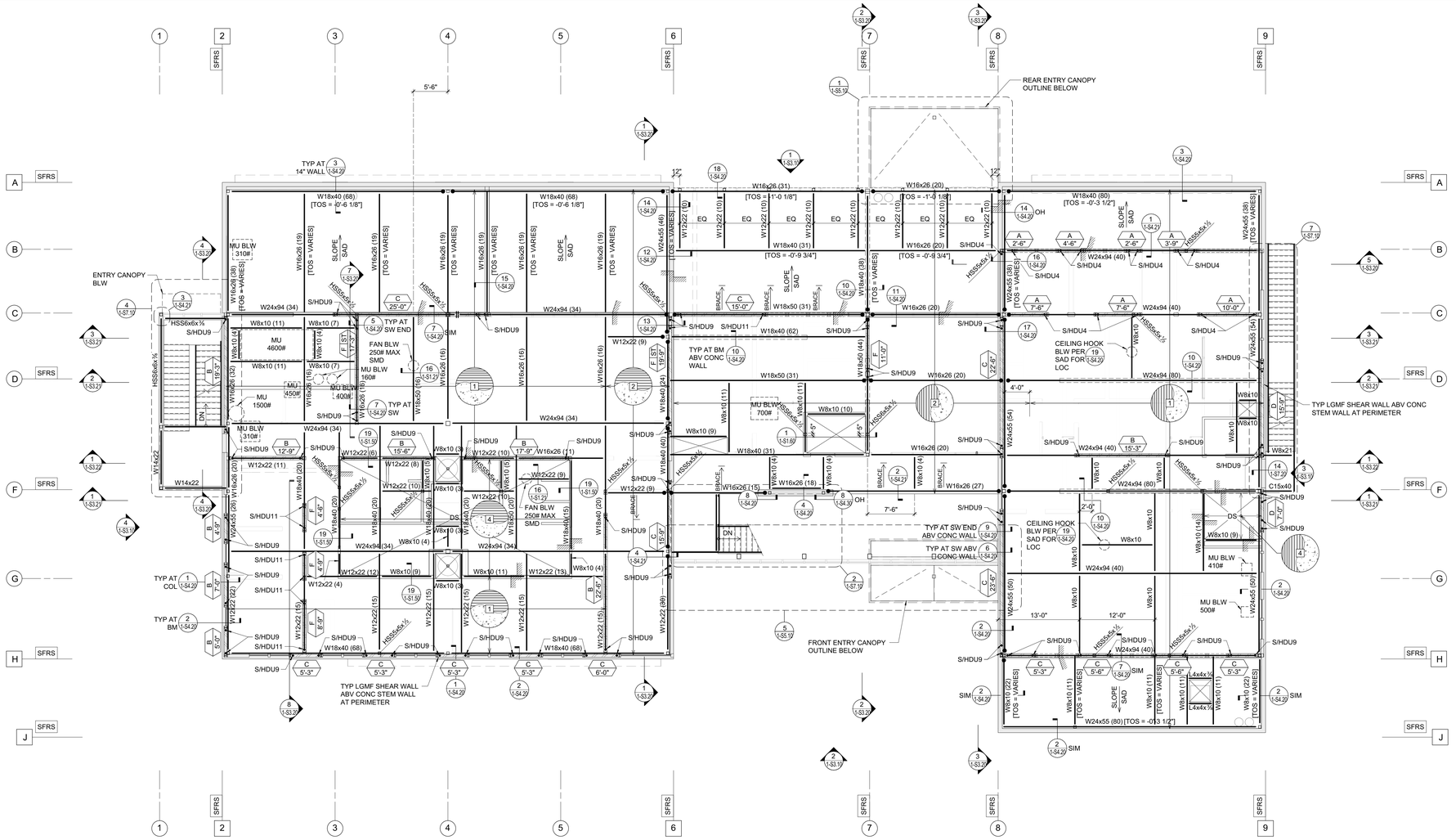
Date: **July 19, 2019**

Project No. 17143

1-S2.10
Drawing No.

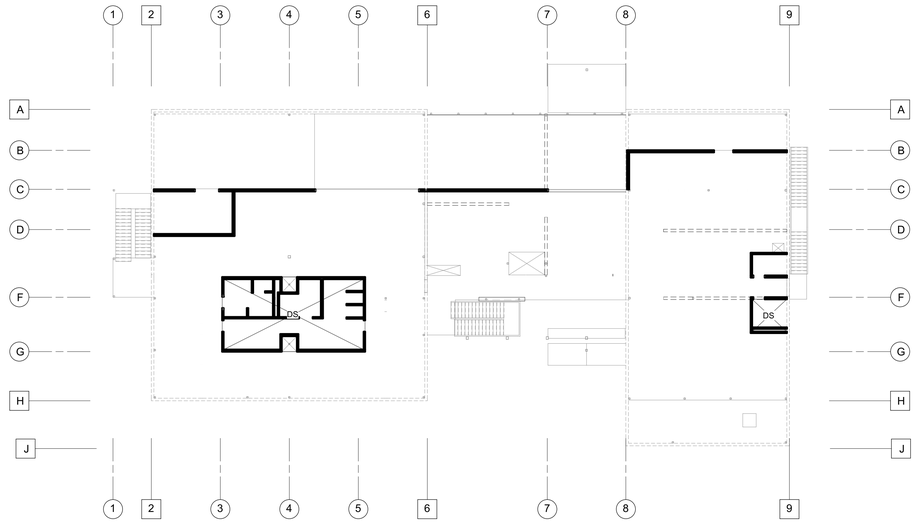
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SECOND FLOOR FRAMING PLAN

1/8" = 1'-0"



SECOND FLOOR CURB PLAN

1/16" = 1'-0"

FRAMING PLAN NOTES:

1. TOS = 17'-4 1/2" TYP UNO.
2. REFER TO SHEETS **1-S0.10** THROUGH **1-S1.60** FOR GENERAL NOTES AND TYPICAL DETAILS. THE FOLLOWING DETAIL REFERENCES ARE PROVIDED FOR THE CONTRACTOR'S CONVENIENCE ONLY. ALL GENERAL NOTES AND TYPICAL DETAIL SHEETS NOTED ABOVE ARE APPLICABLE AND SHALL BE FOLLOWED.
3. COORDINATE ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS PRIOR TO CONSTRUCTION. NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES.
4. NO VERTICAL OR HORIZONTAL PIPES OR CONDUITS SHALL BE LOCATED THROUGH STEEL FRAMING, COLUMNS, OR BASE PLATES. CONDUIT OR PLUMBING NOT ALLOWED WITHIN CONCRETE FILL ON METAL DECK. PROVIDE FURRING WHERE REQUIRED TO CLEAR UTILITY SYSTEMS. NOTIFY ARCHITECT/ENGINEER PRIOR TO ANY INSTALLATION NOT CONFORMING TO THESE RESTRICTIONS.
5. FIRE PROTECTION SYSTEM SUPPORTS TO BE LOCATED TO MAINTAIN A MAXIMUM OF (2) 500 LB MAX POINT LOADS WITH 15'-0" MINIMUM SEPARATION TO ANY STEEL BEAM. NO SUPPORTS TO BE HUNG FROM METAL DECKING.
6. DIMENSIONS ARE TO FACE OF STUD UNLESS NOTED OTHERWISE. COORDINATE ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS PRIOR TO CONSTRUCTION. NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES.
7. ELEVATIONS ON PLANS AND DETAILS "**@**" ARE TO HEIGHTS ABOVE FINISHED GROUND FLOOR ELEVATION REFERENCE 0'-0". COORDINATE TOP OF FRAMING AND LEDGER HEIGHTS AS REQUIRED TO PROVIDE ROOF SLOPES AS SHOWN ON ARCHITECTURAL AND STRUCTURAL DRAWINGS PRIOR TO CONSTRUCTION. NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES.
8. BEAM CENTERLINES TO ALIGN WITH COLUMN CENTERLINES, UNLESS NOTED OTHERWISE.
9. BEAMS TO BE EQUALLY SPACED IN EACH BAY, UNLESS NOTED OTHERWISE.
10. MECHANICAL, ELECTRICAL AND PLUMBING PENETRATIONS THROUGH COLD FORMED STEEL WALLS, ROOFS OR FLOORS SHALL BE PER REFERENCES BELOW UNLESS SHOWN AND DETAILED OTHERWISE ON THE STRUCTURAL PLANS. NOTIFY ARCHITECT/ENGINEER PRIOR TO ANY INSTALLATION NOT CONFORMING TO THESE DETAILS.

    PENETRATIONS THROUGH COLD FORMED STEEL SHEAR WALLS SHALL BE PER **5/1-S1.31** AND **9/1-S1.31** .

    PENETRATIONS THROUGH METAL DECK FLOORS AND ROOFS SHALL BE PER **11/1-S1.50** , **12/1-S1.50** , AND **13/1-S1.50** .
11. ALL EXTERIOR COLD FORMED STEEL WALLS NOT DESIGNATED AS SHEAR WALLS ON PLANS (INCLUDING WALLS ADJACENT TO SEISMIC GAPS) SHALL BE SHEATHED AS SHEAR WALL TYPE "**A**" PER SHEAR WALL SCHEDULE, UNLESS NOTED OTHERWISE.
12. SEISMIC GAPS WHERE NOTED ARE DIMENSIONED CLEAR BETWEEN WALL FINISHES. THIS GAP TO BE MAINTAINED ENTIRELY CLEAR TO ALLOW FOR DIFFERENTIAL BUILDING MOVEMENT. NO PIPES, CONDUITS, ETCETERA SHALL BE LOCATED WITHIN THE GAP. PROVIDE FLEXIBLE COUPLINGS AT ALL UTILITIES CROSSING SEISMIC GAPS.
13. PROVIDE ADDITIONAL JOIST W/ WEB ALIGNED W/ FACE OF WALL BELOW TYP AT SW PARALLEL TO DECK.

SHEAR WALL SCHEDULE

SW	SURE-BOARD SHEATHING (PER IAPMO ES ESR-126)	EDGE SCREW SPACING (PES)	ANCHORAGE			REMARKS
			AT FLOOR FRMG	AT ROOF LGMF	AT ROOF STEEL BM	
A	SURE-BOARD 200	#8 @ 6"oc	⅝"**@** WTS @ 32"oc	(2) #8 @ 8"oc	(2) PDP @ 16"oc	
B	SURE-BOARD 200	#8 @ 4"oc	⅝"**@** WTS @ 16"oc	(2) #8 @ 6"oc	(2) PDP @ 16"oc	
C	SURE-BOARD 200	#8 @ 3"oc	⅝"**@** WTS @ 16"oc	(2) #8 @ 4"oc	(2) PDP @ 16"oc	
D	SURE-BOARD 200	#8 @ 2"oc	⅝"**@** WTS @ 16"oc	(2) #8 @ 3"oc	(2) PDP @ 16"oc	
F	SURE-BOARD 200 **BOTH SIDES**	#8 @ 2"oc	⅝"**@** WTS @ 12"oc	(2) #8 @ 3"oc	(2) PDP @ 12"oc	

NOTES:
1. 54MIL STUDS AND TRACKS REQD AT ALL SHEAR WALLS.
2. PDP SHALL BE 0.157"**@** x ¾" LONG HILTI X-U. FASTENERS MUST BE DRIVEN TO WHERE THE POINT OF THE FASTENER PENETRATES THROUGH THE STEEL BASE MATERIAL.
3. SURE-BOARD PRODUCT SUPPORT TOLL FREE PHONE NUMBER: (866) 469-7432

PLAN LEGEND

SYMBOL	REFERENCE DETAIL	DESCRIPTION
88		INDICATES GRIDLINE AT CENTERLINE OF COLUMN.
88		INDICATES GRIDLINE AT FACE OF STUD.
		INDICATES STEEL COLUMN.
W16x26 (12) C=1"	17/1-S1.50	INDICATES BEAM SIZE, (NUMBER OF WELDED STUDS) AND CAMBER. PROVIDE ¾"**@** STUDS @ 24"oc MAX SPACING AT ALL BEAMS SUPPORTING CONCRETE FILL OVER METAL DECK, UNO. ADD STUDS AS REQUIRED. (NS) INDICATES NO STUDS. WHERE NO CAMBER IS SPECIFIED FABRICATE BEAM WITH NATURAL CAMBER UP.
	11/1-S1.20	INDICATES NON-FRAME MOMENT RESISTING CONNECTION.
		INDICATES SEISMIC FORCE RESISTING SYSTEM COLLECTOR CONNECTION, PROVIDE DOUBLE ROW OF BOLTS AT CONNECTION PER TYPICAL DETAILS.
BRACE	9/1-S1.20 10/1-S1.20	INDICATES DIAGONAL BRACE CONNECTED TO BOTTOM FLANGE OF BEAM. HEAD OF ARROW INDICATES THE UPPER CONNECTION. SPACE BRACES EQUALLY UNO.
	5/1-S1.20	INDICATES LEDGER. SEE PLAN FOR SIZE AND ANCHORAGE.
2	1/1-S1.50	INDICATES BARE METAL DECK AND DIRECTION OF DECK SPAN.
1	1/1-S1.50	INDICATES METAL DECK (WITH CONCRETE FILL AS OCCURS) AND DIRECTION OF DECK SPAN.
DS		INDICATES DEPRESSED SLAB, SEE ARCHITECTURAL AND PLUMBING DRAWINGS FOR COMPLETE LOCATIONS, DEPTH AND SLOPE INFORMATION.
		INDICATES CONCRETE WALL ABOVE.
		INDICATES CONCRETE WALL BELOW.
	2/1-S1.30	INDICATES NONSTRUCTURAL COLD FORMED STEEL WALL ABOVE.
A 10'-0"	G/1-S0.10 1/1-S1.31	INDICATES SHEAR WALL TYPE AND MINIMUM WALL LENGTH. SYMBOL LOCATION INDICATES SHEATHED FACE OF WALL UNLESS NOTED OTHERWISE.
A ST 20'-0"	23/1-S1.31	INDICATES STRAPPED SHEAR WALL WITH TYPE AND OVERALL WALL LENGTH, SEE ARCHITECTURAL DRAWINGS FOR OPENINGS.
S/HDU9	3/1-S1.31 9/1-S4.20 5/1-S4.20	INDICATES COLD FORMED STEEL POST WITH HOLDOWN. POSTS WITH HOLDOWN ARE FULL HEIGHT FROM SILL TO TOP PLATE. SIMPSON S/HDU9 TYPICAL EA SW UNO. WHERE (2) HOLDOWNS ARE SHOWN AT END OF WALL, INSTALL IN ADJACENT STUD BAYS.
MU 1,000#	15/1-S1.50	INDICATES APPROXIMATE LOCATION, SIZE AND MAXIMUM WEIGHT OF MECHANICAL UNIT. SEE MECHANICAL DRAWINGS FOR ANCHORAGE AND ADDITIONAL INFORMATION.
1 S3.1		INDICATES ELEVATION.
	7/1-S1.20 19/1-S1.50 5/1-S1.51 6/1-S1.51	INDICATES STEP IN ELEVATION, SEE ARCHITECTURAL DRAWINGS.
	1/1-S1.51	INDICATES SLOPE TRANSITION, SEE ARCHITECTURAL DRAWINGS.
	7/1-S1.20 19/1-S1.50 5/1-S1.51 6/1-S1.51	INDICATES STEP IN ELEVATION WITH SLOPE TRANSITION, SEE ARCHITECTURAL DRAWINGS.
		INDICATES SLOPE AND DIRECTION, SAD.
	11/1-S1.50 12/1-S1.50 13/1-S1.50	INDICATES TYP DECK OPENING, SEE ARCHITECTURAL AND MEP DRAWINGS FOR COMPLETE LOCATIONS AND ROUGH OPENING INFORMATION.

APPROVED
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APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: **KATHY GARCIA** DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date
		December 6, 2018
1	DSA Third Party Review Comment Response	May 22 2019
3	Plan Check 2 Revision	Oct 10 2019

PERMIT SUBMITTAL V2-INCREMENT #1

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1390 el camino real | suite 100 zfa.com
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zfa job no.17143

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PROFESSIONAL ENGINEER — KEVIN G. ZUCCO — STRUCTURAL No. 4861 — STATE OF CALIFORNIA

Sheet Title

BUILDING 1 SECOND FLOOR PLAN

Drawn By: LS Checked By: SRP

Scale: **As indicated**

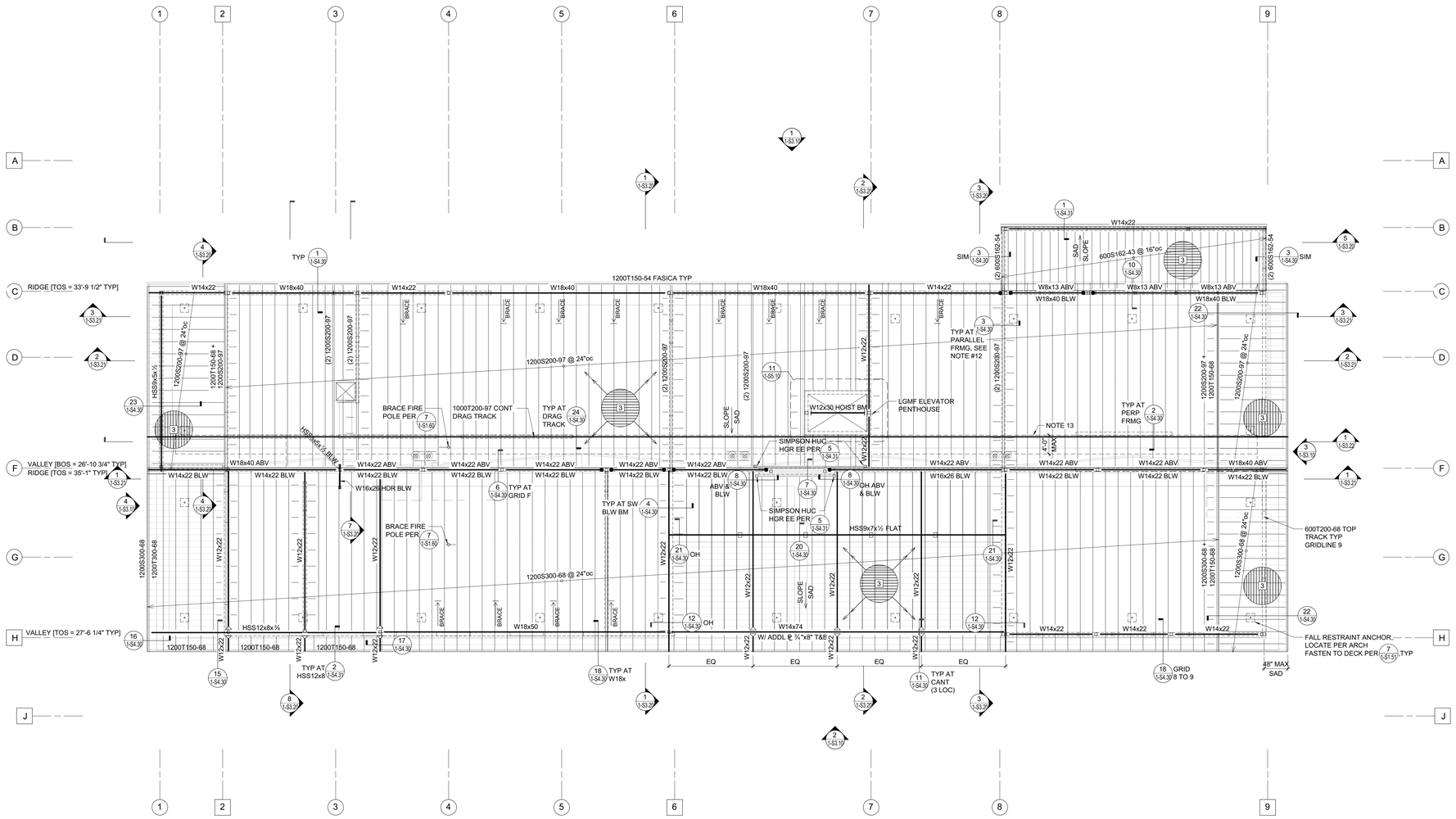
Date: **July 19, 2019**

Project No. 17143

1-S2.20
Drawing No.

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1 NORTH

ROOF FRAMING PLAN

1/8" = 1'-0"

FRAMING PLAN NOTES:

1. REFER TO SHEETS **1-S0.10** THROUGH **1-S1.60** FOR GENERAL NOTES AND TYPICAL DETAILS. THE FOLLOWING DETAIL REFERENCES ARE PROVIDED FOR THE CONTRACTOR'S CONVENIENCE ONLY. ALL GENERAL NOTES AND TYPICAL DETAIL SHEETS NOTED ABOVE ARE APPLICABLE AND SHALL BE FOLLOWED.
2. COORDINATE ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS PRIOR TO CONSTRUCTION. NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES.
3. NO VERTICAL OR HORIZONTAL PIPES OR CONDUITS SHALL BE LOCATED THROUGH STEEL FRAMING, COLUMNS, OR BASE PLATES. CONDUIT OR PLUMBING NOT ALLOWED WITHIN CONCRETE FILL ON METAL DECK. PROVIDE FURRING WHERE REQUIRED TO CLEAR UTILITY SYSTEMS. NOTIFY ARCHITECT/ENGINEER PRIOR TO ANY INSTALLATION NOT CONFORMING TO THESE RESTRICTIONS.
4. FIRE PROTECTION SYSTEM SUPPORTS TO BE LOCATED TO MAINTAIN A MAXIMUM OF (2) 500 LB MAX POINT LOADS WITH 15'-0" MINIMUM SEPARATION TO ANY STEEL BEAM. NO SUPPORTS TO BE HUNG FROM METAL DECKING.
5. DIMENSIONS ARE TO FACE OF STUD UNLESS NOTED OTHERWISE. COORDINATE ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS PRIOR TO CONSTRUCTION. NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES.
6. ELEVATIONS ON PLANS AND DETAILS "**@**" ARE TO HEIGHTS ABOVE FINISHED GROUND FLOOR ELEVATION REFERENCE 0'-0". COORDINATE TOP OF FRAMING AND LEDGER HEIGHTS AS REQUIRED TO PROVIDE ROOF SLOPES AS SHOWN ON ARCHITECTURAL AND STRUCTURAL DRAWINGS PRIOR TO CONSTRUCTION. NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES.
7. BEAM CENTERLINES TO ALIGN WITH COLUMN CENTERLINES, UNLESS NOTED OTHERWISE.
8. BEAMS TO BE EQUALLY SPACED IN EACH BAY, UNLESS NOTED OTHERWISE.
9. MECHANICAL, ELECTRICAL AND PLUMBING PENETRATIONS THROUGH COLD FORMED STEEL WALLS, ROOFS OR FLOORS SHALL BE PER REFERENCES BELOW UNLESS SHOWN AND DETAILED OTHERWISE ON THE STRUCTURAL PLANS. NOTIFY ARCHITECT/ENGINEER PRIOR TO ANY INSTALLATION NOT CONFORMING TO THESE DETAILS.

   PENETRATIONS THROUGH COLD FORMED STEEL SHEAR WALLS SHALL BE PER **5/1-S1.31** AND **9/1-S1.31** .

   PENETRATIONS THROUGH METAL DECK FLOORS AND ROOFS SHALL BE PER **11/1-S1.50** , **12/1-S1.50** , AND **13/1-S1.50** .
10. ALL EXTERIOR COLD FORMED STEEL WALLS NOT DESIGNATED AS SHEAR WALLS ON PLANS (INCLUDING WALLS ADJACENT TO SEISMIC GAPS) SHALL BE SHEATHED AS SHEAR WALL TYPE "**A**" PER SHEAR WALL SCHEDULE, UNLESS NOTED OTHERWISE.
11. SEISMIC GAPS WHERE NOTED ARE DIMENSIONED CLEAR BETWEEN WALL FINISHES. THIS GAP TO BE MAINTAINED ENTIRELY CLEAR TO ALLOW FOR DIFFERENTIAL BUILDING MOVEMENT. NO PIPES, CONDUITS, ETCETERA SHALL BE LOCATED WITHIN THE GAP. PROVIDE FLEXIBLE COUPLINGS AT ALL UTILITIES CROSSING SEISMIC GAPS.
12. PROVIDE ADDITIONAL JOIST W/ WEB ALIGNED W/ FACE OF WALL BELOW TYP AT SW PARALLEL TO DECK.
13. MOUNT "FIXFAST KATT WALKWAY" CATWALK, SAD.
14. FOR ROOF JOIST BRIDGING USE 400T150-43 TRACK AT 48"oc MAX, W/ (2)-#8 SMS AT EA RAFTER BOT FLANGE. NOTCH FLANGES AT EACH RAFTER TO FIT WEB FLUSH TO BOT OF RAFTER. SEE **1/1-S4.30** .

PLAN LEGEND

SYMBOL	REFERENCE DETAIL	DESCRIPTION
88		INDICATES GRIDLINE AT CENTERLINE OF COLUMN.
88		INDICATES GRIDLINE AT FACE OF STUD.
O.□.		INDICATES STEEL COLUMN.
W16x26 (12) C=1"	**17/1-S1.50**	INDICATES BEAM SIZE, (NUMBER OF WELDED STUDS) AND CAMBER. PROVIDE ¾"Ø STUDS @ 24"oc MAX SPACING AT ALL BEAMS SUPPORTING CONCRETE FILL OVER METAL DECK, UNO. ADD STUDS AS REQUIRED. (NS) INDICATES NO STUDS. WHERE NO CAMBER IS SPECIFIED FABRICATE BEAM WITH NATURAL CAMBER UP.
	11/1-S1.20	INDICATES NON-FRAME MOMENT RESISTING CONNECTION.
		INDICATES SEISMIC FORCE RESISTING SYSTEM COLLECTOR CONNECTION, PROVIDE DOUBLE ROW OF BOLTS AT CONNECTION PER TYPICAL DETAILS.
BRACE	**14/1-S1.20**	INDICATES DIAGONAL BRACE CONNECTED TO BOTTOM FLANGE OF BEAM. HEAD OF ARROW INDICATES THE UPPER CONNECTION. SPACE BRACES EQUALLY ALONG LENGTH OF BEAM UNO.
3	**1/1-S1.50**	INDICATES BARE METAL DECK AND DIRECTION OF DECK SPAN. SEE TYPICAL DETAILS FOR ADDL INFO.
1	**1/1-S1.50**	INDICATES METAL DECK (WITH CONCRETE FILL AS OCCURS) AND DIRECTION OF DECK SPAN. SEE TYPICAL DETAILS FOR ADDL INFO.
		INDICATES CONCRETE WALL BELOW.
	2/1-S1.30	INDICATES NONSTRUCTURAL COLD FORMED STEEL WALL ABOVE.
MU 1,000#		INDICATES APPROXIMATE LOCATION, SIZE AND MAXIMUM WEIGHT OF MECHANICAL UNIT. SEE MECHANICAL DRAWINGS FOR ANCHORAGE AND ADDITIONAL INFORMATION.
1 S3.1		INDICATES ELEVATION.
		INDICATES SLOPE AND DIRECTION, SAD.

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION	
DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	INC 01_ADD_01_V1	12/6/2019

PERMIT SUBMITTAL V3-INCREMENT #1

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Sheet Title

BUILDING 1 ROOF PLAN

Drawn By: Author Checked By: Checker

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Date: July 19, 2019

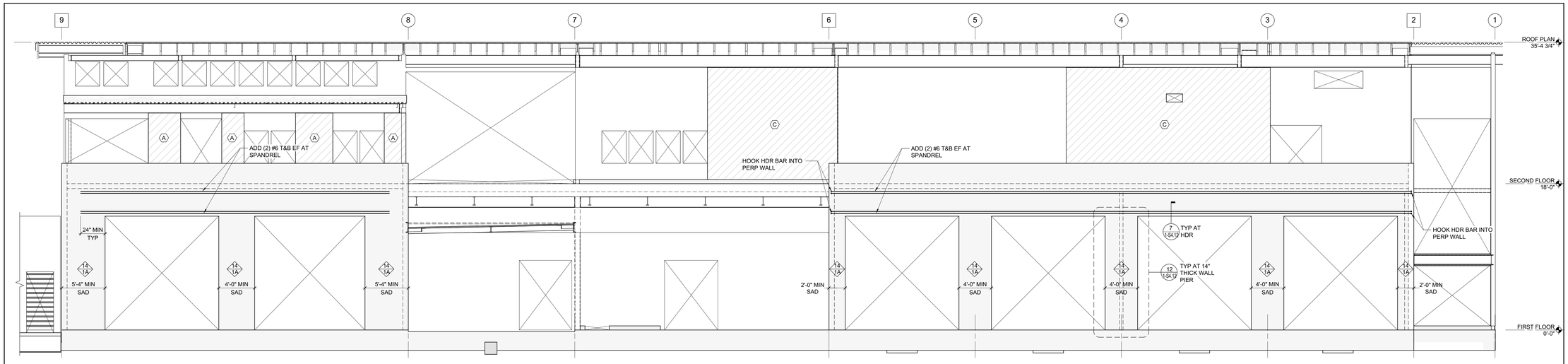
Project No. 17143

1-S2.30

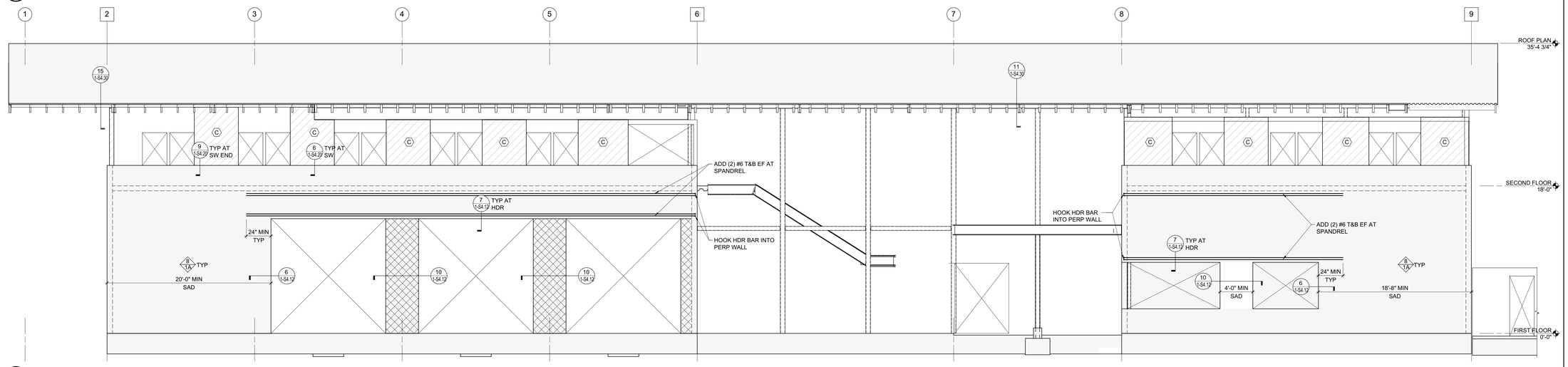
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1 NORTH EXTERIOR ELEVATION (GRID A)
3/16" = 1'-0"

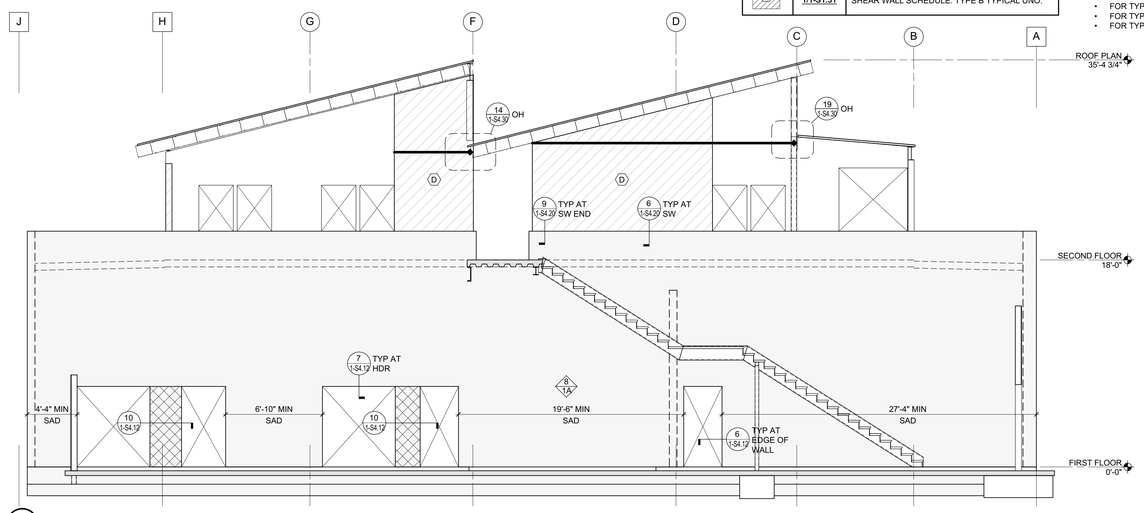


2 SOUTH EXTERIOR ELEVATION (GRID H & J)
3/16" = 1'-0"

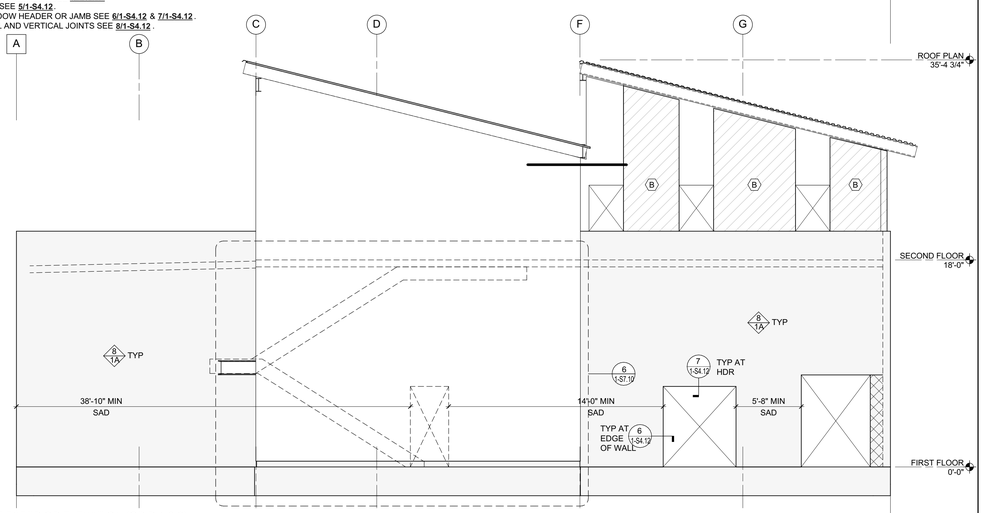
LEGEND		
SYMBOL	REFERENCE DETAIL	DESCRIPTION
1 1A	1/1-S4.12	INDICATES CAST IN PLACE CONCRETE WALL PANEL W/ THICKNESS "t" AND REINFORCING TYPE "A" PER SCHEDULE TYP, UNO.
	1/1-S4.12	INDICATES NONSTRUCTURAL CONCRETE WALL. FOLLOW ALL TYP CONCRETE WALL DETAILS.
C	G/1-S0.10 1/1-S1.31	INDICATES SHEAR WALL TYPE. SEE PLAN FOR SHEAR WALL SCHEDULE. TYPE B TYPICAL UNO.

WALL ELEVATION NOTES:

1. ELEVATIONS ARE SCHEMATIC. SEE PLANS FOR ADDITIONAL INFORMATION.
2. SEE PLANS FOR ALL COLUMN AND BEAM SIZES.
3. SAD FOR FRAMING HEIGHTS, BEAM SLOPES, AND ALL DIMENSIONS.
4. SEE SHEETS **1-S1.30** & **1-S1.31** FOR METAL STUD FRAMING. SAD AND SMD FOR WALL OPENINGS.
5. SEE SHEET **1-S4.12** FOR CONCRETE WALL DETAILS.
   - FOR SOLID PANEL SECTION SEE **2/1-S4.12** .
   - FOR TYPICAL PANEL REINFORCEMENT SEE **3/1-S4.12** .
   - FOR TYPICAL TRIM STEEL SEE **5/1-S4.12** .
   - FOR TYPICAL DOOR / WINDOW HEADER OR JAMB SEE **6/1-S4.12** & **7/1-S4.12** .
   - FOR TYPICAL HORIZONTAL AND VERTICAL JOINTS SEE **8/1-S4.12** .



3 EAST EXTERIOR ELEVATION (GRID 9)
3/16" = 1'-0"



4 WEST EXTERIOR ELEVATION (GRID 1 & 2)
3/16" = 1'-0"

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DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

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DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date
		December 6, 2018
1	DSA Third Party Review Comment Response	May 22 2019

PERMIT SUBMITTAL V2-INCREMENT #1

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Sheet Title

BUILDING 1 ELEVATIONS

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Date: **July 19, 2019**

Project No. 17143

1-S3.10
Drawing No.

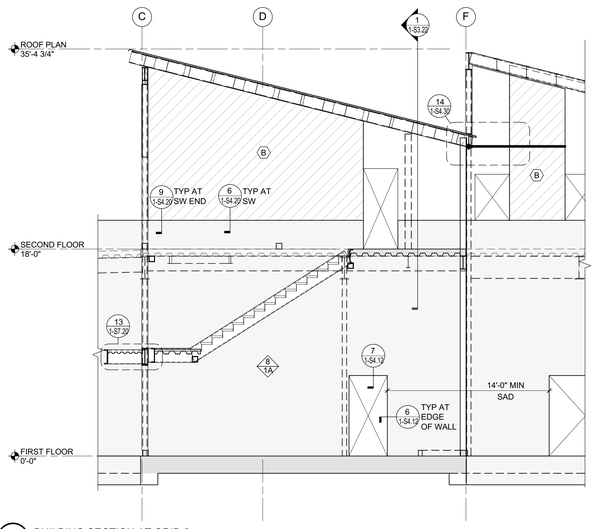
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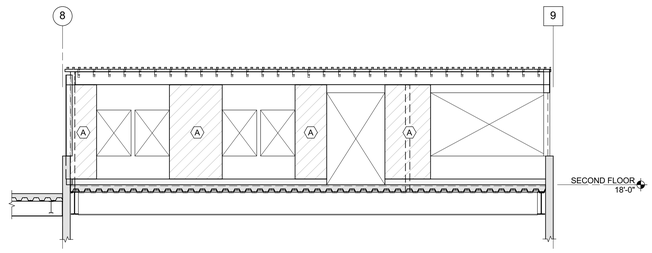
LEGEND		
SYMBOL	REFERENCE DETAIL	DESCRIPTION
1 / 1A	1/1-S4.12	INDICATES CAST IN PLACE CONCRETE WALL PANEL W/ THICKNESS "t" AND REINFORCING TYPE "A" PER SCHEDULE TYP, UNO.
	1/1-S4.12	INDICATES NONSTRUCTURAL CONCRETE WALL. FOLLOW ALL TYP CONCRETE WALL DETAILS.
C	G/1-S0.10 1/1-S1.31	INDICATES SHEAR WALL TYPE. SEE PLAN FOR SHEAR WALL SCHEDULE. TYPE B TYPICAL UNO.

WALL ELEVATION NOTES:

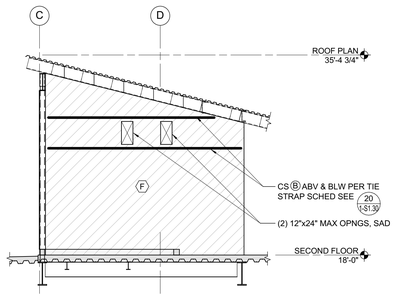
1. ELEVATIONS ARE SCHEMATIC. SEE PLANS FOR ADDITIONAL INFORMATION.
2. SEE PLANS FOR ALL COLUMN AND BEAM SIZES.
3. SAD FOR FRAMING HEIGHTS, BEAM SLOPES, AND ALL DIMENSIONS.
4. SEE SHEETS **1-S1.30** & **1-S1.31** FOR METAL STUD FRAMING. SAD AND SMD FOR WALL OPENINGS.
5. SEE SHEET **1-S4.12** FOR CONCRETE WALL DETAILS.
   - FOR SOLID PANEL SECTION SEE **2/1-S4.12** .
   - FOR TYPICAL PANEL REINFORCEMENT SEE **3/1-S4.12** .
   - FOR TYPICAL TRIM STEEL SEE **5/1-S4.12** .
   - FOR TYPICAL DOOR / WINDOW HEADER OR JAMB SEE **6/1-S4.12** & **7/1-S4.12** .
   - FOR TYPICAL HORIZONTAL AND VERTICAL JOINTS SEE **8/1-S4.12** .



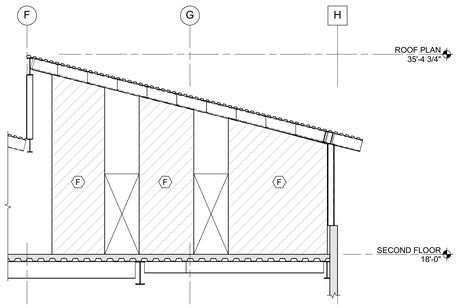
4 BUILDING SECTION AT GRID 2
3/16" = 1'-0"



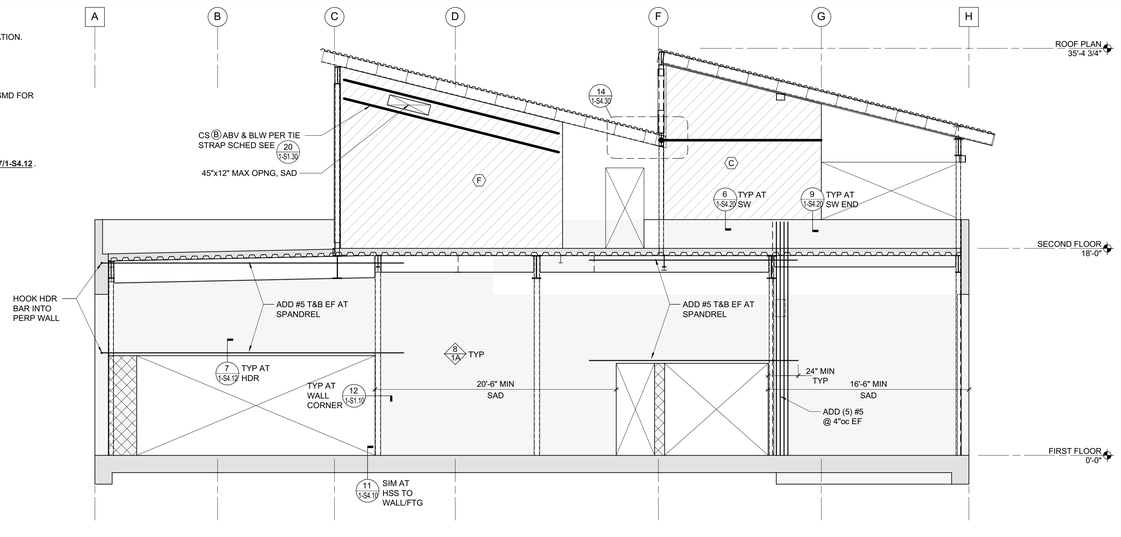
5 BUILDING SECTION AT GRID B
3/16" = 1'-0"



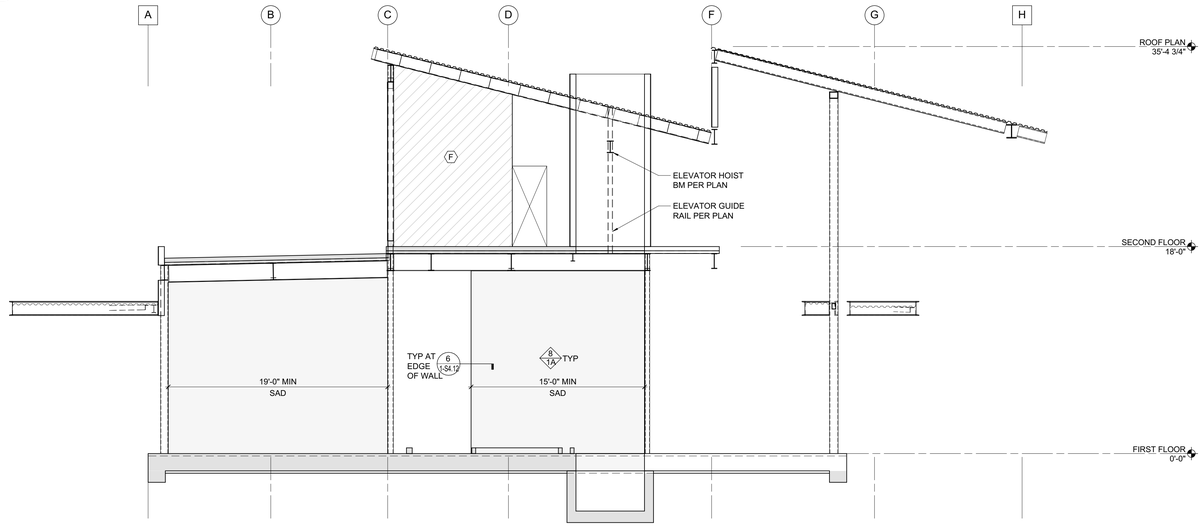
7 BUILDING SECTION AT GRID 3.2
3/16" = 1'-0"



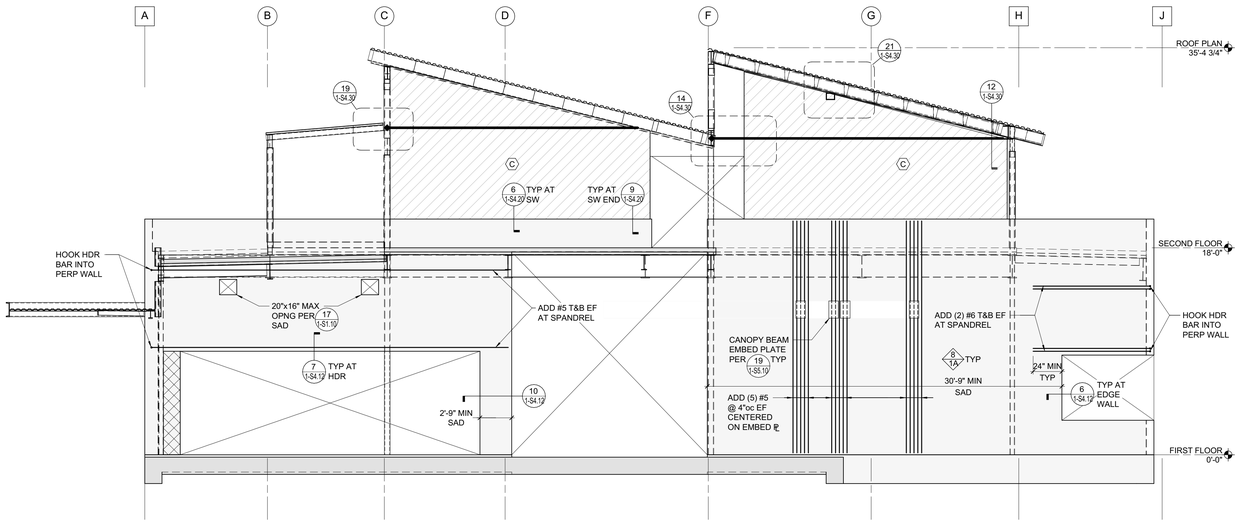
8 BUILDING SECTION AT GRID 2.7
3/16" = 1'-0"



1 BUILDING SECTION AT GRID 6
3/16" = 1'-0"



2 BUILDING SECTION AT GRID 7
3/16" = 1'-0"



3 BUILDING SECTION AT GRID 8
3/16" = 1'-0"

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REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

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DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date
		December 6, 2018
1	DSA Third Party Review Comment Response	May 22 2019
3	Plan Check 2 Revision	Oct 10 2019

PERMIT SUBMITTAL V2-INCREMENT #1

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BUILDING 1 SECTIONS

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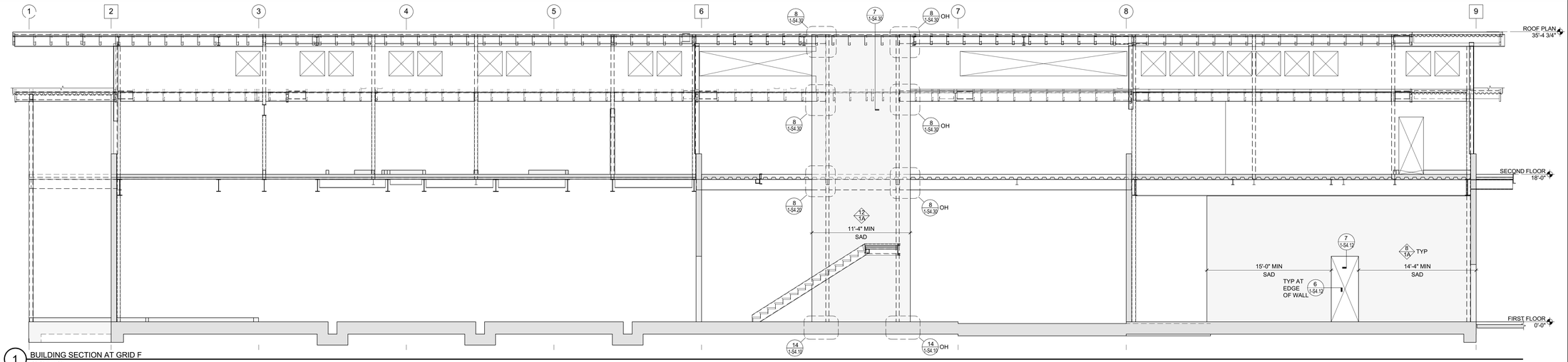
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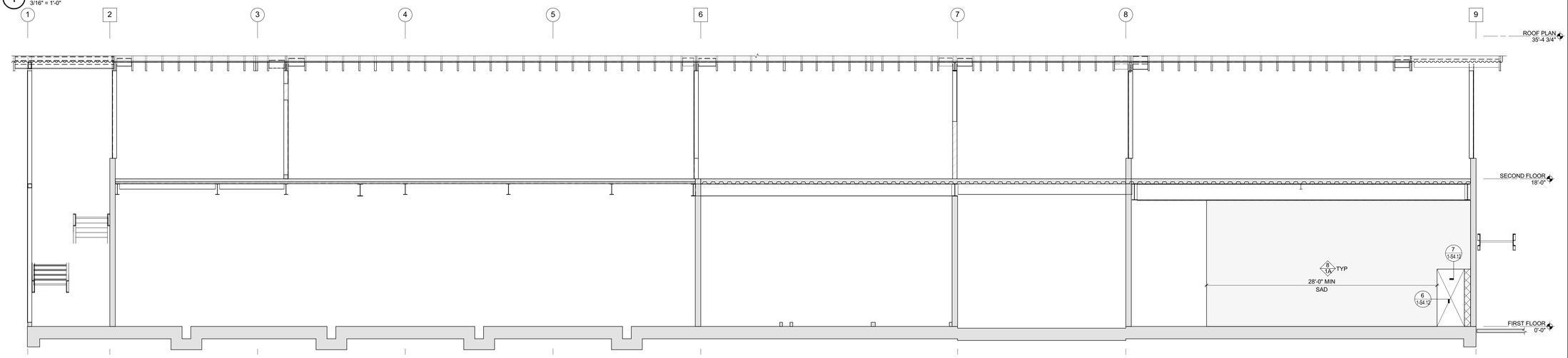
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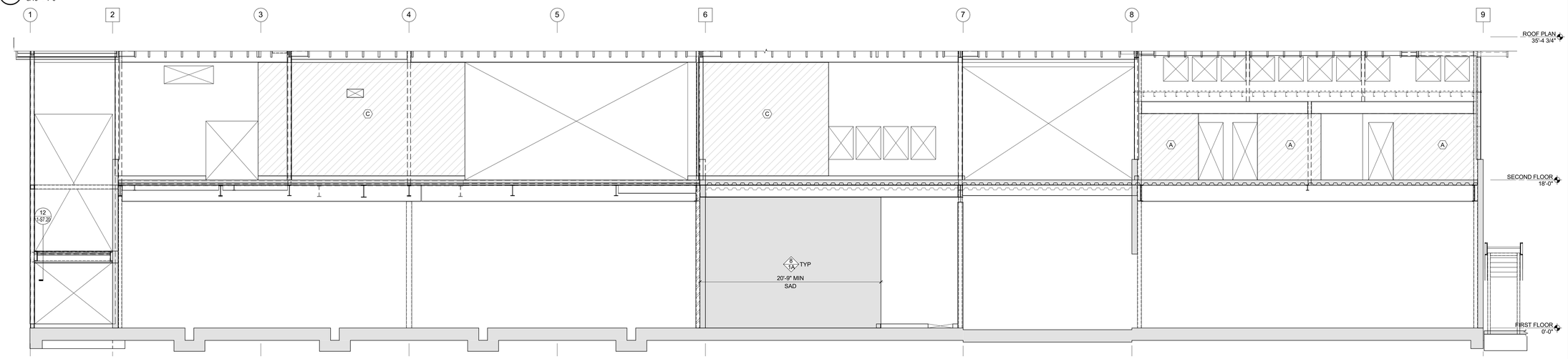
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1 BUILDING SECTION AT GRID F
3/16" = 1'-0"



2 BUILDING SECTION AT GRID D
3/16" = 1'-0"



3 BUILDING SECTION AT GRID C
3/16" = 1'-0"

LEGEND		
SYMBOL	REFERENCE DETAIL	DESCRIPTION
1 1A	1/1-S4.12	INDICATES CAST IN PLACE CONCRETE WALL PANEL W/ THICKNESS "t" AND REINFORCING TYPE "A" PER SCHEDULE TYP, UNO.
	1/1-S4.12	INDICATES NONSTRUCTURAL CONCRETE WALL. FOLLOW ALL TYP CONCRETE WALL DETAILS.
C	G/1-S0.10 1/1-S1.31	INDICATES SHEAR WALL TYPE. SEE PLAN FOR SHEAR WALL SCHEDULE. TYPE B TYPICAL UNO.

WALL ELEVATION NOTES:

1. ELEVATIONS ARE SCHEMATIC. SEE PLANS FOR ADDITIONAL INFORMATION.
2. SEE PLANS FOR ALL COLUMN AND BEAM SIZES.
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4. SEE SHEETS **1-S1.30** & **1-S1.31** FOR METAL STUD FRAMING. SAD AND SMD FOR WALL OPENINGS.
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   - FOR SOLID PANEL SECTION SEE **2/1-S4.12** .
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   - FOR TYPICAL TRIM STEEL SEE **5/1-S4.12** .
   - FOR TYPICAL DOOR / WINDOW HEADER OR JAMB SEE **6/1-S4.12** & **7/1-S4.12** .
   - FOR TYPICAL HORIZONTAL AND VERTICAL JOINTS SEE **8/1-S4.12** .

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
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CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

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DRAWN BY:	APPROVAL REC'D:
APPROVED BY: **KATHY GARCIA** DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

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HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	INC 01_ADD_01_V1	12/6/2019

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Sheet Title

BUILDING 1 SECTIONS

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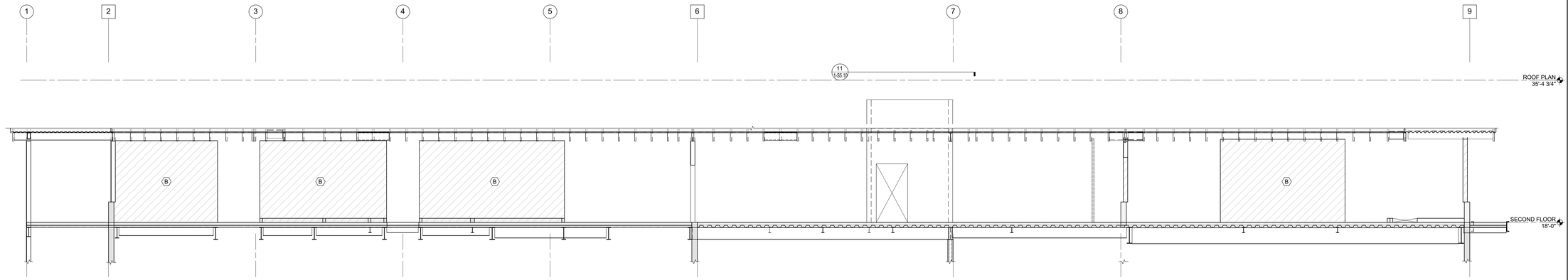
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1 BUILDING SECTION AT GRID D.7
3/16" = 1'-0"

LEGEND		
SYMBOL	REFERENCE DETAIL	DESCRIPTION
1A	1/1-S4.12	INDICATES CAST IN PLACE CONCRETE WALL PANEL W/ THICKNESS "t" AND REINFORCING TYPE "A" PER SCHEDULE TYP, UNO.
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WALL ELEVATION NOTES:

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   - FOR TYPICAL PANEL REINFORCEMENT SEE **3/1-S4.12** .
   - FOR TYPICAL TRIM STEEL SEE **5/1-S4.12** .
   - FOR TYPICAL DOOR / WINDOW HEADER OR JAMB SEE **6/1-S4.12** & **7/1-S4.12** .
   - FOR TYPICAL HORIZONTAL AND VERTICAL JOINTS SEE **8/1-S4.12** .

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DATE: 11/12/2019

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ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
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CITY OF HAYWARD
HEART OF THE BAY

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ENGINEERING DIVISION

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DRAWN BY:	APPROVAL REC'D:
APPROVED BY: **KATHY GARCIA** DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

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REVISIONS

No.	Description	Date
		December 6, 2018

PERMIT SUBMITTAL V2-INCREMENT #1

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KEVIN G. ZUCCO
No. 4861
STRUCTURAL
STATE OF CALIFORNIA

Sheet Title

BUILDING 1 SECTIONS

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Checked By: Checker

Scale:
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Date:
July 19, 2019

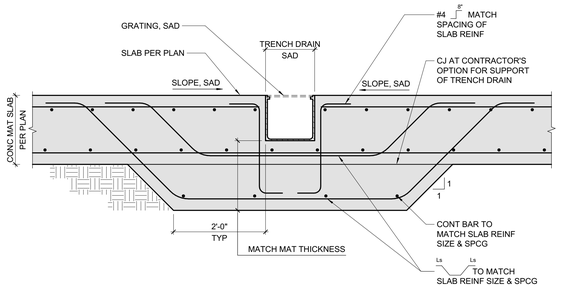
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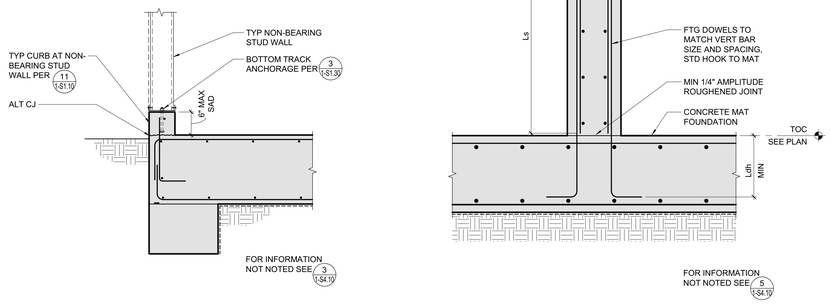
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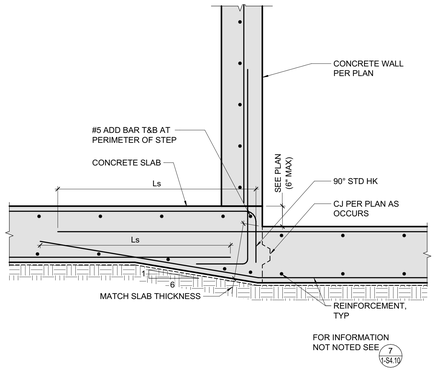
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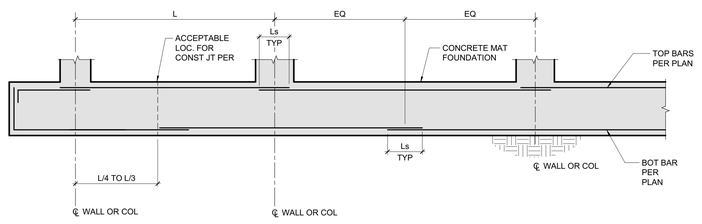
12 THICKENED MAT SLAB AT TRENCH DRAIN
3/4" = 1'-0"



5 TYPICAL CONCRETE MAT FOUNDATION REINFORCEMENT
3/4" = 1'-0"



1 CONCRETE MAT FOUNDATION SCHEDULE
12" = 1'-0"

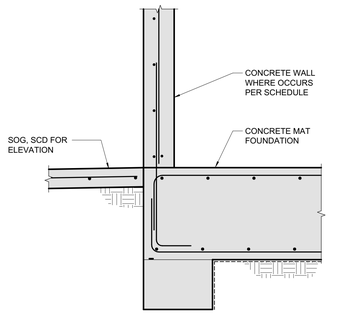


NOTES:
1. ADDITIONAL BARS PER PLAN SHALL BE EQUALLY SPACED. MAX SPACING SHALL BE 12"
2. NO SPLICES PERMITTED, UNO.
3. LAP BOTTOM BARS AT MIDSPAN & TOP BARS UNDER WALL/COL. SEE **1/S1.10** FOR LAP LENGTHS.
4. WHERE BAR LENGTHS OR EXTENSIONS ARE NOTED PER PLAN THIS LENGTH GOVERNS.

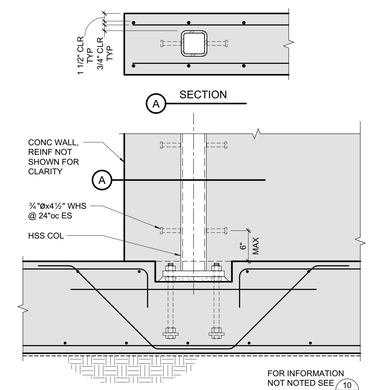
CONCRETE MAT FOUNDATION SCHEDULE						
MAT MARK	MAT THICKNESS	TOP BAR SPAN [1] DIRECTION	TOP BAR SPAN [2] DIRECTION	BOTTOM BAR SPAN [1] DIRECTION	BOTTOM BAR SPAN [2] DIRECTION	REMARKS
1M1	22"	#7 @ 12"oc	#7 @ 12"oc	#7 @ 12"oc	#7 @ 12"oc	REINF TO BE A706 GR. 80

NOTES:
1. SEE OTHER DETAILS THIS SHEET FOR TYP SLAB DETAILS.
2. REFER TO PLANS FOR ADDITIONAL REINFORCING (ADD BARS).
3. SEE **2/1-S4.10** FOR REBAR LAYERING AND COVER. SEE **5/1-S4.10** FOR TYPICAL MAT REINFORCING LAYOUT.
4. WHERE MATS ARE SLOPED, MAT THICKNESS NOTED IS MINIMUM.

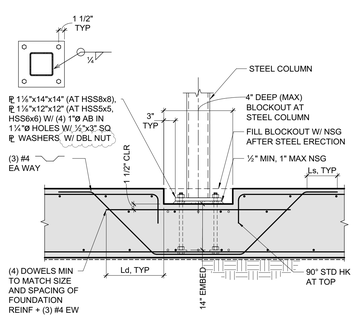
16 EXTERIOR LGMF STUD WALL AT FOUNDATION
3/4" = 1'-0"



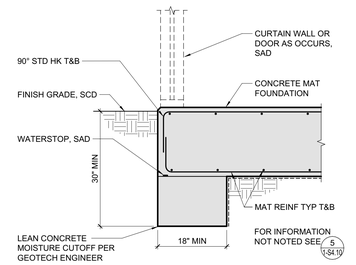
13 INTERIOR 12" CONCRETE WALL AT FOUNDATION
3/4" = 1'-0"



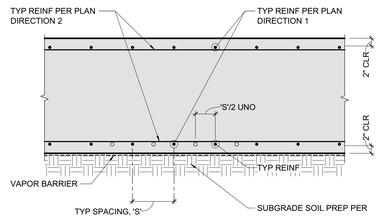
9 STEPPED FOUNDATION AT CONCRETE WALL
1" = 1'-0"



6 EDGE OF MAT FOUNDATION
3/4" = 1'-0"

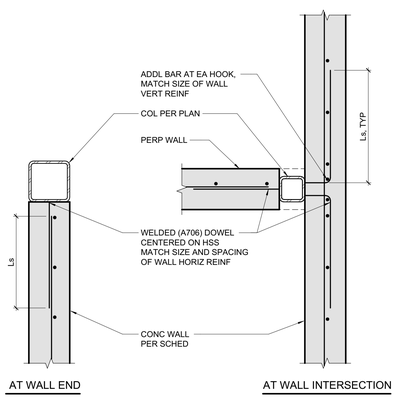


2 TYPICAL MAT SLAB SECTION
3/4" = 1'-0"

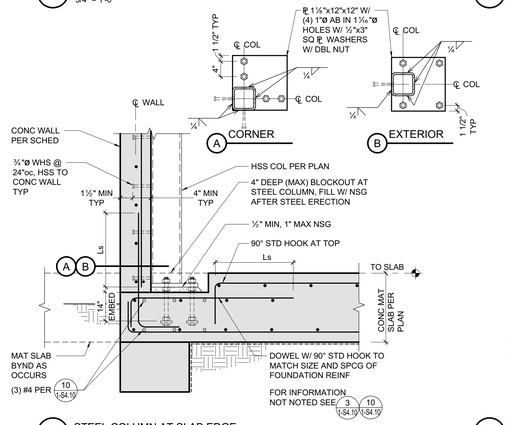


17 EXTERIOR CONCRETE WALL AT SOG
3/4" = 1'-0"

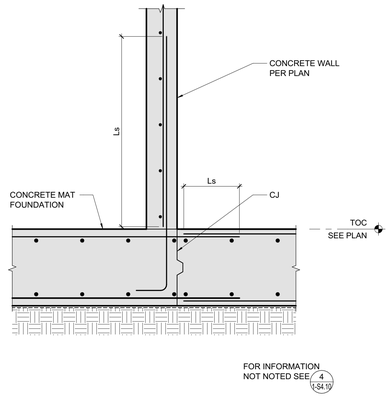
14 HSS COLUMN IN CONCRETE WALL
1" = 1'-0"



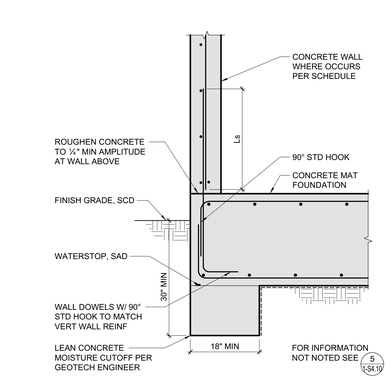
10 STEEL COLUMN AT INTERIOR SLAB
3/4" = 1'-0"



7 INTERIOR CONCRETE WALL AT CONSTRUCTION JOINT
3/4" = 1'-0"



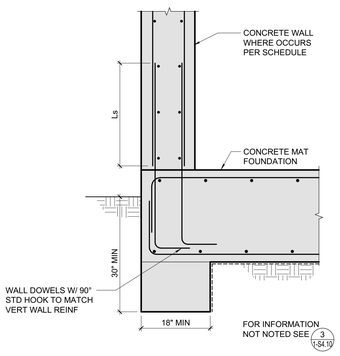
3 EXTERIOR CONCRETE WALL AT FOUNDATION
3/4" = 1'-0"



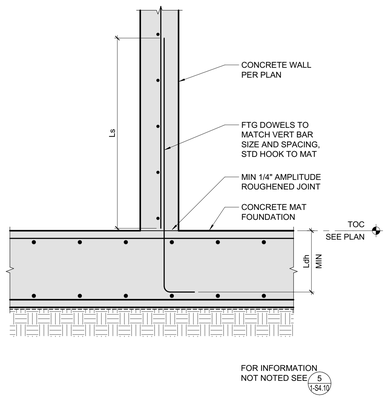
15 CONCRETE WALL TO HSS COLUMN
1" = 1'-0"

11 STEEL COLUMN AT SLAB EDGE
3/4" = 1'-0"

8 EXTERIOR 14" CONCRETE WALL AT FOUNDATION
3/4" = 1'-0"



4 INTERIOR CONCRETE WALL AT FOUNDATION
3/4" = 1'-0"



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DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date
		December 6, 2018
1	DSA Third Party Review Comment Response	May 22 2019
2	Plan Check Revision	Aug 13 2019
3	Plan Check 2 Revision	Oct 10 2019

PERMIT SUBMITTAL V2-INCREMENT #1

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Sheet Title

BUILDING 1
FOUNDATION DETAILS

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Scale: **As indicated**

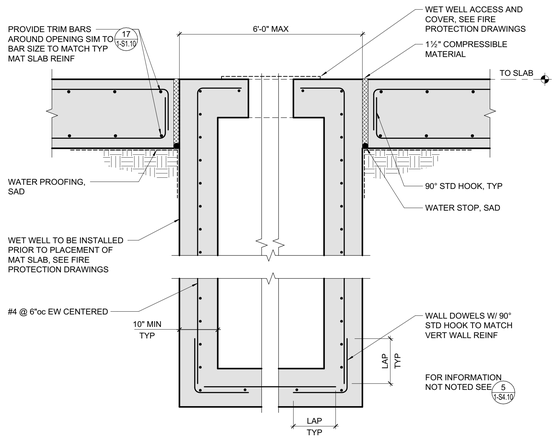
Date: **July 19, 2019**

Project No. 17143

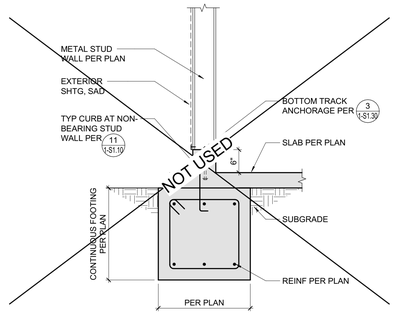
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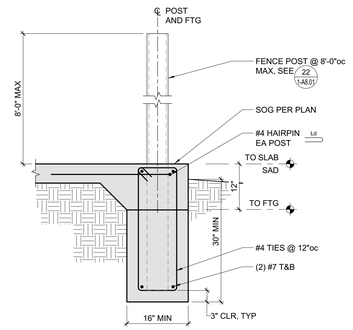
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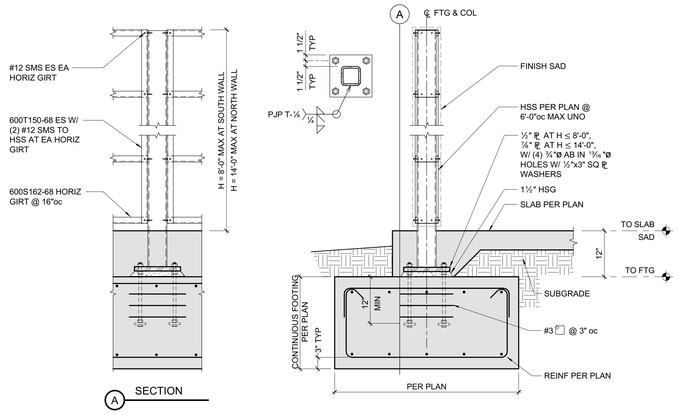
2 WELL AT MAT SLAB
3/4" = 1'-0"



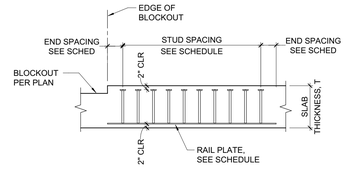
3 SITE WALL ON CURB
3/4" = 1'-0"



4 UTILITY YARD CHAINLINK FENCE POST
3/4" = 1'-0"



5 UTILITY YARD SITE WALL
3/4" = 1'-0"

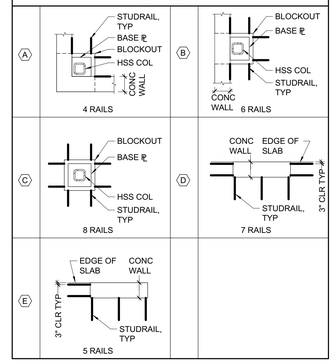


TYPICAL STUD RAIL DETAIL

STUDRAIL SCHEDULE

MARK	LAYOUT PLAN	STUDS			
		STUD SIZE Ø	# OF STUDS PER RAIL	STUD SPACING	END SPACING
1.0	A	½"	18	3⅜"	7½"
2.0	B	½"	19	3⅛"	7½"
3.0	C	½"	22	2⅞"	7½"
4.0	D	½"	31	2⅜"	9½"
4.1	E	½"	31	2⅜"	9½"

STUDRAIL LAYOUT



NOTES:

1. (1.0) — SUBCATEGORY REFERENCE NUMBER
   1 — INDICATES NUMBER OF COLUMN FACES W/ STUDRAILS
2. RAIL PLATE TO BE THE FOLLOWING:

STUD Ø	℄ THICKNESS	℄ WIDTH
½"	¼"	1¼"

3. COORDINATE STUD LENGTH WITH SLAB THICKNESS AT EACH LOCATION PER TYPICAL DETAIL.
4. ANY SLAB OPENINGS, SLEEVES, PENETRATIONS, WITHIN 10 * T OF THE FACE OF COLUMN WILL REQUIRE WRITTEN APPROVAL FROM THE SEOR.

1 STUDRAIL SCHEDULE
NOT TO SCALE

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DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date
		December 6, 2018
1	DSA Third Party Review Comment Response	May 22 2019
3	Plan Check 2 Revision	Oct 10 2019

PERMIT SUBMITTAL V2-INCREMENT #1

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Sheet Title

BUILDING 1 FOUNDATION DETAILS

Drawn By: Author Checked By: Checker

Scale: 3/4" = 1'-0"

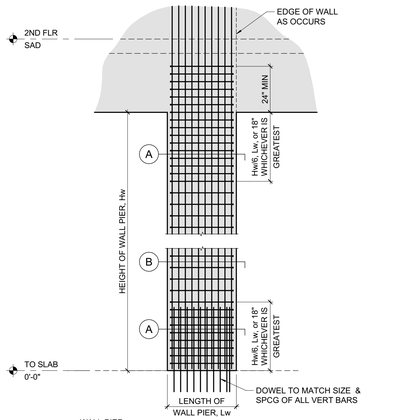
Date: July 19, 2019

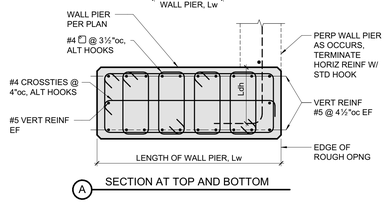
Project No. 17143

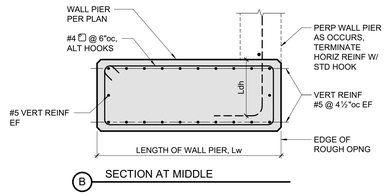
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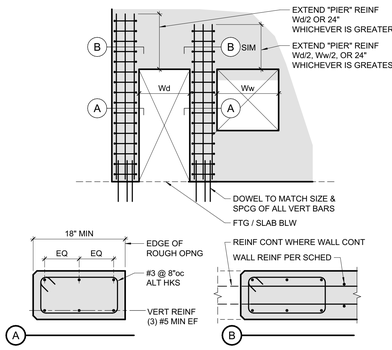
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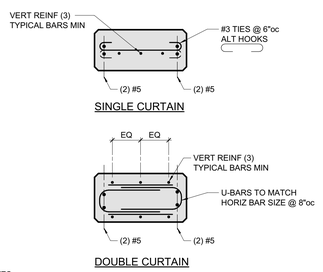




12 14" CONCRETE WALL PIER REINFORCING
3/8" = 1'-0"

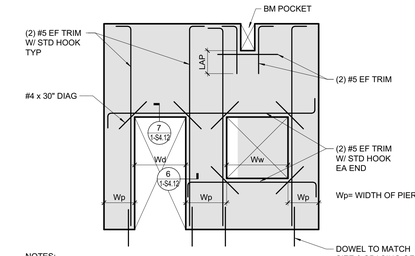


9 WALL PIER REINFORCING AT DOORS AND WINDOWS
1" = 1'-0"



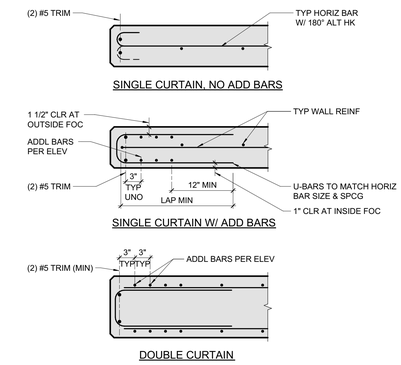
NOTES:
1. EXTEND U-BARS OR TIES 24" MIN PAST OPENINGS

10 WALL PIER REINFORCING
1" = 1'-0"

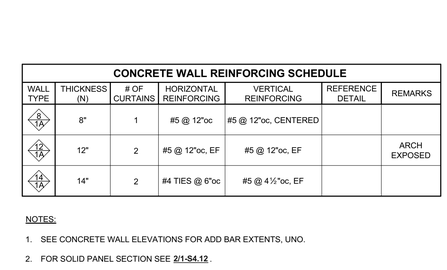


NOTES:
1. EXTEND HORIZ TRIM 24" PAST OPENING OR PROVIDE STD HOOK AT ENDS UNO.
2. WALL SEGMENTS LESS THAN 36" ARE PIERS.
3. WHERE Wd > 4'-0" OR Ww > 4'-0", Wp MUST BE ≥ 27", UNO.
4. Wp ≤ 24" SEE **9/1-S4.12** UNO.
5. 24" < Wp TO 36" SEE **10/1-S4.12** UNO.
6. OMIT STD HOOK AT U-BAR.

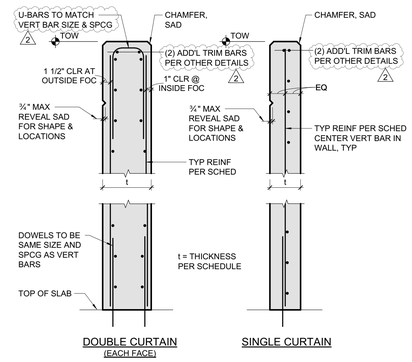
5 TYPICAL TRIM STEEL AT OPENINGS
1" = 1'-0"



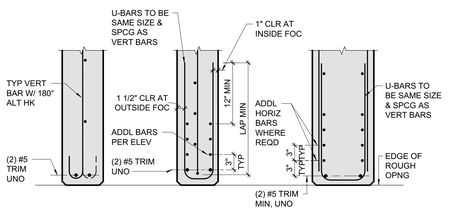
6 REINFORCEMENT AT EDGE OF WALL OPENING
1" = 1'-0"

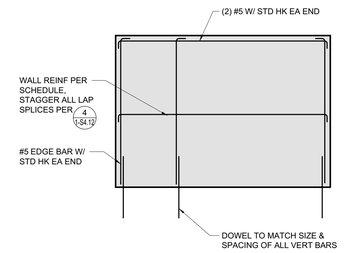


1 CONCRETE WALL SCHEDULE
12" = 1'-0"

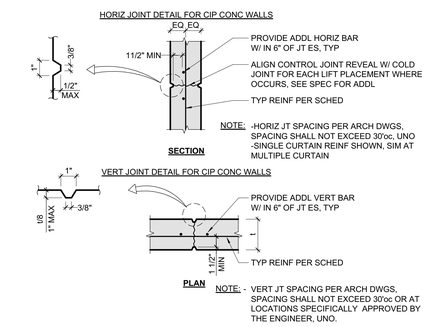


2 SOLID WALL SECTION
1" = 1'-0"

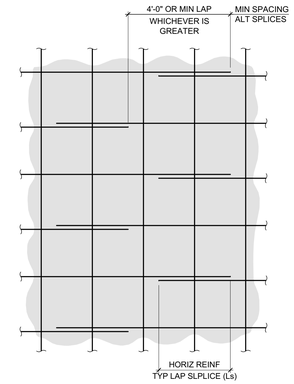




7 REINFORCEMENT AT DOOR/WINDOW HEADER
1" = 1'-0"



8 HORIZONTAL / VERTICAL JOINT
3/4" = 1'-0"



3 TYPICAL WALL REINFORCING
1" = 1'-0"

4 TYPICAL WALL REINFORCING SPLICES
1" = 1'-0"

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RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

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HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

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DRAWN BY:	APPROVAL REC'D:
APPROVED BY: **KATHY GARCIA** DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	DSA Third Party Review Comment Response	December 6, 2018 May 22 2019

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Sheet Title

BUILDING 1 CONCRETE WALL DETAILS

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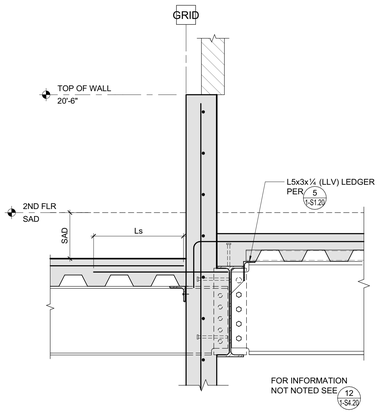
Date: **July 19, 2019**

Project No. 17143

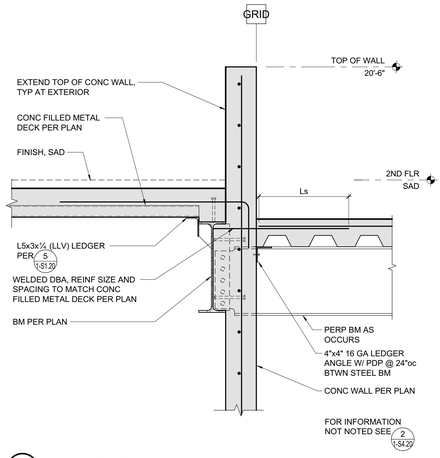
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Drawing No.

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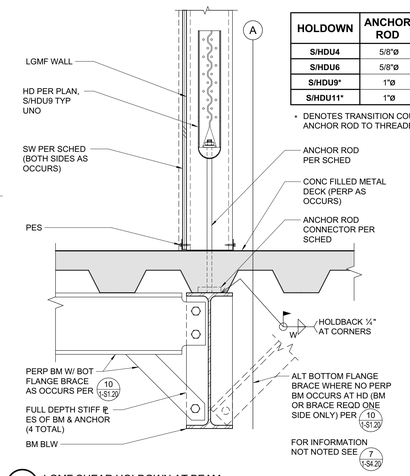
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16 STEPPED FRAMING AT PATIO
3/4" = 1'-0"

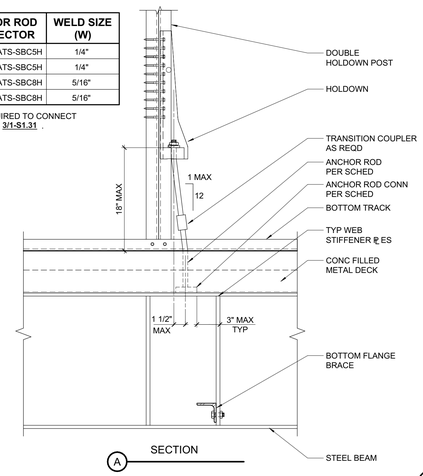


12 METAL DECK TO WALL AT PATIO
3/4" = 1'-0"

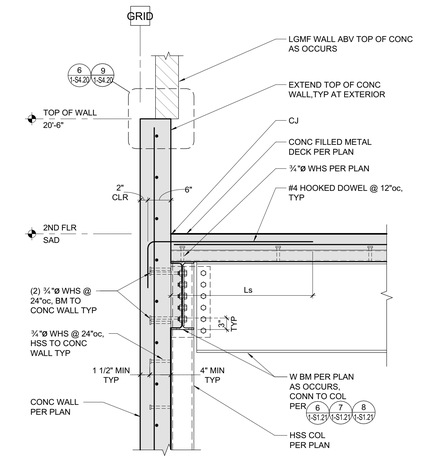


HOLDOWN	ANCHOR ROD	ANCHOR ROD CONNECTOR	WELD SIZE (W)
S/HDU4	5/8"ø	SIMPSON ATS-SBC5H	1/4"
S/HDU6	5/8"ø	SIMPSON ATS-SBC5H	1/4"
S/HDU9*	1"ø	SIMPSON ATS-SBC8H	5/16"
S/HDU11*	1"ø	SIMPSON ATS-SBC8H	5/16"

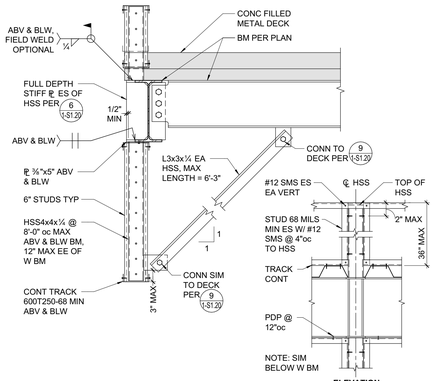
* DENOTES TRANSITION COUPLER REQUIRED TO CONNECT ANCHOR ROD TO THREADED ROD PER 3/1-S1.31 .



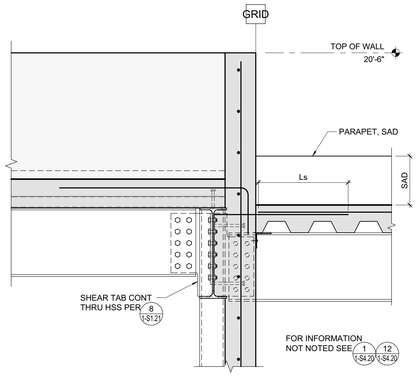
5 LGMF SHEAR HOLDOWN AT BEAM
1 1/2" = 1'-0"



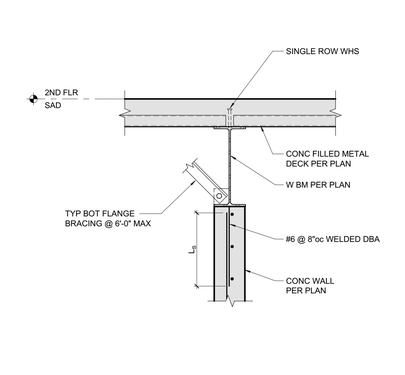
1 CONCRETE WALL TO COLUMN AT SECOND FLOOR
3/4" = 1'-0"



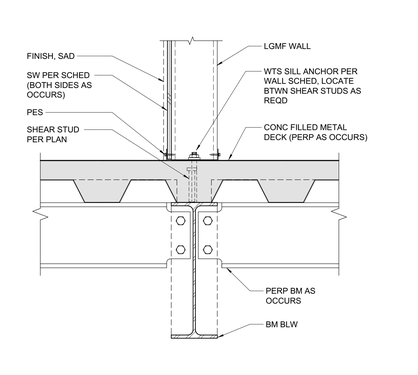
17 COLLECTOR CONNECTION THROUGH WALL
3/4" = 1'-0"



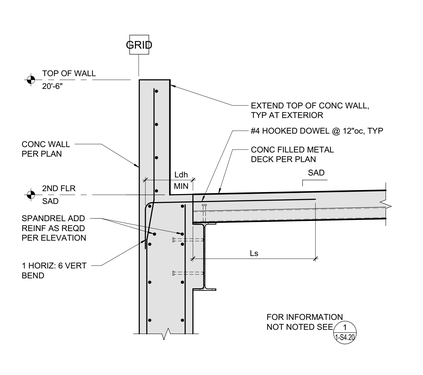
13 FRAMING AT SLOPED BEAM
3/4" = 1'-0"



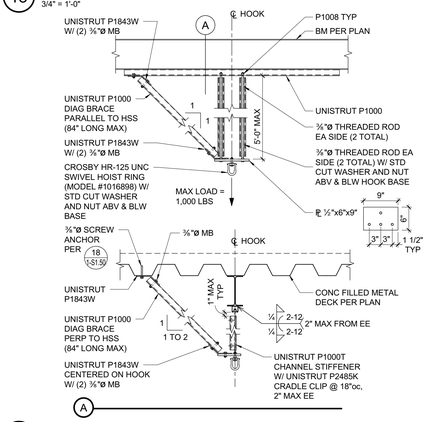
9 LGMF SHEAR WALL HOLDOWN AT CONCRETE STEM WALL
1 1/2" = 1'-0"



6 LGMF SHEAR WALL SILL ANCHORAGE AT CONCRETE STEM WALL
1 1/2" = 1'-0"



2 EXTERIOR CONCRETE WALL AT SECOND FLOOR
3/4" = 1'-0"



18 LGMF PARAPET AT GRIDLINE A/6-8
3/4" = 1'-0"

14 STEPPPED FRAMING AT PATIO / LOW ROOF
3/4" = 1'-0"

10 INTERIOR CONCRETE WALL AT SECOND FLOOR
3/4" = 1'-0"

7 LGMF SHEAR WALL SILL ANCHORAGE AT BEAM
1 1/2" = 1'-0"

3 14" CONCRETE WALL AT SECOND FLOOR
3/4" = 1'-0"

19 CEILING HOOK SUPPORT
3/4" = 1'-0"

15 CONCRETE DIVIDER WALL AT SECOND FLOOR
3/4" = 1'-0"

11 STEPPPED FRAMING AT PATIO
3/4" = 1'-0"

8 STEEL BEAM TO CONCRETE WALL CONNECTION
1" = 1'-0"

4 12" CONCRETE WALL AT SECOND FLOOR
3/4" = 1'-0"

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

Ross Drulis Cusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	DSA Third Party Review Comment Response	December 6, 2018 May 22 2019
2	Plan Check Revision	Aug 13 2019
3	Plan Check 2 Revision	Oct 10 2019

PERMIT SUBMITTAL V2-INCREMENT #1

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zfa job no.17143

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KEVIN G. ZUCCO — LICENSED PROFESSIONAL ENGINEER — STRUCTURAL — No. 4961 — STATE OF CALIFORNIA

Sheet Title

BUILDING 1 SECOND FLOOR DETAILS

Drawn By: Author Checked By: Checker

Scale: As indicated

Date: July 19, 2019

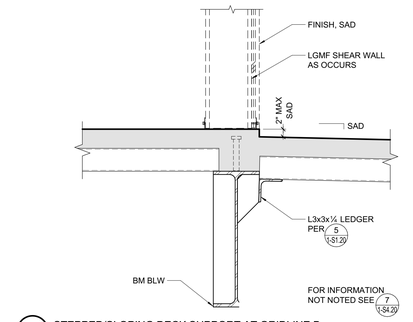
Project No. 17143

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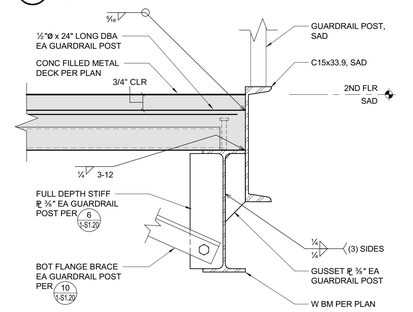
Drawing No.

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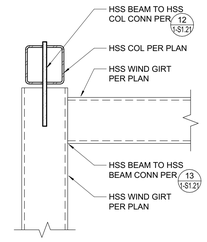
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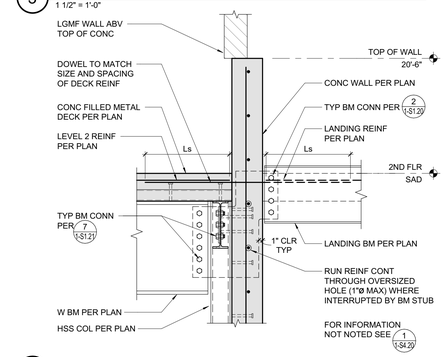
1 STEPPED/SLOPING DECK SUPPORT AT GRIDLINE B
1 1/2" = 1'-0"



2 12" CONCRETE WALL AT SECOND FLOOR
1 1/2" = 1'-0"



3 HSS CONNECTION AT GRIDLINE 1/C
1 1/2" = 1'-0"



4 STAIR #1 STRINGER CONNECTION AT SECOND FLOOR
3/4" = 1'-0"

APPROVED
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APP. 01-117774 INC:01
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DATE: 11/12/2019

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ARCHITECTURE
18294
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Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date
3	Plan Check 2 Revision	Oct 10 2019

PERMIT SUBMITTAL V2-INCREMENT #1

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LICENSED PROFESSIONAL ENGINEER — KEVIN G. ZUCCO — STRUCTURAL No. 4861 — STATE OF CALIFORNIA

Sheet Title

BUILDING 1
SECOND FLOOR DETAILS

Drawn By: Author
Checked By: Checker

Scale:
As indicated

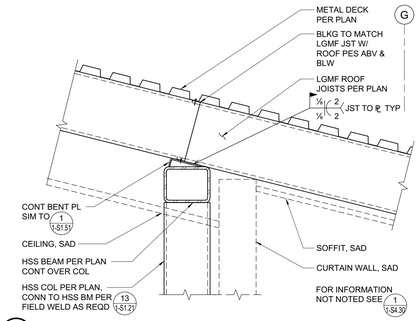
Date:
July 19, 2019

Project No. 17143

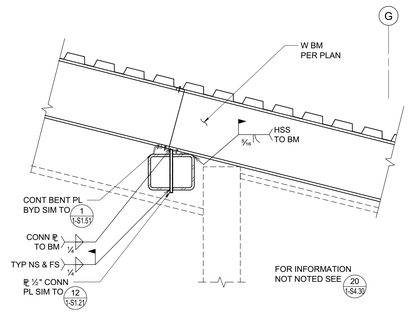
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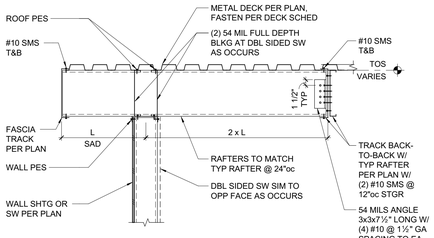
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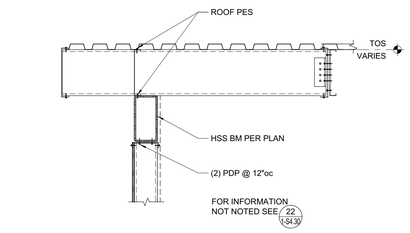
20 NESTED INTERIOR HORIZONTAL GIRT
1" = 1'-0"



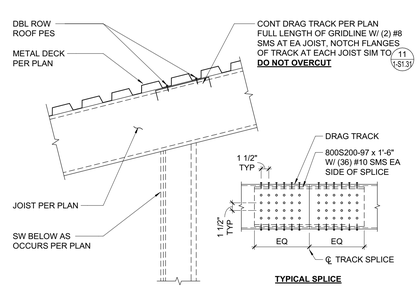
21 HORIZONTAL GIRT TO W BEAM CONNECTION
1" = 1'-0"



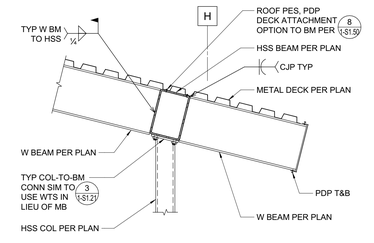
22 ROOF EAVE DETAIL
3/4" = 1'-0"



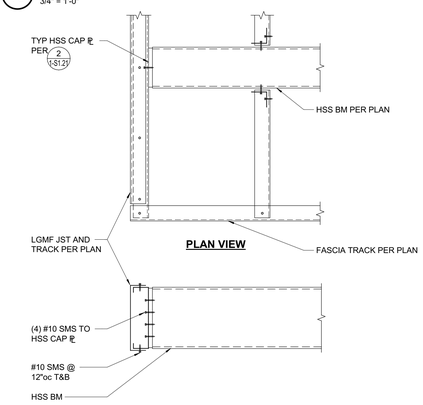
23 ROOF EAVE DETAIL
3/4" = 1'-0"



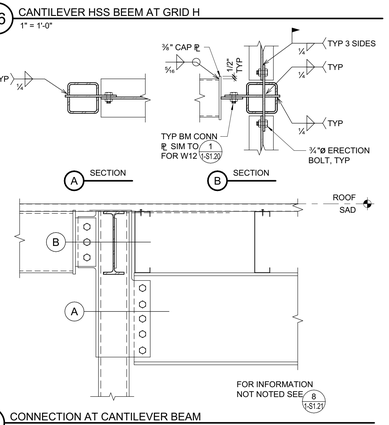
24 DRAG TRACK DETAIL
1" = 1'-0"



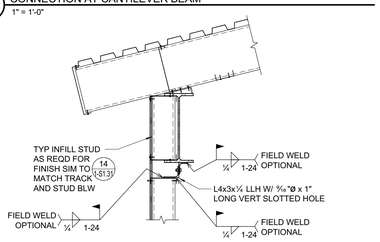
15 CANTILEVER HSS BEAM AT GRID H
3/4" = 1'-0"



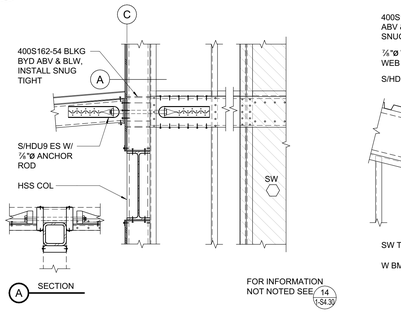
16 CANTILEVER HSS BEEM AT GRID H
1" = 1'-0"



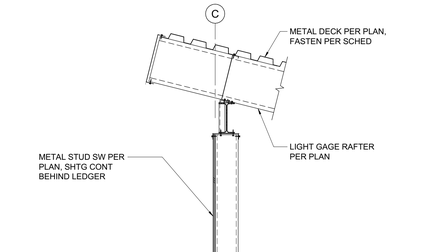
17 CONNECTION AT CANTILEVER BEAM
1" = 1'-0"



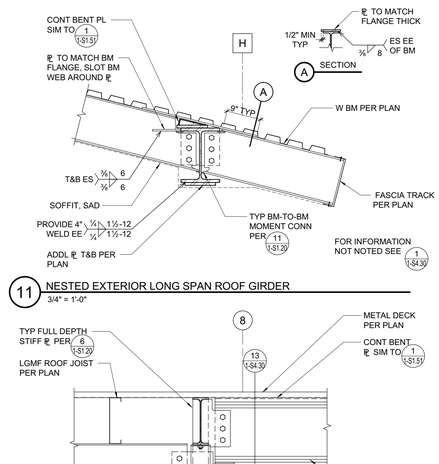
18 ROOF RAFTER TO STEEL BEAM
3/4" = 1'-0"



19 COLLECTOR CONNECTION AT LOW ROOF
3/4" = 1'-0"

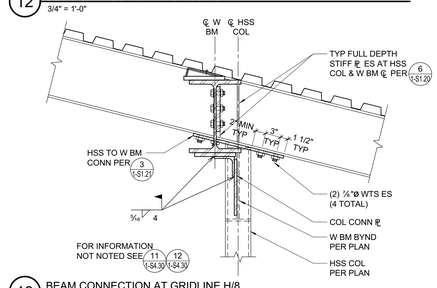


10 WALL FRAMING AT LOW ROOF
3/4" = 1'-0"

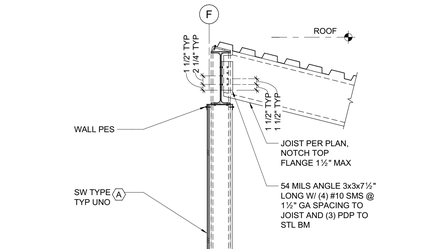


11 NESTED EXTERIOR LONG SPAN ROOF GIRDER
3/4" = 1'-0"

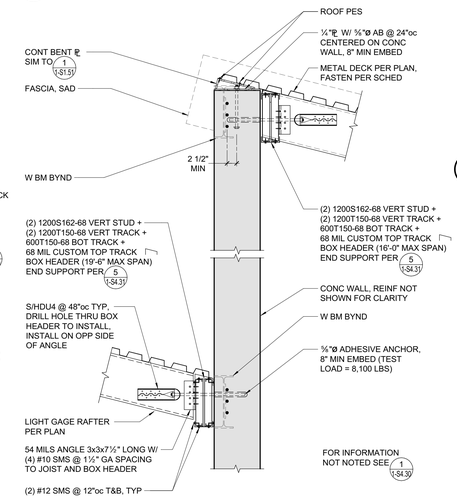
12 BEAM CONNECTION AT GRIDLINE H/8
3/4" = 1'-0"



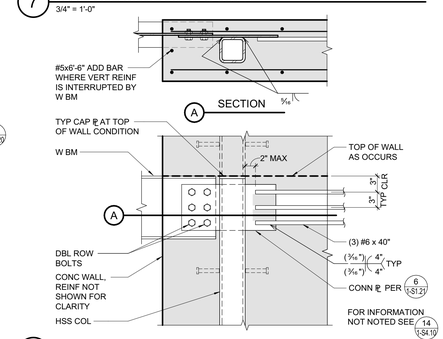
13 BEAM CONNECTION AT GRIDLINE H/8
1" = 1'-0"



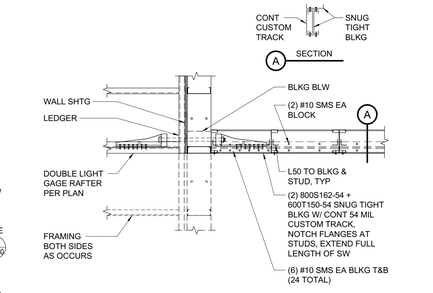
6 SAWTOOTH RIDGE AT GRID F
3/4" = 1'-0"



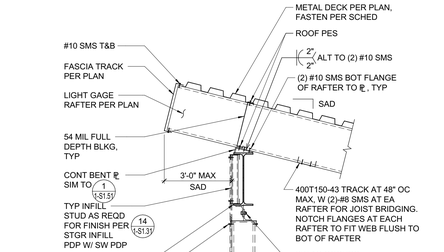
7 ROOF SUPPORT AT CONCRETE WALL
3/4" = 1'-0"



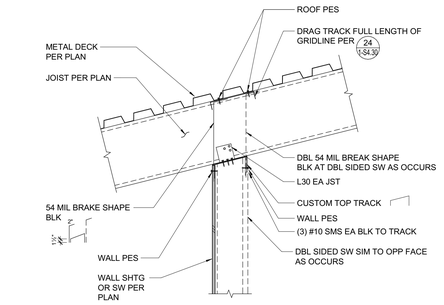
8 STEEL BEAM TO CONCRETE WALL CONNECTION
1" = 1'-0"



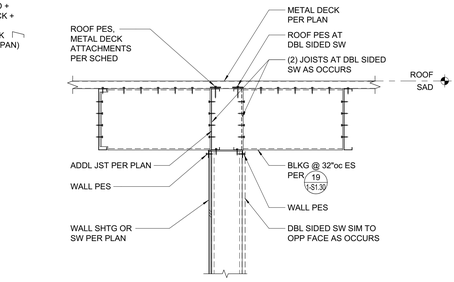
9 SECTION AT COLLECTOR CONNECTION
3/4" = 1'-0"



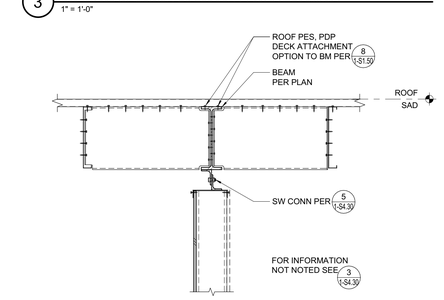
1 TYPICAL ROOF RAFTER TO STEEL BEAM
3/4" = 1'-0"



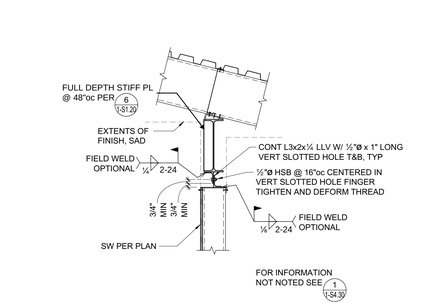
2 INTERIOR SHEARWALL TO PERPENDICULAR ROOF FRAMING
1" = 1'-0"



3 INTERIOR SHEARWALL TO PARALLEL ROOF FRAMING
1" = 1'-0"



4 INTERIOR SHEARWALL AT STEEL BEAM
1" = 1'-0"



5 SHEAR WALL TO STEEL BEAM CONNECTION
3/4" = 1'-0"

APPROVED
DIV. OF THE STATE ARCHITECT
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SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

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ARCHITECTURE
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Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date
		December 6, 2018
1	DSA Third Party Review Comment Response	May 22 2019
3	Plan Check 2 Revision	Oct 10 2019

PERMIT SUBMITTAL V2-INCREMENT #1

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REGISTERED PROFESSIONAL ENGINEER KEVIN G. ZUCCO STRUCTURAL No. 4861 STATE OF CALIFORNIA

Sheet Title

BUILDING 1
ROOF DETAILS

Drawn By: Author
Checked By: Checker

Scale: **As indicated**

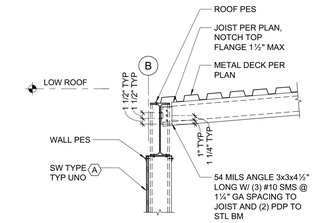
Date: **July 19, 2019**

Project No. 17143

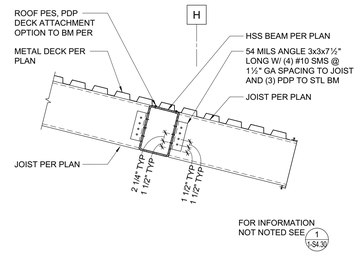
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Drawing No.

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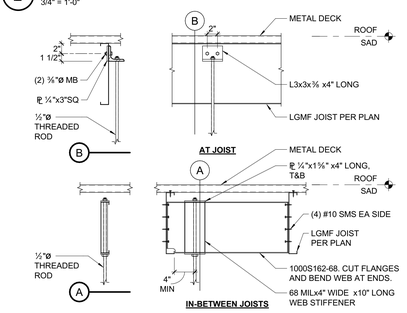
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1 LOW ROOF RAFTER TO STEEL BEAM
3/4" = 1'-0"

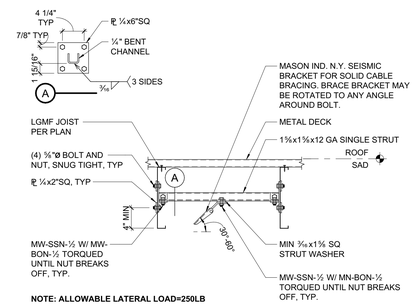


2 JOIST CONNECTION AT HSS CANTILEVER ROOF BEAM
3/4" = 1'-0"



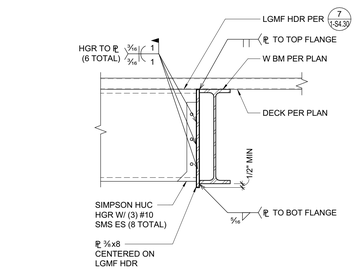
NOTE: ALLOWABLE VERTICAL LOAD=250LB

3 HANGER ATTACHMENT TO LGMF JOIST
1" = 1'-0"



NOTE: ALLOWABLE LATERAL LOAD=250LB

4 SEISMIC BRACKET ATTACHMENT TO LGMF JOIST
1" = 1'-0"



5 BOX HEADER SUPPORT CONNECTION
1 1/2" = 1'-0"

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	DSA Third Party Review Comment Response	May 22 2019
3	Plan Check 2 Revision	Oct 10 2019

PERMIT SUBMITTAL V2-INCREMENT #1

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KEVIN G. ZUCCO — LICENSED PROFESSIONAL ENGINEER — STRUCTURAL — No. 4961 — STATE OF CALIFORNIA

Sheet Title

BUILDING 1 ROOF DETAILS

Drawn By: Author Checked By: Checker

Scale: **As indicated**

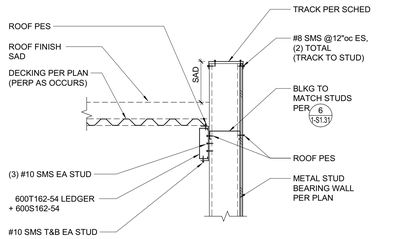
Date: **July 19, 2019**

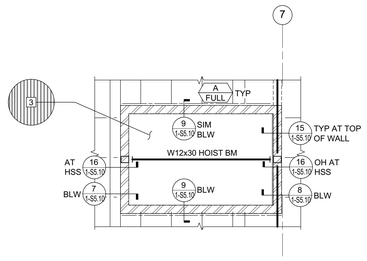
Project No. 17143

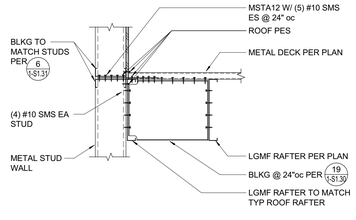
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Drawing No.

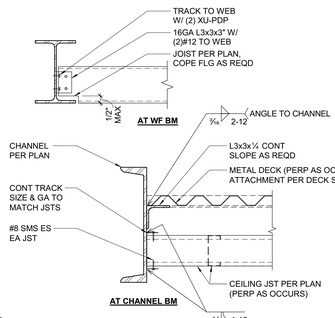
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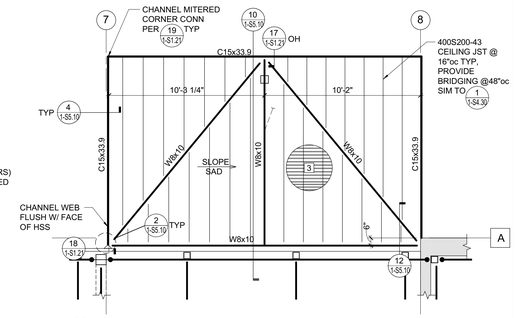
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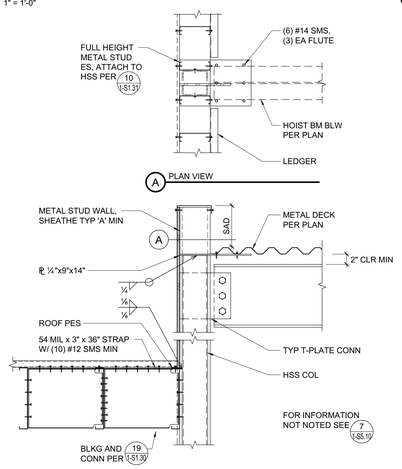




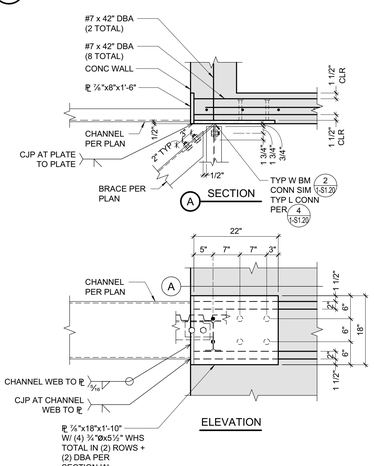




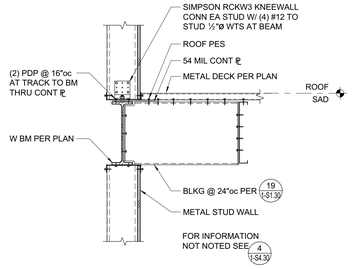
15 ROOF OPENING FRAMING SECTION
1" = 1'-0"



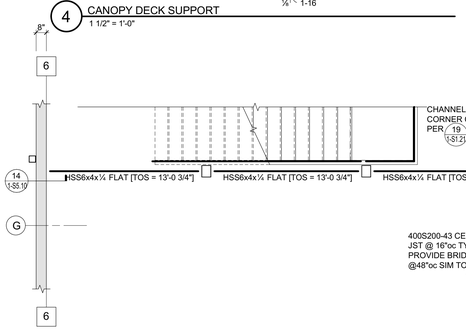
11 PARTIAL FRAMING PLAN AT OPENING
1/4" = 1'-0"



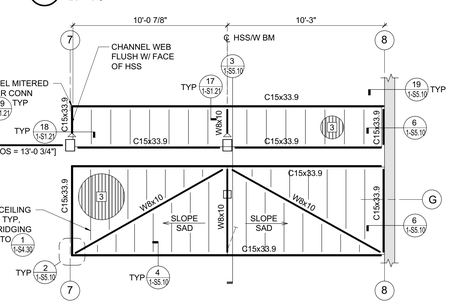
7 ROOF FRAMING AT ELEVATOR CORE (PARALLEL)
1" = 1'-0"



4 CANOPY DECK SUPPORT
1 1/2" = 1'-0"



1 REAR ENTRY CANOPY FRAMING PLAN
1/4" = 1'-0"



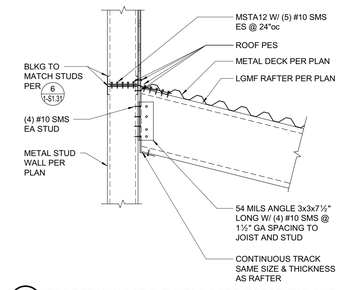
16 HSS COLUMN TO ROOF
1" = 1'-0"

12 REAR CANOPY WALL CONNECTION
3/4" = 1'-0"

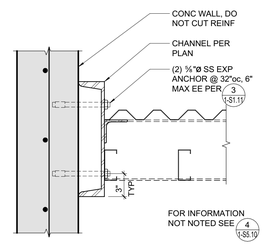
BEAM CONNECTION SCHEDULE

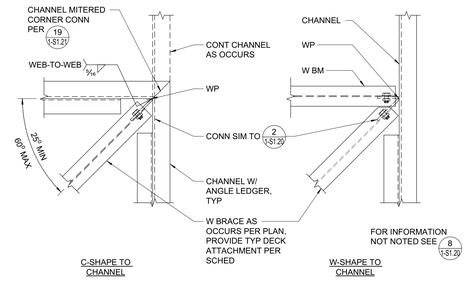
BEAM/ GIRDER SIZE	PL "A" THK (in)	PLATE "B" THK (in)	PLATE "B" WIDTH (in)	PLATE "B" DEPTH (in)	WELD t (in)	No. OF A325SC 7/8"Ø BOLTS	STUD Ø (in)	NUMBER OF STUDS WELDED TO PL "B"	DETAIL
C15	3/8	3/4	10	18	1/4	4	3/4	(6) TOTAL IN (2) ROWS	19/1-S5.10
HSS6x4 (LLH)	1/2	3/4	10	8	1/4	-	3/4	(4) TOTAL IN (2) ROWS	14/1-S5.10

8 ROOF FRAMING AT ELEVATOR CORE (PARALLEL)
1" = 1'-0"



5 FRONT ENTRY CANOPY FRAMING PLAN
1/4" = 1'-0"



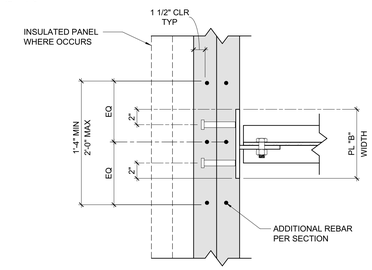


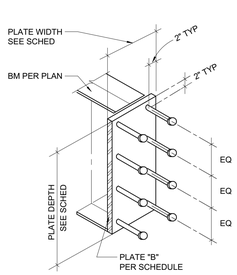
9 ROOF FRAMING AT ELEVATOR CORE (PERPENDICULAR)
1" = 1'-0"

6 CHANNEL AT CONRETE WALL
1 1/2" = 1'-0"

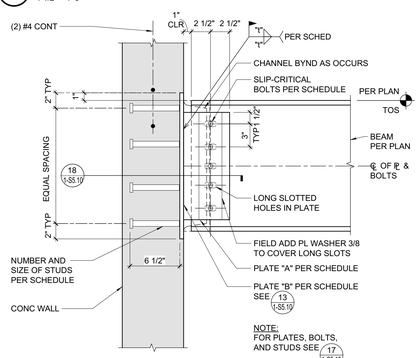
2 CANOPY BRACE CONNECTION TYP
1" = 1'-0"

17 BEAM CONNECTION SCHEDULE
12" = 1'-0"

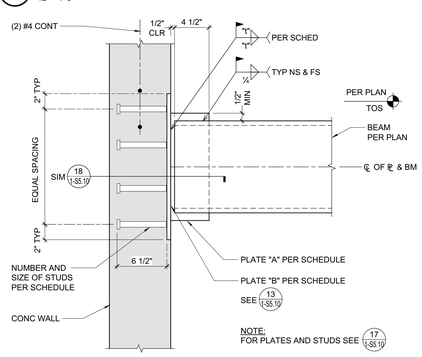




18 BEAM CONNECTION - PLAN VIEW
1 1/2" = 1'-0"

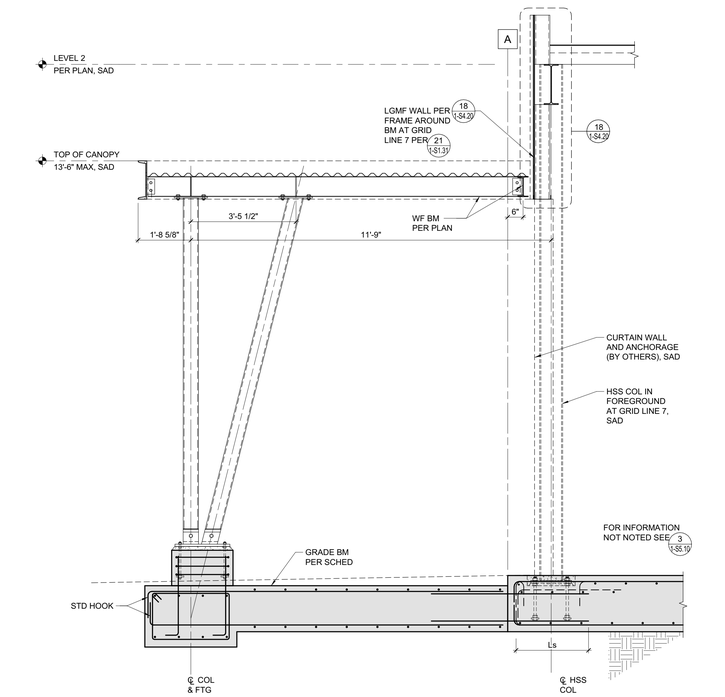


13 ISOMETRIC DETAIL PLATE "B"
12" = 1'-0"

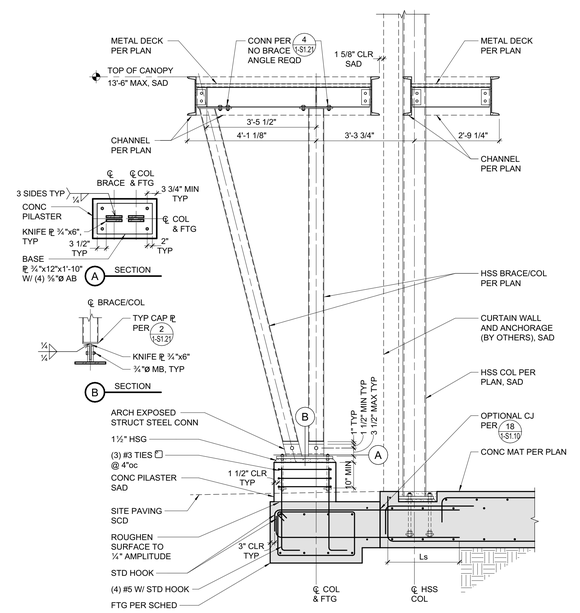


19 CHANNEL, WF BEAM CONNECTION - ELEVATION VIEW
1 1/2" = 1'-0"

14 HSS BEAM CONNECTION - ELEVATION VIEW
1 1/2" = 1'-0"



10 REAR ENTRY CANOPY
1/2" = 1'-0"



3 FRONT ENTRY CANOPY
1/2" = 1'-0"

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION	
DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date
		December 6, 2018
1	DSA Third Party Review Comment Response	May 22 2019
2	Plan Check Revision	Aug 13 2019
3	Plan Check 2 Revision	Oct 10 2019

PERMIT SUBMITTAL V2-INCREMENT #1

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KEVIN G. ZUCCO — No. 4861 — STRUCTURAL — STATE OF CALIFORNIA — REGISTERED PROFESSIONAL ENGINEER

Sheet Title

BUILDING 1 CANOPY PLANS AND DETAILS

Drawn By: Author Checked By: Checker

Scale: As indicated

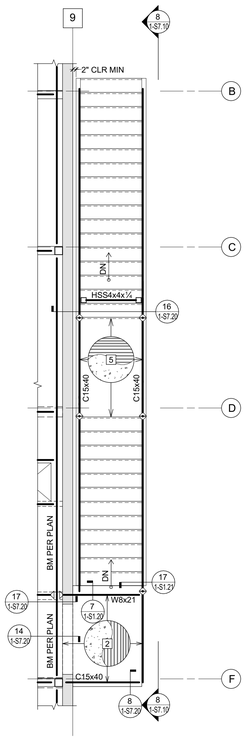
Date: July 19, 2019

Project No. 17143

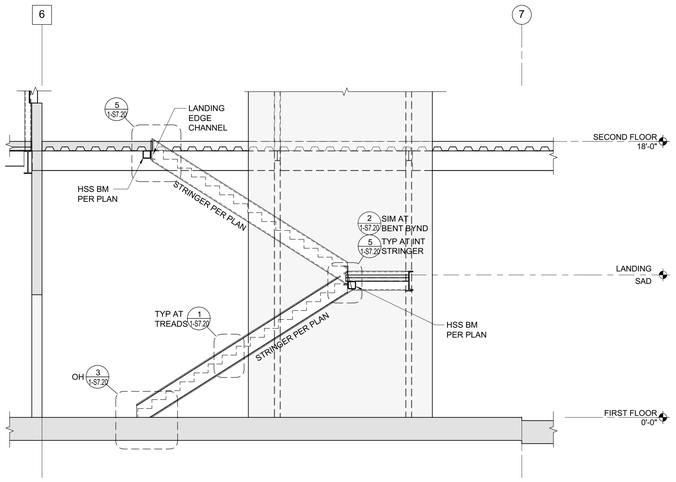
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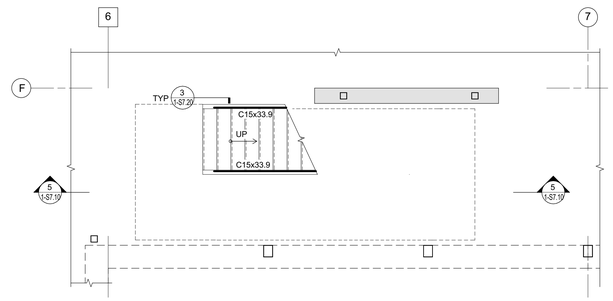
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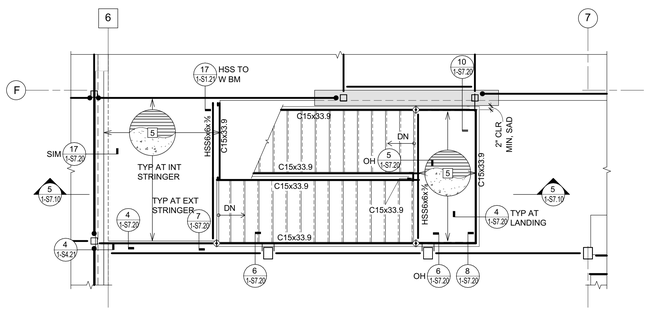
1 FIRST FLOOR STAIR FRAMING PLAN (STAIR #1)
1/4" = 1'-0"



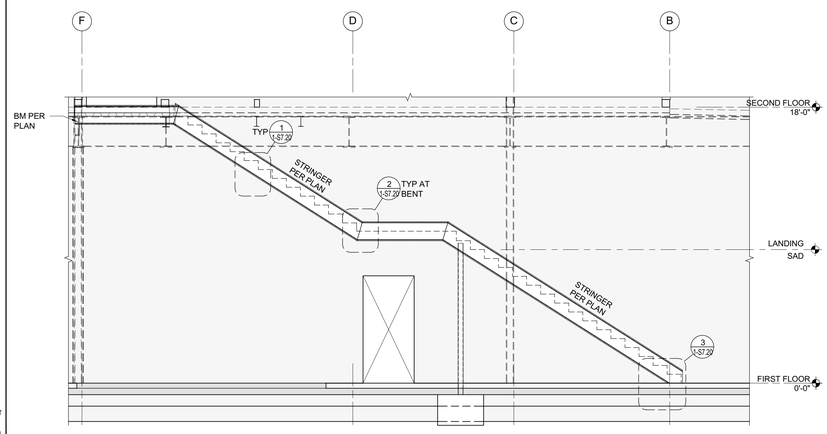
5 STAIR ELEVATION (STAIR #1)
1/4" = 1'-0"



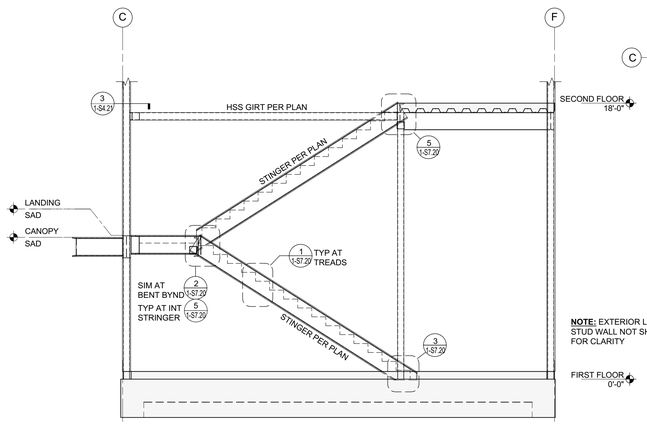
2 SECOND FLOOR STAIR FRAMING PLAN (STAIR #1)
1/4" = 1'-0"



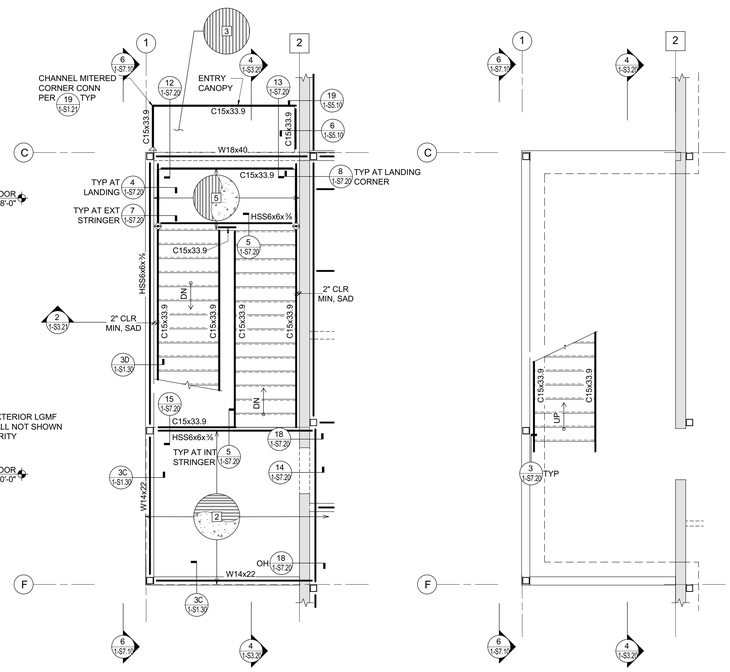
3 FIRST FLOOR STAIR FRAMING PLAN (STAIR #2)
1/4" = 1'-0"



7 STAIR FRAMING PLAN (STAIR #3)
1/4" = 1'-0"



5 STAIR ELEVATION (STAIR #1)
1/4" = 1'-0"



4 SECOND FLOOR STAIR FRAMING PLAN (STAIR #2)
1/4" = 1'-0"

NOTE: EXTERIOR LGMF STUD WALL NOT SHOWN FOR CLARITY

8 STAIR ELEVATION (STAIR #3)
1/4" = 1'-0"

6 STAIR ELEVATION (STAIR #2)
1/4" = 1'-0"

STAIR FRAMING NOTES:

1. COORDINATE ALL STAIR ELEVATIONS AND DIMENSIONS WITH ARCHITECTURAL DRAWINGS PRIOR TO CONSTRUCTION. NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES.
2. SEE ARCHITECTURAL DRAWINGS FOR STAIR TREAD SPACING AND DIMENSIONS.
3. STAIR TREADS SHALL BE NORMALWEIGHT CONCRETE FILL OVER METAL PAN, SEE **1/1-S7.20**.

LEGEND:

1 INDICATES METAL DECK (WITH CONCRETE FILL AS OCCURS) AND DIRECTION OF DECK SPAN PER **1/1-S1.50**. SEE TYPICAL DETAILS FOR ADDL INFO.

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
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SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: **KATHY GARCIA** DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

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		December 6, 2018
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REGISTERED PROFESSIONAL ENGINEER
KEVIN G. ZUCCO
No. 4961
STRUCTURAL
STATE OF CALIFORNIA

Sheet Title

BUILDING 1
STAIR PLANS AND STAIR ELEVATIONS

Drawn By: Author Checked By: Checker

Scale: **As indicated**

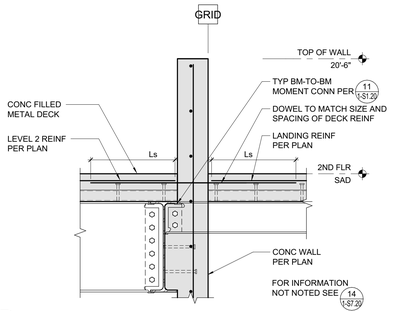
Date: **July 19, 2019**

Project No. 17143

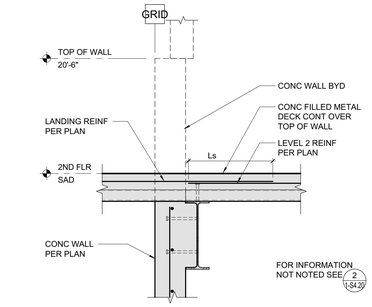
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Drawing No.

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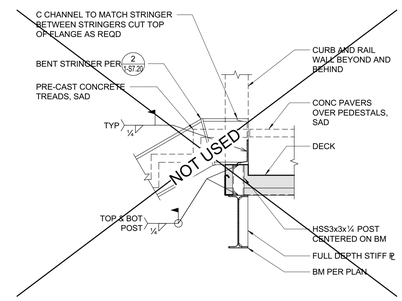
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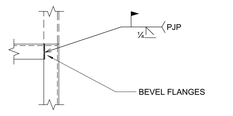
17 STAIR #3 UPPER LANDING AT CONCRETE WALL
3/4" = 1'-0"



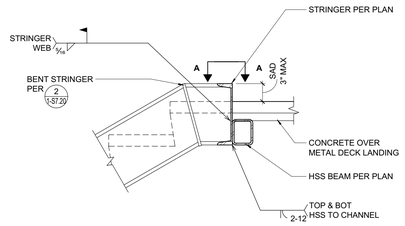
14 CONC FILLED DECK AT STAIR LANDING
3/4" = 1'-0"



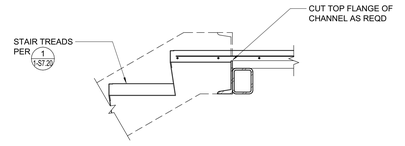
9 SHAPED STRINGER CONNECTION
3/4" = 1'-0"



SECTION A-A

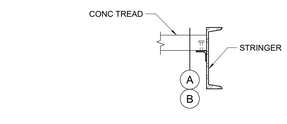


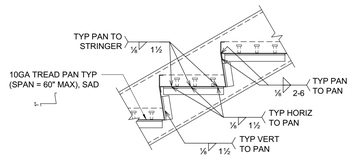
AT CHANNEL



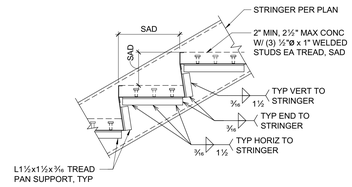
AT TREAD BETWEEN STRINGERS

5 INTERIOR STRINGER CONNECTION
1" = 1'-0"



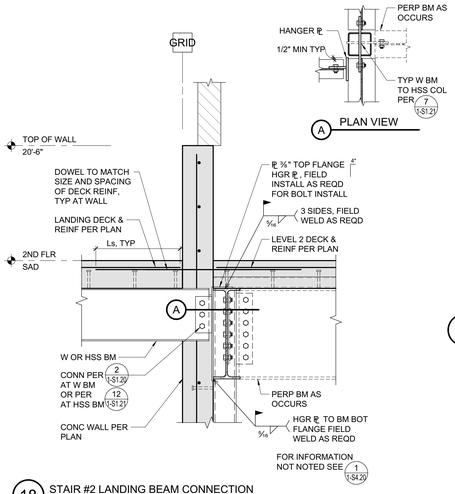


A TREAD PAN TO ANGLE SUPPORTS

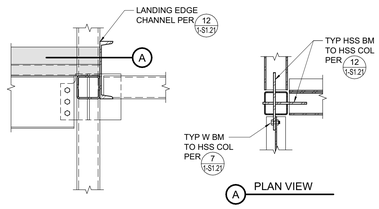


B ANGLE SUPPORTS TO STRINGER

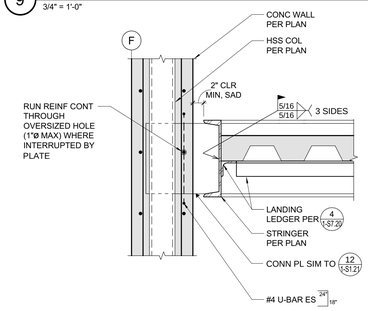
1 TREAD TO STRINGER CONNECTION
1" = 1'-0"



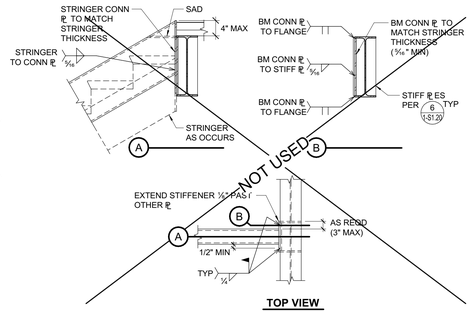
18 STAIR #2 LANDING BEAM CONNECTION
3/4" = 1'-0"



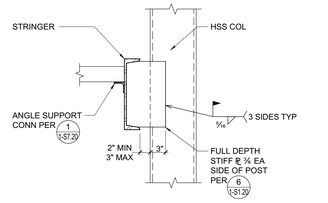
15 STAIR #2 LANDING BEAM CONNECTION
3/4" = 1'-0"



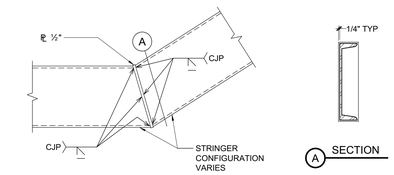
10 STRINGER CONNECTION AT CONCRETE WALL
1" = 1'-0"



11 STRINGER CONNECTION TO W SHAPE
3/4" = 1'-0"

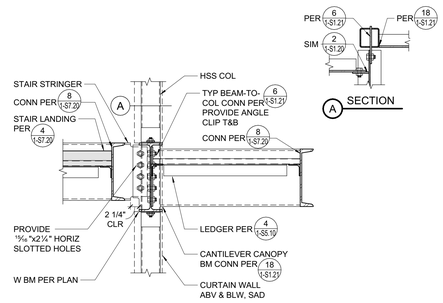


6 POST CONNECTION TO STRINGER
1" = 1'-0"

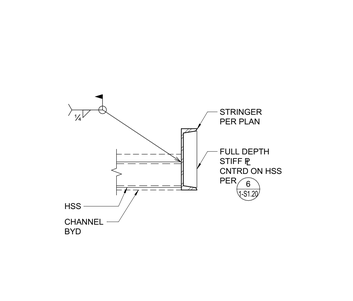


2 SHAPED STRINGER CONNECTION
1" = 1'-0"

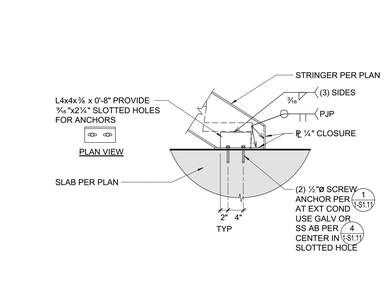
16 STAIR #3 STRINGER CONNECTION TO WALL
3/4" = 1'-0"



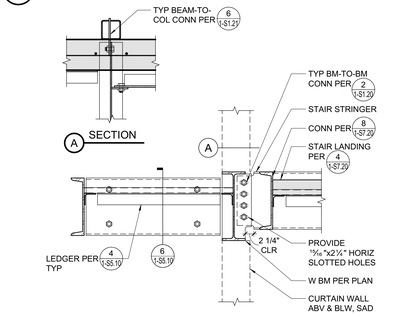
12 STAIR #2 CANOPY CONNECTION AT GRIDLINE 1
3/4" = 1'-0"



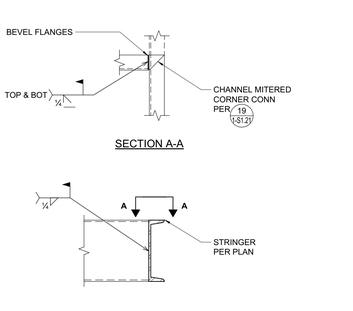
7 EXTERIOR STRINGER CONNECTIONS
1" = 1'-0"



3 BOTTOM OF STRINGER CONNECTION
3/4" = 1'-0"

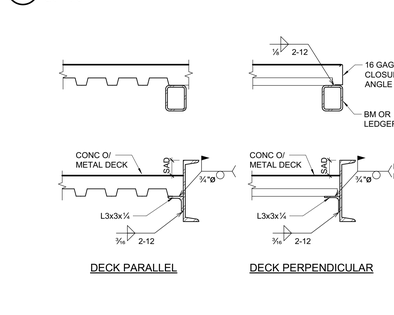


13 STAIR #2 CANOPY CONNECTION AT GRIDLINE 2
3/4" = 1'-0"



SECTION A-A

8 STRINGER AT CORNER CONNECTION
1" = 1'-0"



DECK PARALLEL DECK PERPENDICULAR

4 DECK AT STAIR LANDING
1" = 1'-0"

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date
		December 6, 2018
1	DSA Third Party Review Comment Response	May 22 2019
3	Plan Check 2 Revision	Oct 10 2019

PERMIT SUBMITTAL V2-INCREMENT #1

ZFA STRUCTURAL ENGINEERS
1390 el camino real | suite 100 zfa.com
san carlos ca 94070 650.394.8869
zfa job no. 17143

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LICENSED PROFESSIONAL ENGINEER KEVIN G. ZUCCO STRUCTURAL No. 4861 STATE OF CALIFORNIA

Sheet Title

BUILDING 1
STAIR DETAILS

Drawn By: Author Checked By: Checker

Scale: **As indicated**

Date: **July 19, 2019**

Project No. 17143

1-S7.20
Drawing No.

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PLUMBING AND FIRE PROTECTION LEGEND AND ABBREVIATIONS

ABBREVIATIONS - PLUMBING

ABD	AUTOMATIC BALL DRIP
AD	AREA DRAIN
AFF	ABOVE FINISHED FLOOR
AP	ACCESS PANEL
BLDG	BUILDING
BOB	BOTTOM OF BEAM
BOP	BOTTOM OF PIPE
BT	BATH TUB
BV	BALANCING VALVE
CA	COMPRESSED AIR
CD	CONDENSATE DRAIN
CFH	CUBIC FEET PER HOUR
CFM	CUBIC FEET PER MINUTE
CFS	CUBIC FEET PER SECOND
CI	CAST IRON
CLG	CEILING
CO	CLEANOUT
COTG	CLEANOUT TO GRADE
CONN	CONNECTION
CONT	CONTINUATION
CP	CIRCULATING PUMP
CV	CHECK VALVE
CW	COLD WATER
DF	DRINKING FOUNTAIN
DI	DEIONIZED WATER
DIA	DIAMETER
DER	DEIONIZED WATER RETURN
DN	DOWN
DR	DRAIN
DROP	DROP (WITHIN FLOOR)
DSN	DOWNSPOUT NOZZLE
DWP	DOMESTIC WATER PUMP
DWG	DRAWING
EEW	EMERGENCY EYE WASH
EL	ELEVATION
ET	EXPANSION TANK
EWC	ELECTRIC WATER COOLER
EWH	ELECTRIC WATER HEATER
FCO	FLOOR CLEANOUT
FD	FLOOR DRAIN
FL	FLOOR
HH	FLOOR SINK
FT	FEET
FU	FIXTURE UNIT
GAL	GALLONS
GD	GARAGE DRAIN
GPM	GALLONS PER MINUTE
GV	GATE VALVE
HB	HOSE BIBB
HD	HUB DRAIN
HT	HEAT TRACING
HW	HOT WATER
HWR	HOT WATER RETURN
ID	INSIDE DIAMETER
IE	INVERT ELEVATION
IN	INCH
IW	INDIRECT WASTER
JP	JOCKEY PUMP
JS	JANITOR SINK
L	LAVATORY
LDR	LEADER
MAX	MAXIMUM
MG	MEDIUM PRESSURE GAS
MGA	MEDICAL GAS ALARM
MH	MANHOLE
MIN	MINIMUM
MS	MOP SINK

ABBREVIATIONS - PLUMBING

(N)	NEW
NC	NORMALLY CLOSED
NIC	NOT IN THIS CONTRACT
NO	NORMALLY OPEN
NPW	NON-POTABLE WATER
OD	OUTSIDE DIAMETER
ORD	OVERFLOW ROOF DRAIN
OSD	OVERFLOW STORM PIPING
OS&Y	OUTSIDE SCREW & YOKE GATE VALVE
PDR	PLANTER DRAIN
PD	PUMP DISCHARGE
P/FT	PITCH PER FOOT
PIV	POST INDICATING VALVE
POC	POINT OF CONNECTION
PRV	PRESSURE REDUCING VALVE
PSI	POUNDS PER SQUARE INCH
PSIG	POUNDS PER SQUARE INCH (GAUGE)
RC	ROOF RECEPTOR
RD	ROOF DRAIN
RISE	RISE (WITH IN FLOOR)
RW	RECLAIMED WATER
SAN	SANITARY
SD	SMOKE DETECTOR
SE	SEWAGE EJECTOR
SED	SEWAGE EJECTOR DISCHARGE
SF	SQUARE FEET
SH	SHOWER
SK	SINK
SPD	SUMP PUMP DISCHARGE
SP	SUMP PUMP
SSD	SUB SOIL DRAIN
ST	STORM PIPING
TD	TRENCH DRAIN
TDH	TOTAL DISCHARGE HEAD
TMV	TEMPERATURE MIXING VALVE
TOP	TOP OF PIPE
TOS	TOP OF SLAB
TP	TRAP PRIMER
TPV	TRAP PRIMER VALVE
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
UP	UP (PENETRATES FLOOR SLAB)
UR	URINAL
V	VENT
VB	VACUUM BREAKER
VP	VACUUM PUMP
VR	VENT RISE
VTR	VENT THROUGH ROOF
WC	WATER CLOSET
WH	WALL HYDRANT
WHA	WATER HAMMER ARRESTER
W&T	WASTE AND TRAP
Z	ZONE

SYMBOL LEGEND

	Y STRAINER WITH BLOW OFF VALVE
	FLEXIBLE CONNECTION
(H) (X) (L)	EXPANSION LOOP SIZE
	SEISMIC JOINT
PIV	POST INDICATOR VALVE
	SHOCK ABSORBER
	VACUUM BREAKER
M	MANUAL AIR VENT
A	AUTOMATIC AIR VENT
	PRESSURE GAUGE AND COCK
	THERMOMETER
	WATER FLOW SWITCH
	RUNNING TRAP
	VALVE (SPECIFICATION FOR TYPE)
	CHECK VALVE
	CHECK VALVE WITH ABD
	SOLENOID VALVE
	PRESSURE REDUCING VALVE
	OS&Y (OUTSIDE SCREW & YOKE) VALVE
	AUTOMATIC FLOW CONTROL VALVE
	BUTTERFLY VALVE (MANUAL)
	GLOBE VALVE
	BALANCING VALVE
	VALVE WITH TAMPER SWITCH
	RELIEF VALVE
	SEISMIC SHUT-OFF VALVE
	ANGLE RELIEF VALVE
	TEMPERATURE MIXING VALVE
	UNION
	REDUCER
	ECCENTRIC REDUCER (E.R.)
	SLEEVE
	PUMP
M	METER
	HOSE BIBB
	WATER HAMMER ARRESTER
	FLOOR DRAIN, AREA DRAIN, PLANT DRAIN, GARAGE DRAIN
	FLOOR SINK
	ROOF RECEPTOR
	ROOF DRAIN

SYMBOL LEGEND

	OVERFLOW ROOF DRAIN
	POINT OF CONNECTION (NEW TO EXISTING)
	BOTTOM PIPE CONNECTION
	TOP PIPE CONNECTION
	VALVE IN VERTICAL
	P-TRAP
	UP TO CLEANOUT
	WALL CLEANOUT
	END OF PIPE CLEANOUT / PLUG
	FLOOR CLEANOUT
	GRADE CLEANOUT
	PIPE DROP UNLESS OTHERWISE NOTED
	PIPE UP UNLESS OTHERWISE NOTED
	CAP FOR FUTURE (CFF)
	PIPE OFFSET
	ARROW INDICATES DIRECTION OF FLOW
	PITCH PIPE DOWN IN DIRECTION OF ARROW
	INSULATED AND HEAT TRACED PIPING
	FRESH AIR INLET
	WALL HYDRANT

PIPING LEGEND

PLUMBING

CA	COMPRESSED AIR PIPING (100 PSI)
PG	PROPANE GAS PIPING
NG	NATURAL GAS PIPING (7"WC)

WASTE / VENT / STORM

SAN	SANITARY (ABOVE FLOOR)
SAN	SANITARY (BELOW FLOOR)
V	VENT PIPING
ST	STORM DRAIN PIPING
OST	OVERFLOW STORM PIPING
CD	CONDENSATE DRAIN PIPING
GD	GARAGE DRAIN PIPING (ABOVE FLOOR)
GD	GARAGE DRAIN PIPING (BELOW FLOOR)

POTABLE WATER

	DOMESTIC COLD WATER PIPING (DCW)
	DOMESTIC HOT WATER PIPING (120°F) (DHW)
	DOMESTIC HOT WATER RETURN PIPING (120°F) (DHWR)

MISCELLANEOUS

P 1	P = SAN, VENT STACK OR DOMESTIC WATER RISER ST = STORM DRAIN LEADER RISER F = FIRE STANDPIPE RISER RISER RISER NO.
CP 1	EQUIPMENT DESIGNATION EQUIPMENT EQUIPMENT NO.
1 P2.1	DETAIL DESIGNATION DETAIL NUMBER DWG. SHEET NO.
1	SHEET NOTE NUMBER
1	REVISION NUMBER

PLBG DRAWING LIST Bldg 1

SHEET NUMBER	SHEET NAME
1-P0.01	PLUMBING LEGEND AND ABBREVATIONS, AND DRAWING LIST
1-P0.02	PLUMBING EQUIPMENT SCHEDULE
1-P0.03	PLUMBING TITLE 24
1-P2.00	PLUMBING FSI#6 / CLASSROOM UNDERSLAB PLAN
1-P2.01	PLUMBING FSI#6 / CLASSROOM FIRST FLOOR PLAN
1-P2.02	PLUMBING FSI#6 / CLASSROOM SECOND FLOOR PLAN
1-P2.03	PLUMBING FSI#6 / CLASSROOM ROOF PLAN
1-P3.01	PLUMBING FSI#6 / CLASSROOM ENLARGED PLAN
1-P3.02	PLUMBING SITE ENLARGED PLAN - TANK & PUMP
1-P4.02	PLUMBING BUILDING 1 GAS RISER DIAGRAM
1-P5.01	PLUMBING DETAILS
1-P5.02	PLUMBING DETAILS

September 13, 2016

MEP Component Anchorage Note

All mechanical, plumbing, and electrical components shall be anchored and installed per the details on the DSA approved construction documents. Where no detail is indicated, the following components shall be anchored or braced to meet the force and displacement requirements prescribed in the 2016 CBC, Sections 1616A.1.18 through 1616A.1.26 and ASCE 7-10 Chapter 13, 26 and 30.

1. All permanent equipment and components.
2. Temporary or movable equipment that is permanently attached (e.g. hard wired) to the building utility services such as electricity, gas or water.
3. Movable equipment which is stationed in one place for more than 8 hours and heavier than 400 pounds or has a center of mass located 4 feet or more above the adjacent floor or roof level that directly support the component are required to be anchored with temporary attachments.

The following mechanical and electrical components shall be positively attached to the structure, but the attachment need not be detailed on the plans. These components shall have flexible connections provided between the component and associated ductwork, piping, and conduit.

A. Components weighing less than 400 pounds and have a center of mass located 4 feet or less above the adjacent floor or roof level that directly support the component.
B. Components weighing less than 20 pounds, or in the case of distributed systems, less than 5 pounds per foot, which are suspended from a roof or floor or hung from a wall.

For those elements that do not require details on the approved drawings, the installation shall be subject to the approval of the design professional in general responsible charge or structural engineer delegated responsibility and the DSA District Structural Engineer. The project inspector will verify that all components and equipment have been anchored in accordance with above requirements.

Piping, Ductwork, and Electrical Distribution System Bracing Note

Piping, ductwork, and electrical distribution systems shall be braced to comply with the forces and displacements prescribed in ASCE 7-10 Section 13.3 as defined in ASCE 7-10 Section 13.6.5.6, 13.6.7, 13.6.8, and 2016 CBC, Sections 1616A.1.24, 1616A.1.25 and 1616A.1.26.

The method of showing bracing and attachments to the structure for the identified distribution system are as noted below. When bracing and attachments are based on a preapproved installation guide (e.g., SMACNA or OSHPD OPM), copies of the bracing system installation guide or manual shall be available on the jobsite prior to the start of and during the hanging and bracing of the distribution systems. The Structural Engineer of Record shall verify the adequacy of the structure to support the hanger and brace loads.

Mechanical Piping (MP), Mechanical Ducts (MD), Plumbing Piping (PP), Electrical Distribution Systems (E):

MP☐MD☐PP☐ E☐ - Option 1: Detailed on the approved drawings with project specific notes and details.

MP☐MD☐PP☒ E☐ - Option 2: Shall comply with the applicable OSHPD Pre-Approval (OPM #) # OPM-0043-13 MASON WEST

MP☐MD☐PP☐ - Option 3: Shall comply with the SMACNA Seismic Restraint Manual, OSHPD Edition (2009), including any addenda. Fasteners and other attachments not specifically identified in the SMACNA Seismic Restraint Manual, OSHPD Edition, are detailed on the approved drawings with project specific notes and details. The details shall account for the applicable Seismic Hazard Level _____ and Connection Level _____ for the project and conditions.

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

WSP USA Buildings, Inc.
405 Howard St. Suite 500
San Francisco, CA 94105
(415) 398-3833
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER
TODD M. SPE
No. M30765
MECHANICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

PLUMBING LEGEND AND ABBREVATIONS, AND DRAWING LIST

Drawn By: Author
Checked By: Checker

Scale:
NTS

Date:
October 4, 2019

Project No. B17.07369

1-P0.01
Drawing No.

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DRAINS AND CLEANOUTS SCHEDULE

ITEM	DESCRIPTION	MANUFACTURER	MODEL NO.	STRAINER	REMARKS
FD-1	FLOOR DRIAN	JR SMITH	2005B-Y-U-NB-P050	5"SQ	NO HUB, VANDAL RESISTANT, NICKEL BRONZE, PRIMER CONNECTION
TD-1	TRENCH DRAIN	ZURN	Z882-HDG-U4	12"WIDE	4" OUTLET, HEAVY DUTY GALVINIZED DUCTILE IRON GRATE, PRE-SLOPE TRENCH SYSTEM
FS-1	FLOOR SINK	JR SMITH	3101Y	8-1/2"SQ	ENAMELED CAST IRON BODY WITH NICKEL BRONZE FRAME AND 3/4 GRATE, 6" DEEP
FS-2	FLOOR SINK	JR SMITH	3201Y	16"SQ	ENAMELED CAST IRON BODY WITH NICKEL BRONZE FRAME AND 3/4 GRATE, 12" DEEP
FCO-1	FLOOR CLEANOUT	JR SMITH	4023Y-F-C-U	8"DIA	CAST IRON BODY, TAPERED BRONZE PLUG, FLASHING FLANGE, VANDAL RESISTANT
AD-1	AREA DRAIN	JR SMITH			
RD-1	ROOF DRAIN	JR SMITH	1010Y-E-C-R-U-CID	15"DIA	CAST IRON BODY AND GRATE, NO HUB, EXTENSION, UNDERDECK CLAMP, SUMP RECEIVER, VANDAL RESISTANT
ORD-1	OVERFLOW ROOF DRAIN	JR SMITH	1080Y-E-C-R-U-CID	15"DIA	CAST IRON BODY AND GRATE, 2" DAM, NO HUB, EXTENSION, UNDERDECK CLAMP, SUMP RECEIVER, VANDAL RESISTANT
RD-2	ROOF DRAIN	JR SMITH			
RD-3	CANOPY DRAIN	JR SMITH			
WCO-1	WALL CLEANOUT	JR SMITH	4532S-Y-U	5"DIA	CAST IRON BODY, TAPERED BRONZE PLUG, HUBLESS CONNECTIONS, SS COVER WITH SCREW
GCO-1	GRADE CLEANOUT	JR SMITH	4223S-U	8"DIA	CAST IRON BODY, TAPERED BRONZE PLUG, ADJUSTABLE SCORIATED COVER, VANDAL RESISTANT
DSN-1	DOWNSPOUT NOZZLE	JR SMITH	1775-U	-	SCREENED DOWNSPOUT HINGED COVER, VANDAL PROOF
HB-1	HOSE BIBB	CHICAGO FAUCET	952-12XKCP	-	WALL MOUNTED, CHROME PLATED, VACUUM BREAKER, HOSE OUTLET, TEE HANDLE, 1/4 TURN
WH-1	WALL HYDRANT	JR SMITH	5518	-	CP FACE, VACUUM BREAKER, HOSE OUTLET, T-HANDLE KEY

PLUMBING FIXTURE ROUGH-IN SCHEDULE

DESIGNATION	FIXTURE TYPE	WFU	DFU	AFTER CONNECTION		WASTE CONNECTIONS				REMARKS
				DCW	DHW	TRAP	IW	SS	SV	
WC-1	WATER CLOSET	5	4	1"	-	-	-	4"	2"	VITREOUS CHINA, SIPHON JET, WALL HUNG, REAR OUTLET, TOP SPUD, 1.28 GPF, SENSOR ACTIVATED FLUSH VALVE, HINGED SEAT
HWC-1	WATER CLOSET	5	4	1"	-	-	-	4"	2"	ADA, VITREOUS CHINA, SIPHON JET, WALL MOUNTED, REAR OUTLET, TOP SPUD, 1.28 GPF, SENSOR ACTIVATED FLUSH VALVE, HINGED SEAT
UR-1	URINAL	4	2	3/4"	-	-	-	2"	2"	VITREOUS CHINA, WASH OUT, WALL MOUNTED, REAR OUTLET, TOP SPUD, 0.125 GPF, SENSOR ACTIVATED FLUSH VALVE
HUR-1	URINAL	4	2	3/4"	-	-	-	2"	2"	ADA, VITREOUS CHINA, WASH OUT, WALL MOUNTED, REAR OUTLET, TOP SPUD, 0.125 GPF, SENSOR ACTIVATED FLUSH VALVE
L-1	LAVATORY	1	1	1/2"	1/2"	1-1/2"	-	1-1/2"	1-1/2"	ADA, OVAL UNDERMOUNT, VITREOUS CHINA, OVERFLOW, SENSOR ACTIVATED 0.35 GPM FAUCET, WRAPPED P-TRAP, SUPPLIES AND RISERS
L-2	LAVATORY	1	1	1/2"	1/2"	1-1/2"	-	1-1/2"	1-1/2"	ADA, VITREOUS CHINA, WALL HUNG, CONCELAED ARMS, OVERFLOW, SENSOR ACTIVATED 0.35 GPM FAUCET, WRAPPED P-TRAP, SUPPLIES AND RISERS
MSL-1	MULTI-STATION LAV	1	1	1/2"	1/2"	1-1/2"	-	1-1/2"	1-1/2"	ADA, WALL QUARTZ CONSTRUCTION, MULTI-USERFIXTURE, SENSOR ACTIVATED FAUCET, 0.5GPM FLOW RATE, ENCLOSURE, MIXING VALVE, PLUG-IN ADAPTOR, COLOR SELECTION BY ARCHITECT.
SH-1	SHOWER	2	2	1/2"	1/2"	-	-	-	-	PRESSURE BALANCING VALVE, SINGLE LEVER CONTROL, 1.5 GPM HEAD
HSH-1	SHOWER	2	2	1/2"	1/2"	-	-	-	-	ADA, PRESSURE BALANCING VALVE, SINGLE LEVER CONTROL, DIVERTER, 1.5 GPM FIXED HEAD, 1.5 GPM FLEX HEAD ON RAIL
SK-1	SINK	1.5	2	1/2"	1/2"	1-1/2"	-	2"	1-1/2"	SINK INTEGRAL WITH COUNTERTOP, GOOSENECK SINGLE LEVER PULL-OUT FAUCET, DISPOSAL, HOT TAP, FILTERED WATER OUTLET, DISPOSAL, DISHWASHER AIR GAP FITTING, X.X GPM FAUCET
SK-2	SINK	1.5	2	1/2"	1/2"	1-1/2"	-	2"	1-1/2"	SINK INTEGRAL WITH COUNTERTOP, GOOSENECK SINGLE LEVEL FAUCET, PULL-OUT HOSE SPRAY, CRUMB STRAINER DRAIN, 1.5 GPM FAUCET
SK-3	SINK	1.5	2	1/2"	1/2"	1-1/2"	-	2"	1-1/2"	ENAMELED CAST IRON, UNDERCOUNTER MOUNT, SINGLE LEVER GOOSENECK FAUCET WITH PULL-OUT SPRAY, 1.5 GPM, GRID STRAINER
SK-4	SINK	1.5	2	1/2"	1/2"	1-1/2"	-	2"	1-1/2"	FREE STANDING STAINLESS STEEL DOUBLE COMPARTMENT SKULLERY SINK WITH DRAINBOARDS EACH SIDE, LESS DRAINBOARD SUPPORTS, UTILITY FAUCET WITH 8" CENTERS, 6" WRIST BLADES, SOAP DISH, 2.2 GPM, TWIST HANDLE GRID...
SK-5	SINK	1.5	2	1/2"	1/2"	1-1/2"	-	1-1/2"	1-1/2"	FREE STANDING POLYETHYLENE LAUNDRY SINK, WALL MOUNTED FAUCET WITH FIXED 8" CENTERS, 1.8 GPM, 4" WRIST BLADES
SK-6	SINK	1.5	2	1/2"	1/2"	1-1/2"	-	2"	1-1/2"	DOUBLE COMPARTMENT SINK WITH INTEGRAL WITH COUNTERTOP, GOOSENECK SINGLE LEVEL FAUCET, PULL-OUT HOSE SPRAY, CRUMB STRAINER DRAIN AND DISPOSAR, 1.5 GPM FAUCET
MS-1	MOP SINK	3	3	1/2"	1/2"	3"	-	3"	2"	24"X24"X12" MOLDED STONE FLOOR MOUNTED FIXTURE WITH SERVICE SINK FAUCET, VACUUM BREAKER, BRACE, PAIL HOOK, THREADED HOSE OUTLET
EWC-1	ELECTRIC WATER COOLER			1/2"	-	1-1/2"	-	1-1/2"	1-1/2"	WALL HUNG, INTEGRAL CHILLER, DUAL HEIGHT, BOTTLE FILLER
IMWB-1	ICE MAKER WAL...			1/2"	-	-	-	-	-	
WH-1	WALL HYDRANT			1/2"	-	-	-	-	-	
HB-1	HOSE BIBB	2.5		1/2"	-	-	-	-	-	

ELECTRIC WATER HEATER SCHEDULE

TAG	DESCRIPTION	MANUFACTURER	MODEL NO.	TANK SIZE (GALLONS)	RECOVERY (GPH)	TEMP IN (F)	TEMP OUT (F)	ELECTRICAL DATA				OPERATING WEIGHT (LBS)	EMERGENCY POWER	COMMENTS
								KW	V	PH	HZ			
1EWH-2-1	STORAGE TYPE	A.O. SMITH	DSE-120-30	120	137	50	140	30	480	3	60	1200	NO	LOCATE ON 4"HOUSEKEEPING PAD

PUMP SCHEDULE

TAG	DESCRIPTION	MANUFACTURER	MODEL NO.	LOCATION	FLOW (GPM)	SUCTION PRESSURE (PSI)	DISCHARGE PRESSURE (FT HD)	ELECTRICAL DATA					OPERATING WEIGHT (LBS)	COMMENTS
								HP	V	PH	HZ	EM PWR		
DWBP-1-1	BOOSTER PUMP	PENTAIR	6TS10-155	1-DWST-1-1	125	0	198	10	480	3	60	Y	118	
DWBP-1-2	BOOSTER PUMP	PENTAIR	6TS10-155	1-DWST-1-2	125	0	198	10	480	3	60	Y	118	
CP-1-1	CIRCULATING PUMP	B&G	SERIES PR	1-CP-2-1	10	45	15	1/6	115	1	60	N	32	

MISC EQUIPMENT SCHEDULE

TAG	DESCRIPTION	MANUFACTURER	MODEL NO.	CAPACITY						ELECTRICAL					OPERATING WEIGHT	REMARKS
				GAL	FT HD	PSI	GPM	CFM	CFH	HP	V	PH	HZ	EM PWR		
1-AC-1-1	AIR COMPRESSOR	KAESER	SX 5 AIRCENTER	-	-	125	-	21.5	-	5	460	3	60	N	320	INTEGRAL REFRIGERATED AIR DRYER, RECIEVER AND FILTRATION
SOI -1-1	SAND OIL INTERCEPTOR	JAY R. SMITH	8550	-	-	-	50	-	-	-	-	-	-	-	132	
DWST-1	WATER STORAGE TANK	HIGHLAND TANK	HT-20,000	20,000	-	-	-	-	-	-	-	-	-	-	187,710	SINGLE-WALL UNDERGROUND HORIZONTAL FOR POTABLE WATER WITH PUMP OUT

DOMESTIC WATER CALCULATION

	PSI	FT
PUMP DISCHARGE	75	-
VERTICAL LOSS (40 FEET *0.433)	-17.3	-
PRESSURE @ MOST REMOTE FIXTURE	-35	-
TOTAL LENGTH	-	830
FITTINGS/ VALVES @ 25%	-	210
TOTAL DEVELOPED LENGTH	-	1040
PRESSURE PER 100' OF PIPE	2.18	

HYDRAULIC CALCULATION FOR COLD PIPE SIZING TABLE (2.18 PSI FRICTION LOSS IN HEAD)

PIPE SIZE	FLOW GPM	MAXIMUM F.U. FLUSH TANK	MAXIMUM F.U. FLUSH VALVE
1/2"	1.9	-	-
3/4"	4.1	4	-
1"	7.6	9	-
1-1/4"	17.5	24	-
1-1/2"	24	38	7
2"	48	125	46
2-1/2"	74	250	133
3"	140	580	470

HYDRAULIC CALCULATION FOR HOT PIPE SIZING TABLE (2.18 PSI FRICTION LOSS IN HEAD)

PIPE SIZE	FLOW GPM	MAXIMUM F.U. FLUSH TANK	MAXIMUM F.U. FLUSH VALVE
1/2"	1.9	-	-
3/4"	4.3	5	-
1"	7.8	9	-
1-1/4"	16	21	-
1-1/2"	24	38	-
2"	40	87	-
2-1/2"	58	173	-
3"	90	346	-

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY:	
KATHY GARCIA DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

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1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	INC 01_ADD_01_V1	12/06/2019

REGISTERED PROFESSIONAL ENGINEER
TODD M. SIPE
No. M30765
MECHANICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

PLUMBING EQUIPMENT SCHEDULE

Drawn By: Author
Checked By: Checker

Scale:

Date:
October 4, 2019

Project No. B17.07369

1-P0.02
Drawing No.

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STATE OF CALIFORNIA
WATER HEATING SYSTEM GENERAL INFORMATION
CEC-NRCC-PLB-01-E (Revised 01/18) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-PLB-01-E
Water Heating System General Information	(Page 2 of 2)
Project Name: Hayward Fire Building 1	Date Prepared: 11/02/2018

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

1. I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: Calvin Wong	Documentation Author Signature:
Company: WSP	Signature Date: 11/02/2018
Address: 425 Market Street, 17th Floor	CEA/HERS Certification Identification (if applicable):
City/State/Zip: San Francisco, CA, 94105	Phone: (415)-402-2233

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer).
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name: Todd See	Responsible Designer Signature:
Company: WSP	Date Signed: 11/02/2018
Address: 425 Market Street, 17th Floor	License: 30765
City/State/Zip: San Francisco, CA, 94105	Phone: (415)-402-2292

STATE OF CALIFORNIA
WATER HEATING SYSTEM GENERAL INFORMATION
CEC-NRCC-PLB-01-E (Revised 01/18) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-PLB-01-E
Water Heating System General Information	(Page 1 of 2)
Project Name: Hayward Fire Building 1	Date Prepared: 11/02/2018

A. GENERAL INFORMATION/SYSTEM INFORMATION

01	Water Heater System Name:	VEHHD-1
02	Water Heater System Configuration:	Electric
03	Water Heater System Type:	Storage Type
04	Building Type:	Nonresidential
05	Total Number of Water Heaters in Systems:	1
06	Central DHW Distribution Type:	N/A
07	Dwelling Unit DHW Distribution Type:	N/A

B. WATER HEATER INFORMATION
Each water heater type requires a separate compliance document.

01	Water Heater Type:	Medium Storage - Electric
02	Fuel Type:	Electricity
03	Manufacture Name:	A.O. Smith
04	Model Number:	DVE-120A-30
05	Number of Identical Water Heaters:	0
06	Installed Water Heater System Efficiency:	98%
07	Required Minimum Efficiency:	0
08	Standby Loss Percent or Standby Loss Total:	0
09	Rated Input:	30 kW
10	Pilot Energy:	0
11	Water Heater Tank Storage Volume:	120
12	Exterior Insulation on Water Heater:	N/A
13	Volume of Supplemental Storage:	N/A
14	Internal Insulation on Supplemental Storage:	N/A
15	Exterior Insulation on Supplemental Storage:	N/A

C. PLUMBING COMPLIANCE FORMS & WORKSHEETS
Check box if worksheet is included.
For detailed instructions on the use of this and all Energy Standards compliance documents, refer to the 2016 Nonresidential Manual
Note: The Enforcement Agency may require all compliance documents to be incorporated onto the building plans.

YES	NO	Doc/Worksheet #	Title
◉	○	NRCC-PLB-01-E	Certificate of Compliance, Declaration. Required on plans for all submittals.
◉	○	NRCI-PLB-01-E	Certificate of Installation. Required on plans for all submittals.
○	◉	NRCI-PLB-02-E	Certificate of Installation, required on central systems in high-rise residential, hotel/motel application.
○	◉	NRCI-PLB-03-E	Certificate of Installation, required on single dwelling unit systems in high-rise residential, hotel/motel application.
○	◉	NRCI-PLB-21-H	Certificate of Installation, required on HERS verified central systems in high-rise residential, hotel/motel application.
○	◉	NRCI-PLB-22-H	Certificate of Installation, required on HERS verified single dwelling unit systems in high-rise residential, hotel/motel application.
○	◉	NRCI-STH-01-E	Certificate of Installation, required on any solar water heating

City and County of San Francisco
Department of Building Inspection

Edwin M. Lee, Mayor
Tom C. Hui, S.E., C.B.O., Director

NOTICE

TITLE-24 NON-RESIDENTIAL ENERGY INSPECTION REQUIREMENTS (PLUMBING)

Please note that Certificates of Installation and/or Acceptance and/or Verification are required for this project, as indicated on this form issued with this permit. Ensuring the accurate completion of this documentation is the direct responsibility of the engineer/architect of record. This documentation is required *in addition to* the called inspections performed by the Department of Building Inspection.

For questions regarding the details or extent of required documentation or testing, and if there are any field problems regarding documentation or testing, please call your District Plumbing Inspector or 415-558-6570.

Before final plumbing inspection is scheduled, documentation o' energy compliance "Certificate of Installation, Acceptance, and Verification" must be completed and signed by the responsible person in charge. ***The permit will not be finalized without compliance with the energy inspection requirements.***

Energy Inspection Services Contact Information

1. **Telephone: (415) 558-6132**
2. **Fax: (415) 558-6474**
3. **Email: dbi.energyinspections@sfgov.org**
4. **In person: 3rd floor at 1660 Mission St.**

Note: We are moving towards a 'paperless' mode of operation. All special inspection submittals, including final letters, may be emailed (preferred) or faxed. We will also be shifting to a paperless fax receipt mode.

Installation, Acceptance, and Verification certificates can be found on the California Energy Commission website at http://energy.ca.gov/title24/2013standards/

Information Sheet MEP-06 provides submittal instructions for the Title-24 installation, verification, and acceptance energy certificates. MEP-06 may be found on the SFDBI website at http://sfdbi.org/information-sheets

Energy Inspection Services
1660 Mission Street- San Francisco CA 94103
Office (415) 558-6132 – FAX (415) 558-6474 – www.sfgov.org/dbi (website)

IS MEP-04
Attachment NRP

TITLE-24 NON-RESIDENTIAL ENERGY INSPECTION (PLUMBING)
A COPY OF THIS DOCUMENT SHALL BE KEPT WITH THE APPROVED DRAWING SET

JOB ADDRESS: 1401 W. WINTON AVE. APPLICATION NO._____ADDENDUM NO._____
HAYWARD, CA 94545
ENGINEER/ARCHITECT NAME: Todd See PHONE NO: (415) 402-2292

Ensuring the completion of installation documentation as well as the required acceptance/verification testing is the direct responsibility of the undersigned. Installation documentation must be completed by the contractor performing the installation. Acceptance testing must be performed by an individual licensed to perform the specific testing needed. Verification testing must be completed by a certified HERS rater.

In accordance with the requirements of the 2013 California Energy Code, the following documentation is required for the **plumbing** work in this project:

1. Installation

Plumbing
- [✓] NRCI-PLB-01-E: Certificate of Installation – Water Heating Systems **(IP10)**
- [ ] NRCI-PLB-02-E: High Rise Residential/Hotel/Motel Central Hot Water System Distribution **(IP11)**
- [ ] NRCI-PLB-03-E: High Rise Residential/Hotel/Motel Single Dwelling Unit Hot Water System Distribution **(IP12)**
- [ ] NRCI-PLB-21-H: HERS High Rise Residential/Hotel/Motel Central hot Water System Distribution **(IP13)**
- [ ] NRCI-PLB-22-H: HERS High Rise Residential/Hotel/Motel Single Dwelling Unit Hot Water System Distribution **(IP14)**

Solar
- [ ] NRCI-STH-01-E: Solar Water Heating System **(IP15)**

2. Acceptance

Mechanical
- [ ] NRCA-MCH-08-A: Valve Leakage Test **(AP1)**
- [ ] NRCA-MCH-09-A: Supply Water Temperature Reset Controls **(AP2)**
- [ ] NRCA-MCH-10-A: Hydronic System Variable Flow Controls **(AP3)**
- [ ] NRCA-MCH-17-A: Condenser Water Temperature Reset Controls **(AP4)**

3. Verification

Plumbing
- [ ] NRCV-PLB-21-H: High Rise Residential/Hotel/Motel Central Hot Water System Distribution **(VP1)**
- [ ] NRCV-PLB-22-H: High Rise Residential/Hotel/Motel Single Dwelling Unit Hot Water System Distribution **(VP4)**

Prepared by: Todd See Date: 11/02/2018
Engineer/Architect of Record Signature
Required information:
Fax: **Email:** Todd.See@wsp.com
Review by: Phone: (415) 402-2292
DBI Engineer or Plan Checker

APPROVAL (Based on submitted reports)

DATE DBI Plumbing Inspector or Energy Inspection Services Staff

QUESTIONS ABOUT TITLE-24 ENERGY INSPECTION SHOULD BE DIRECTED TO:
Energy Inspection Services (415) 558-6132; or, dbi.energyinspections@sfgov.org ; or FAX (415) 558-6474

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION	
DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

WSP USA Buildings, Inc.
405 Howard St. Suite 500
San Francisco, CA 94105
(415) 398-3833
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER
TODD M SEE
No. M30765
MECHANICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

PLUMBING TITLE 24

Drawn By: Author Checked By: Checker

Scale:
NTS

Date:
October 4, 2019

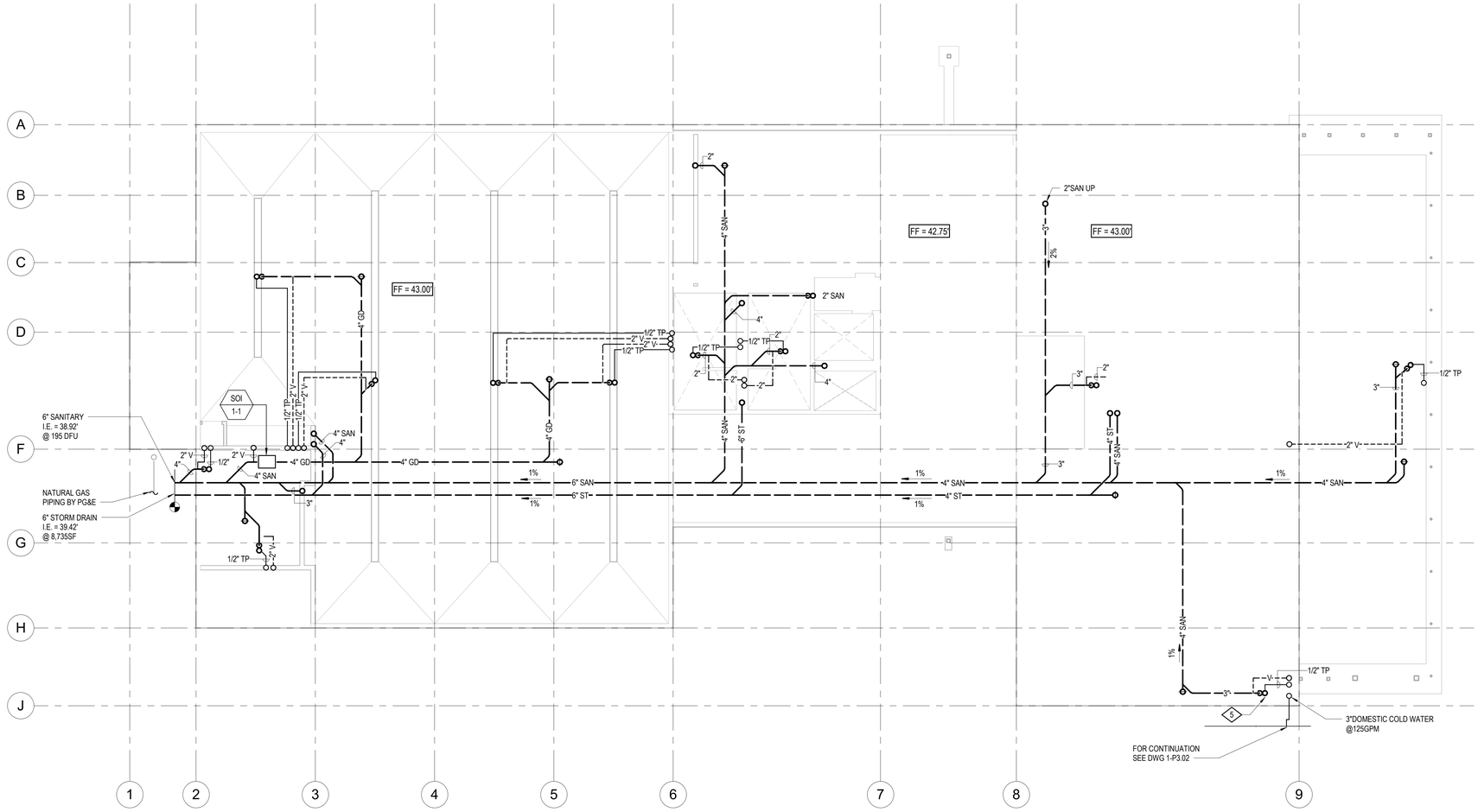
Project No. B17.07369

1-P0.03
Drawing No.

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NUMBERED NOTES:

1. 4" W&T
2. 2" V UP
3. NOT USED
4. 4" SAN UP
5. 3" SAN UP
6. (4) 2" V UP
7. (2) 2" V UP
7. (5) 2" V UP



1 01-PLBG CLASSROOM-01-UNDERSLAB
1/8" = 1'-0"

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: **KATHY GARCIA** DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

WSP USA Buildings, Inc.
405 Howard St. Suite 500
San Francisco, CA 94105
(415) 398-3833
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER
TODD M. SYE
No. M30765
MECHANICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

PLUMBING FS#6 / CLASSROOM UNDERSLAB PLAN

Drawn By: Author
Checked By: Checker

Scale:
1/8" = 1'-0"

Date:
October 4, 2019

Project No. B17.07369

1-P2.00

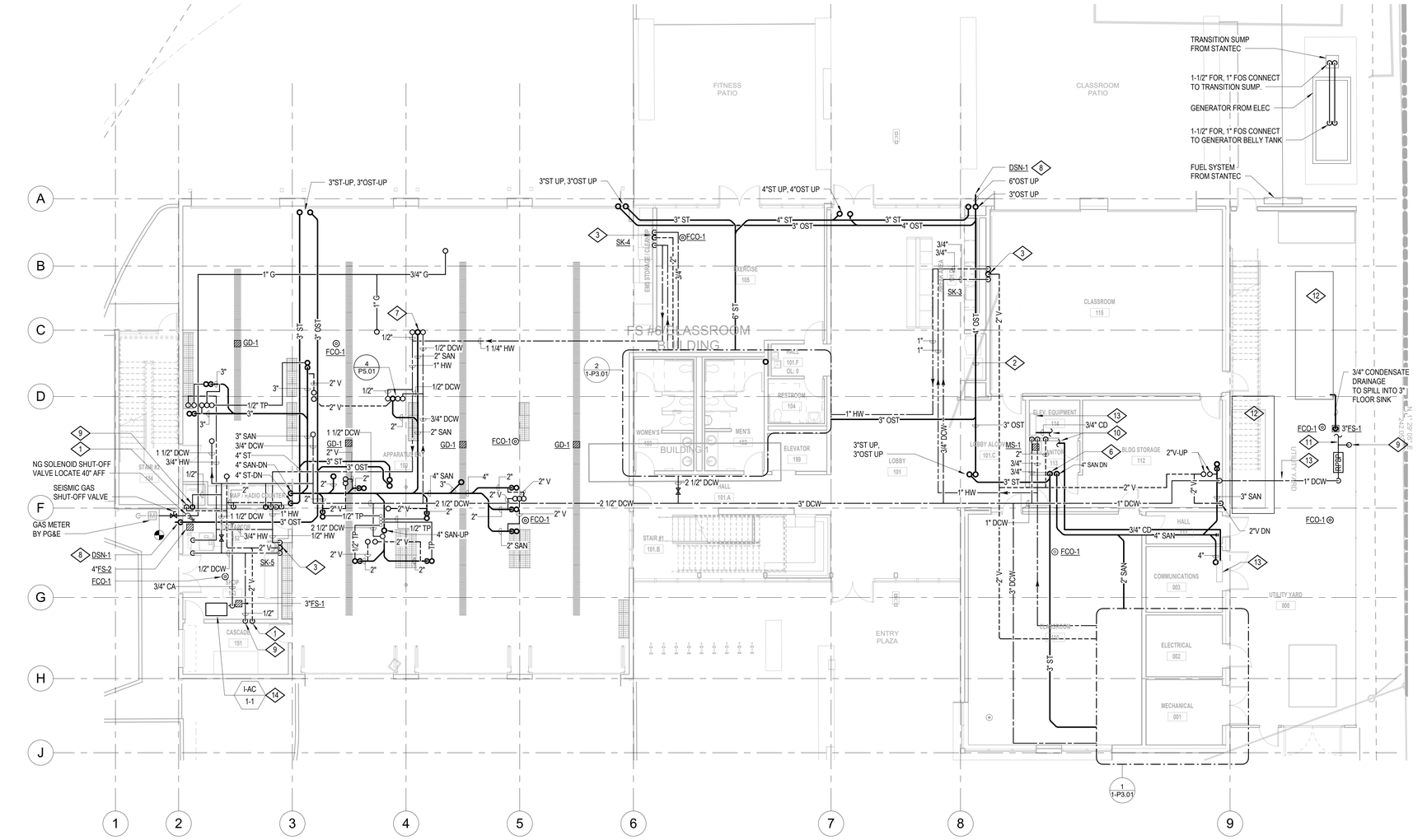
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NUMBERED NOTES:

NUMBERED NOTES:

1. 2" V DN
2. ROUTE PIPING IN SOFFIT
3. 2"SAN DN. 2"V RISE
4. 4" SAN UP
5. 4"V UP
6. 4"ST DN
7. 1/2" HW UP, 2"SAN UP, 1/2"CW UP, 2"V UP
8. SPILL OST TO 12"AFG
9. 1/2" DCW DROP TO PRIMER, 1/2" TP DOWN
10. DISCHARGE CD TO MOP SINK VIA 2"MINIMUM AIR GAP.
11. FOR CONTINUATION SEE HVAC DWGS
12. HVAC EQUIPMENT. SEE HVAC DWGS
13. ROUTE PIPING IN OVERHEAD PIPE SUPPORT
14. LOCATE AIR COMPRESSOR ON 5"MIN CONCRETE SLAB. PROVIDE 3/8"DIA SCREW ANCHORS AT EACH CORNER (4 TOTAL).



1 01-PLBG CLASSROOM-01-FIRST FLOOR
1/8" = 1'-0"

RossDrulisCusenbery
ARCHITECTURE
18294 Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: **KATHY GARCIA** DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

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REVISIONS

No.	Description	Date
1	INC 01_ADD_01_V1	12/06/2019

REGISTERED PROFESSIONAL ENGINEER
TODD M SEE
No. M30765
MECHANICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

PLUMBING FS#6 / CLASSROOM FIRST FLOOR PLAN

Drawn By: Author
Checked By: Checker

Scale:
1/8" = 1'-0"

Date:
October 4, 2019

Project No. B17.07369

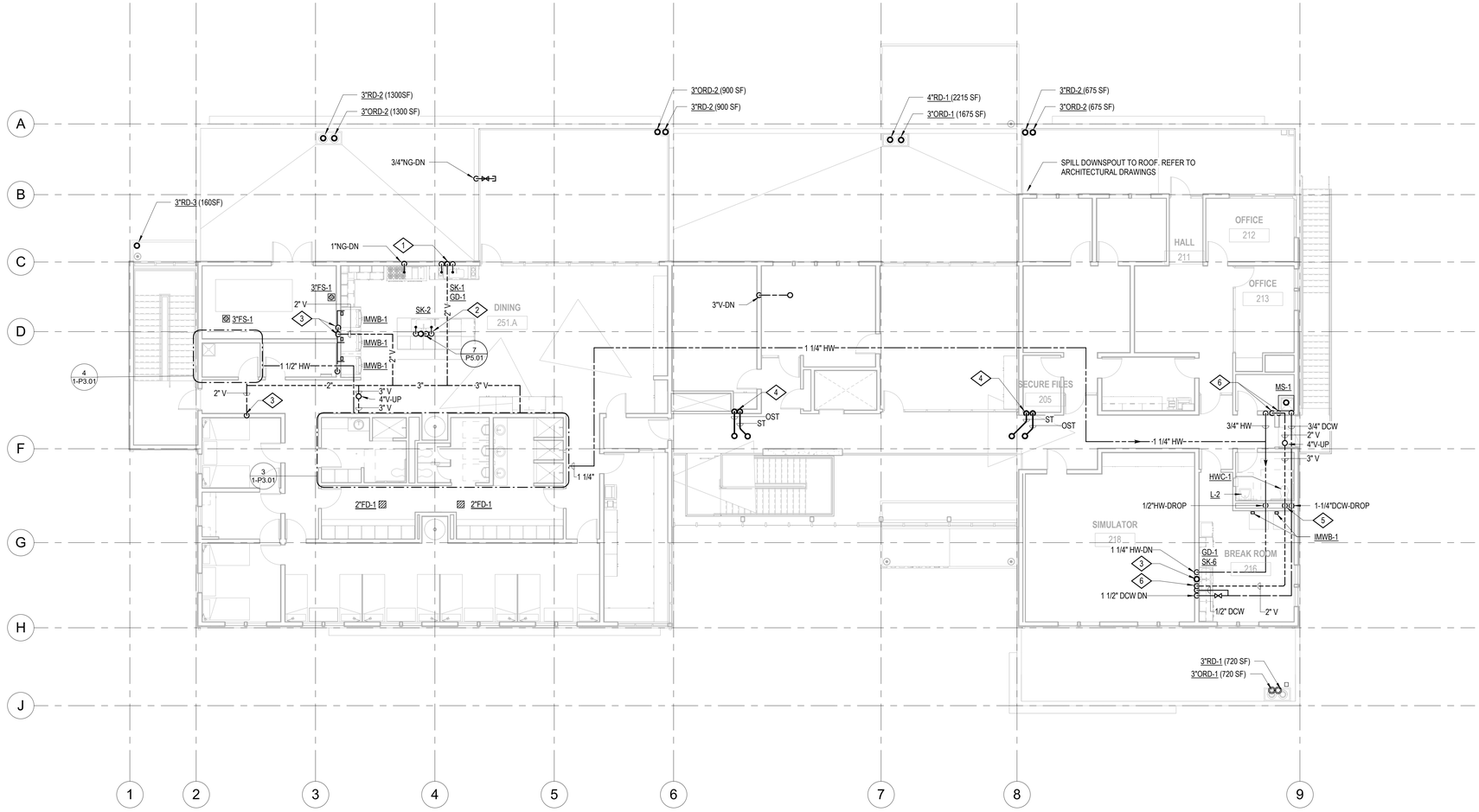
1-P2.01

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NUMBERED NOTES:

1. 1/2"DHW-DN
   2"S-DN, 1-1/2"V-RISE
   1/2"DCW-DN
   2"V-DN
2. 1/2"DHW-DN
   2"S-DN
   2"V-DN
   1/2"DCW-DN
3. 2"V-DN
4. 3"SD, 3"OSD-DN
5. 4"S-DN, 2"V-RISE
6. 2"SAN, 2"V-DN



1 01-PLBG CLASSROOM-02-SECOND FLOOR
1/8" = 1'-0"

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ARCHITECTURE
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Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

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PLUMBING FS#6 / CLASSROOM SECOND FLOOR PLAN

Drawn By: Author
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Scale:
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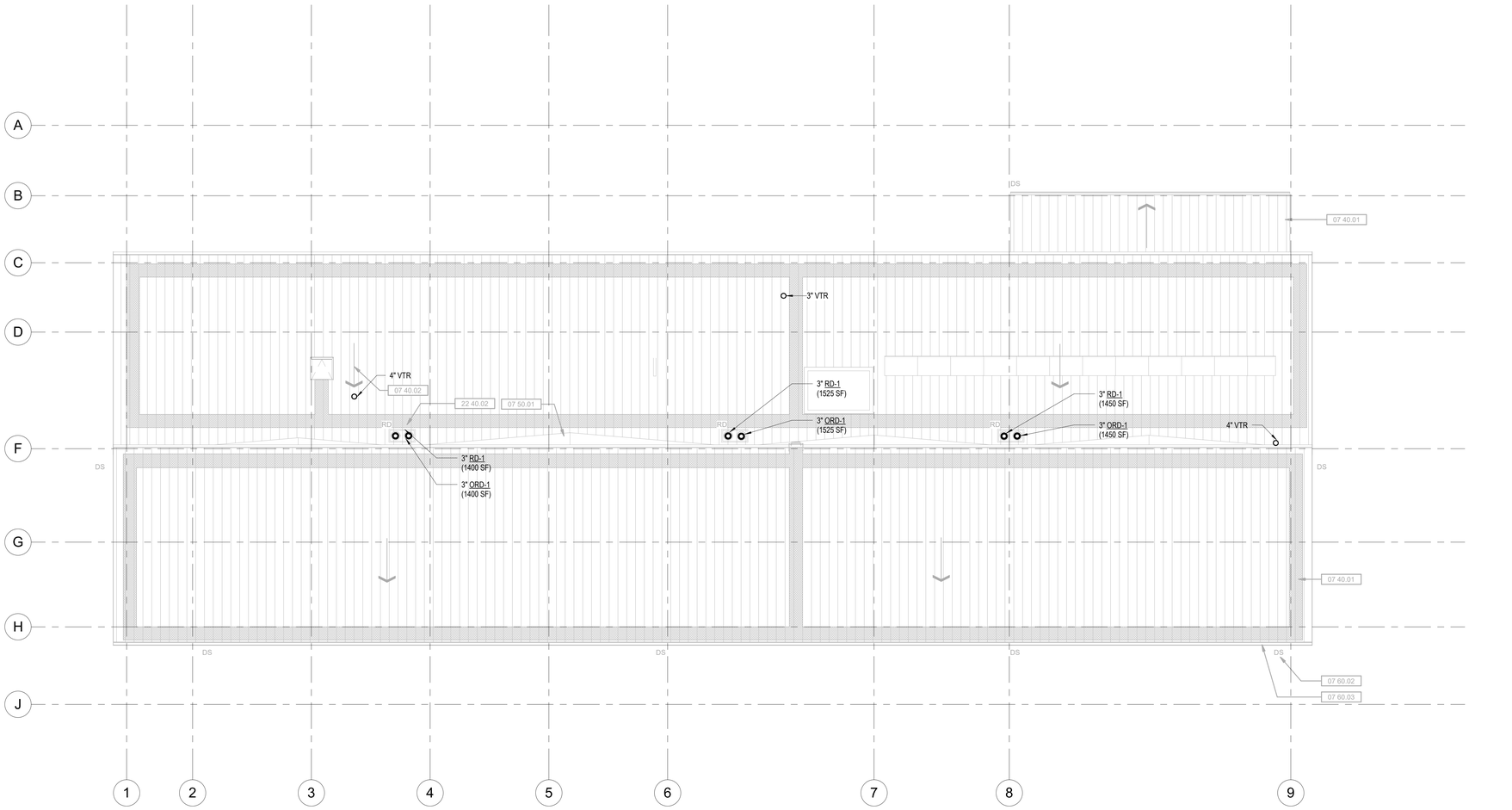
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1 01-PLBG CLASSROOM-03-ROOF PLAN
1/8" = 1'-0"

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PLUMBING FS#6 / CLASSROOM ROOF PLAN

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Scale:
1/8" = 1'-0"

Date:
October 4, 2019

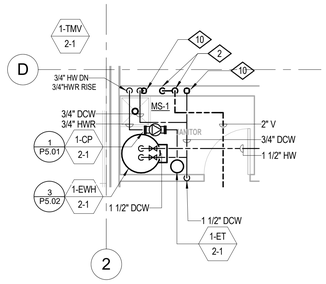
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1-P2.03
Drawing No.

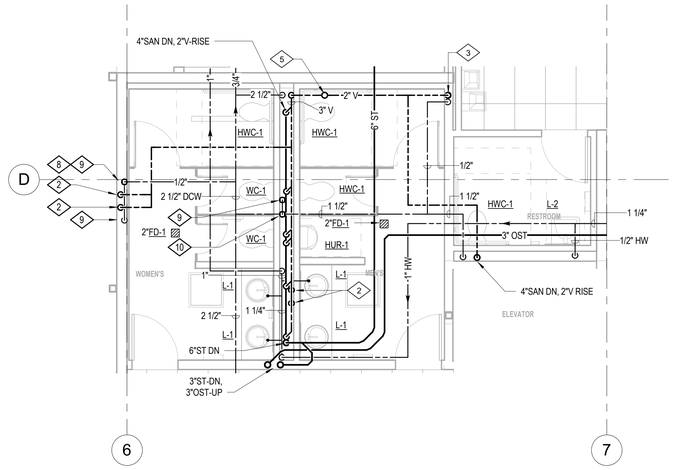
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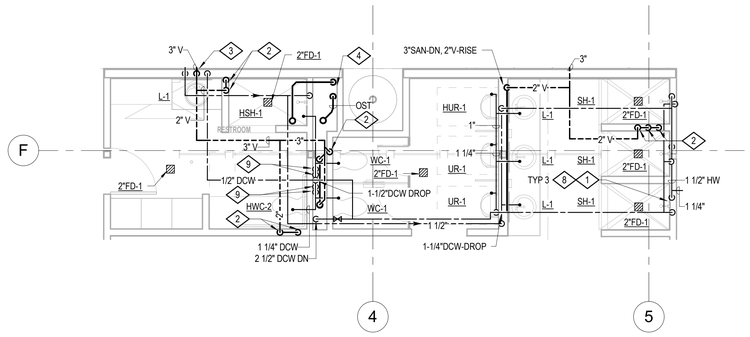
1. 1/2"HW DROP
2. 2"V DN
3. 2"SAN-DN, 1-1/2"V-RISE
4. 3"SD DN. 3"OSD DN.
5. 3"V UP
6. FCU BY OTHERS
7. SPILL 3/4"CD TO FS
8. 1/2"CW DROP TO TP.
9. 1/2"TP-DN
10. 1/2"CW TO TP, (2) 1/2"TP-DN



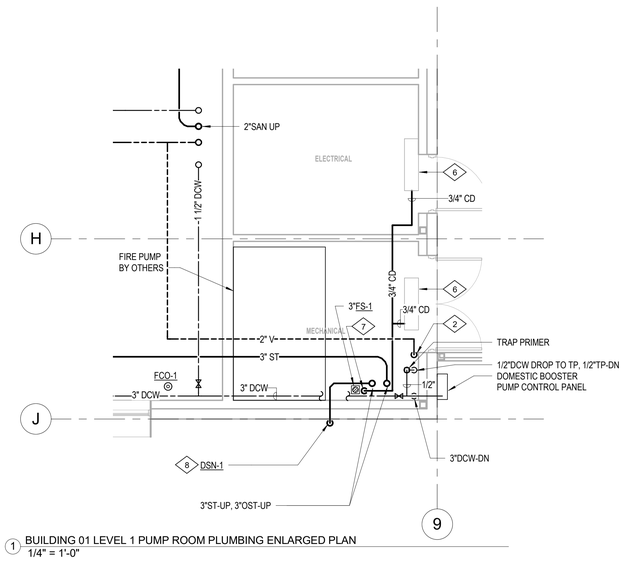
4 BUILDING 01 LEVEL 2 JANITOR ROOM PLUMBING ENLARGED PLAN
1/4" = 1'-0"



2 BUILDING 01 LEVEL 1 TOILET ROOM PLUMBING ENLARGED PLAN
1/4" = 1'-0"



3 BUILDING 01 LEVEL 2 TOILET ROOM PLUMBING ENLARGED PLAN
1/4" = 1'-0"



1 BUILDING 01 LEVEL 1 PUMP ROOM PLUMBING ENLARGED PLAN
1/4" = 1'-0"

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18294 Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
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PLUMBING FS#6 / CLASSROOM ENLARGED PLAN

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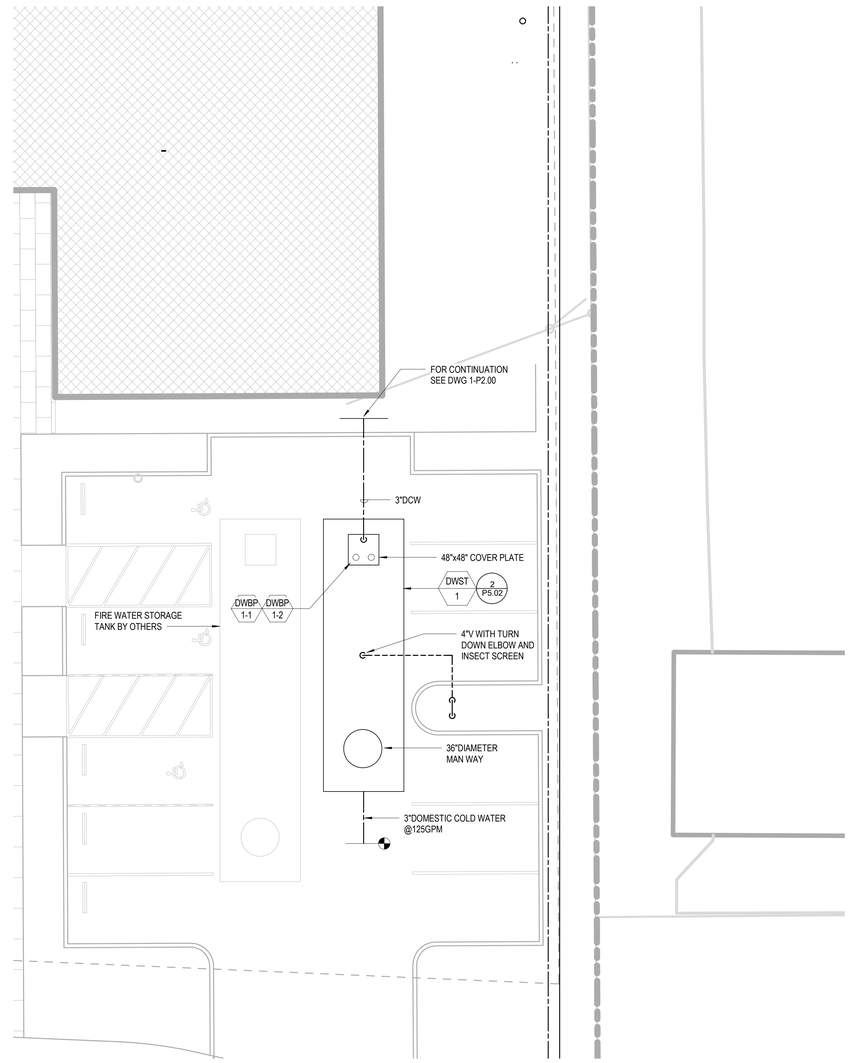
Scale:
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1 00-PLBG SITE PLAN - TANK & PUMP
1/8" = 1'-0"

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Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
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HEART OF THE BAY

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PLUMBING SITE ENLARGED PLAN - TANK & PUMP

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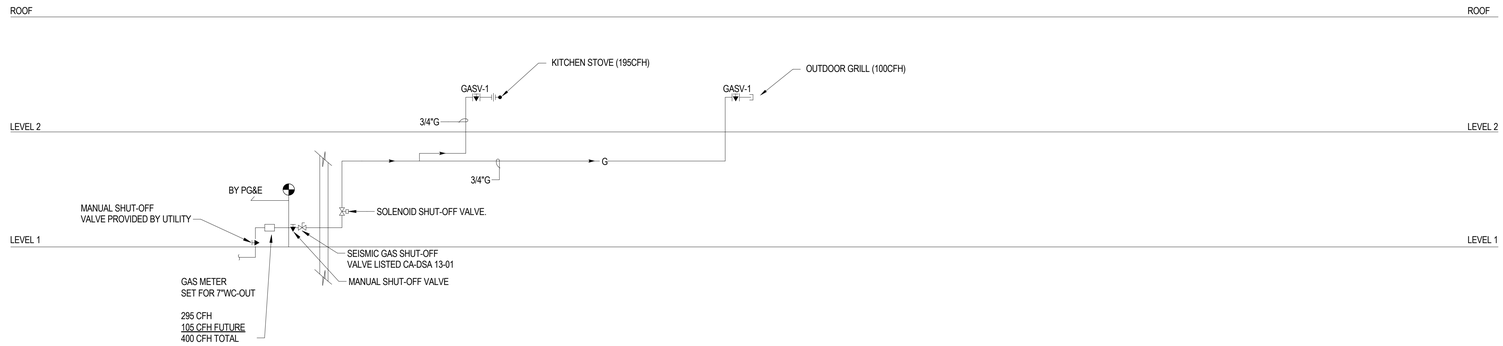
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1-P3.02
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1 GAS RISER DIAGRAM

FUEL PIPING
NFPA 54 OR 2016 CPC - 1217.3 Sizing Equations, Equation 12-1 Low-Pressure Gas Formula (Less than 1.5 psig)

DATE: 9/14/2018
BY: AWM
PROJ: Hayward Fire - Bldg 1
PROJ NO:
PHASE: CD

$$Q = \left[19.17 x D \left(\frac{\Delta H}{Cr \times L}\right)^{0.206}\right]^{\frac{1}{0.381}}$$

Where:
D = inside diameter of pipe, in.
Q = gas flow rate (demand), cubic ft. per hour (cfh)
ΔH = pressure drop, inches water column (27.7 in. H_2O = 1 psi)
L = equivalent length of pipe, ft
Cr = specific gravity

Steel pipe - Schedule 40 Pressure drop of 7.00 in W.C.	Gas	Natural
	Pressure Drop to	7.00 in W.C.
	Specific Gravity, Cr =	0.6094

Pipe Size, inches																			
Nom. ID (in.)	1/2	3/4	1	1-1/4	1-1/2	2	2-1/2	3	4	5	6	8	10	12	14	16	18	20	24
ID (in.)	0.622	0.824	1.049	1.380	1.610	2.067	2.469	3.068	4.026	5.047	6.065	7.981	10.020	11.938	13.130	15.000	16.890	18.810	22.630
Length, feet	Capacity in Cubic Feet of Gas per Hour (CFH)																		
10	306	642	1,213	2,495	3,744	7,226	11,534	20,429	41,765	75,705	122,778	252,856	460,151	729,573	937,217	1,330,502	1,815,373	2,413,755	3,926,429
20	210	441	833	1,714	2,571	4,962	7,921	14,030	28,683	51,982	84,320	173,653	316,017	501,047	643,651	913,746	1,246,740	1,657,689	2,695,545
30	169	354	669	1,376	2,064	3,983	6,358	11,261	23,023	41,733	67,691	139,387	253,639	402,179	516,643	733,441	1,000,726	1,330,587	2,164,451
200	145	303	572	1,177	1,766	3,408	5,440	9,635	19,696	35,706	57,908	119,260	217,031	344,103	442,039	627,531	856,221	1,138,448	1,851,901
250	128	268	507	1,043	1,565	3,020	4,820	8,537	17,454	31,639	51,310	105,672	192,303	304,897	391,674	556,032	758,666	1,008,737	1,640,801

Vertical Distance FT (Rough) =	20	Range	310 CFH
Horizontal Distance FT from meter to last use point =	40	BBQ	100 CFH
Developed Length =	60	Future (Assumed)	90 CFH
		Total	500 CFH
% for fittings and valves - 25% =	75		
Equivalent length =	100 Total Feet		

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18294 Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

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PLUMBING BUILDING 1 GAS RISER DIAGRAM

Drawn By: Author
Checked By: Checker

Scale: NTS

Date: October 4, 2019

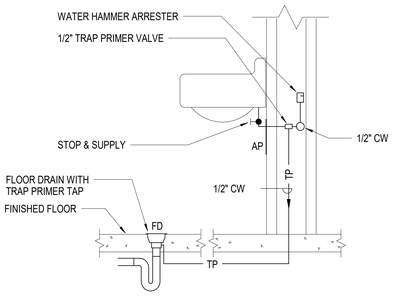
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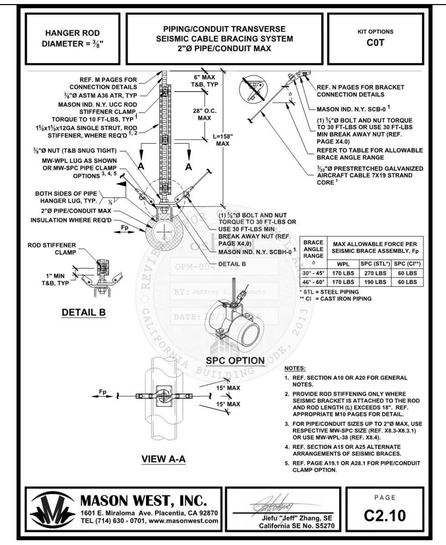
NOTE: REFER TO MASON OPM'S PER THE FOLLOWING:
M-ATR VERTICAL HANGARS
CONCRETE FILLED DECK - M2.10, M2.11, M2.12, M2.20, M2.21.1, M2.23, M2.70 - DO NOT SPACE CLOSER THAN 5' OC EW
WIDE FLANGED STEEL - M3.10 - MAX 1 CON PER BEAM UNLESS SPACED 13' OC
COLD FORMED STEEL – M6.10, 3/1-S4.31 - DO NOT SPACE CLOSER THAN 9'6" OC EW
BARE METAL DECK - M7.10, M7.11, M7.12 - DO NOT SPACE CLOSER THAN 2' OC EW

N-SEISMIC BRACKET
CONCRETE FILLED DECK - N2.10, N2.11, N2.12, N2.20, N2.21 - DO NOT SPACE CLOSER THAN 3' OC EW
WIDE FLANGED STEEL - N3.11, N3.15 - MAX 1 CON PER BEAM UNLESS SPACED 12' OC
COLD FORMED STEEL – 4/1-S4.31 - DO NOT SPACE CLOSER THAN 10' OC EW
BARE METAL DECK - N7.10 - DO NOT SPACE CLOSER THAN 1'6" OC EW



6 TRAP PRIMER DIAGRAM

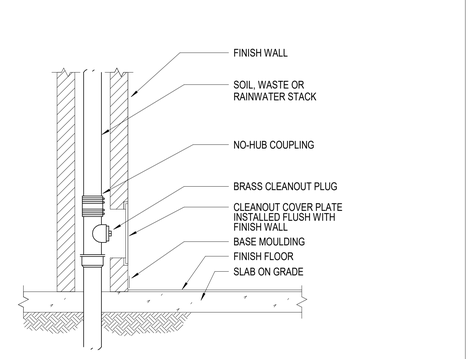
SCALE: NTS



3 PIPE HANGING DETAILS

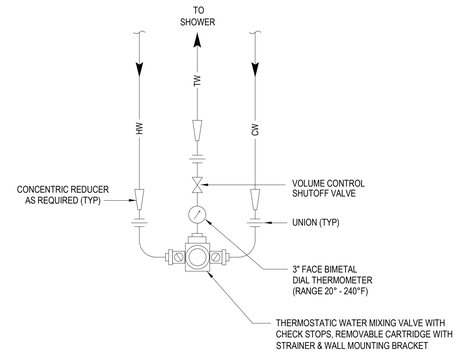
SCALE: NTS

12/19/2016 OPM-0043-13: Reviewed for Code Compliance by Jeffrey Kikumoto Page 236 of 673



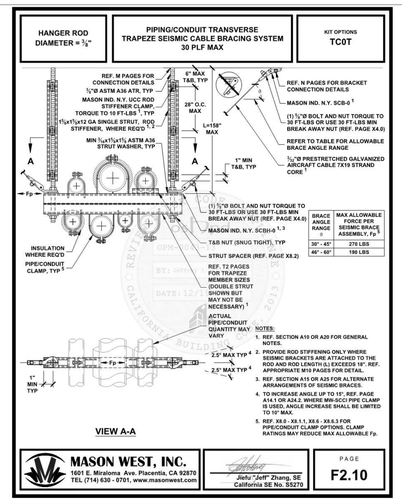
5 FLUSH WALL CLEANOUT W/ COVER PLATE INSTALLATION DETAIL

SCALE:NTS



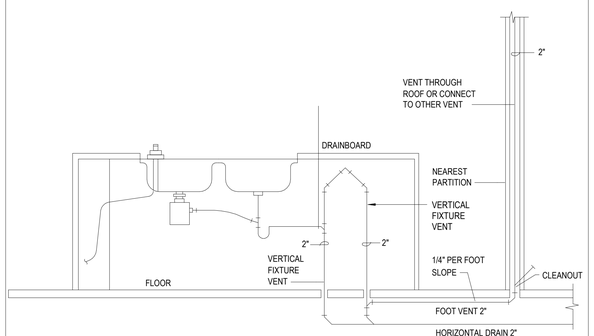
2 TEMPERED WATER MIXING VALVE PIPING DIAGRAM

SCALE: NTS



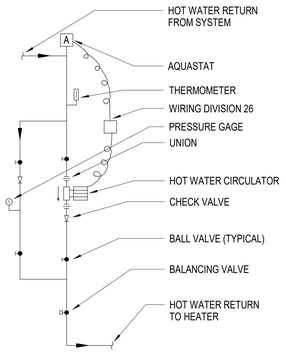
7 PIPE HANGING DETAILS

SCALE: NTS



4 ISLAND FIXTURE WASTE/VENT PIPING

SCALE: NTS



1 PIPING DIAGRAM HOT WATER CIRCULATOR

SCALE: NTS

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18294 Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
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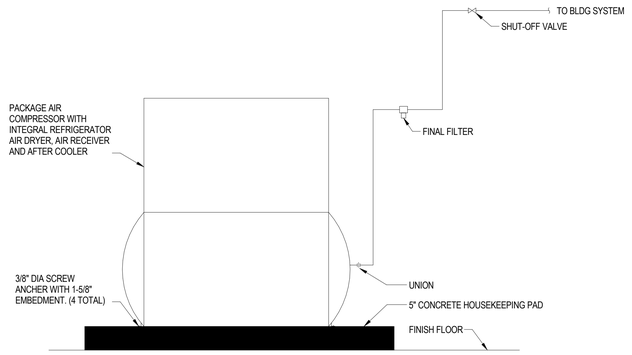
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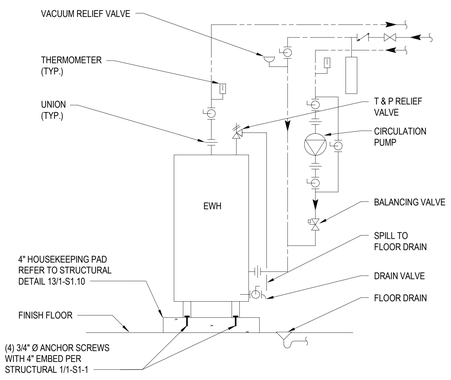
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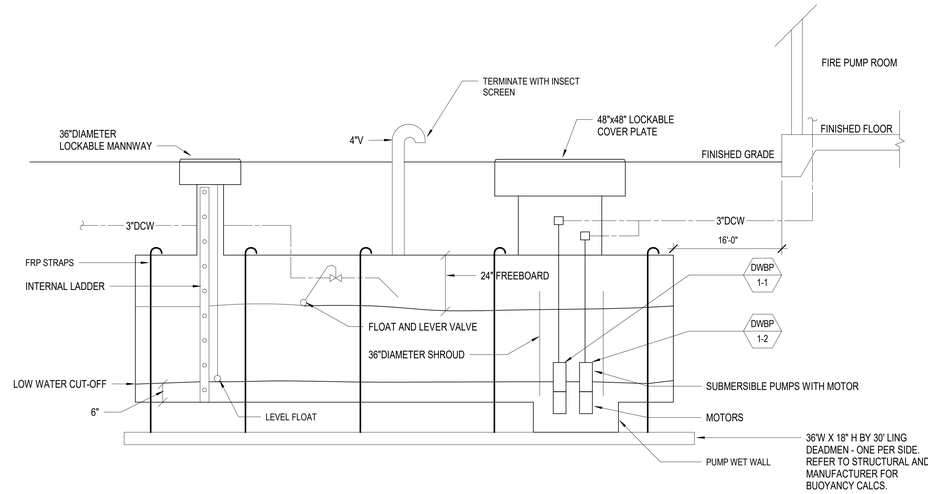
3 AIR COMPRESSOR DETAIL

SCALE: NTS



2 ELECTRIC WATER HEATER PIPING DIAGRAM

SCALE: NTS



1 POTABLE WATER STORAGE TANK

SCALE: NTS

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ARCHITECTURE
18294
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October 26, 2019 2:52:52 p.m.
Drawing: S:\PROJECTS\2016\2016039\CAD\PERMIT\A1-FP2.10-FP2.10.DWG
Plotted by: Steven Rancon
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SPRINKLERS

SYMBOL	DESCRIPTION	MANF.	MODEL	SIN	TYPE	K FACTOR	TEMP. RATING	QTY	REMARKS
◉	RECESSED PENDENT	TYCO	TY-FRB	3231	SSP	5.6	155° F	48	(1) (2) (3)
○	UPRIGHT ON BRANCH LINE	TYCO	TY-FRB	3131	SSU	5.6	200° F	17	
◙	RECESSED PENDENT	TYCO	TY-LFII	3596	SSP	4.9	160° F	0	(1) (2) (3)
◎	UPRIGHT ON SPRIG UP	TYCO	TY-FRB	3131	SSU	5.6	200° F	42	
△	SIDEWALL	TYCO	TY-FRB	3331	SSS	5.6	200° F	9	
TOTAL SPRINKLERS (THIS SHEET)								116	
TOTAL SPRINKLERS (BUILDING 1)								205	

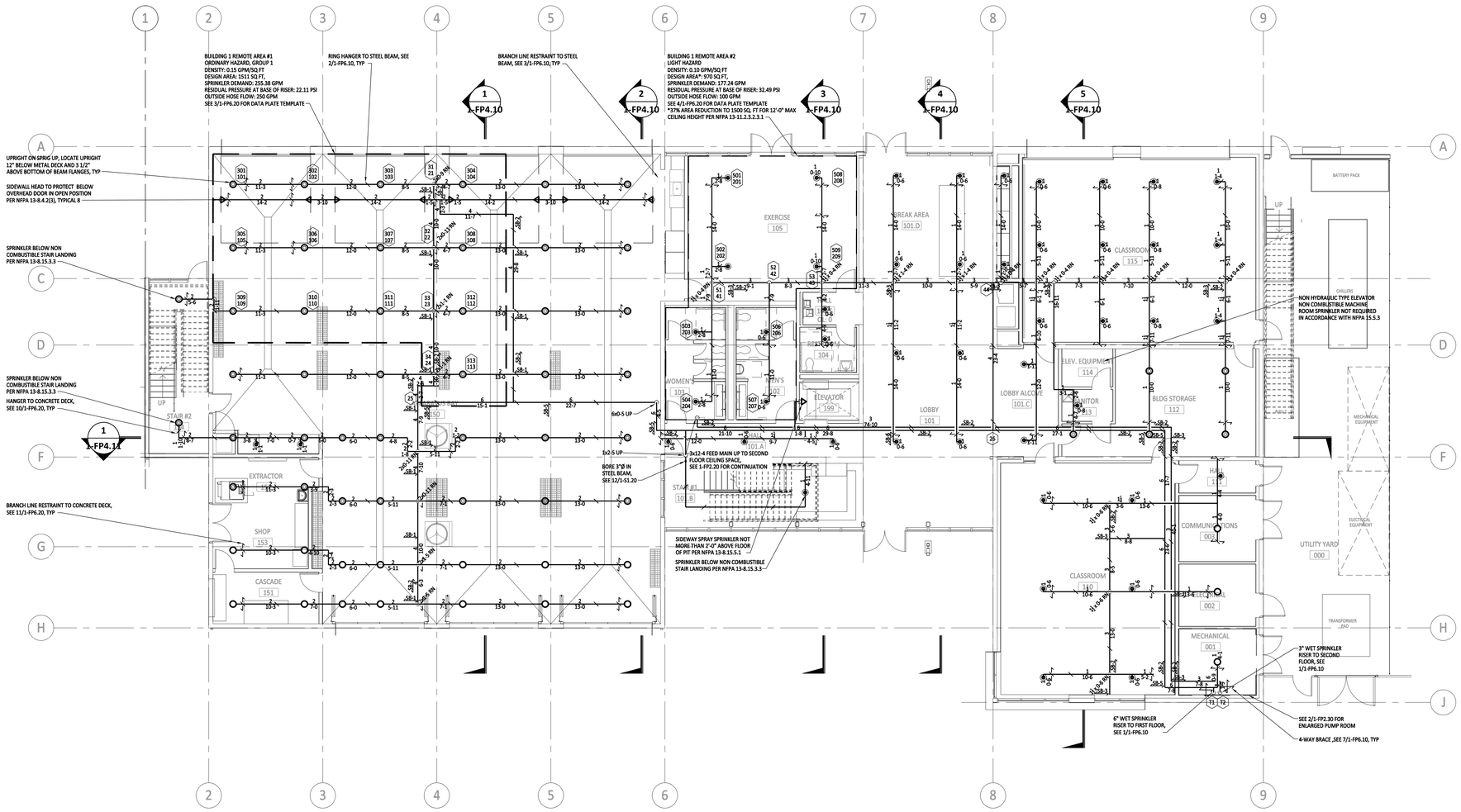
(1) FINISH TO MATCH ADJACENT MATERIAL VERIFY WITH ARCHITECT

(2) PROVIDE STYLE 10 RECESSED ESCUTCHEON. FINISH TO MATCH ADJACENT MATERIAL VERIFY WITH ARCHITECT

(3) FOR LAY IN PANEL SUSPENDED CEILINGS PROVIDE 1" ANNULAR CLEARANCE AROUND RECESSED ESCUTCHEON. CONCEAL OVERSIZE HOLE WITH VIKING 12620 EXPANSION PLATE. FINISH TO MATCH ADJACENT MATERIAL VERIFY WITH ARCHITECT

NOTES

1. ALL DIMENSIONS ARE CENTERLINE TO CENTERLINE UNLESS OTHERWISE NOTED.
2. ALL PIPE 1-1/2" AND SMALLER SHALL BE SCHEDULE 40 BLACK STEEL WITH CAST IRON THREADED FITTINGS IN ACCORDANCE WITH ANSI B16.4.
3. ALL PIPE 2" AND GREATER SHALL BE SCHEDULE 10 BLACK WITH GROOVED COUPLINGS AND WELDED OUTLETS.
4. ALL PIPE 1-1/2" AND SMALLER SHALL HAVE SUPPORT SPACING LESS THAN 12 FEET.
5. ALL PIPE 2" AND GREATER SHALL HAVE SUPPORT SPACING LESS THAN 15 FEET.
6. BRANCH LINES SHALL BE RESTRAINED AT END OF BRANCH LINE, AND AT INTERVALS NOT EXCEEDING 31 FT FOR 2"PIPE, 27 FT FOR 1 1/4" PIPE AND 26 FT FOR 1" PIPE . SEE 3/1-FP6.10, AND 5/1-FP6.10
7. PROVIDE 1" ANNULAR CLEARANCE AT ALL SPRINKLER PENETRATIONS OF LAY IN PANEL SUSPENDED CEILINGS.



BUILDING 1 FIRST LEVEL PIPING PLAN - FIRE PROTECTION

SCALE: 1/8" = 1'-0"

NORTH

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DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, DIR. OF PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3 - INCREMENT #1

Sheet Title

BUILDING 1 FIRST LEVEL PIPING PLAN - FIRE PROTECTION

Drawn By: CAD Checked By: SER

Scale: 1/8" = 1' - 0"

Date: OCTOBER 4, 2019

Project No. 2016039

1-FP2.10
Drawing No.

REGISTERED PROFESSIONAL ENGINEER
STEVEN E. RANCON
No. M30657
EXP. JUNE 30, 2020
MECHANICAL
STATE OF CALIFORNIA

ph. (831) 649-8000
fx. (831) 649-8038
www.axiomengineers.com
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AE Project #: 20180232
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OCTOBER 03, 2019 8:54:44 a.m.
Drawing: R:\PROJECTS\2016\2016039\CAD\ARCHITECT\2016039-A1-FP2.20.DWG
Plotted by: Kathy Garcia

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SPRINKLERS

SYMBOL	DESCRIPTION	MANF.	MODEL	SIN	TYPE	K FACTOR	TEMP. RATING	QTY	REMARKS
◉	RECESSED PENDENT	TYCO	TY-FRB	3231	SSP	5.6	155° F	68	(1) (2) (3)
○	UPRIGHT ON BRANCH LINE	TYCO	TY-FRB	3131	SSU	5.6	200° F	5	
✖	RECESSED PENDENT	TYCO	TY-LFII	3596	SSP	4.9	160° F	17	(1) (2) (3)
◎	UPRIGHT ON SPRIG UP	TYCO	TY-FRB	3131	SSU	5.6	200° F	0	
△	SIDEWALL	TYCO	TY-FRB	3331	SSS	5.6	200° F	0	
TOTAL SPRINKLERS (THIS SHEET)								87	
TOTAL SPRINKLERS (BUILDING 1)								205	

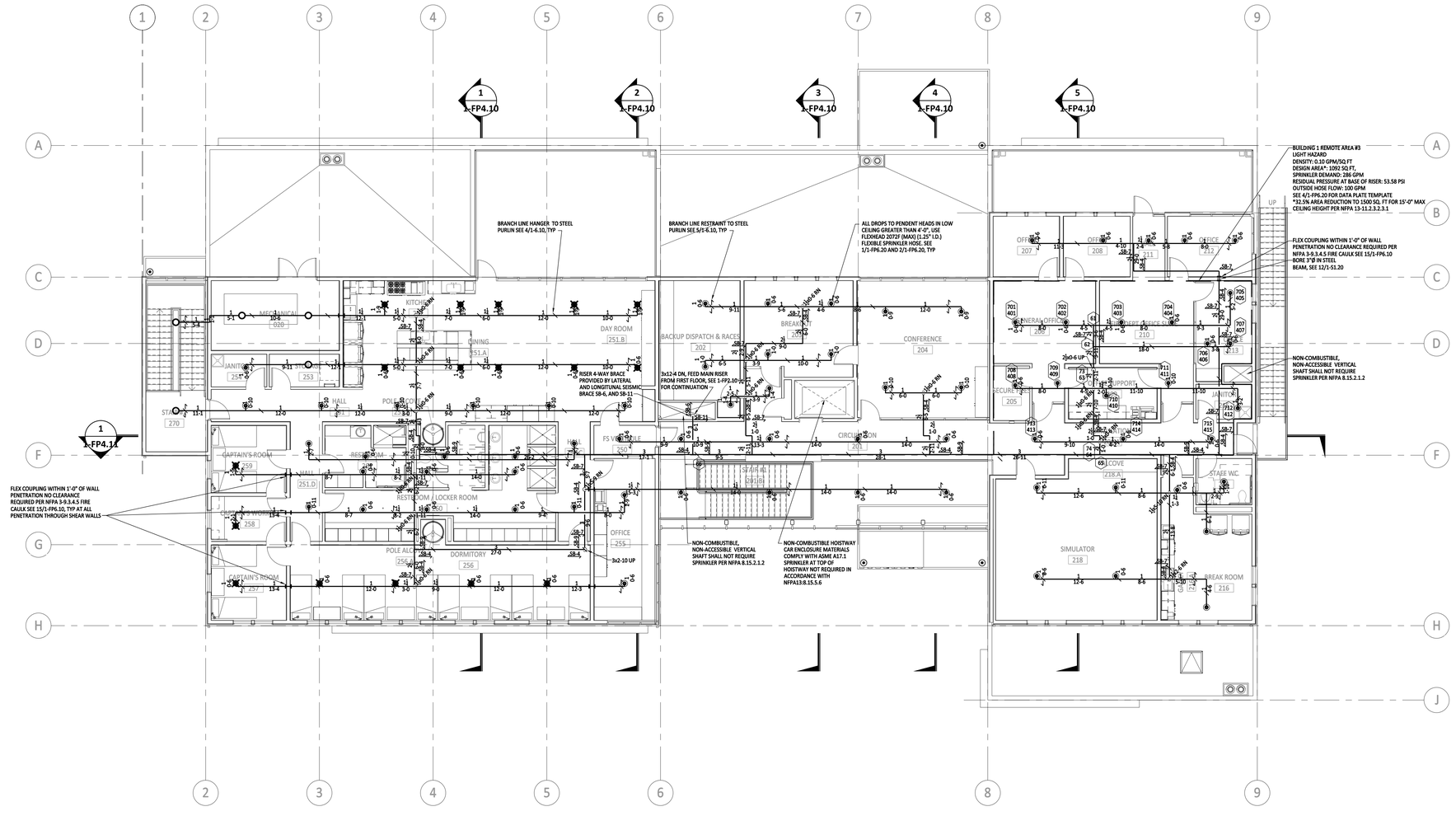
(1) FINISH TO MATCH ADJACENT MATERIAL VERIFY WITH ARCHITECT

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(3) FOR LAY IN PANEL SUSPENDED CEILINGS PROVIDE 1" ANNULAR CLEARANCE AROUND RECESSED ESCUTCHEON. CONCEAL OVERSIZE HOLE WITH VIKING 12620 EXPANSION PLATE. FINISH TO MATCH ADJACENT MATERIAL VERIFY WITH ARCHITECT

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7. PROVIDE 1" ANNULAR CLEARANCE AT ALL SPRINKLER PENETRATIONS OF LAY IN PANEL SUSPENDED CEILINGS.



BUILDING 1 SECOND LEVEL PIPING PLAN - FIRE PROTECTION

SCALE: 1/8" = 1'-0"

NORTH

REGISTERED PROFESSIONAL ENGINEER
STEVEN E. RAWSON
No. M30657
EXP. JUNE 30, 2020
MECHANICAL
STATE OF CALIFORNIA

ph. (831) 649-8000
fx. (831) 649-8038

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RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, DIR. OF PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

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REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3 - INCREMENT #1

Sheet Title

BUILDING 1
SECOND LEVEL
PIPING PLAN - FIRE PROTECTION

Drawn By: CAD Checked By: SER

Scale: 1/8" = 1' - 0"

Date: OCTOBER 4, 2019

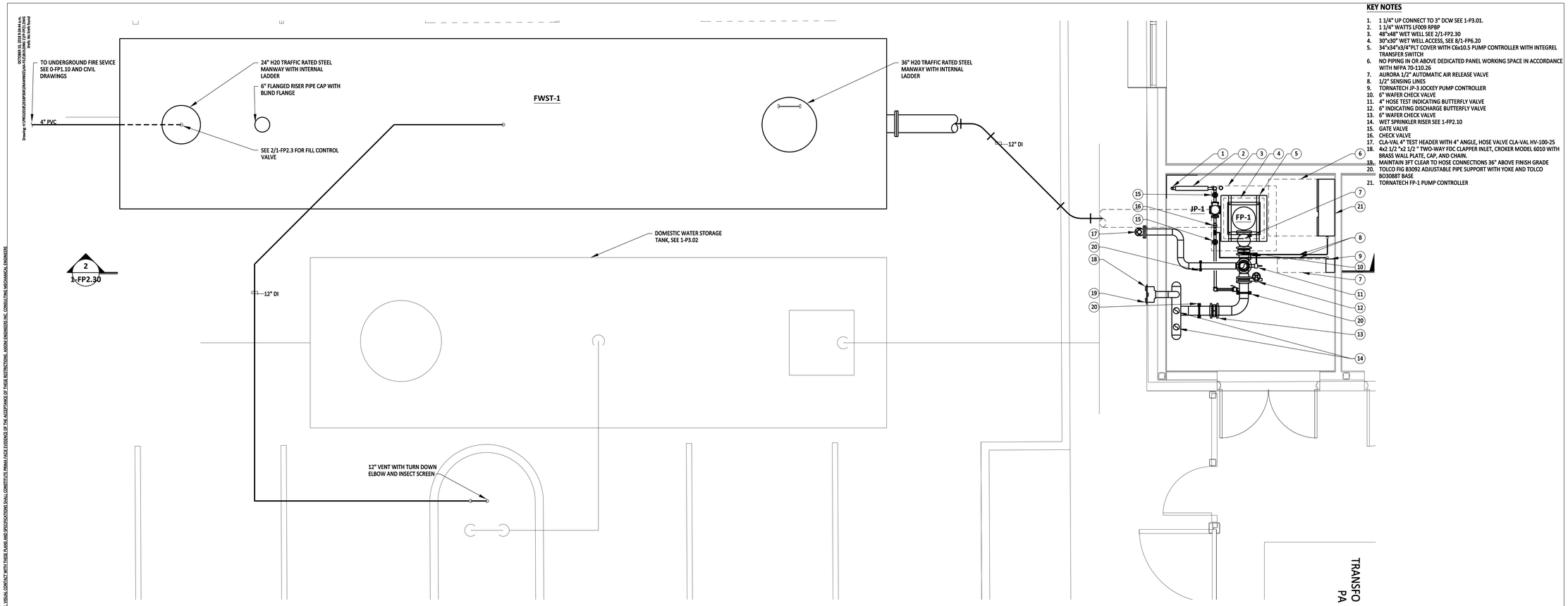
Project No. 2016039

1-FP2.20
Drawing No.

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Plotted by: Kevin Ramos



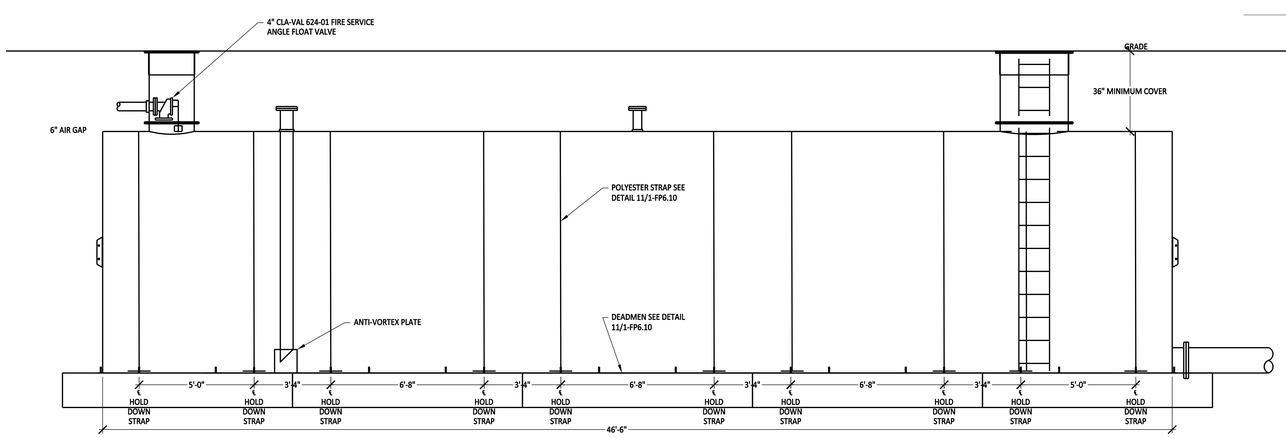
KEY NOTES

1. 1 1/4" UP CONNECT TO 3" DCW SEE 1-P3.01.
2. 1 1/4" WATTS LF009 RPBP
3. 48"x48" WET WELL SEE 2/1-FP2.30
4. 30"x30" WET WELL ACCESS, SEE 8/1-FP6.20
5. 34"x34"x3/4"PLT COVER WITH C6x10.5 PUMP CONTROLLER WITH INTEGREL TRANSFER SWITCH
6. NO PIPING IN OR ABOVE DEDICATED PANEL WORKING SPACE IN ACCORDANCE WITH NFPA 70-110.26
7. AURORA 1/2" AUTOMATIC AIR RELEASE VALVE
8. 1/2" SENSING LINES
9. TORNATECH JP-3 JOCKEY PUMP CONTROLLER
10. 6" WAFER CHECK VALVE
11. 4" HOSE TEST INDICATING BUTTERFLY VALVE
12. 6" INDICATING DISCHARGE BUTTERFLY VALVE
13. 6" WAFER CHECK VALVE
14. WET SPRINKLER RISER SEE 1-FP2.10
15. GATE VALVE
16. CHECK VALVE
17. CLA-VAL 4" TEST HEADER WITH 4" ANGLE, HOSE VALVE CLA-VAL HV-100-25
18. 4x2 1/2 "x2 1/2 " TWO-WAY FDC CLAPPER INLET, CROKER MODEL 6010 WITH BRASS WALL PLATE, CAP, AND CHAIN.
19. MAINTAIN 3FT CLEAR TO HOSE CONNECTIONS 36" ABOVE FINISH GRADE
20. TOLCO FIG B3092 ADJUSTABLE PIPE SUPPORT WITH YOKE AND TOLCO BO3088T BASE
21. TORNATECH FP-1 PUMP CONTROLLER

1 1-FP2.30 PARTIAL SITE PLAN - FIRE PROTECTION

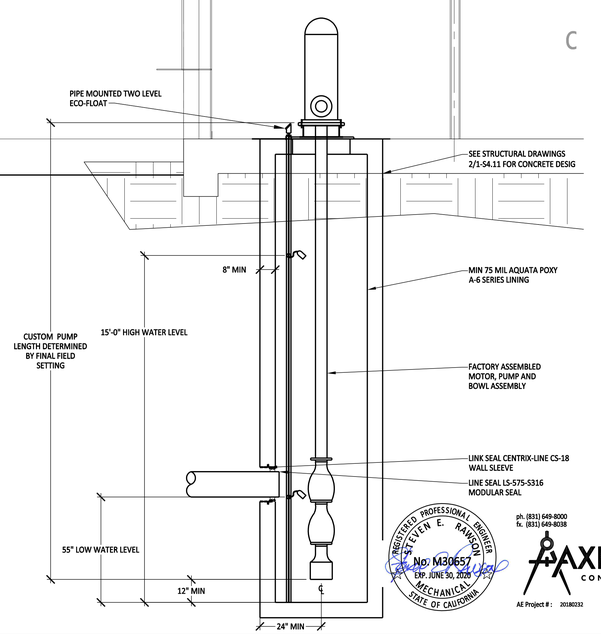
SCALE: 3/8" = 1'-0"

NORTH



2 1-FP2.30 SECTION - FIRE PROTECTION

SCALE: 3/8" = 1'-0"



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RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

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DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, DIR. OF PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

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REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3 - INCREMENT #1

Sheet Title

BUILDING 1 FIRST LEVEL PARTIAL PIPING PLAN/ SECTION - FIRE PROTECTION

Drawn By: CAD
Checked By: SER

Scale:
3/8" = 1' - 0"

Date:
OCTOBER 4, 2019

Project No. 2016039

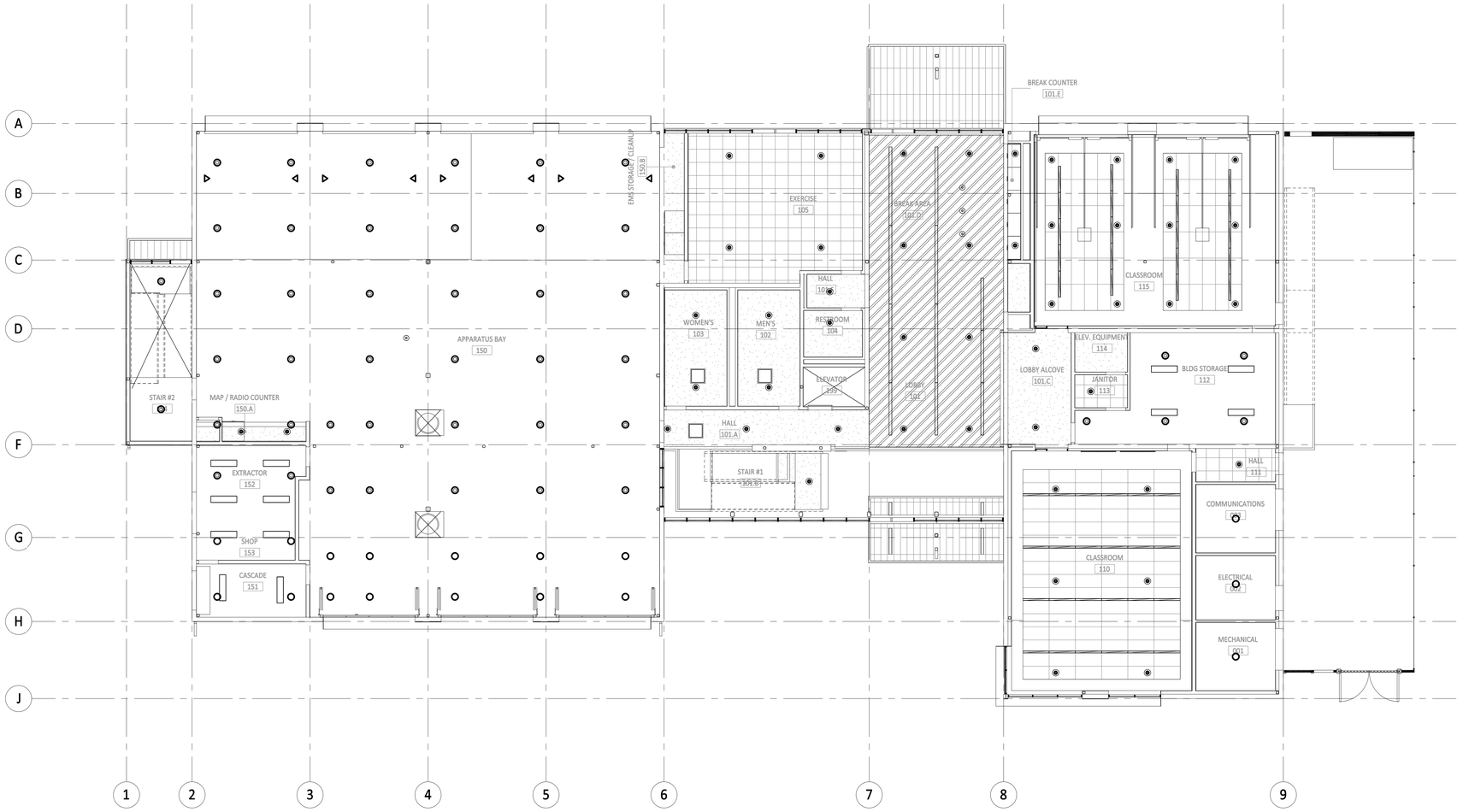
REGISTERED PROFESSIONAL ENGINEER
STEVEN E. RAWSON
No. M30657
EXP. JUNE 30, 2020
MECHANICAL
STATE OF CALIFORNIA

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AE Project #: 20180232

1-FP2.30
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October 04, 2019 2:21:02 p.m.
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Xref: A1-FP3.10 (FP3.10).DWG, 2016039-ARCH-XREF-FP3.10.DWG
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BUILDING 1 FIRST LEVEL CEILING PLAN - FIRE PROTECTION

SCALE: 1/8" = 1'-0"

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DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, DIR. OF PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

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HAYWARD, CA 94545

REVISIONS

No.	Description	Date

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Sheet Title

BUILDING 1 FIRST LEVEL CEILING PLAN - FIRE PROTECTION

Drawn By: CAD Checked By: SER

Scale: 1/8" = 1' - 0"

Date: OCTOBER 4, 2019

Project No. 2016039

1-FP3.10
Drawing No.

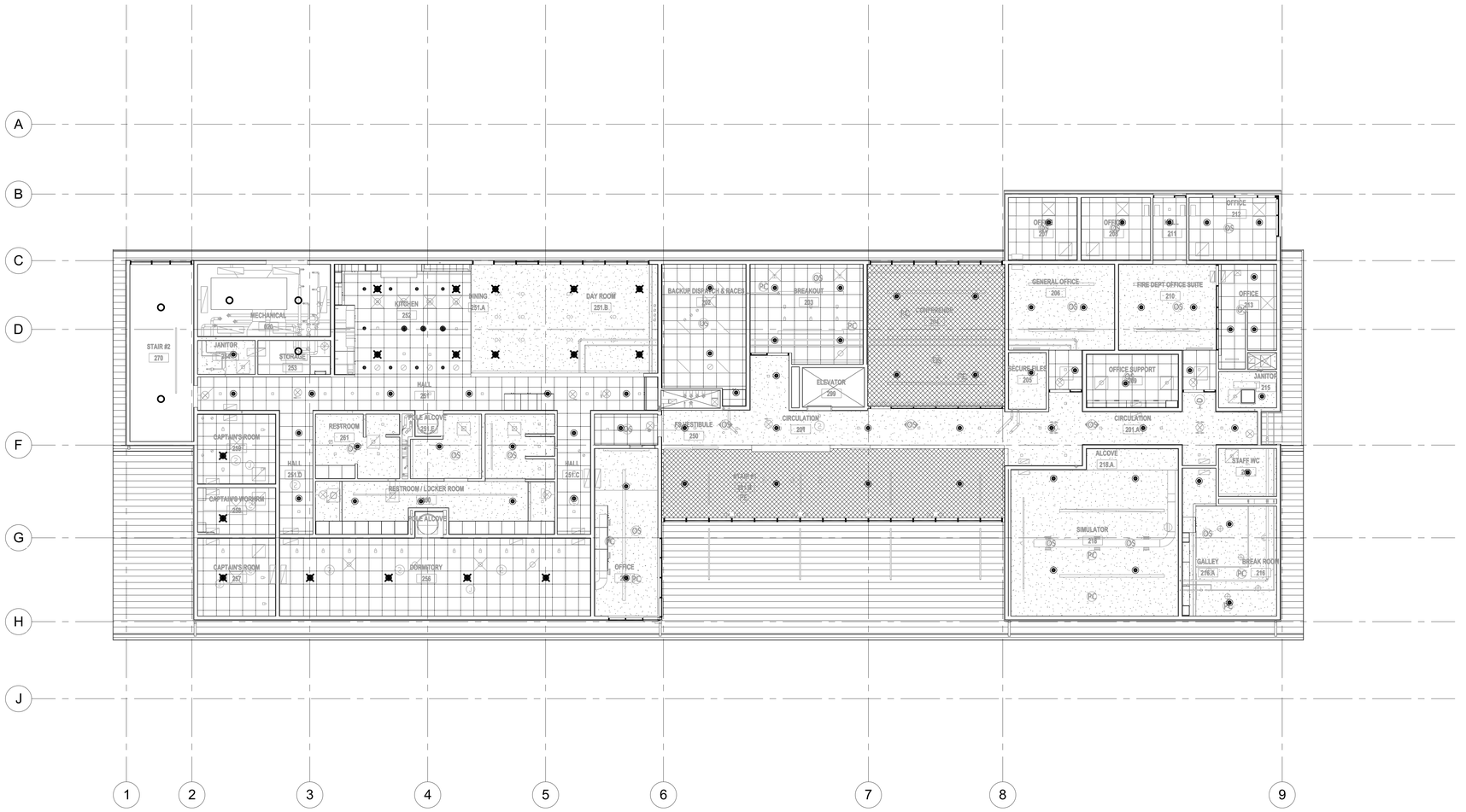
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STEVEN E. RAWSON
No. M30657
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MECHANICAL
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ph. (831) 649-8000
fx. (831) 649-8038
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Plotted by: Alex Rodriguez



BUILDING 1 SECOND LEVEL CEILING PLAN - FIRE PROTECTION

SCALE: 1/8" = 1'-0"

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RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

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DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, DIR. OF PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3 - INCREMENT #1

Sheet Title

BUILDING 1 SECOND LEVEL CEILING PLAN - FIRE PROTECTION

Drawn By: CAD
Checked By: SER

Scale:
1/8" = 1' - 0"

Date:
OCTOBER 4, 2019

Project No. 2016039

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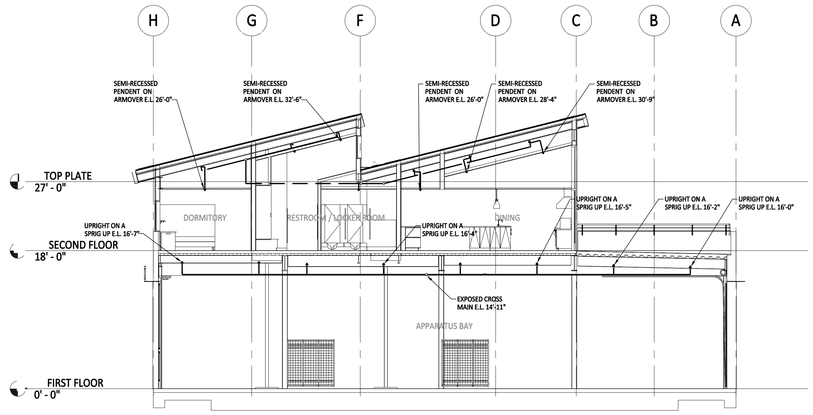
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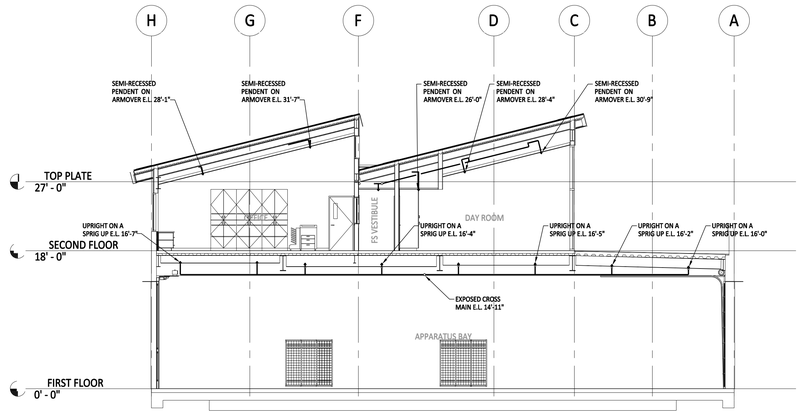
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Xref: X:\Templates\Hayward\Hayward_Sub-Xrefs.dwg

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2 / 1-FP4.10 **TRANSVERS SECTION @ APPARATUS BAY & DORMATORY - FIRE PROTECTION**

SCALE: 1/8" = 1'-0"



1 / 1-FP4.10 **TRANSVERSE SECTION @ APPARATUS BAY & OFFICE - FIRE PROTECTION**

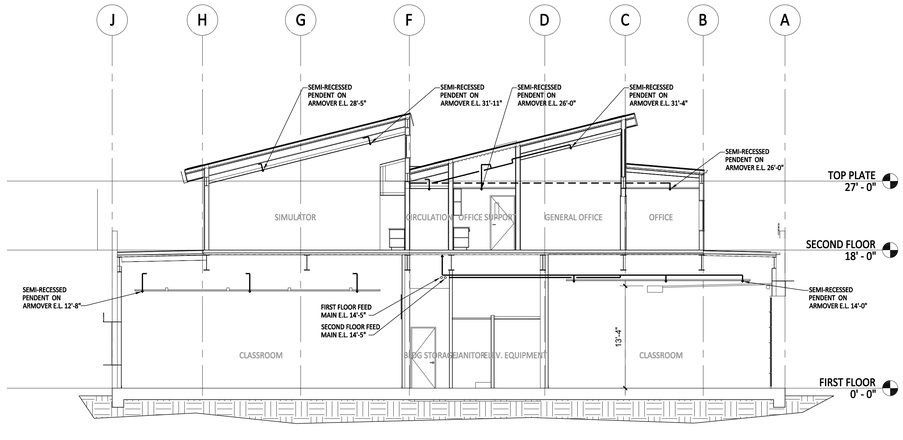
SCALE: 1/8" = 1'-0"

2 / 1-FP4.10 **TRANSVERSE SECTION @ LOBBY - FIRE PROTECTION**

SCALE: 1/8" = 1'-0"

3 / 1-FP4.10 **TRANSVERSE SECTION @ RECEPTION & ELEVATOR - FIRE PROTECTION**

SCALE: 1/8" = 1'-0"



4 / 1-FP4.10 **TRANSVERSE SECTION @ CLASSROOM - FIRE PROTECTION**

SCALE: 1/8" = 1'-0"

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RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

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DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA	ALEX AMERI
DEP. DIR. PUBLIC WORKS	DIR. OF PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3 - INCREMENT #1

Sheet Title

BUILDING 1 SECTIONS - FIRE PROTECTION

Drawn By: CAD Checked By: SER

Scale: **1/8" = 1' - 0"**

Date: **OCTOBER 4, 2019**

Project No. 2016039

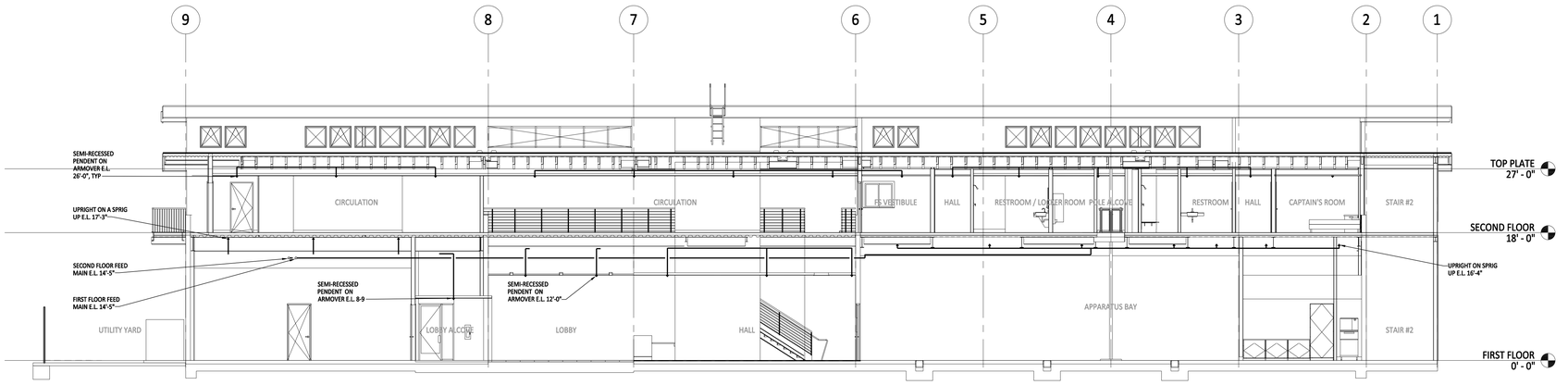
1-FP4.10
Drawing No.

REGISTERED PROFESSIONAL ENGINEER
STEVEN E. RANSOM
No. M30657
EXP. JUNE 30, 2020
MECHANICAL
STATE OF CALIFORNIA

ph. (831) 649-8000
fx. (831) 649-8038
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AE Project #: 20180232
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OCTOBER 31, 2019 8:39:44 a.m.
Drawing: N:\PROJ\2016\2016039\CAD\ARCH\[2-SA-FS]BUILDING 1 [2FP1A2].DWG
Plotted by: Ross Drulis



1
1-FP4.20

LONGITUDINAL SECTION - FIRE PROTECTION

SCALE: 1/8" = 1'-0"

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APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, DIR. OF PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3 - INCREMENT #1

Sheet Title

BUILDING 1 LONGITUDINAL SECTION - FIRE PROTECTION

Drawn By: CAD Checked By: SER

Scale:
1/8" = 1' - 0"

Date:
OCTOBER 4, 2019

Project No. 2016039

1-FP4.20
Drawing No.

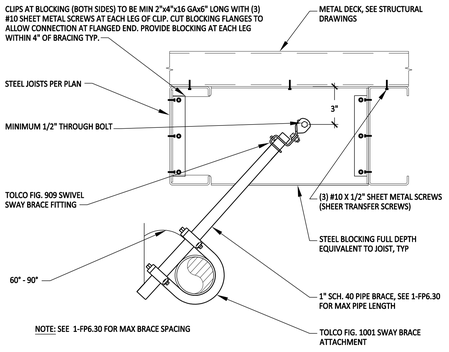
REGISTERED PROFESSIONAL ENGINEER
STEVEN E. RAWSON
No. M30657
EXP. JUNE 30, 2020
MECHANICAL
STATE OF CALIFORNIA

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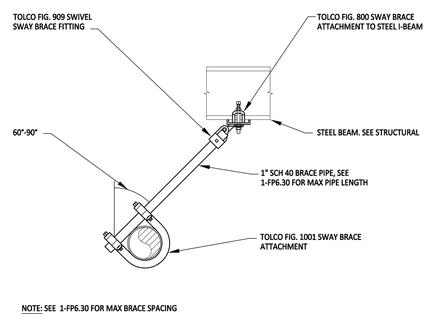
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Xref: None

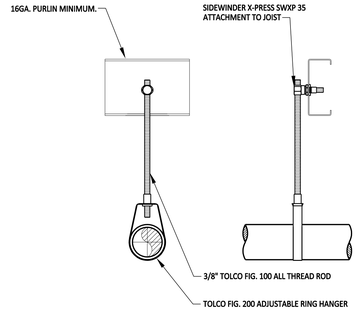
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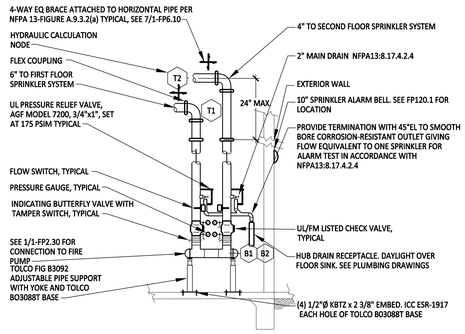
12 1-FP6.10 **SEISMIC BRACE SB-7, SB-11** NO SCALE



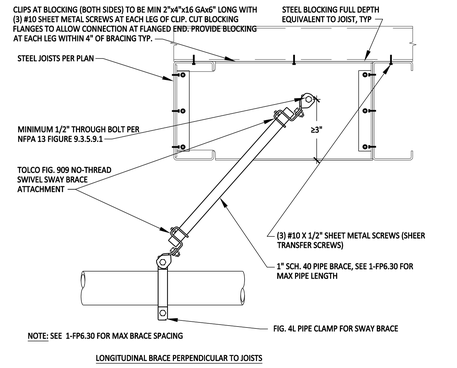
8 1-FP6.10 **SEISMIC BRACE SB-1, SB-3, SB-5** NO SCALE



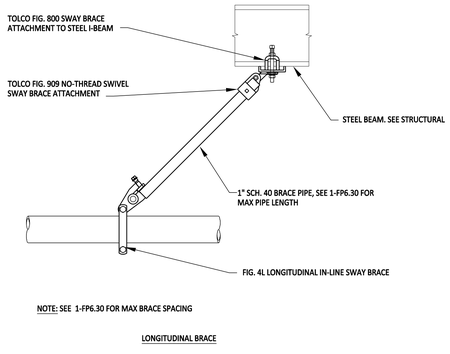
4 1-FP6.10 **RING HANGER** NO SCALE



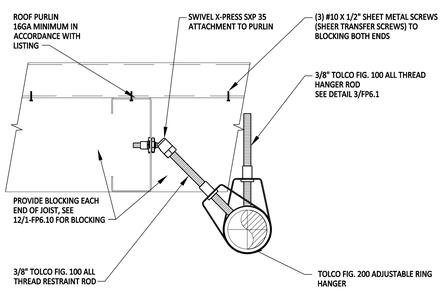
1 1-FP6.10 **WET SPRINKLER RISER** NO SCALE



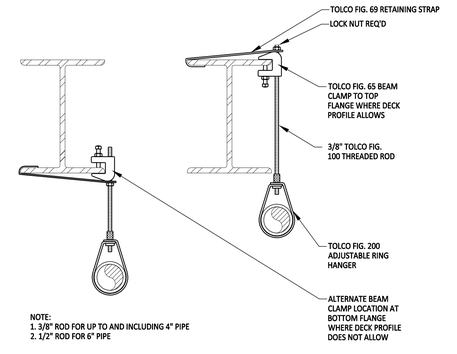
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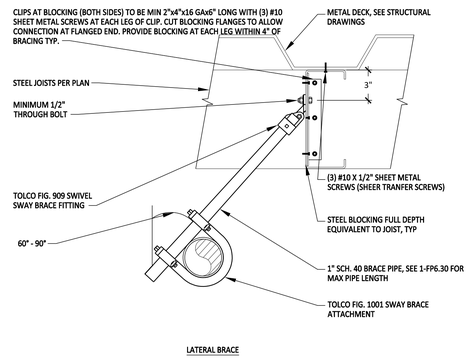
9 1-FP6.10 **SEISMIC BRACE SB-2** NO SCALE



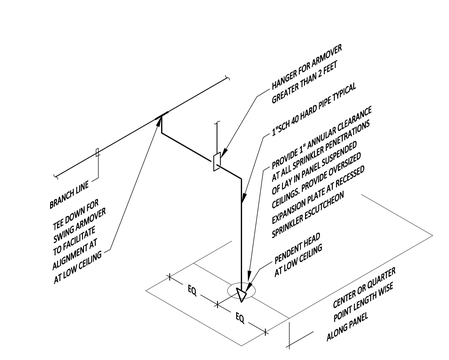
5 1-FP6.10 **BRANCH LINE END RESTRAINT** NO SCALE



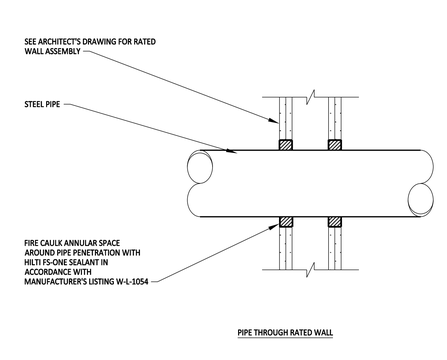
2 1-FP6.10 **RING HANGER** NO SCALE



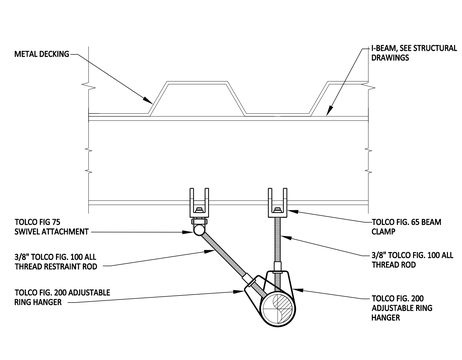
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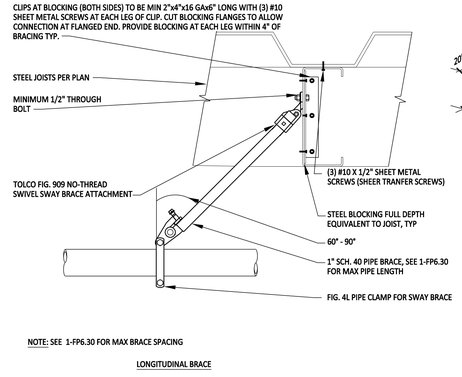
10 1-FP6.10 **TYPICAL DROP TO CEILING** NO SCALE



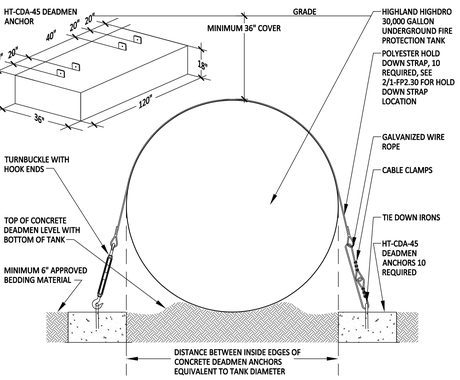
6 1-FP6.10 **FIRE CAULKING** NO SCALE



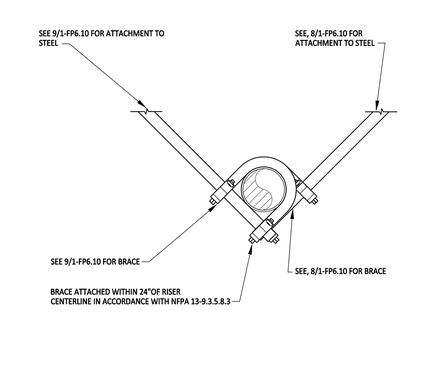
3 1-FP6.10 **BRANCH LINE END RESTRAINT** NO SCALE



15 1-FP6.10 **SEISMIC BRACE SB-6** NO SCALE



11 1-FP6.10 **FIRE STORAGE TANK** NO SCALE



7 1-FP6.10 **RISER BRACE** NO SCALE

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, DIR. OF PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3 - INCREMENT #1

Sheet Title

BUIDLING 1 DETAILS - FIRE PROTECTION

Drawn By: CAD
Checked By: SER

Scale: **NONE**

Date: **OCTOBER 4, 2019**

Project No. 2016039

1-FP6.10
Drawing No.

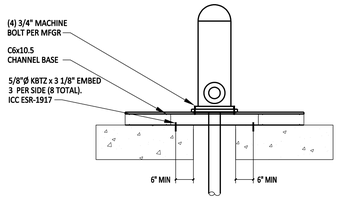
REGISTERED PROFESSIONAL ENGINEER STEVEN E. RANKIN No. M30657 EXP. JUNE 30, 2020 MECHANICAL STATE OF CALIFORNIA

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Plotted by: Alexis Wong

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8 PUMP MOUNT
1-FP6.20 NO SCALE

HYDRAULIC - SYSTEM
THIS BUILDING IS PROTECTED BY A HYDRAULIC DESIGN AUTOMATIC SPRINKLER SYSTEM
LOCATION: EXCERCISE105/WOMENS 103/MENS 102

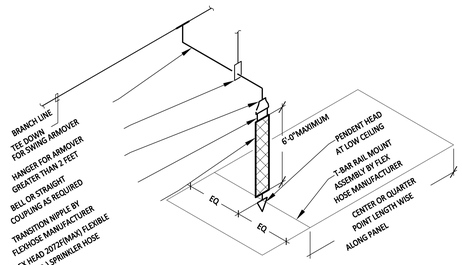
BASIS OF DESIGN
STANDARD: NFPA 13, 2016 EDITION — HAZARD GROUP: LIGHT HAZARD
DENSITY: 0.10 — DESIGN AREA OF DISCHARGE: 970 SQ. FT.

SPRINKLER INFORMATION
NUMBER OF FLOWING SPRINKLERS: 9
MANUFACTURER: TYCO — MODEL: 3131 — TEMPERATURE: 200°
TYPE: QUICK RESPONSE — K-FACTOR: 5.6
ORIFICE: 1/2"

SYSTEM DEMAND
GPM DEMAND AT THE BASE OF THE RISER THE BASE OF THE RISER: 177.24 GPM
RESIDUAL PRESSURE AT THE BASE OF THE RISER: 32.49 PSI
GPM DEMAND AT THE WATER SUPPLY: 177.24 GPM
RESIDUAL PRESSURE AT WATER SUPPLY: 32.49 PSI
HOSE STREAM ALLOWANCE: INSIDE: 0 GPM; OUTSIDE: 100 GPM; TOTAL 100 GPM
REMOTE SPRINKLER FLOW GPM: 19.6 GPM @: 12.25 PSI

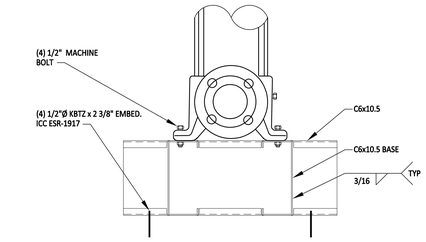
4 HYDRAULIC DATA PLATE
1-FP6.20 NO SCALE

NOTE: WHERE FLEXIBLE SPRINKLER HOSE FITTINGS ARE INSTALLED AND SUPPORTED BY SUSPENDED CEILINGS, THE CEILING SHALL MEET ASTMC635 AND ASTMC636 PER NFPA13:9.2.1.3.3.2. ADDITIONALLY A LABEL LIMITING RELOCATION OF THE SPRINKLER SHALL BE PROVIDED ON THE ANCHORING COMPONENT PER NFPA13:9.2.1.3.3.2.



AT LAY IN PANEL SUSPENDED CEILINGS

1 DROP SUSPENDED CEILING
1-FP6.20 NO SCALE



9 JP-1 ANCHOR FLOOR MOUNT
1-FP-6.20 NO SCALE

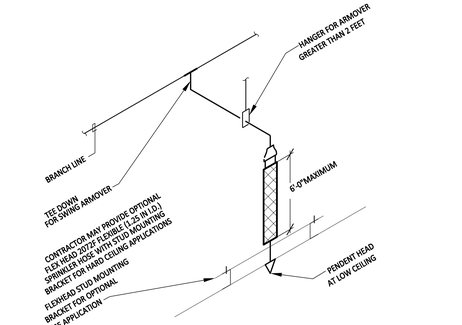
HYDRAULIC - SYSTEM
THIS BUILDING IS PROTECTED BY A HYDRAULIC DESIGN AUTOMATIC SPRINKLER SYSTEM
LOCATION: GENERAL OFFICE 206/FIRE DEPT OFFICE 210

BASIS OF DESIGN
STANDARD: NFPA 13, 2016 EDITION — HAZARD GROUP: LIGHT HAZARD
DENSITY: 0.10 — DESIGN AREA OF DISCHARGE: 1092 SQ. FT.

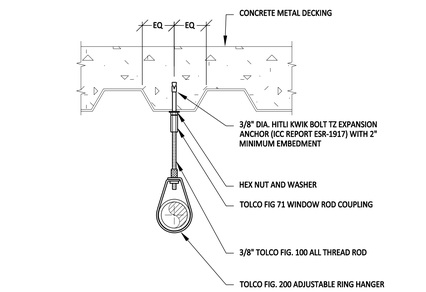
SPRINKLER INFORMATION
NUMBER OF FLOWING SPRINKLERS: 15
MANUFACTURER: TYCO — MODEL: 3131 — TEMPERATURE: 200°
TYPE: QUICK RESPONSE — K-FACTOR: 5.6
ORIFICE: 1/2"

SYSTEM DEMAND
GPM DEMAND AT THE BASE OF THE RISER THE BASE OF THE RISER: 285.92 GPM
RESIDUAL PRESSURE AT THE BASE OF THE RISER: 53.58 PSI
GPM DEMAND AT THE WATER SUPPLY: 285.92 GPM
RESIDUAL PRESSURE AT WATER SUPPLY: 53.58 PSI
HOSE STREAM ALLOWANCE: INSIDE: 0 GPM; OUTSIDE: 100 GPM; TOTAL 100 GPM
REMOTE SPRINKLER FLOW GPM: 19.6 GPM @: 12.25 PSI

5 HYDRAULIC DATA PLATE
1-FP6.20 NO SCALE

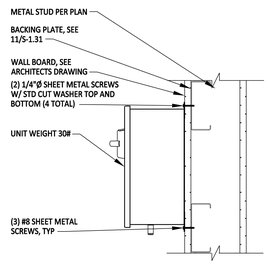


2 DROP HARD CEILING
1-FP6.20 NO SCALE



NOTE: USE THIS RING HANGER ASSEMBLY FOR PIPE SIZES UP TO AND INCLUDING 4"

10 RING HANGER
1-FP6.20 NO SCALE



6 JP-1 CONTROLLER WALL MOUNT
1-FP6.20 NO SCALE

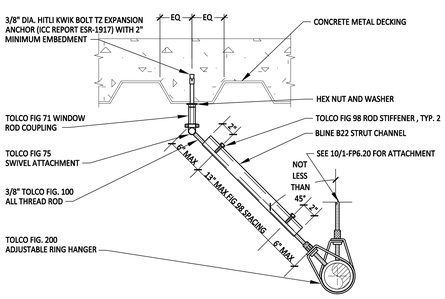
HYDRAULIC - SYSTEM
THIS BUILDING IS PROTECTED BY A HYDRAULIC DESIGN AUTOMATIC SPRINKLER SYSTEM
LOCATION: APPARATUS BAY 150

BASIS OF DESIGN
STANDARD: NFPA 13, 2016 EDITION — HAZARD GROUP: ORDINARY HAZARD, GROUP 1
DENSITY: 0.15 — DESIGN AREA OF DISCHARGE: 1511 SQ. FT.

SPRINKLER INFORMATION
NUMBER OF FLOWING SPRINKLERS: 13
MANUFACTURER: TYCO — MODEL: 3131 — TEMPERATURE: 200°
TYPE: QUICK RESPONSE — K-FACTOR: 5.6
ORIFICE: 1/2"

SYSTEM DEMAND
GPM DEMAND AT THE BASE OF THE RISER THE BASE OF THE RISER: 255.34 GPM
RESIDUAL PRESSURE AT THE BASE OF THE RISER: 22.39 PSI
GPM DEMAND AT THE WATER SUPPLY: 255.34 GPM
RESIDUAL PRESSURE AT WATER SUPPLY: 22.39 PSI
HOSE STREAM ALLOWANCE: INSIDE: 0 GPM; OUTSIDE: 250 GPM; TOTAL 250 GPM
REMOTE SPRINKLER FLOW GPM: 19.5 GPM @: 12.13 PSI

3 HYDRAULIC DATA PLATE
1-FP6.20 NO SCALE

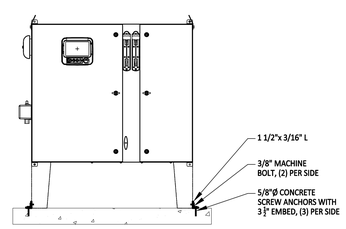


THE ANGELED RESTRAINT ROD L/R RATIO SHALL NOT EXCEED 400 PER NFPA 13:9.3.6.1

THE ROD STIFFNER MAY BE OMITTED FROM THE RESTRAINT ROD FOR RODS LESS THAN 30"

THE ROD STIFFNER MAY ALSO BE OMITTED BY ADDING A SECOND OPPOSING RESTRAINT ROD

11 BRANCH LINE RESTRAINT
1-FP6.20 NO SCALE



7 FP-1 CONTROLLER ANCHOR
1-FP6.20 NO SCALE

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA (DEP. DIR. PUBLIC WORKS)	ALEX AMERI (DIR. OF PUBLIC WORKS)
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3 - INCREMENT #1

Sheet Title

BUILDING 1 DETAILS - FIRE PROTECTION

Drawn By: CAD — Checked By: SER

Scale: **NONE**

Date: **OCTOBER 4, 2019**

Project No. 2016039

1-FP6.20
Drawing No.

REGISTERED PROFESSIONAL ENGINEER
STEVEN E. RANSOM
No. M30657
EXP. JUNE 30, 2020
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Plotted By: Alex Ameri

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Seismic Bracing Calculations

Sheet 9 of X

Project: HAYWARD FIRE STATION #6
FIRE TRAINING CENTER
Address: 1401 W. WINTON AVE
HAYWARD, CA 94545

Axiom Engineers
22 Lower Ragsdale Drive, Suite A
Monterey, CA 93940
(831) 649 - 8000
(831) 649 - 8038 Fax

Brace Information

Maximum Spacing: 25'-0"
Maximum Brace Length: 7'-0"
Bracing Material: 1" Sch. 40
Angle from Vertical: 60° MINIMUM
Least radius of gyration:* 0.421"
L/R value:* 200
Maximum Horizontal load: 1604 lbs
NFPA 13: Table 9.3.5.11.8(b)

Seismic Brace Attachments

Structure attachment or tension-only bracing system:
Make: TOLCO Model: FIG 909 NO THREAD SWIVEL
Listed load rating: 2015 Adjusted load rating: 1745
Sway brace (pipe attachment) fitting:
Make: TOLCO Model: FIG 1001 SWAY CLAMP
Listed load rating: 2015 Adjusted load rating: 1745

Fastener Information

Orientation of connecting surface: NFPA Type I
Type: THROUGH BOLT
Diameter: 1/2 in
Length: 1/2 in
Maximum load: 2260 lbs
NFPA 13: Figure 9.3.5.12.1

Seismic Brace Assembly Detail
(Provide detail on plans)

SEE DETAIL 12/1-FP6.10

SEE DETERMINATION OF SEISMIC COEFFICIENT Cp ON 0-FP0.01

Brace identification no. (to be used on plans) SB-11
[X] Lateral brace [ ] Longitudinal brace

Seismic Coefficient Cp= 0.93 (See Attached NFPA13: Table 9.3.5.9.3)

Diameter	Type	Length	Total (ft)	Weight per ft	Total Weight
3 in	Sch. 10 Steel	.	20	7.94 lb/ft	158.80 lb
.	.	.	.	. lb/ft	. lb
.	.	.	.	. lb/ft	. lb
.	.	.	.	. lb/ft	. lb
.	.	.	.	. lb/ft	. lb
.	.	.	.	. lb/ft	. lb
Total Weight of Water Filled Piping					158.80 lb
Wp (Total Weight of Water Filled Piping x 1.15 to account for valves and fittings)					182.62 lb
Horizontal Force (NFPA13.9.3.5.9.3) Fpw = Cp x Wp =					169.84 lb

*Excludes tension-only bracing systems

Seismic Bracing Calculations

Sheet 6 of X

Project: HAYWARD FIRE STATION #6
FIRE TRAINING CENTER
Address: 1401 W. WINTON AVENUE
HAYWARD, CA 94545

Axiom Engineers
22 Lower Ragsdale Drive, Suite A
Monterey, CA 93940
(831) 649 - 8000
(831) 649 - 8038 Fax

Brace Information

Maximum Spacing: 40'-0"
Maximum Brace Length: 7'-0"
Bracing Material: 1" Sch. 40
Angle from Vertical: 60° MINIMUM
Least radius of gyration:* 0.421"
L/R value:* 200
Maximum Horizontal load: 1604 lbs
NFPA 13: Table 9.3.5.11.8(b)

Seismic Brace Attachments

Structure attachment or tension-only bracing system:
Make: TOLCO Model: FIG 909 NO THREAD SWIVEL
Listed load rating: 2015 Adjusted load rating: 1745
Sway brace (pipe attachment) fitting:
Make: TOLCO Model: FIG 4L IN-LINE SWAY BRACE
Listed load rating: 2015 Adjusted load rating: 1745

Fastener Information

Orientation of connecting surface: NFPA Type F
Type: THROUGH BOLT
Diameter: 1/2 in
Length: 1/2 in
Maximum load: 2850 lbs
NFPA 13: Figure 9.3.5.12.1

Seismic Brace Assembly Detail
(Provide detail on plans)

SEE DETAIL 15/1-FP6.10
SEE DETERMINATION OF SEISMIC COEFFICIENT Cp ON 0-FP0.01

Brace identification no. (to be used on plans) SB-6
[ ] Lateral brace [X] Longitudinal brace

Seismic Coefficient Cp= 0.93 (See Attached NFPA13: Table 9.3.5.9.3)

Diameter	Type	Length	Total (ft)	Weight per ft	Total Weight
3 in	Sch. 10 Steel	.	40	7.94 lb/ft	317.60 lb
.	.	.	.	. lb/ft	. lb
.	.	.	.	. lb/ft	. lb
.	.	.	.	. lb/ft	. lb
.	.	.	.	. lb/ft	. lb
.	.	.	.	. lb/ft	. lb
Total Weight of Water Filled Piping					317.60 lb
Wp (Total Weight of Water Filled Piping x 1.15 to account for valves and fittings)					365.24 lb
Horizontal Force (NFPA13.9.3.5.9.3) Fpw = Cp x Wp =					339.67 lb

*Excludes tension-only bracing systems

Seismic Bracing Calculations

Sheet 3 of X

Project: HAYWARD FIRE STATION #6
FIRE TRAINING CENTER
Address: 1401 W. WINTON AVE
HAYWARD, CA 94545

Axiom Engineers
22 Lower Ragsdale Drive, Suite A
Monterey, CA 93940
(831) 649 - 8000
(831) 649 - 8038 Fax

Brace Information

Maximum Spacing: 25'-0"
Maximum Brace Length: 7'-0"
Bracing Material: 1" Sch. 40
Angle from Vertical: 60° MINIMUM
Least radius of gyration:* 0.421"
L/R value:* 200
Maximum Horizontal load: 1604 lbs
NFPA 13: Table 9.3.5.11.8(b)

Seismic Brace Attachments

Structure attachment or tension-only bracing system:
Make: TOLCO Model: FIG 909 NO THREAD SWIVEL
Listed load rating: 2015 Adjusted load rating: 1745
Sway brace (pipe attachment) fitting:
Make: TOLCO Model: FIG 1001 SWAY CLAMP
Listed load rating: 2015 Adjusted load rating: 1745

Fastener Information

Orientation of connecting surface: NFPA Type C
Type: THROUGH BOLT
Diameter: 1/2 in
Length: 1/2 in
Maximum load: 2550 lbs
NFPA 13: Figure 9.3.5.12.1

Seismic Brace Assembly Detail
(Provide detail on plans)

SEE DETAIL 8/1-FP6.10

SEE DETERMINATION OF SEISMIC COEFFICIENT Cp ON 0-FP0.01

NOTE: LOAD LIMITED BY FIG 800 SWAY BRACE ATTACHMENT. LOAD ALONG BEAM 1265 LB

Brace identification no. (to be used on plans) SB-3
[X] Lateral brace [ ] Longitudinal brace

Seismic Coefficient Cp= 0.93 (See Attached NFPA13: Table 9.3.5.9.3)

Diameter	Type	Length	Total (ft)	Weight per ft	Total Weight
3 in	Sch. 10 Steel	.	25	7.94 lb/ft	198.5 lb
1.25	Sch. 40 Steel	.	28	2.93 lb/ft	82.04 lb
1	Sch. 40 Steel	.	99	2.05 lb/ft	202.95 lb
.	.	.	.	. lb/ft	. lb
.	.	.	.	. lb/ft	. lb
.	.	.	.	. lb/ft	. lb
Total Weight of Water Filled Piping					483.49 lb
Wp (Total Weight of Water Filled Piping x 1.15 to account for valves and fittings)					556.01 lb
Horizontal Force (NFPA13.9.3.5.9.3) Fpw = Cp x Wp =					517.10 lb

*Excludes tension-only bracing systems

Seismic Bracing Calculations

Sheet 1 of X

Project: HAYWARD FIRE STATION #6
FIRE TRAINING CENTER
Address: 1401 W. WINTON AVE
HAYWARD, CA 94545

Axiom Engineers
22 Lower Ragsdale Drive, Suite A
Monterey, CA 93940
(831) 649 - 8000
(831) 649 - 8038 Fax

Brace Information

Maximum Spacing: 10'-0"
Maximum Brace Length: 7'-0"
Bracing Material: 1" Sch. 40
Angle from Vertical: 60° MINIMUM
Least radius of gyration:* 0.421"
L/R value:* 200
Maximum Horizontal load: 1604 lbs
NFPA 13: Table 9.3.5.11.8(b)

Seismic Brace Attachments

Structure attachment or tension-only bracing system:
Make: TOLCO Model: FIG 909 NO THREAD SWIVEL
Listed load rating: 2015 Adjusted load rating: 1745
Sway brace (pipe attachment) fitting:
Make: TOLCO Model: FIG 1001 SWAY CLAMP
Listed load rating: 2015 Adjusted load rating: 1745

Fastener Information

Orientation of connecting surface: NFPA Type C
Type: THROUGH BOLT
Diameter: 1/2 in
Length: 1/2 in
Maximum load: 2550 lbs
NFPA 13: Figure 9.3.5.12.1

Seismic Brace Assembly Detail
(Provide detail on plans)

SEE DETAIL 8/1-FP6.10

SEE DETERMINATION OF SEISMIC COEFFICIENT Cp ON 0-FP0.01

NOTE: LOAD LIMITED BY FIG 800 SWAY BRACE ATTACHMENT. LOAD ALONG BEAM 1265 LB

Brace identification no. (to be used on plans) SB-1
[X] Lateral brace [ ] Longitudinal brace

Seismic Coefficient Cp= 0.93 (See Attached NFPA13: Table 9.3.5.9.3)

Diameter	Type	Length	Total (ft)	Weight per ft	Total Weight
4 in	Sch. 10 Steel	.	10	11.78 lb/ft	117.80 lb
2	Sch. 10 Steel	.	140	4.22 lb/ft	590.80 lb
.	.	.	.	. lb/ft	. lb
.	.	.	.	. lb/ft	. lb
.	.	.	.	. lb/ft	. lb
.	.	.	.	. lb/ft	. lb
Total Weight of Water Filled Piping					708.60 lb
Wp (Total Weight of Water Filled Piping x 1.15 to account for valves and fittings)					814.89 lb
Horizontal Force (NFPA13.9.3.5.9.3) Fpw = Cp x Wp =					757.85 lb

*Excludes tension-only bracing systems

Seismic Bracing Calculations

Sheet 7 of X

Project: HAYWARD FIRE STATION #6
FIRE TRAINING CENTER
Address: 1401 W. WINTON AVE
HAYWARD, CA 94545

Axiom Engineers
22 Lower Ragsdale Drive, Suite A
Monterey, CA 93940
(831) 649 - 8000
(831) 649 - 8038 Fax

Brace Information

Maximum Spacing: 25'-0"
Maximum Brace Length: 7'-0"
Bracing Material: 1" Sch. 40
Angle from Vertical: 60° MINIMUM
Least radius of gyration:* 0.421"
L/R value:* 200
Maximum Horizontal load: 1604 lbs
NFPA 13: Table 9.3.5.11.8(b)

Seismic Brace Attachments

Structure attachment or tension-only bracing system:
Make: TOLCO Model: FIG 909 NO THREAD SWIVEL
Listed load rating: 2015 Adjusted load rating: 1745
Sway brace (pipe attachment) fitting:
Make: TOLCO Model: FIG 1001 SWAY CLAMP
Listed load rating: 2015 Adjusted load rating: 1745

Fastener Information

Orientation of connecting surface: NFPA Type I
Type: THROUGH BOLT
Diameter: 1/2 in
Length: 1/2 in
Maximum load: 2260 lbs
NFPA 13: Figure 9.3.5.12.1

Seismic Brace Assembly Detail
(Provide detail on plans)

SEE DETAIL 12/1-FP6.10

SEE DETERMINATION OF SEISMIC COEFFICIENT Cp ON 0-FP0.01

Brace identification no. (to be used on plans) SB-7
[X] Lateral brace [ ] Longitudinal brace

Seismic Coefficient Cp= 0.93 (See Attached NFPA13: Table 9.3.5.9.3)

Diameter	Type	Length	Total (ft)	Weight per ft	Total Weight
2.5 in	Sch. 10 Steel	.	15	5.89 lb/ft	29.45 lb
1.5 in	Sch. 40 Steel	.	8	3.61 lb/ft	28.88 lb
1.25 in	Sch. 40 Steel	.	49	2.93 lb/ft	143.57 lb
1 in	Sch. 40 Steel	.	131	2.05 lb/ft	268.55 lb
.	.	.	.	. lb/ft	. lb
.	.	.	.	. lb/ft	. lb
Total Weight of Water Filled Piping					470.45 lb
Wp (Total Weight of Water Filled Piping x 1.15 to account for valves and fittings)					541.02 lb
Horizontal Force (NFPA13.9.3.5.9.3) Fpw = Cp x Wp =					503.15 lb

*Excludes tension-only bracing systems

Seismic Bracing Calculations

Sheet 4 of X

Project: HAYWARD FIRE STATION #6
FIRE TRAINING CENTER
Address: 1401 W. WINTON AVENUE
HAYWARD, CA 94545

Axiom Engineers
22 Lower Ragsdale Drive, Suite A
Monterey, CA 93940
(831) 649 - 8000
(831) 649 - 8038 Fax

Brace Information

Maximum Spacing: 40'-0"
Maximum Brace Length: 7'-0"
Bracing Material: 1" Sch. 40
Angle from Vertical: 60° MINIMUM
Least radius of gyration:* 0.421"
L/R value:* 200
Maximum Horizontal load: 1604 lbs
NFPA 13: Table 9.3.5.11.8(b)

Seismic Brace Attachments

Structure attachment or tension-only bracing system:
Make: TOLCO Model: FIG 909 NO THREAD SWIVEL
Listed load rating: 2015 Adjusted load rating: 1745
Sway brace (pipe attachment) fitting:
Make: TOLCO Model: FIG 4L IN-LINE SWAY BRACE
Listed load rating: 2015 Adjusted load rating: 1745

Fastener Information

Orientation of connecting surface: NFPA Type I
Type: THROUGH BOLT
Diameter: 1/2 in
Length: 1/2 in
Maximum load: 2260 lbs
NFPA 13: Figure 9.3.5.12.1

Seismic Brace Assembly Detail
(Provide detail on plans)

SEE DETAIL 13/1-FP6.10
SEE DETERMINATION OF SEISMIC COEFFICIENT Cp ON 0-FP0.01

Brace identification no. (to be used on plans) SB-4
[ ] Lateral brace [X] Longitudinal brace

Seismic Coefficient Cp= 0.93 (See Attached NFPA13: Table 9.3.5.9.3)

Diameter	Type	Length	Total (ft)	Weight per ft	Total Weight
3 in	Sch. 10 Steel	.	40	7.94 lb/ft	317.60 lb
.	.	.	.	. lb/ft	. lb
.	.	.	.	. lb/ft	. lb
.	.	.	.	. lb/ft	. lb
.	.	.	.	. lb/ft	. lb
.	.	.	.	. lb/ft	. lb
Total Weight of Water Filled Piping					317.60 lb
Wp (Total Weight of Water Filled Piping x 1.15 to account for valves and fittings)					365.24 lb
Horizontal Force (NFPA13.9.3.5.9.3) Fpw = Cp x Wp =					339.67 lb

*Excludes tension-only bracing systems

Seismic Bracing Calculations

Sheet 2 of X

Project: HAYWARD FIRE STATION #6
FIRE TRAINING CENTER
Address: 1401 W. WINTON AVENUE
HAYWARD, CA 94545

Axiom Engineers
22 Lower Ragsdale Drive, Suite A
Monterey, CA 93940
(831) 649 - 8000
(831) 649 - 8038 Fax

Brace Information

Maximum Spacing: 40'-0"
Maximum Brace Length: 7'-0"
Bracing Material: 1" Sch. 40
Angle from Vertical: 60° MINIMUM
Least radius of gyration:* 0.421"
L/R value:* 200
Maximum Horizontal load: 1604 lbs
NFPA 13: Table 9.3.5.11.8(b)

Seismic Brace Attachments

Structure attachment or tension-only bracing system:
Make: TOLCO Model: FIG 909 NO THREAD SWIVEL
Listed load rating: 2015 Adjusted load rating: 1745
Sway brace (pipe attachment) fitting:
Make: TOLCO Model: FIG 4L IN-LINE SWAY BRACE
Listed load rating: 2015 Adjusted load rating: 1745

Fastener Information

Orientation of connecting surface: NFPA Type C
Type: THROUGH BOLT
Diameter: 1/2 in
Length: 1/2 in
Maximum load: 2550 lbs
NFPA 13: Figure 9.3.5.12.1

Seismic Brace Assembly Detail
(Provide detail on plans)

SEE DETAIL 9/1-FP6.10
SEE DETERMINATION OF SEISMIC COEFFICIENT Cp ON 0-FP0.01

NOTE: LOAD LIMITED BY FIG 800 SWAY BRACE ATTACHMENT. LOAD ALONG BEAM 1265 LB

Brace identification no. (to be used on plans) SB-2
[ ] Lateral brace [X] Longitudinal brace

Seismic Coefficient Cp= 0.93 (See Attached NFPA13: Table 9.3.5.9.3)

Diameter	Type	Length	Total (ft)	Weight per ft	Total Weight
6 in	Sch. 10 Steel	.	40	23.03 lb/ft	921.20 lb
.	.	.	.	. lb/ft	. lb
.	.	.	.	. lb/ft	. lb
.	.	.	.	. lb/ft	. lb
.	.	.	.	. lb/ft	. lb
.	.	.	.	. lb/ft	. lb
Total Weight of Water Filled Piping					921.20 lb
Wp (Total Weight of Water Filled Piping x 1.15 to account for valves and fittings)					1059.38 lb
Horizontal Force (NFPA13.9.3.5.9.3) Fpw = Cp x Wp =					985.22 lb

*Excludes tension-only bracing systems

Seismic Bracing Calculations

Sheet 8 of X

Project: HAYWARD FIRE STATION #6
FIRE TRAINING CENTER
Address: 1401 W. WINTON AVE
HAYWARD, CA 94545

Axiom Engineers
22 Lower Ragsdale Drive, Suite A
Monterey, CA 93940
(831) 649 - 8000
(831) 649 - 8038 Fax

Brace Information

Maximum Spacing: 40'-0"
Maximum Brace Length: 7'-0"
Bracing Material: 1" Sch. 40
Angle from Vertical: 60° MINIMUM
Least radius of gyration:* 0.421"
L/R value:* 200
Maximum Horizontal load: 1604 lbs
NFPA 13: Table 9.3.5.11.8(b)

Seismic Brace Attachments

Structure attachment or tension-only bracing system:
Make: TOLCO Model: FIG 909 NO THREAD SWIVEL
Listed load rating: 2015 Adjusted load rating: 1745
Sway brace (pipe attachment) fitting:
Make: TOLCO Model: FIG 1001 SWAY CLAMP
Listed load rating: 2015 Adjusted load rating: 1745

Fastener Information

Orientation of connecting surface: NFPA Type F
Type: THROUGH BOLT
Diameter: 1/2 in
Length: 1/2 in
Maximum load: 2850 lbs
NFPA 13: Figure 9.3.5.12.1

Seismic Brace Assembly Detail
(Provide detail on plans)

SEE DETAIL 14/1-FP6.10

SEE DETERMINATION OF SEISMIC COEFFICIENT Cp ON 0-FP0.01

Brace identification no. (to be used on plans) SB-9
[X] Lateral brace [ ] Longitudinal brace

Seismic Coefficient Cp= 0.93 (See Attached NFPA13: Table 9.3.5.9.3)

Diameter	Type	Length	Total (ft)	Weight per ft	Total Weight
3 in	Sch. 10 Steel	.	40	7.94 lb/ft	317.60 lb
.	.	.	.	. lb/ft	. lb
.	.	.	.	. lb/ft	. lb
.	.	.	.	. lb/ft	. lb
.	.	.	.	. lb/ft	. lb
.	.	.	.	. lb/ft	. lb
Total Weight of Water Filled Piping					317.60 lb
Wp (Total Weight of Water Filled Piping x 1.15 to account for valves and fittings)					365.24 lb
Horizontal Force (NFPA13.9.3.5.9.3) Fpw = Cp x Wp =					339.67 lb

*Excludes tension-only bracing systems

Seismic Bracing Calculations

Sheet 5 of X

Project: HAYWARD FIRE STATION #6
FIRE TRAINING CENTER
Address: 1401 W. WINTON AVE
HAYWARD, CA 94545

Axiom Engineers
22 Lower Ragsdale Drive, Suite A
Monterey, CA 93940
(831) 649 - 8000
(831) 649 - 8038 Fax

Brace Information

Maximum Spacing: 25'-0"
Maximum Brace Length: 7'-0"
Bracing Material: 1" Sch. 40
Angle from Vertical: 60° MINIMUM
Least radius of gyration:* 0.421"
L/R value:* 200
Maximum Horizontal load: 1604 lbs
NFPA 13: Table 9.3.5.11.8(b)

Seismic Brace Attachments

Structure attachment or tension-only bracing system:
Make: TOLCO Model: FIG 909 NO THREAD SWIVEL
Listed load rating: 2015 Adjusted load rating: 1745
Sway brace (pipe attachment) fitting:
Make: TOLCO Model: FIG 1001 SWAY CLAMP
Listed load rating: 2015 Adjusted load rating: 1745

Fastener Information

Orientation of connecting surface: NFPA Type C
Type: THROUGH BOLT
Diameter: 1/2 in
Length: 1/2 in
Maximum load: 2550 lbs
NFPA 13: Figure 9.3.5.12.1

Seismic Brace Assembly Detail
(Provide detail on plans)

SEE DETAIL 8/1-FP6.10

SEE DETERMINATION OF SEISMIC COEFFICIENT Cp ON 0-FP0.01

NOTE: LOAD LIMITED BY FIG 800 SWAY BRACE ATTACHMENT. LOAD ALONG BEAM 1265 LB

Brace identification no. (to be used on plans) SB-5
[X] Lateral brace [ ] Longitudinal brace

Seismic Coefficient Cp= 0.93 (See Attached NFPA13: Table 9.3.5.9.3)

Diameter	Type	Length	Total (ft)	Weight per ft	Total Weight
6 in	Sch. 10 Steel	.	40	23.03 lb/ft	921 lb
.	.	.	.	. lb/ft	. lb
.	.	.	.	. lb/ft	. lb
.	.	.	.	. lb/ft	. lb
.	.	.	.	. lb/ft	. lb
.	.	.	.	. lb/ft	. lb
Total Weight of Water Filled Piping					921.20 lb
Wp (Total Weight of Water Filled Piping x 1.15 to account for valves and fittings)					1059.38 lb
Horizontal Force (NFPA13.9.3.5.9.3) Fpw = Cp x Wp =					985.22 lb

*Excludes tension-only bracing systems

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS [X] FLS [X] ACS [ ]
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, DIR. OF PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3 - INCREMENT #1

Sheet Title

BUILDING 1 SEISMIC BRACING CALCULATIONS - FIRE PROTECTION

Drawn By: CAD Checked By: SER

Scale: NONE

Date: OCTOBER 4, 2019

Project No. 2016039

1-FP6.30

Drawing No.

REGISTERED PROFESSIONAL ENGINEER
STEVEN E. RAMSON
No. M30657
EXP. JUNE 30, 2020
MECHANICAL
STATE OF CALIFORNIA

ph. (831) 649-8000
fx. (831) 649-8038
www.axiomengineers.com
AXIOM ENGINEERS SM
CONSULTING ENGINEERS
AE Project #: 20180232
22 Lower Ragsdale Dr., Suite A
Monterey, California 93940-5788

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MECHANICAL LEGEND AND ABBREVIATIONS

ABBREVIATIONS - MECHANICAL

ABV	ABOVE
AC	AIR CONDITIONING UNIT
ACC	AIR COOLED CONDENSER
ACD	AUTOMATIC CONTROL DAMPER
AD	ACCESS DOOR
AHU	AIR HANDLING UNIT
AL	ACOUSTICAL LINING
ARCH	ARCHITECTURAL
ATC	AUTOMATIC TEMPERATURE CONTROL
BD	BALANCING DAMPER
BDD	BACK DRAFT DAMPER
BMS	BUILDING MANAGEMENT SYSTEM
BO	BLANK OFF
BHP	BRAKE HORSE POWER
BTU	BRITISH THERMAL UNIT
CA	COMPRESSED AIR
CC	COOLING COIL
CD	CEILING DIFFUSER
CFM	CUBIC FEET PER MINUTE
CG	CEILING GRILLE
CH	CHILLER
CM	CARBON MONOXIDE
CO	CLEAN OUT
COMP	COMPRESSOR
CR	CEILING REGISTER
CU	CONDENSING UNIT
DB	DRY BULB
DIA	DIAMETER
DN	DOWN
DX	DIRECT EXPANSION
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EDB	ENTERING DRY BULB
EF	EXHAUST FAN
EFF	EFFICIENCY
ELEV	ELEVATOR
EWB	ENTERING WET BULB
EWT	ENTERING WATER TEMPERATURE
°F	DEGREES FAHRENHEIT
F	FILTER
FBO	FURNISHED BY OTHERS
FC	FLEXIBLE CONNECTION (DUCT OR PIPE)
FCC	FIRE CONTROL CENTER
FCU	FAN COIL UNIT
FD	FUSIBLE LINK FIRE DAMPER W/ DUCT ACCESS DOOR
FLR	FLOOR
FLA	FULL LOAD AMPS
FPB	FAN POWERED BOX
FPI	FINS PER INCH
FRE	FIRE RATED ENCLOSURE
FSD	COMBINATION FIRE AND SMOKE DAMPER
FT	FEET
GPM	GALLONS PER MINUTE
GX	GENERAL EXHAUST
HC	HEATING COIL
HTP	HEAT PUMP
HP	HORSE POWER
HR	HOUR
HV	HEATING AND VENTILATING UNIT
HW	HOT WATER
HX	HEAT EXCHANGER
ID	INSIDE DIMENSION
KW	KILOWATT
KWH	KILOWATT HOURS
KX	KITCHEN EXHAUST
LAT	LEAVING AIR TEMPERATURE
LBS	POUNDS
LD	LINEAR DIFFUSER (CEILING, WALL, SILL OR FLOOR)
LRA	LOCK ROTOR AMPS
LWS	LOUVER WITH WIRE SCREEN
LWT	LEAVING WATER TEMPERATURE
MAT	MIXED AIR TEMPERATURE
MAX	MAXIMUM
MBH	THOUSAND BTU PER HOUR
MFG	MANUFACTURER
MFS	MAXIMUM FUSE SIZE
MIN	MINIMUM
MUA	MAKE UP AIR UNIT
MOCP	MAXIMUM OVERCURRENT PROTECTION
NC	NORMALLY CLOSED
NFA	NET FREE AREA
NIC	NOT IN THIS CONTRACT
NK	NECK
NO	NORMALLY OPEN
NTS	NOT TO SCALE
OAI	OUTSIDE AIR INTAKE
OBD	OPPOSED BLADE DAMPER
OD	OUTSIDE DIMENSION
P	PUMP
PD	PRESSURE DROP
PRV	PRESSURE REDUCING VALVE
PSI	POUNDS PER SQUARE INCH (GAUGE)
PSIA	POUNDS PER SQUARE INCH ABSOLUTE
RA	RETURN AIR
RF	RETURN FAN
RH	RELATIVE HUMIDITY
RHC	REHEAT COIL

ABBREVIATIONS - MECHANICAL

RPM	REVOLUTIONS PER MINUTE
SA	SUPPLY AIR
SAD	SEE ARCHITECTURAL DRAWINGS
SD	SMOKE DAMPER
SF	SUPPLY FAN
SED	SEE ELECTRICAL DRAWINGS
SENS	SENSIBLE
SM	SHEET METAL
SP	STATIC PRESSURE
SQFT	SQUARE FEET
ST	SOUND TRAP
TF	TRANSFER FAN
TRD	TRANSFER DUCT
TRG	TRANSFER GRILLE
TX	TOILET EXHAUST
TYP	TYPICAL
UH	UNIT HEATER
UON	UNLESS OTHERWISE NOTED
VAR	VARIABLE
VAV	VARIABLE AIR VOLUME
VD	VOLUME DAMPER
VFD	VARIABLE FREQUENCY DRIVE
W/	WITH
WB	WET BULB
WG	WATER GAUGE
WMS	WIRE MESH SCREEN
WO-SIZE	WALL OPENING - [SIZE]
(300)	CUBIC FEET OR AIR PER MINUTE OR GALLONS PER MINUTE

PIPING LEGEND

CHWS / CHWS	CHILLED WATER SUPPLY
CHWR / CHWR	CHILLED WATER RETURN
HWS / HWS	HOT WATER SUPPLY
HWR / HWR	HOT WATER RETURN
RL / RL	REFRIGERANT LIQUID PIPING
RS / RS	REFRIGERANT SUCTION PIPING
R-SV / R-SV	REFRIGERANT-SAFETY VALVE RELIEF LINE
HG / HG	HOT GAS PIPING
DCW / DCW	DOMESTIC COLD WATER MAKE-UP
	ARROW INDICATES DIRECTION OF FLOW
	PITCH PIPE DOWN IN DIRECTION OF ARROW
D / D	DRAIN LINE
	PIPE ANCHOR
	PIPE GUIDE
	EXPANSION COMPENSATOR
(3'-0"x6'-0") (3'-0"x6'-0") A B	EXPANSION LOOP (SIZE AxB)
	CONCENTRIC REDUCER (INCREASER)
	ECCENTRIC REDUCER (INCREASER)
	UNION
	"Y" TYPE STRAINER WITH HOSE END BLOW OFF VALVE
	"Y" TYPE STRAINER

PIPING LEGEND (CONTINUED)

	ELBOW TURNED UP
	ELBOW TURNED DOWN
	BOTTOM PIPE CONNECTION
	TOP PIPE CONNECTION
	SLOPED CHANGE IN PIPE ELEVATION
	FLEXIBLE CONNECTION
	SHUT-OFF VALVE
	AUTOMATIC FLOW CONTROL VALVE
	CALIBRATED BALANCE VALVE
	GLOBE VALVE
	CHECK VALVE
	AUTOMATIC THREE-WAY CONTROL VALVE
	AUTOMATIC TWO-WAY CONTROL VALVE
S	RELIEF VALVE
S	ANGLE RELIEF VALVE
	PRESSURE REDUCING VALVE (PRV)
	LUBRICATED PLUG VALVE
	LOCKSHIELD GLOBE VALVE
	SOLENOID VALVE
	BUTTERFLY VALVE (MANUAL)
	BUTTERFLY VALVE (MOTORIZED)
	BALL VALVE
	PUMP
	DIRT POCKET
	REFRIGERANT EXPANSION VALVE
	SIGHT GLASS
	VALVE IN VERTICAL
	MANUAL AIR VENT
A	AUTOMATIC AIR VENT
	THERMOMETER
	PIPE SENSOR WELL (THERMOMETER)
	PRESSURE GAUGE AND COCK
	TEMPERATURE-PRESSURE TEST FITTING
℄	CENTER LINE
	PIPE SLEEVE
	BEAM PENETRATION
	PIPE GUIDE
	PIPE CAP
	PIPE BLIND FLANGE

DUCTWORK LEGEND

16x6 8x6 16x6 8x6	DUCT SPLIT WITH SPLIT SIZE
	RADIUS ELBOW
	ELBOW WITH TURNING VANES
	RECTANGULAR BRANCH TAKEOFF WITH BALANCING DAMPER
	RECTANGULAR SUPPLY DUCT UP

DUCTWORK LEGEND (CONTINUED)

	RECTANGULAR SUPPLY DUCT DOWN
	RECTANGULAR RETURN OR EXHAUST DUCT UP
	RECTANGULAR RETURN OR EXHAUST DUCT DOWN
	ROUND DUCT, UP
	ROUND DUCT, DOWN
	BEAM PENETRATION
R	SLOPING RISE IN DUCTWORK
D	SLOPING DROP IN DUCTWORK
18x12 18x12	DUCT SIZE (CLEAR INSIDE DIMENSION) FIRST FIGURE INDICATES PLAN SIZE
18 18	ROUND DUCT DIAMETER SIZE (CLEAR INSIDE DIMENSION)
18 18	OVAL DUCT SIZE
	SIDE, TOP OR BOTTOM DUCT ACCESS DOOR
	ACOUSTIC LINING IN DUCT (DUCT SIZE NOTED INDICATES INSIDE DIMENSIONS)
	ACOUSTIC ENCASED FAN
	RECTANGULAR OR SQUARE TO ROUND OR OVAL TRANSITION
	FLEXIBLE CONNECTION
	DUCT END/CAP
	FLEXIBLE DUCT
	DUCT COIL WITH ACCESS DOOR
	VOLUME DAMPER IN DUCT
	AUTOMATIC CONTROL DAMPER
	FUSIBLE LINK FIRE DAMPER WITH DUCT ACCESS DOOR
	SMOKE DAMPER WITH DUCT ACCESS DOOR
	COMBINATION FIRE AND SMOKE DAMPER WITH DUCT ACCESS DOOR
	BACK DRAFT DAMPER WITH DUCT ACCESS DOOR
	LINEAR DIFFUSER
	LINEAR DIFFUSER WITH PLENUM
	CEILING DIFFUSER: 1-WAY BLOW, 2-WAY BLOW, 3-WAY BLOW, 4-WAY BLOW
	CEILING DIFFUSER WITH FLEXIBLE DUCT CONNECTION
	RETURN/EXHAUST REGISTER OR GRILLE
	RETURN/EXHAUST REGISTER OR GRILLE WITH FLEXIBLE DUCT CONNECTION
	ROUND CEILING DIFFUSER WITH FLEXIBLE DUCT CONNECTION
	ROUND CEILING DIFFUSER
	FIRE RATED ENCASED DUCT

DUCTWORK LEGEND (CONTINUED)

	TRANSFER GRILLES ON BOTH SIDES OF PARTITION OR WALL (SIZE)
WO-SIZE	WALL OPENING ABOVE HUNG CEILING (SIZE)
SR-A 12x8 (200) SR-A 12x8 (200)	SUPPLY REGISTER WITH AIR OUTLET DEVICE DESIGNATION
ER-C 12x8 (200) ER-C 12x8 (200)	RETURN OR EXHAUST REGISTER OR GRILLE WITH AIR INLET DEVICE DESIGNATION
ACCESS AREA	TERMINAL UNIT WITH/WITHOUT HEATING COIL

CONTROLS LEGEND

B B	TOTALIZING BTU METER
E	EMERGENCY BREAK GLASS SWITCH FOR EQUIPMENT SHUT-DOWN
F F	FLOW MEASURING STATION
	FLOW SWITCH
CO #	CARBON MONOXIDE SENSOR WITH ZONE DESIGNATION
CD #	CARBON DIOXIDE SENSOR WITH ZONE DESIGNATION
T #	TEMPERATURE SENSOR/THERMOSTAT WITH ZONE OR EQUIPMENT DESIGNATION
H #	HUMIDISTAT/HUMIDITY SENSOR WITH HUMIDIFIER DESIGNATION
S	DUCT SMOKE DETECTOR SUPPLIED BY ELECTRICAL TRADE, INSTALLED BY MECHANICAL TRADE
P #	STATIC PRESSURE SENSOR WITH DESIGNATION

MISCELLANEOUS

DP	DIFFERENTIAL PRESSURE SENSOR
DP	DIFFERENTIAL PRESSURE SWITCH
	POINT OF NEW CONNECTION TO EXISTING WORK
	OVAL
∅	DIAMETER
U	UNDERCUT DOOR
HW 1	RISER DESIGNATION — RISER SERVICE, RISER NUMBER
2 M3.1	SECTION DESIGNATION — SECTION NUMBER, DRAWING NUMBER
1 M2.1	DETAIL DESIGNATION — DETAIL NUMBER, DRAWING NUMBER
CT 1-1	EQUIPMENT DESIGNATION — EQUIPMENT TYPE, EQUIPMENT FLOOR AND NUMBER
3-24	TERMINAL DESIGNATION — 3-24: THE NUMBER ON THE FLOOR, FLOOR OR LEVEL
CD-1,12x12 (550)	AIR OUTLET/INLET DEVICE DESIGNATION — CD-1,12x12 (550): TYPE, NECK OR FACE SIZE, CFM
LD-A,48x1.8/ (300)	LINEAR DIFFUSER DEVICE DESIGNATION — LD-A,48x1.8/ (300): TYPE, LENGTH & SLOT SIZE, PLENUM INLET SIZE, CFM

HAYWARD FIRE TRAINING FACILITY
BUILDING 1 - MECHANICAL DRAWING LIST
11/2/2019
WSP PROJECT: B17.07369.000

DRAWING NUMBER	DRAWING NAME	SCALE	80%DD	100%DD	50%CD	90%CD
			8/11/2017	9/1/2017	1/17/2018	11/2/2018
1-M0.01	MECHANICAL LEGEND, ABBREVIATIONS AND DRAWING LIST	NTS	X	X	X	X
1-M0.02	MECHANICAL SCHEDULES	NTS	X	X	X	X
1-M0.03	MECHANICAL SCHEDULES	NTS				X
1-M0.04	MECHANICAL TITLE 24 DOCUMENTATION	NTS				X
1-M0.05	MECHANICAL TITLE 24 DOCUMENTATION	NTS				X
1-M0.06	MECHANICAL TITLE 24 DOCUMENTATION	NTS				X
1-M2.01	MECHANICAL FS#6 / CLASSROOM FIRST FLOOR PLAN	1/8" = 1'	X	X	X	X
1-M2.02	MECHANICAL FS#6 / CLASSROOM SECOND FLOOR PLAN	1/8" = 1'	X	X	X	X
1-M2.03	MECHANICAL FS#6 / CLASSROOM ROOF PLAN	1/8" = 1'	X	X	X	X
1-M3.01	MECHANICAL SECTIONS	1/2" = 1'				X
1-M3.02	MECHANICAL ENLARGED PLANS	1/2" = 1'				X
1-M4.01	BUILDING 1 MECHANICAL AIR RISER DIAGRAM	NTS				X
1-M4.02	BUILDING 1 MECHANICAL WATER RISER DIAGRAM	NTS				X
1-M4.03	BUILDING 1 MECHANICAL VRF DIAGRAM	NTS				X
1-M5.01	MECHANICAL DETAILS	NTS				X
1-M5.02	MECHANICAL DETAILS	NTS				X
1-M5.03	MECHANICAL DETAILS	NTS				X
1-M5.04	MECHANICAL DETAILS	NTS				X
1-M5.05	MECHANICAL DETAILS	NTS				X

GENERAL NOTES:

A. ALL DUCT INSULATION SHALL BE INSTALLED IN COMPLIANCE WITH 2016 CALIFORNIA BUILDING ENERGY EFFICIENCY STANDARDS SECTION 120.4.
B. ALL PIPING INSULATION SHALL BE INSTALLED IN COMPLIANCE WITH 2016 CALIFORNIA BUILDING ENERGY EFFICIENCY STANDARDS SECTION 120.3.

September 13, 2016

MEP Component Anchorage Note

All mechanical, plumbing, and electrical components shall be anchored and installed per the details on the DSA approved construction documents. Where no detail is indicated, the following components shall be anchored or braced to meet the force and displacement requirements prescribed in the 2016 CBC, Sections 1616A.1.18 through 1616A.1.26 and ASCE 7-10 Chapter 13, 26 and 30.

1. All permanent equipment and components.
2. Temporary or movable equipment that is permanently attached (e.g. hard wired) to the building utility services such as electricity, gas or water.
3. Movable equipment which is stationed in one place for more than 8 hours and heavier than 400 pounds or has a center of mass located 4 feet or more above the adjacent floor or roof level that directly support the component are required to be anchored with temporary attachments.

The following mechanical and electrical components shall be positively attached to the structure, but the attachment need not be detailed on the plans. These components shall have flexible connections provided between the component and associated ductwork, piping, and conduit.

A. Components weighing less than 400 pounds and have a center of mass located 4 feet or less above the adjacent floor or roof level that directly support the component.
B. Components weighing less than 20 pounds, or in the case of distributed systems, less than 5 pounds per foot, which are suspended from a roof or floor or hung from a wall.

For those elements that do not require details on the approved drawings, the installation shall be subject to the approval of the design professional in general responsible charge or structural engineer delegated responsibility and the DSA District Structural Engineer. The project inspector will verify that all components and equipment have been anchored in accordance with above requirements.

Piping, Ductwork, and Electrical Distribution System Bracing Note

Piping, ductwork, and electrical distribution systems shall be braced to comply with the forces and displacements prescribed in ASCE 7-10 Section 13.3 as defined in ASCE 7-10 Section 13.6.5.6, 13.6.7, 13.6.8, and 2016 CBC, Sections 1616A.1.24, 1616A.1.25 and 1616A.1.26.

The method of showing bracing and attachments to the structure for the identified distribution system are as noted below. When bracing and attachments are based on a preapproved installation guide (e.g., SMACNA or OSHPD OPM), copies of the bracing system installation guide or manual shall be available on the jobsite prior to the start of and during the hanging and bracing of the distribution systems. The Structural Engineer of Record shall verify the adequacy of the structure to support the hanger and brace loads.

Mechanical Piping (MP), Mechanical Ducts (MD), Plumbing Piping (PP), Electrical Distribution Systems (E):

MP☐MD☐PP☐ E☐ - Option 1: Detailed on the approved drawings with project specific notes and details.

MP☒MD☒PP☐ E☐ - Option 2: Shall comply with the applicable OSHPD Pre-Approval (OPM #) OPM-0043-13 MASON WEST

MP☐MD☐PP☐ - Option 3: Shall comply with the SMACNA Seismic Restraint Manual, OSHPD Edition (2009), including any addenda. Fasteners and other attachments not specifically identified in the SMACNA Seismic Restraint Manual, OSHPD Edition, are detailed on the approved drawings with project specific notes and details. The details shall account for the applicable Seismic Hazard Level _____ and Connection Level _____ for the project and conditions.

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery ARCHITECTURE
18294 Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY
DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER — TODD M SEE — No. M30765 — MECHANICAL — STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

MECHANICAL LEGEND, ABBREVIATIONS AND DRAWING LIST

Drawn By: MCE Checked By: TMS

Scale: **NTS**

Date: **October 4, 2019**

Project No. B17.07369

1-M0.01
Drawing No.

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HEAT RECOVERY AIR COOLED CHILLER

DESIGNATION	LOCATION / SERVICE	MANUF. MODEL NUMBER	TYPE	REFRIGERANT	CAPACITY (TONS)	COMPRESSOR		EVAPORATOR COIL - COOLING						EVAPORATOR COIL - HEATING						CONDENSER						ELECTRICAL DATA					EMERG. POWER (Y/N)	VAR. SPEED (Y/N)	OPER. WEIGHT (LBS)	NOTES
						NO.	RLA	EWT (°F)	LWT (°F)	GPM	PD (FT H2O)	FOULING FACTOR	PRESS. RATING (PSIG)	EWT (°F)	LWT (°F)	GPM	PD (FT H2O)	FOULING FACTOR	PRESS. RATING (PSIG)	FANS NO.	FANS TYPE	FANS HP (kW)	COOLING AMBIENT DRY BULB (°F)	HEATING AMBIENT DRY BULB (°F)	COIL SURFACE AREA (SF)	COOLING KW/TON	SIMULTANEOUS KW/TON	VOLTAGE/ PHASE	UNIT MCA	UNIT MOCP				
CH-B1-1	BUILDING 1 EQUIPMENT YARD	MULTISTACK ARA020	SCROLL	R-410A	20	2	20.3	58	45	120	6.2	0.0001	150	105	125	90	6.0	0.0001	150	2	ECM	9	95	32	25.6	1.079	1.185	460/3			Y	Y		
		MULTISTACK ARA020	SCROLL	R-410A	20	2	20.3	58	45	120	6.2	0.0001	150	105	125	90	6.0	0.0001	150	2	ECM	9	95	32	25.6	1.079	1.185	460/3	160	200	Y	Y	5,460	1, 2, 3, 4
		MULTISTACK ARA020	SCROLL	R-410A	20	2	20.3	58	45	120	6.2	0.0001	150	105	125	90	6.0	0.0001	150	2	ECM	9	95	32	25.6	1.079	1.185	460/3			Y	Y		

NOTES:
1. PROVIDE WITH VARIABLE FLOW VALVES FOR CONDENSER AND EVAPORATOR AND VARIABLE FLOW LEAVING WATER TEMPERATURE CONTROLS.
2. PROVIDE LEAD/LAG COMPRESSOR SEQUENCING.
3. UNIT SHALL HAVE SINGLE POINT POWER CONNECTION FOR ALL THREE MODULES.
4. UNIT SHALL HAVE BACNET INTERFACE.

AIR HANDLING UNIT (COOLING/HEATING)

DESIGNATION	MANUF. MODEL NUMBER	LOCATION / SERVICE	TOTAL AIFLOW CFM	MINIMUM OUTSIDE AIR CFM	SUPPLY FAN						HYDRONIC COOLING COIL										HYDRONIC HEATING COIL								AIR FILTER (PRE-FILTER)					AIR FILTER (FINAL)									
					CFM	QTY	EXT. S.P. (IN. WG.)	RPM	BHP	MOTOR HP	EAT		LAT		CAPACITY		GPM	EWT (°F)	LWT (°F)	P.D. AIR (IN. WG.)	P.D. WATER FT. H2O	FACE VELOCITY (FPM)	EAT (°F)	LAT (°F)	CAPACITY MBH	GPM	EWT (°F)	LWT (°F)	P.D. AIR (IN. WG.)	P.D. WATER FT. H2O	FACE VELOCITY (FPM)	SPEC. TYPE	FACE VELOCITY FPM	P.D. (IN. W.G.)		ASHRAE 52.2-1999 MERV	SPEC. TYPE	FACE VELOCITY FPM	P.D. (IN. W.G.)		ASHRAE 52.2-1999 MERV	VOLTAGE/ PHASE	FLA	EMERGENCY POWER	OPERATING WEIGHT (LBS)	NOTES
											DB (°F)	WB (°F)	DB (°F)	WB (°F)	TOTAL MBH	SENSIBLE MBH																	INITIAL	FINAL					INITIAL	FINAL						
AHU-B1-1	HUNTAIR	EQUIPMENT YARD	15,000	3,450	15,000	4	2.25	4 @ 2450	4 @ 3.58	4.5	76.9	63.0	52.4	52.0	484.8	392.1	74.4	45	58	0.49	10.63	409	40.8	71.8	177.8	18.0	125	105	0.01	2.64	154	B	500	0.2	1.0	8	C	500	0.3	1.0	13	460/3	22.8	Y	8,400	1,2,3,4,5 ,6,7,8,9,10
AHU-B1-2	HUNTAIR	MECHANICAL ROOM	4,100	550	4,100	2	2.0	2 @ 2900	2 @ 1.69	3	76.1	64.7	52.2	51.9	149.5	104.6	22.9	45	58	0.28	8.4	288	50.9	73.5	28.5	2.9	125	105	0.01	8.3	148	B	500	0.2	1.0	8	C	500	0.3	1.0	13	460/3	7.4	Y	4,350	1,2,3,4,5 ,6,7,8,9,10

NOTES:
1. UNIT SHALL BE PROVIDED WITH A FAN WALL ARRAY. SEE SCHEDULE FOR NUMBER OF ACTIVE FANS. PROVIDE (2) VARIABLE FREQENCY DRIVES, EACH CONTROLLING HALF OF THE FAN ARRAY.
2. PROVIDE ACOUSTIC SOUND ATTENUATORS. ATTENUATORS SHALL BE FACTORY INSTALLED BY AHU MANUFACTURER.
3. PROVIDE INTEGRAL BACKDRAFT DAMPERS UPSTREAM OF EACH FAN TO ELIMINATE AIR BYBASS UNDER PART-LOAD CONDITIONS.
4. REFER TO ARCHITECTURAL DETAILS FOR MOUNTING AND OUTSIDE AIR/RELIEF AIR PENTRATIONS.
5. PROVIDE DOUBLE-LAYER NEOPRENE BASE ISOLATION PADS.
6. COOLING COIL UTILIZES CHW. HEATING COIL UTILIZES HW. BOTH COILS TO BE SPLIT COIL TYPE TO LIMIT MAINTENANCE CLEARANCES REQUIRED.
7: COILS SHALL BE ARRANGED IN THE UNIT IN THE SCHEDULED ORDER: HEATING COIL, COOLING COIL. PROVIDE DRAIN PANS UNDER COOLING COILS.
8. PROVIDE INTEGRAL SOUND ATTENUATION SECTION.
9. PROVIDE LIGHT SWITCH, INSIDE UNIT LIGHTS, 120V GFI CONVENIENCE OUTLET.
10. PROVIDE AIRFLOW MONITORING STATION ON SUPPLY FAN ARRAY.

SPLIT HEAT PUMP SCHEDULE (INDOOR UNIT)

DESIGNATION	LOCATION / SERVICE	MANUF. MODEL NUMBER	ASSOCIATED OUTDOOR UNIT DESIGNATION	SUPPLY FAN	COOLING DATA				HEATING DATA	ELECTRIC DATA			OPER. WEIGHT (LBS)	NOTES
				CFM	TONS	NOMINAL COOLING CAPACITY (BTU/HR)	EAT DB (°F)	EAT WB (°F)	CAPACITY (BTU/HR)	MCA	MOCP	VOLTAGE/ PHASE		
AC-B1-1	ELEVATOR EQUIPMENT ROOM	DAIKIN FXAQ24PVJU	CU-B1-1	635/470	2	24,000	80	67	26,500	0.6	15	230/1	31	1
AC-B1-2	COMMUNICATION ROOM	DAIKIN FXAQ24PVJU	CU-B1-1	635/470	2	24,000	80	67	26,500	0.6	15	230/1	31	1
AC-B1-3	ELECTRICAL ROOM	DAIKIN FXAQ24PVJU	CU-B1-1	635/470	2	24,000	80	67	26,500	0.6	15	230/1	31	1
AC-B1-4	MECHANICAL ROOM	DAIKIN FXAQ24PVJU	CU-B1-1	635/470	2	24,000	80	67	26,500	0.6	15	230/1	31	1
AC-B1-5	MECHANICAL ROOM	DAIKIN FAQ24TAVJU	CU-B1-2	635/470	2	24,000	80	67	27,000	0.6	15	230/1	31	1
AC-B1-6	IDF ROOM	DAIKIN FXAQ24PVJU	CU-B1-1	635/470	2	24,000	80	67	26,500	0.6	15	230/1	31	1

NOTES:
1. PROVIDE CONDENSATE PUMP WITH UNIT.

SPLIT HEAT PUMP SCHEDULE (OUTDOOR UNIT)

DESIGNATION	LOCATION / SERVICE	MANUFACTURER / MODEL NUMBER	REFRIGERANT	COMPRESSOR TYPE	CAPACITY	COOLING DATA		HEATING DATA		ELECTRIC DATA				EER	COP	OPER. WEIGHT (LBS)	NOTES
					NOMINAL COOLING CAPACITY (TONS)	CAPACITY (BTU/HR) TH	EAT DB (°F)	CAPACITY (BTU/HR)	EAT DB (°F)	MCA	MOCP	FLA	VOLTAGE/ PHASE				
CU-B1-1	BUILDING 1	DAIKIN RXYQ120TYDN	R410A	SCROLL	12.0	89,495	95	128,859	32	20.6	25	-	460/3	12.1	3.46	556	1
CU-B1-2	BUILDING 1	DAIKIN RZQ24TAVJU	R410A	SCROLL	2.0	24,000	95	27,000	47	16.5	25	15.3	208/1	10.2	2.5	172	2

NOTES:
1. CONDENSER SHALL BE MOUNTED ON PAD LOCATED ON GRADE IN EQUIPMENT YARD.
2. CONDENSER SHALL BE WALL MOUNTED LOW OUTSIDE MECHANICAL ROOM.

FANS

DESIGNATION	MANUF. / MODEL NUMBER	LOCATION / SERVICE	TYPE	CFM	STATIC PRESSURE (IN. WG.)	BHP	MOTOR		EMERG. POWER	OPERATING WEIGHT (LBS)	NOTES
							HP	VOLTAGE/ PHASE			
GX-B1-1	GREENHECK - TCB-2-10-15	EXERCISE ROOM / GENERAL EXHAUST	INLINE	1,185	2.5	1.1	1.5	460/3	Y	200	4
EF-B1-1	GREENHECK - SQ-97-VG	EXTRACTOR ROOM / EXTRACTOR EXHAUST	INLINE	200	0.8	0.18	0.5	115/1	Y	61	
RF-B1-1	GREENHECK - BSQ-360HP-75	EXERCISE ROOM / AHU-1 RELIEF FAN	INLINE	10,775	0.8	4.8	7.5	460/3	Y	755	4
RF-B1-2	GREENHECK - BSQ-240HP-15	CAPTAIN'S WORK ROOM / AHU-2 RELIEF FAN	INLINE	3,800	0.8	1	1.5	460/3	Y	270	4
EF-B1-4	PLYMOVENT - TEV-745-60	APPARATUS BAY / VEHICLE EXHAUST FAN	CENTRIFUGAL	3,640	9.5	-	10	460/3	Y	377	1, 2, 5
CF-B1-1	BIG ASS FANS - PFX3-10	APPARATUS BAY / APPARATUS BAY HIGH VOLUME FAN	CEILING	255	-	-	1	460/3	Y	231	3
CF-B1-2	BIG ASS FANS - PFX3-10	APPARATUS BAY / APPARATUS BAY HIGH VOLUME FAN	CEILING	255	-	-	1	460/3	Y	231	3

NOTES:
1. PROVIDE UNIVERSAL MOUNTING BRACKET FOR CEILING MOUNTING.
2. SCHEDULED CFM IS CODE MINIMUM REQUIRED AMOUNT. FINAL CFM TO BE DETERMINED BY TYPE OF VEHICLES CONNECTED.
3. MAIN FAN BODY TO BE DIRECTLY MOUNTED TO STRUCTURAL BEAMS.
4. PROVIDE ACOUSTIC WRAP AROUND UNIT AS REQUIRED PER ACOUSTIC SPECIFICATIONS.
5. SCHEDULED CFM, STATIC PRESSURE, AND BRAKE HORSEPOWER ARE AT CODE REQUIRED MINIMUM CFM.

VEHICLE EXHAUST TRACK SYSTEM

DESIGNATION	PLYMOVENT MODEL NUMBER	LOCATION / SERVICE	TYPE	NOTES
VR-B1-1	PLYMOVENT - VRSA-40	APPARATUS BAY / BACK-IN VEHICLE	VERTICAL STACK RAIL	2
VR-B1-2	PLYMOVENT - STRA-70-1	APPARATUS BAY / DRIVE-THRU VEHICLE	STRAIGHT RAIL	1, 2
VR-B1-3	PLYMOVENT - STRA-70-1	APPARATUS BAY / DRIVE-THRU VEHICLE	STRAIGHT RAIL	1, 2
VR-B1-4	PLYMOVENT - STRA-70-1	APPARATUS BAY / DRIVE-THRU VEHICLE	STRAIGHT RAIL	1, 2

NOTES:
1. EXHAUST RAIL TO BE MOUNTED 6 FEET FROM FRONT OF APPARATUS BAY, 5 FEET FROM REAR OF APPARATUS BAY, 2 FEET TO SIDE OF VEHICLE, AND 13 FOOT 6 INCHES A.F.F..
2. AIRFLOW CFM TO BE DETERMINED BY TYPE OF VEHICLE CONNECTED. FAN MODEL TO BE SELECTED SPECIFIC TO COMBINED VEHICLE TYPES.

RossDruliCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	INC 01_ADD_01_V1	12/06/2019

REGISTERED PROFESSIONAL ENGINEER
TODD M SEE
No. M30785
MECHANICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

MECHANICAL SCHEDULES

Drawn By: MCE
Checked By: TMS

Scale: NTS

Date: October 4, 2019

Project No. B17.07369

1-M0.02
Drawing No.

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AIR OUTLETS AND INLETS

DESIGNATION	TITUS MODEL NUMBER	TYPE OF SERVICE	FACE DIMENSIONS	NOTES
CD-A	PSS	SUPPLY	24x24	1, 2, 6
CD-B	TMS	SUPPLY	24x24	2, 6
CR-A	PAR	RETURN/EXHAUST	24x24	2, 6
SR-A	272FL	SUPPLY	SEE PLANS	2
SR-B	S300FL	SUPPLY	SEE PLANS	2
SR-C	S301FL	SUPPLY	SEE PLANS	2
LD-A	FL-HT-20	SUPPLY	1-SLOT	2, 4, 7
LD-B	FL-HT-15	SUPPLY	1-SLOT	2, 4, 6
LD-C	FL-JT-20	SUPPLY	1-SLOT	2, 4, 8
LD-D	FL-JT-10	SUPPLY	1-SLOT	2, 4, 6
EG-A	3FL	RETURN/EXHAUST	SEE PLANS	2, 3
LR-A	FL-JT	RETURN	1-SLOT	2, 5
LR-B	FL-HT-15	RETURN	1-SLOT	2, 5

NOTES:
1. INCREASE ONE NECK SIZE FOR 3-WAY BLOW, INCREASE TWO NECK SIZES FOR 2-WAY BLOW.
2. CONFIRM BORDER TYPE AND FINISH OF ALL AIR INLETS AND OUTLETS WITH ARCHITECT.
3. PROVIDE ALUMINUM SCREWS FOR ALL INLETS AND OUTLETS LOCATED IN SHOWER ROOMS OR ASSOCIATED WITH SHOWER ROOM DUCTWORK.
4. PROVIDE TITUS FBPI INSULATED PLENUM.
5. PROVIDE FBRI RETURN HOOD / LIGHT SHIELD.
6. NECK SIZE UNLESS OTHERWISE NOTED: 0-110 CFM =6"Ø; 111-180 CFM =8"Ø; 181-275 CFM =10"Ø; 276-380 CFM =12"Ø; 381-570 CFM = 14"Ø
7. NECK SIZE: 12"Ø
8. NECK SIZE: 8"Ø

SINGLE DUCT TERMINAL WITH HOT WATER COIL

DESIGNATION	ASSOCIATED AHU	TITUS MODEL NUMBER	CFM SETTING			PRESSURE LOSS ACROSS TERMINAL UNIT AT MAXIMUM CFM (IN WG)	INLET DUCT SIZE (INCHES)	HEATING COIL					REMARKS
			COOLING MAXIMUM	HEATING MAXIMUM	MINIMUM			CAPACITY (BTUH)	GPM	EAT (°F)	LAT (°F)	NUMBER OF ROWS	
VAV-B1-1	AHU-B1-1	DESV	565	225	225	0.09	08	4,600	0.6	55	74	1-RH	1,2,3
VAV-B1-2	AHU-B1-1	DESV	1,605	490	485	0.21	14	15,900	1.4	55	85	2-RH	1,2,3
VAV-B1-3	AHU-B1-1	DESV	885	270	270	0.14	12	11,600	1.5	55	95	2-RH	1,2,3
VAV-B1-4	AHU-B1-1	DESV	900	270	270	0.15	12	11,800	1.6	55	95	2-RH	1,2,3
VAV-B1-5	AHU-B1-1	DESV	865	280	260	0.14	12	12,200	1.7	55	95	2-RH	1,2,3
VAV-B1-6	AHU-B1-1	DESV	300	195	195	0.16	06	4,100	0.5	55	74	1-RH	1,2,3
VAV-B1-7	AHU-B1-1	DESV	630	270	270	0.14	10	10,800	1.8	55	92	2-RH	1,2,3
VAV-B1-8	AHU-B1-1	DESV	1,080	360	325	0.20	12	15,200	2.3	55	94	2-RH	1,2,3
VAV-B1-9	AHU-B1-1	DESV	1,350	405	405	0.19	12	10,100	2.3	55	78	1-RH	1,2,3
VAV-B1-10	AHU-B1-1	DESV	580	180	180	0.22	08	6,900	1.0	55	90	2-RH	1,2,3
VAV-B1-11	AHU-B1-1	DESV	885	285	285	0.24	10	10,100	1.3	55	88	2-RH	1,2,3
VAV-B1-12	AHU-B1-1	DESV	1,615	530	485	0.25	16	23,200	2.9	55	95	2-RH	1,2,3
VAV-B1-13	AHU-B1-1	DESV	200	65	60	0.09	06	2,800	0.5	55	95	2-RH	1,2,3
VAV-B1-14	AHU-B1-1	DESV	225	80	70	0.11	06	3,600	0.7	55	96	2-RH	1,2,3
VAV-B1-15	AHU-B1-1	DESV	350	110	110	0.05	08	3,800	1.2	55	87	1-RH	1,2,3
VAV-B1-16	AHU-B1-1	DESV	515	160	155	0.18	08	6,900	1.3	55	95	2-RH	1,2,3
VAV-B1-17	AHU-B1-1	DESV	715	360	360	0.10	12	13,300	1.4	55	89	2-RH	1,2,3
VAV-B1-18	AHU-B1-1	DESV	240	150	150	0.13	06	5,200	0.8	55	87	2-RH	1,2,3
VAV-B1-19	AHU-B1-1	DESV	170	55	55	0.04	06	1,500	0.2	55	80	1-RH	1,2,3
VAV-B1-20	AHU-B1-2	DESV	620	190	190	0.14	10	8,400	1.4	55	96	2-RH	1,2,3
VAV-B1-21	AHU-B1-2	DESV	440	150	135	0.23	08	6,500	0.9	55	95	2-RH	1,2,3
VAV-B1-22	AHU-B1-2	DESV	330	150	100	0.09	08	6,200	1.0	55	93	2-RH	1,2,3
VAV-B1-23	AHU-B1-2	DESV	1,315	395	395	0.18	12	9,500	1.7	55	77	1-RH	1,2,3
VAV-B1-24	AHU-B1-2	DESV	1,010	305	270	0.18	12	13,200	1.9	55	95	2-RH	1,2,3

NOTES:
1. HEATING COIL SELECTION BASED ON 125°F EWT, 105°F LWT WITH NO PRESSURE DROP GREATER THAN 0.25".
2. ALL SUPPLY DUCTS TO VAV BOXES SHALL BE MATCHED TO THE VAV BOX INLET SIZE UON.
3. PROVIDE PIPING RUN OUT CONNECTIONS TO TERMINAL UNIT REHEAT COILS AS SCHEDULED:
   3/4": 0.0 – 3.0 GPM
   1": 3.1 – 7.5 GPM
   1-1/4": 7.6 – 13.9 GPM
   1-1/2": 714 – 23.9 GPM
   2": 24.0 – 50.9 GPM

FIRE SMOKE DAMPERS

DESIGNATION	LOCATION	ASSOCIATED SYSTEM	DIMENSIONS		FIRE STAT TEMP (DEG F)	SMOKE CONTROL POSITION	INITIATING DEVICE	ELECTRICAL CONNECTIONS		NOTES
			WIDTH (INCHES)	HEIGHT (INCHES)				VOLTAGE/ PHASE	QTY	
FSD-B1-1	LEVEL 2	GX-B1-1	8	14	165	CLOSED	DD	120/1	1	1,2,3
FSD-B1-2	LEVEL 2	AHU-B1-1 SA	12	12	165	CLOSED	DD	120/1	1	1,2,3
FSD-B1-3	LEVEL 2	GX-B1-1	12	12	165	CLOSED	DD	120/1	1	1,2,3
FSD-B1-4	LEVEL 2	AHU-B1-1 SA	22	18	165	CLOSED	DD	120/1	1	1,2,3

NOTES:
1. 120 VOLT OPERATORS. PROVIDE QUANTITY REQUIRED FOR SIZE SCHEDULED.
2. INITIATING DEVICES SHALL BE DUCT SMOKE DETECTOR (DD).
3. ALL FIRE SMOKE DAMPERS ON A SINGLE SYSTEM SHALL CLOSE ON DETECTION OF SMOKE AND SHUTDOWN OF THE AIR MOVING SYSTEMS.

AIR / DIRT SEPARATOR SCHEDULE

DESIGNATION	SPIROTHERM MODEL NUMBER	TYPE	SERVICE	FLOW RATE (GPM)	WEIGHT (LBS)	PRESSURE DROP (FT H2O)	NOTES
AS-B1-1	VDT400	MEDIUM	CHW	120	149	0.5	1,2
AS-B1-2	VDT400	MEDIUM	HW	90	149	0.5	1,2

NOTES:
1. MAXIMUM WORKING PRESSURE 150 PSIG PRESSURE RATING.
2. ALL TANKS SHALL BE ASME CERTIFIED.

BUFFER TANK

DESIGNATION	LOCATION	SERVICE	AMTROL MODEL NUMBER	VOLUME (GALLONS)	DIAMETER (IN.)	HEIGHT (IN.)	SHIPPING WEIGHT (LBS.)	NOTES
BT-B1-1	EQUIPMENT YARD	CHW	CWBT300-4-125	300	36	81	753	
BT-B1-2	EQUIPMENT YARD	HHW	HWBT300-3	300	36	81	751	

NOTES:

FAN COIL (HEATING ONLY)

DESIGNATION	LOCATION / SERVICE	MANUF. MODEL NUMBER	CFM	ESP. (IN. WG.)	HEATING						FAN MOTOR		VOLTAGE/ PHASE	FLA	EMERG. POWER (Y/N)	OPER. WEIGHT (LBS)	NOTES
					CAPACITY (MBH)	EAT (°F)	LAT (°F)	GPM	EWT (°F)	LWT (°F)	PD (FT H2O)	HORSEPOWER (HP)	RPM					
FCU-B1-1	APPARATUS BAY	DAIKIN LAH003A	1500	0.5	16.2	65	75	2	125	105	0.4	1	1360	460/3	1.6	Y	286	
FCU-B1-2	APPARATUS BAY	DAIKIN LAH003A	1500	0.5	16.2	65	75	2	125	105	0.4	1	1360	460/3	1.6	Y	286	

NOTES:

EXPANSION TANK

DESIGNATION	LOCATION/ SERVICE	MANUF. MODEL NUMBER	TYPE	TANK VOLUME (GALLONS)	ACCEPTANCE VOLUME (GALLONS)	PRESS. RATING (PSIG)	OPERATING WEIGHT (LBS)	NOTES
ET-B1-1	AHU ROOM/CHW SYSTEM	B&G B-25LA	BLADDER	10	10	125	144	
ET-B1-2	AHU ROOM/HW SYSTEM	B&G B-130LA	BLADDER	34	27	125	410	

NOTES:

PUMPS

DESIGNATION	MANUF. / MODEL NUMBER	LOCATION/ SERVICE	TYPE	GPM	HEAD (FT H2O)	MINIMUM EFFICIENCY (PERCENT)	CASING PRESSURE (PSIG)	RPM	MOTOR			EMERG. POWER	OPER. WEIGHT (LBS)	VAR. SPEED	NOTES
									BRAKE HP	NON-OVERLOADING HP	VOLTAGE/ PHASE				
CHWP-B1-1	BELL & GOSSET/ e-1510-2AD-es	MECHANICAL ROOM	BASE MOUNTED END SUCTION	97	41	68	150	1,732	1.3	2	460/3	Y	180	Y	1
CHWP-B1-2	BELL & GOSSET/ e-1510-2AD-es	MECHANICAL ROOM	BASE MOUNTED END SUCTION	97	41	68	150	1,732	1.3	2	460/3	Y	180	Y	1
HWP-B1-1	BELL & GOSSET/ e-1510-1.25AD-es	MECHANICAL ROOM	BASE MOUNTED END SUCTION	56	50	62	150	1,741	1.1	1.5	460/3	Y	160	Y	1
HWP-B1-2	BELL & GOSSET/ e-1510-1.25AD-es	MECHANICAL ROOM	BASE MOUNTED END SUCTION	56	50	62	150	1,741	1.1	2	460/3	Y	160	Y	1

NOTES:
1. EACH PUMP IS SIZED FOR 100% OF TOTAL FLOW.

RossDrulisCusenbery
ARCHITECTURE
18294 Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: **KATHY GARCIA** DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

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HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	INC 01_ADD_01_V1	12/06/2019

REGISTERED PROFESSIONAL ENGINEER TODD M SEE No. M30785 MECHANICAL STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

MECHANICAL SCHEDULES

Drawn By: MCE
Checked By: TMS

Scale: **12" = 1'-0"**

Date: **October 4, 2019**

Project No. B17.07369

1-M0.03
Drawing No.

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STATE OF CALIFORNIA

MECHANICAL SYSTEMS

CEC-NRCC-MCH-01-E (Revised 05/15) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE — NRCC-MCH-01-E

Mechanical Systems — (Page 3 of 3)

Project Name: Hayward Fire Training Center — Date Prepared: 9/14/2018

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

1. I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name:	Michael Estrada	Documentation Author Signature:	
Company:	WSP USA	Signature Date:	
Address:	405 Howard Street Suite #500	CEA/ HERS Certification Identification (if applicable):	-
City/State/Zip:	San Francisco, CA 94105	Phone:	415-398-3833

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer).
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name:	Todd See	Responsible Designer Signature:	
Company:	WSP USA	Date Signed:	
Address:	405 Howard Street Suite #500	License:	M30769
City/State/Zip:	San Francisco, CA 94105	Phone:	415-398-3833

STATE OF CALIFORNIA

MECHANICAL SYSTEMS

CEC-NRCC-MCH-01-E (Revised 05/15) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE — NRCC-MCH-01-E

Mechanical Systems — (Page 2 of 3)

Project Name: Hayward Fire Training Center — Date Prepared: 9/14/2018

MECHANICAL HVAC ACCEPTANCE FORMS (check box for required forms)

Designer:

This form is to be used by the designer and attached to the plans. Listed below are all the acceptance tests for HVAC systems. The designer is required to check the applicable boxes for all acceptance tests that apply and list all equipment that requires an acceptance test. All equipment of the same type that requires a test, list the equipment description and the number of systems.

Installing Contractor:

The contractor who installed the equipment is responsible to either conduct the acceptance test them self or have a qualified entity run the test for them. If more than one person has responsibility for the acceptance testing, each person shall sign and submit the Certificate of Acceptance applicable to the portion of the construction or installation for which they are responsible. The following tests require a

Enforcement Agency:

Plancheck – The NRCC-MCH-01-E form is not considered a completed form and is not to be accepted by the building department unless the correct boxes are checked. Inspector -Before occupancy permit is granted all newly installed process systems must be tested to ensure proper operations.

Test Description		MCH-12A	MCH-13A	MCH-14A	MCH-15A	MCH-16A	MCH-17A	MCH-18A
Equipment Requiring Testing or Verification	# of units	Fault Detection & Diagnostics for DX Units	Automatic Fault Detection & Diagnostics for Air & Zone	Distributed Energy Storage DX AC Systems	Thermal Energy Storage (TES) Systems	Supply Air Temperature Reset Controls	Condenser Water Reset Controls	ECMS
AHU-B1-1, B1-2	2	☐	☑	☐	☐	☑	☐	☑
CH-B1-1	1	☐	☐	☐	☐	☐	☐	☑
VAV-B1-1 TO B1-24	24	☐	☑	☐	☐	☑	☐	☑
CU-B1-1	1	☐	☐	☐	☐	☐	☐	☑
AC-B1-1 TO B1-5	5	☐	☐	☐	☐	☐	☐	☑
RF-B1-1, B1-2	2	☐	☐	☐	☐	☐	☐	☑
GX-B1-1	1	☐	☐	☐	☐	☐	☐	☑
EF-B1-1	1	☐	☐	☐	☐	☐	☐	☑
EF-B1-4	1	☐	☐	☐	☐	☐	☐	☑
FCU-B1-1, B1-2	2	☐	☐	☐	☐	☐	☐	☑
CF-B1-1, B1-2	2	☐	☐	☐	☐	☐	☐	☑
CHWP-B1-1, B1-2	2	☐	☐	☐	☐	☐	☐	☑
HWP-B1-1, B1-2	2	☐	☐	☐	☐	☐	☐	☑

STATE OF CALIFORNIA

MECHANICAL SYSTEMS

CEC-NRCC-MCH-01-E (Revised 05/15) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE — NRCC-MCH-01-E

Mechanical Systems — (Page 1 of 3)

Project Name: Hayward Fire Training Center — Date Prepared: 9/14/2018

MECHANICAL COMPLIANCE FORMS & WORKSHEETS (check box if worksheet is included)

For detailed instructions on the use of this and all Energy Efficiency Standards compliance forms, refer to the 2013 Nonresidential Manual

Note: The Enforcement Agency may require all forms to be incorporated onto the building plans.

YES	NO	Form/Worksheet #	Title
☑	☐	NRCC-MCH-01-E (Part 1 of 3)	Certificate of Compliance, Declaration. Required on plans for all submittals.
☑	☐	NRCC-MCH-01-E (Part 2 of 3)	Certificate of Compliance, Required Acceptance Tests (MCH-02A to 11A). Required on plans for all submittals.
☑	☐	NRCC-MCH-01-E (Part 3 of 3)	Certificate of Compliance, Required Acceptance Tests (MCH-12A to 18A). Required on plans where applicable.
☑	☐	NRCC-MCH-02-E (Part 1 of 2)	Mechanical Dry Equipment Summary is required for all submittals with Central Air Systems. It is optional on plans.
☑	☐	NRCC-MCH-02-E (Part 2 of 2)	Mechanical Wet Equipment Summary is required for all submittals with chilled water, hot water or condenser water systems. It is optional on plans.
☑	☐	NRCC-MCH-03-E	Mechanical Ventilation and Reheat is required for all submittals with multiple zone heating and cooling systems. It is optional on plans.
☐	☑	NRCC-MCH-07-E (Part 1 of 2)	Power Consumption of Fans. Required on plans where applicable.
☐	☑	NRCC-MCH-07-E (Part 2 of 2)	Power Consumption of Fans, Declaration. Required on plans where applicable.

MECHANICAL HVAC ACCEPTANCE FORMS (check box for required forms)

Test Performed By:

Designer:

This form is to be used by the designer and attached to the plans. Listed below are all the acceptance tests for HVAC systems. The designer is required to check the applicable boxes for all acceptance tests that apply and list all equipment that requires an acceptance test. All equipment of the same type that requires a test, list the equipment description and the number of systems.

Installing Contractor:

The contractor who installed the equipment is responsible to either conduct the acceptance test them self or have a qualified entity run the test for them. If more than one person has responsibility for the acceptance testing, each person shall sign and submit the Certificate of Acceptance applicable to the portion of the construction or installation for which they are responsible.

Enforcement Agency:

Plancheck – The NRCC-MCH-01-E form is not considered a completed form and is not to be accepted by the building department unless the correct boxes are checked. Inspector - Before occupancy permit is granted all newly installed process systems must be tested to ensure proper operations.

Test Description		MCH-02A	MCH-03A	MCH-04A	MCH-05A	MCH-06A	MCH-07A	MCH-08A	MCH-09A	MCH-10A	MCH-11A
Equipment Requiring Testing or Verification	# of units	Outdoor Air	Single Zone Unitary	Air Distribution Ducts	Economizer Controls	Demand Control Ventilation (DCV)	Supply Fan VAV	Valve Leakage Test	Supply Water Temp. Reset	Hydronic System Variable Flow Control	Automatic Demand Shed Control
AHU-B1-1, B1-2	2	☑	☐	☐	☑	☑	☑	☐	☐	☑	☐
CH-B1-1	1	☐	☐	☐	☑	☐	☑	☐	☐	☑	☐
VAV-B1-1 TO B1-24	24	☐	☐	☐	☑	☑	☐	☐	☐	☐	☐
CU-B1-1	1	☐	☐	☐	☐	☐	☑	☐	☐	☐	☐
AC-B1-1 TO B1-5	5	☐	☐	☐	☐	☐	☑	☐	☐	☐	☐
RF-B1-1, B1-2	2	☐	☐	☐	☐	☐	☑	☐	☐	☐	☐
GX-B1-1	1	☐	☐	☐	☐	☐	☑	☐	☐	☐	☐
EF-B1-1	1	☐	☐	☐	☐	☐	☑	☐	☐	☐	☐
EF-B1-4	1	☐	☐	☐	☐	☐	☑	☐	☐	☐	☐
FCU-B1-1, B1-2	2	☐	☐	☐	☐	☐	☑	☐	☐	☑	☐
CF-B1-1, B1-2	2	☐	☐	☐	☐	☐	☑	☐	☐	☐	☐
CHWP-B1-1, B1-2	2	☐	☐	☐	☐	☐	☑	☑	☐	☑	☐
HWP-B1-1, B1-2	2	☐	☐	☐	☐	☐	☐	☑	☐	☑	☐

HVAC SYSTEM REQUIREMENTS

CEC-NRCC-MCH-02-E (Revised 05/15) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE — NRCC-MCH-02-E

HVAC Dry System Requirements — (Page 1 of 3)

Project Name: Hayward Fire Training Center — Date Prepared: 9/14/2018

Equipment Tags and System Description[1]		GX-B1-1	RF-B1-1 & B1-2	
MANDATORY MEASURES	***T-24 Sections***	***Reference to the Requirements in the Contract Documents[2]***		
Heating Equipment Efficiency[3]	110.1 or 110.2(a)	N/A	N/A	
Cooling Equipment Efficiency[3]	110.1 or 110.2(a)	N/A	N/A	
HVAC or Heat Pump Thermostats	110.2(b), 110.2(c)	N/A	N/A	
Furnace Standby Loss Control	110.2(d)	N/A	N/A	
Low leakage AHUs	110.2(f)	N/A	N/A	
Ventilation[4]	120.1(b)	N/A	N/A	
Demand Control Ventilation[5]	120.1(c)4	N/A	N/A	
Occupant Sensor Ventilation Control[6]	120.1(c)5, 120.2(e)3	N/A	N/A	
Shutoff and Reset Controls[7]	120.2(e)	N/A	N/A	
Outdoor Air and Exhaust Damper Control	120.2(f)	N/A	N/A	
Isolation Zones	120.2(g)	N/A	N/A	
Automatic Demand Shed Controls	120.2(h)	N/A	N/A	
Economizer FDD	120.2(i)	N/A	N/A	
Duct Insulation	120.4	1-M0.01	1-M0.01	
PRESCRIPTIVE MEASURES				
Equipment is sized in conformance with 140.4 (a & b)	140.4(a & b)	Y	Y	
Supply Fan Pressure Control	140.4(c)	N/A	N/A	
Simultaneous Heat/Cool[8]	140.4(d)	N/A	N/A	
Economizer	140.4(e)	N/A	N/A	
Heat and Cool Air Supply Reset	140.4(f)	N/A	N/A	
Electric Resistance Heating[9]	140.4(g)	N/A	N/A	
Duct Leakage Sealing and Testing[10]	140.4(l)	N/A	N/A	

Notes:

1. Provide equipment tags (e.g. AHU 1 to 10) and system description (e.g. Single Duct VAV reheat) as appropriate. Multiple units with common requirements can be grouped together.
2. Provide references to plans (i.e. Drawing Sheet Numbers) and/or specifications (including Section name/number and relevant paragraphs) where each requirement is specified. Enter "N/A" if the requirement is not applicable to this system.
3. The referenced plans and specifications must include all of the following information: equipment tag, equipment nominal capacity, Title 24 minimum efficiency requirements, and actual rated equipment efficiencies. Where multiple efficiency requirements are applicable (e.g. full- and part-load) include all. Where appliance standards apply (110.1), identify where equipment is required to be listed per Title 20 1601 et seq.
4. Identify where the ventilation requirements are documented for each central HVAC system. Include references to both central unit schedules and sequences of operation. If one or more space is naturally ventilated identify where this is documented in the plans and specifications. Multiple zone central air systems must also provide a MCH-03-E form.
5. If one or more space has demand controlled ventilation identify where it is specified including the sensor specifications and the sequence of operation.
6. If one or more space has occupant sensor ventilation control identify where it is specified including the sensor specifications and the sequence of operation.
7. If the system is DDC identify the sequences for the system start/stop, optimal start, setback (if required) and setup (if required). For all systems identify the specification for the thermostats and time clocks (if applicable).
8. Identify where the heating, cooling and deadband airflows are scheduled for this system. Include a reference to the specification of the zone controls. Provide a MCH-03-E form.
9. Enter N/A if there is no electric heating. If the system has electric heating indicate which exception to 140.4(g) applies.
10. If duct leakage sealing and testing is required, a MCH-04-A form must be submitted.

STATE OF CALIFORNIA

HVAC SYSTEM REQUIREMENTS

CEC-NRCC-MCH-02-E (Revised 05/15) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE — NRCC-MCH-02-E

HVAC Dry System Requirements — (Page 1 of 3)

Project Name: Hayward Fire Training Center — Date Prepared: 9/14/2018

Equipment Tags and System Description[1]		CF-B1-1 & B1-2	EF-B1-1	EF-B1-4
MANDATORY MEASURES	***T-24 Sections***	***Reference to the Requirements in the Contract Documents[2]***		
Heating Equipment Efficiency[3]	110.1 or 110.2(a)	N/A	N/A	N/A
Cooling Equipment Efficiency[3]	110.1 or 110.2(a)	N/A	N/A	N/A
HVAC or Heat Pump Thermostats	110.2(b), 110.2(c)	1-M2.01	N/A	N/A
Furnace Standby Loss Control	110.2(d)	N/A	N/A	N/A
Low leakage AHUs	110.2(f)	N/A	N/A	N/A
Ventilation[4]	120.1(b)	N/A	N/A	N/A
Demand Control Ventilation[5]	120.1(c)4	N/A	N/A	N/A
Occupant Sensor Ventilation Control[6]	120.1(c)5, 120.2(e)3	N/A	N/A	N/A
Shutoff and Reset Controls[7]	120.2(e)	N/A	N/A	N/A
Outdoor Air and Exhaust Damper Control	120.2(f)	N/A	N/A	N/A
Isolation Zones	120.2(g)	N/A	N/A	N/A
Automatic Demand Shed Controls	120.2(h)	N/A	N/A	N/A
Economizer FDD	120.2(i)	N/A	N/A	N/A
Duct Insulation	120.4	N/A	1-M0.01	1-M0.01
PRESCRIPTIVE MEASURES				
Equipment is sized in conformance with 140.4 (a & b)	140.4(a & b)	Y	Y	Y
Supply Fan Pressure Control	140.4(c)	N/A	N/A	N/A
Simultaneous Heat/Cool[8]	140.4(d)	N/A	N/A	N/A
Economizer	140.4(e)	N/A	N/A	N/A
Heat and Cool Air Supply Reset	140.4(f)	N/A	N/A	N/A
Electric Resistance Heating[9]	140.4(g)	N/A	N/A	N/A
Duct Leakage Sealing and Testing[10]	140.4(l)	N/A	N/A	N/A

Notes:

1. Provide equipment tags (e.g. AHU 1 to 10) and system description (e.g. Single Duct VAV reheat) as appropriate. Multiple units with common requirements can be grouped together.
2. Provide references to plans (i.e. Drawing Sheet Numbers) and/or specifications (including Section name/number and relevant paragraphs) where each requirement is specified. Enter "N/A" if the requirement is not applicable to this system.
3. The referenced plans and specifications must include all of the following information: equipment tag, equipment nominal capacity, Title 24 minimum efficiency requirements, and actual rated equipment efficiencies. Where multiple efficiency requirements are applicable (e.g. full- and part-load) include all. Where appliance standards apply (110.1), identify where equipment is required to be listed per Title 20 1601 et seq.
4. Identify where the ventilation requirements are documented for each central HVAC system. Include references to both central unit schedules and sequences of operation. If one or more space is naturally ventilated identify where this is documented in the plans and specifications. Multiple zone central air systems must also provide a MCH-03-E form.
5. If one or more space has demand controlled ventilation identify where it is specified including the sensor specifications and the sequence of operation.
6. If one or more space has occupant sensor ventilation control identify where it is specified including the sensor specifications and the sequence of operation.
7. If the system is DDC identify the sequences for the system start/stop, optimal start, setback (if required) and setup (if required). For all systems identify the specification for the thermostats and time clocks (if applicable).
8. Identify where the heating, cooling and deadband airflows are scheduled for this system. Include a reference to the specification of the zone controls. Provide a MCH-03-E form.
9. Enter N/A if there is no electric heating. If the system has electric heating indicate which exception to 140.4(g) applies.
10. If duct leakage sealing and testing is required, a MCH-04-A form must be submitted.

STATE OF CALIFORNIA

HVAC SYSTEM REQUIREMENTS

CEC-NRCC-MCH-02-E (Revised 05/15) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE — NRCC-MCH-02-E

HVAC Dry System Requirements — (Page 1 of 3)

Project Name: Hayward Fire Training Center — Date Prepared: 9/14/2018

Equipment Tags and System Description[1]		AHU-B1-1& B1-2	VAV-B1-1 TO B1-24	FCU-B1-1 & B1-2
MANDATORY MEASURES	***T-24 Sections***	***Reference to the Requirements in the Contract Documents[2]***		
Heating Equipment Efficiency[3]	110.1 or 110.2(a)	N/A	N/A	1-M0.03
Cooling Equipment Efficiency[3]	110.1 or 110.2(a)	N/A	N/A	N/A
HVAC or Heat Pump Thermostats	110.2(b), 110.2(c)	N/A	1-M2.01, 1-M2.02	1-M2.01, 1-M2.02
Furnace Standby Loss Control	110.2(d)	N/A	N/A	N/A
Low leakage AHUs	110.2(f)	N/A	N/A	N/A
Ventilation[4]	120.1(b)	1-M0.02	N/A	N/A
Demand Control Ventilation[5]	120.1(c)4	1-M2.01 & 1-M2.02	N/A	N/A
Occupant Sensor Ventilation Control[6]	120.1(c)5, 120.2(e)3	N/A	N/A	N/A
Shutoff and Reset Controls[7]	120.2(e)	0-M0.02 TO 0-M0.03	N/A	N/A
Outdoor Air and Exhaust Damper Control	120.2(f)	0-M0.02 TO 0-M0.03	N/A	N/A
Isolation Zones	120.2(g)	N/A	N/A	N/A
Automatic Demand Shed Controls	120.2(h)	N/A	N/A	N/A
Economizer FDD	120.2(i)	0-M0.02 TO 0-M0.03	N/A	N/A
Duct Insulation	120.4	1-M0.01	1-M0.01	1-M0.01
PRESCRIPTIVE MEASURES				
Equipment is sized in conformance with 140.4 (a & b)	140.4(a & b)	Y	Y	Y
Supply Fan Pressure Control	140.4(c)	0-M0.02 TO 0-M0.03	N/A	N/A
Simultaneous Heat/Cool[8]	140.4(d)	0-M0.02 TO 0-M0.03	N/A	N/A
Economizer	140.4(e)	0-M0.02 TO 0-M0.03	N/A	N/A
Heat and Cool Air Supply Reset	140.4(f)	0-M0.02 TO 0-M0.03	N/A	N/A
Electric Resistance Heating[9]	140.4(g)	N/A	N/A	N/A
Duct Leakage Sealing and Testing[10]	140.4(l)	N/A	N/A	N/A

Notes:

1. Provide equipment tags (e.g. AHU 1 to 10) and system description (e.g. Single Duct VAV reheat) as appropriate. Multiple units with common requirements can be grouped together.
2. Provide references to plans (i.e. Drawing Sheet Numbers) and/or specifications (including Section name/number and relevant paragraphs) where each requirement is specified. Enter "N/A" if the requirement is not applicable to this system.
3. The referenced plans and specifications must include all of the following information: equipment tag, equipment nominal capacity, Title 24 minimum efficiency requirements, and actual rated equipment efficiencies. Where multiple efficiency requirements are applicable (e.g. full- and part-load) include all. Where appliance standards apply (110.1), identify where equipment is required to be listed per Title 20 1601 et seq.
4. Identify where the ventilation requirements are documented for each central HVAC system. Include references to both central unit schedules and sequences of operation. If one or more space is naturally ventilated identify where this is documented in the plans and specifications. Multiple zone central air systems must also provide a MCH-03-E form.
5. If one or more space has demand controlled ventilation identify where it is specified including the sensor specifications and the sequence of operation.
6. If one or more space has occupant sensor ventilation control identify where it is specified including the sensor specifications and the sequence of operation.
7. If the system is DDC identify the sequences for the system start/stop, optimal start, setback (if required) and setup (if required). For all systems identify the specification for the thermostats and time clocks (if applicable).
8. Identify where the heating, cooling and deadband airflows are scheduled for this system. Include a reference to the specification of the zone controls. Provide a MCH-03-E form.
9. Enter N/A if there is no electric heating. If the system has electric heating indicate which exception to 140.4(g) applies.
10. If duct leakage sealing and testing is required, a MCH-04-A form must be submitted.

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC: 01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: **KATHY GARCIA** DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER
TODD M SEE
No. M30765
MECHANICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

MECHANICAL TITLE 24 DOCUMENTATION

Drawn By: MCE — Checked By: TMS

Scale:

Date:
October 4, 2019

Project No. B17.07369

1-M0.04

Drawing No.

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STATE OF CALIFORNIA

HVAC SYSTEM REQUIREMENTS

CEC-NRCC-MCH-02-E (Revised 05/15) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE — NRCC-MCH-02-E

HVAC Wet System Requirements — (Page 3 of 3)

Project Name: Hayward Fire Training Center — Date Prepared: 9/14/2018

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

1. I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name:	Michael Estrada	Documentation Author Signature:	
Company:	WSP USA	Signature Date:	
Address:	405 Howard Street Suite #500	CEA/ HERS Certification Identification (if applicable):	-
City/State/Zip:	San Francisco, CA 94105	Phone:	415-398-3833

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer).
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name:	Todd See	Responsible Designer Signature:	
Company:	WSP USA	Date Signed:	
Address:	405 Howard Street Suite #500	License:	M30765
City/State/Zip:	San Francisco, CA 94105	Phone:	415-398-3833

STATE OF CALIFORNIA

HVAC WET SYSTEM REQUIREMENTS

CEC-NRCC-MCH-02-E (Revised 05/15) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE — NRCC-MCH-02-E

HVAC Wet System Requirements — (Page 2 of 3)

Project Name: Hayward Fire Training Center — Date Prepared: 9/14/2018

Equipment Tags and System Description[1]		CH-B1-1	FCU-B1-1 & B1-2	CHWP-B1-1 & B1-2
MANDATORY MEASURES	***T-24 Sections***	***Reference to the Requirements in the Contract Documents [2]***		
Heating Hot Water Equipment Efficiency[3]	110.1	1-M0.02	1-M0.03	N/A
Cooling Chilled and Condensor Water Equipment Efficiency[3]	110.1, 140.4(i)	1-M0.02	N/A	N/A
Open and Closed Circuit Cooling Towers conductivity or flow-based controls	110.2(e)1	N/A	N/A	N/A
Open and Closed Circuit Cooling Towers Maximum Achievable Cycles of Concentration (LSI)[3]	110.2(e)2	N/A	N/A	N/A
Open and Closed Circuit Cooling Towers Flow Meter with analog output	110.2(e)3	N/A	N/A	N/A
Open and Closed Circuit Cooling Towers Overflow Alarm	110.2(e)4	N/A	N/A	N/A
Open and Closed Circuit Cooling Towers Efficient Drift Eliminators	110.2(e)5	N/A	N/A	N/A
Pipe Insulation	120.3	1-M0.01	1-M0.01	1-M0.01
PRESCRIPTIVE MEASURES				
Cooling Tower Fan Controls	140.4(h)2, 140.4(h)5	N/A	N/A	N/A
Cooling Tower Flow Controls	140.4(h)3	N/A	N/A	N/A
Centrifugal Fan Cooling Towers[4]	140.4(h)4	N/A	N/A	N/A
Air-Cooled Chiller Limitations[5]	140.4(j)	N/A	N/A	N/A
Variable Flow System Design	140.4(k)	0-M0.02, 0-M0.03	0-M0.02, 0-M0.03	0-M0.02, 0-M0.03
Chiller and Boiler Isolation	140.4(k)	N/A	N/A	N/A
CHW and HHW Reset Controls	140.4(k)	0-M0.02, 0-M0.03	0-M0.02, 0-M0.03	0-M0.02, 0-M0.03
WLHP Isolation Valves	140.4(k)	N/A	N/A	N/A
VSD on CHW, CW & WLHP Pumps >5HP	140.4(k)	N/A	N/A	N/A
DP Sensor Location	140.4(k)	0-M0.02, 0-M0.03	0-M0.02, 0-M0.03	0-M0.02, 0-M0.03

Notes:

1. Provide equipment tags (e.g. CH 1 to 3) or system description (e.g. CHW loop) as appropriate. Multiple units with common requirements can be grouped together.
2. Provide references to plans (i.e. Drawing Sheet Numbers) and/or specifications (including Section name/number and relevant paragraphs) where each requirement is specified. Enter "N/A" if the requirement is not applicable to this system.
3. The referenced plans and specifications must include all of the following information: equipment tag, equipment nominal capacity, Title 24 minimum efficiency requirements, and actual rated equipment efficiencies. Where multiple efficiency requirements are applicable (e.g. full- and part-load) include all. For chillers operating at non-standard efficiencies provide the Kadj values. For chillers also note whether the efficiencies are Path A or Path B.
4. Identify if cooling towers have propeller fans. If towers use centrifugal fans document which exception is used.
5. If air-cooled chillers are used, document which exceptions have been used to comply with 140.4(j) and the total installed design capacity of the air-cooled chillers in the chilled water plant.
6. Identify the existence of a completed MCH-06-E \when open or closed circuit cooling towers are specified to be installed, otherwise enter "N/A".

STATE OF CALIFORNIA

MECHANICAL VENTILATION AND REHEAT

CEC-NRCC-MCH-03-E (Revised 05/15) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE — NRCC-MCH-03-E

Mechanical Ventilation & Reheat — (Page 2 of 2)

Project Name: Hayward Fire Training Center — Date Prepared: 9/14/2018

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

1. I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name:	Michael Estrada	Documentation Author Signature:	
Company:	WSP USA	Signature Date:	
Address:	405 Howard Street Suite #500	CEA/ HERS Certification Identification (if applicable):	-
City/State/Zip:	San Francisco, CA 94105	Phone:	415-398-3833

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer).
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name:	Todd See	Responsible Designer Signature:	
Company:	WSP USA	Date Signed:	
Address:	405 Howard Street Suite #500	License:	M30765
City/State/Zip:	San Francisco, CA 94105	Phone:	415-398-3833

STATE OF CALIFORNIA

MECHANICAL VENTILATION AND REHEAT

CEC-NRCC-MCH-03-E (Revised 05/15) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE — NRCC-MCH-03-E

Mechanical Ventilation & Reheat — (Page 1 of 2)

Project Name: Hayward Fire Training Center — Date Prepared: 9/14/2018

	ACTUAL DESIGN INFO (FROM EQUIPMENT SCHEDULES, ETC)					AREA BASIS			OCCUPANCY BASIS			MINIMUM	VAV Reheated Primary Air CFM			VAV Deadband Primary Air CFM		
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
ZONE/ SYSTEM / AV-UNIT ID	DESIGN PRIMARY COOLING AIRFLOW (CFM)	DESIGN PRIMARY HEATING AIRFLOW (CFM)	DESIGN PRIMARY HEATING AIRFLOW (CFM)	ENTRY TYPE (DDC / TN)	TRANSFER AIRFLOW (CFM)	CONDITIONED AREA (SF)	MIN CFM PER AREA	MIN CFM BY AREA	NUM OF PEOPLE	CFM PER PERSON	MIN CFM BY OCCUPANT	REQUIRED VENTILATION AIRFLOW (MAX OF L OR M) (CFM)	COMPLIES	MAXIMUM REHEAT AIRFLOW (CFM)	MAX OF M OR O	COMPLIES?	30% DOC WA NON-DDC) (CFM)	50% DOC WA NON-DDC) (CFM)	COMPLIES
B1-1	565	225	225	Y	0	570	0.15	86	15	15	225	225	Y	283	283	Y	113	225	Y
B1-2	1605	485	490	Y	0	489	0.15	73	30	15	450	450	Y	803	803	Y	321	450	Y
B1-3	885	270	270	Y	0	430	0.15	65	5	15	75	75	Y	443	443	Y	177	177	Y
B1-4	900	270	270	Y	0	372	0.15	56	2	15	23	56	Y	450	450	Y	180	180	Y
B1-5	865	260	280	Y	0	606	0.15	91	15	15	228	228	Y	433	433	Y	173	228	Y
B1-6	300	195	195	Y	0	850	0.15	128	13	15	195	195	Y	150	--	Y	--	--	N/A
B1-7	630	270	270	Y	0	450	0.15	68	18	15	270	270	Y	315	315	Y	126	270	Y
B1-8	1080	325	360	Y	0	430	0.15	65	16	15	240	240	Y	540	540	Y	216	240	Y
B1-9	1350	405	405	Y	0	753	0.15	113	24	15	360	360	Y	675	675	Y	270	360	Y
B1-10	580	180	180	Y	0	305	0.15	46	12	15	180	180	Y	290	290	Y	116	180	Y
B1-11	885	285	285	Y	0	634	0.15	95	19	15	285	285	Y	443	443	Y	177	285	Y
B1-12	1615	485	530	Y	0	1125	0.15	169	3	15	45	169	Y	808	808	Y	323	323	Y
B1-13	200	60	65	Y	0	300	0.15	45	3	15	45	45	Y	--	--	Y	--	--	N/A
B1-14	225	70	80	Y	0	214	0.15	32	2	15	30	32	Y	--	--	Y	--	--	N/A
B1-15	350	110	110	Y	0	320	0.15	48	3	15	45	48	Y	175	175	Y	70	70	Y
B1-16	515	155	160	Y	0	300	0.15	45	3	15	45	45	Y	258	258	Y	103	103	Y
B1-17	715	360	360	Y	0	440	0.15	66	24	15	360	360	Y	358	360	Y	143	360	Y
B1-18	240	150	150	Y	0	250	0.15	38	10	15	150	150	Y	--	--	Y	--	--	N/A
B1-19	170	55	55	Y	0	219	0.15	33	2	15	30	33	Y	--	--	Y	--	--	N/A
B1-20	620	190	190	Y	0	260	0.15	39	6	15	90	90	Y	310	310	Y	124	124	Y
B1-21	440	135	150	Y	0	575	0.15	86	6	15	87	87	Y	220	220	Y	88	88	Y
B1-22	330	100	150	Y	0	366	0.15	55	4	15	60	60	Y	165	165	Y	66	66	Y
B1-23	1315	395	395	Y	0	267	0.15	40	3	15	41	41	Y	658	658	Y	263	263	Y
B1-24	1010	305	305	Y	0	1099	0.15	165	18	15	270	270	Y	505	505	Y	202	270	Y

Yellow shaded cells require user input. Remaining cells are protected and automatic.

B. The largest amount of primary air supplied by the terminal unit when it's operating in the cooling mode.
C. The smallest amount of primary air supplied by the terminal unit in the deadband mode.
D. The largest amount of primary air supplied by the terminal unit when it's operating in the heating mode.
E. A terminal unit can be controlled with DDC controls, or non-DDC controls. Each control category has different reheat limitations in code.
F. Transfer Air must be provided where Required Ventilation Airflow (Column M) is greater than the Design Primary Deadband Airflow (Column C).
H. Minimum ventilation rate per Section §120.1. Table 120.1-A.
J. Based on number of fixed seats where applicable or the greater of the expected number of occupants and 50% of the CBC occupant load for egress purposes for spaces without fixed seating.
M. Required Ventilation Airflow (Req'd Ventilation Airflow) is the larger of the ventilation rates calculated on an AREA BASIS or OCCUPANCY BASIS (Column I or L)
N. This column identifies whether or not the Design Primary Deadband Airflow complies or not. It compares the value in column M to the value in column C and column F.
O. Design Primary Cooling Airflow * 0.50 for DDC, Design Primary Cooling Airflow * 0.30 for Non-DDC. If the Design Primary Cooling Airflow is less than 300 cfm, then this is not applicable.
P. Maximum of Column M and Column O. If the Design Primary Cooling Airflow is 300 cfm or less, then this is not applicable.
Q. This column identifies whether or not the Design Primary Reheat Airflow at the zone level, complies or not. It compares the value in column P to the value in column D.
R. Design Primary Cooling Airflow * 0.20 for DDC. Not applicable for Non-DDC zones or zones where Design Primary Cooling Airflow is 300 cfm or less.
S. Maximum of Column M and Column R. Not applicable if the Design Primary Cooling Airflow is 300 cfm or less.
T. This column identifies whether or not the Design Primary Deadband Airflow at the zone level, complies or not. It compares the value in column S to the value in column C.

STATE OF CALIFORNIA

REQUIRED ACCEPTANCE TESTS

CEC-NRCC-MCH-04-E (Revised 05/15) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE — NRCC-MCH-04-E

Required Acceptance Tests — (Page 3 of 3)

Project Name: Hayward Fire Training Center — Date Prepared: 9/14/2018

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

1. I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name:	Michael Estrada	Documentation Author Signature:	
Company:	WSP USA	Signature Date:	
Address:	405 Howard Street Suite #500	CEA/ HERS Certification Identification (if applicable):	-
City/State/Zip:	San Francisco, CA 94105	Phone:	415-398-3833

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer).
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name:	Todd See	Responsible Designer Signature:	
Company :	WSP USA	Date Signed:	
Address:	405 Howard Street Suite #500	License:	M30765
City/State/Zip:	San Francisco, CA 94105	Phone:	415-398-3833

STATE OF CALIFORNIA

REQUIRED ACCEPTANCE TESTS

CEC-NRCC-MCH-04-E (Revised 05/15) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE — NRCC-MCH-04-E

Required Acceptance Tests — (Page 2 of 3)

Project Name: Hayward Fire Training Center — Date Prepared: 9/14/2018

Designer:
This form is to be used by the designer and attached to the plans. Listed below are all the acceptance tests for mechanical systems. The designer is required to check the applicable boxes by all acceptance tests that apply and list all equipment that requires an acceptance test. If all equipment of a certain type requires a test, list the equipment description and the number of systems. The NA number designates the Section in the Appendix of the Nonresidential Reference Appendices Manual that describes the test. Since this form will be part of the plans, completion of this section will allow the responsible party to budget for the scope of work appropriately.

Enforcement Agency:

Systems Acceptance. Before occupancy permit is granted for a newly constructed building or space, or a new space-conditioning system serving a building or space is operated for normal use, all control devices serving the building or space shall be certified as meeting the Acceptance Requirements for Code Compliance.

Systems Acceptance. Before occupancy permit is granted. All newly installed HVAC equipment must be tested using the Acceptance Requirements. .

The NRCC-MCH-04-E form is not considered a completed form and is not to be accepted by the building department unless the correct boxes are checked. The equipment requiring testing, person performing the test (Example: HVAC installer, TAB contractor, controls contractor, PE in charge of project) and what Acceptance test must be conducted. The following checked-off forms are required for ALL newly installed and replaced equipment. In addition a Certificate of Acceptance forms shall be submitted to the building department that certifies plans, specifications, installation certificates, and operating and maintenance information meet the requirements of Section 10-103(b) and Title 24 Part 6. The building inspector must receive the properly filled out and signed forms before the building can receive final occupancy.

Test Description	MCH-02A	MCH-03A	MCH-04A	MCH-05A	MCH-06A	MCH-07A	MCH-11A	MCH-12A	MCH-14A	MCH-18A	Test Performed By:
Equipment Requiring Testing or Verification	# of units	Outdoor Air	Single Zone Unitary	Air Distribution Ducts	Economizer Controls	Demand Control Ventilation (DCV)	Supply Fan VAV	Automatic Demand Shed Control	FDD for Packaged DX Units	Distributed Energy Storage DX AC Systems	Energy Management Control System	
AC-B1-1 TO B1-4/CU-B1-1	5		X						X			HVAC INSTALLER
AC-B1-5/CU-B1-2	2		X						X			HVAC INSTALLER

STATE OF CALIFORNIA

REQUIRED ACCEPTANCE TESTS

CEC-NRCC-MCH-04-E (Revised 05/15) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE — NRCC-MCH-04-E

Required Acceptance Tests — (Page 1 of 3)

Project Name: Hayward Fire Training Center — Date Prepared: 9/14/2018

MECHANICAL COMPLIANCE FORMS & WORKSHEETS (indicate if worksheet is included)

For detailed instructions on the use of this and all Energy Efficiency Standards compliance forms, refer to the 2013 Nonresidential Manual Note: The Enforcement Agency may require all forms to be incorporated onto the building plans. Forms NRCC-MCH-04-E and NRCC-MECH-05-E are alternative forms to NRCC-MCH-01-E, NRCC-MCH-02-E and NRCC-MCH-03-E for projects using only single zone packaged HVAC systems.

YES	NO	Form	Title
X		NRCC-MCH-04-E (1 of 2)	Certificate of Compliance. Required on plans when used.
X		NRCC-MCH-04-E (2 of 2)	Mechanical Acceptance Tests. Required on plans when used.
X		NRCC-MCH-05-E (1 of 2)	HVAC Prescriptive Requirements. It is required on plans when used.
	X	NRCC-MCH-05-E (2 of 2)	Mechanical SWH Equipment Summary is required for all submittals with service water heating, pools or spas. It is required on plans where applicable.

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER — TODD M. SEE — No. M30765 — MECHANICAL — STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

MECHANICAL TITLE 24 DOCUMENTATION

Drawn By: MCE — Checked By: TMS

Scale:

Date: **October 4, 2019**

Project No. B17.07369

1-M0.05
Drawing No.

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STATE OF CALIFORNIA

REQUIREMENTS FOR PACKAGED SINGLE ZONE UNITS

CEC-NRCC-MCH-05-E (Revised 05/15) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE — NRCC-MCH-05-E

Requirements for Packaged Single-Zone Units — (Page 2 of 2)

Project Name: Hayward Fire Training Center — Date Prepared: 9/14/2018

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

1. I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name:	Michael Estrada	Documentation Author Signature:	
Company:	WSP USA	Signature Date:	
Address:	405 Howard Street Suite #500	CEA/ HERS Certification Identification (if applicable):	-
City/State/Zip:	San Francisco, CA 94105	Phone:	415-398-3833

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer).
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name:	Todd See	Responsible Designer Signature:	
Company:	WSP USA	Date Signed:	
Address:	405 Howard Street Suite #500	License:	M30765
City/State/Zip:	San Francisco, CA 94105	Phone:	415-398-3833

STATE OF CALIFORNIA

REQUIREMENTS FOR PACKAGED SINGLE ZONE UNITS

CEC-NRCC-MCH-05-E (Revised 05/15) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE — NRCC-MCH-05-E

Requirements for Packaged Single-Zone Units — (Page 1 of 2)

Project Name: Hayward Fire Training Center — Date Prepared: 9/14/2018

Equipment Tag(s)[1]		AC-B1-1 TO B1-4/CU-B1-1		AC-B1-5/CU-B1-2			
MANDATORY MEASURES	***T-24 Sections***	***Requirement*** [3]	***As Scheduled*** [3]	***Requirement*** [3]	***As Scheduled*** [3]	***Requirement*** [3]	***As Scheduled*** [3]
Heating Equipment Efficiency[4]	110.1 or 110.2(a)	3.3 COP	4 COP	2.3 COP	2.5 COP		
Cooling Equipment Efficiency[4]	110.1 or 110.2(a)	11.2 EER	14.1 EER	13.0 SEER	17.6 SEER		
Thermostats[5]	110.2(b), 110.2(c)	N/A	1-M2.01, 1-M2.02	N/A	1-M2.01, 1-M2.02		
Furnace Standby Loss Controls[6]	110.2(d)	N/A	N/A	N/A	N/A		
Low Leakage AHU	110.2(f)	N/A	N/A	N/A	N/A		
Ventilation[7]	120.1(b)	N/A	N/A	N/A	N/A		
Demand Control Ventilations[8]	120.1(c)4	N/A	N/A	N/A	N/A		
Occupant Sensor Ventilation Controls[8]	120.1(c)5, 120.2(e)3	N/A	N/A	N/A	N/A		
Shutoff and Reset Controls[9]	120.2(e)	N/A	N/A	N/A	N/A		
Outdoor Air and Exhaust Damper Control	120.2(f)	N/A	N/A	N/A	N/A		
Automatic Demand Shed Controls	120.2(h)	N/A	N/A	N/A	N/A		
Economizer FDD	120.2(i)	N/A	N/A	N/A	N/A		
Duct Insulation	120.4	Y	1-M0.01	Y	1-M0.01		
PRESCRIPTIVE MEASURES							
Equipment is sized in conformance with 140.4 (a & b)	140.4(a & b)	Y	Y	Y	Y		
Economizer	140.4(e)	N/A	N/A	N/A	N/A		
Electric Resistance Heating[10]	140.4(g)	N/A	N/A	N/A	N/A		
Duct Leakage Sealing and Testing.[11]	140.4(l)	N/A	N/A	N/A	N/A		

Notes:

1. Provide equipment tags (e.g. AC1 or AC1 to 10). Multiple units of the same make and model with the same application and accessories can be grouped together.
2. Enter the following information as appropriate: Unit Manufacturer; Unit Model Number (including all accessories); Description of the unit (e.g. gas-pack or heat pump; rated heating capacity (enter "N/A" if no heating); and, rated cooling capacity (enter "N/A" if no cooling). For unit capacities include the units (e.g. kBtuh or tons).
3. For each requirement, enter the minimum requirement from the Standard In the left column (under "Standard Requirement"). In the right column (under "As Scheduled") enter the value for the units as specified.
4. Where there is more than one requirement (e.g. full and part load efficiency) enter both with the appropriate labels (e.g. COP and IEER).
5. In the left column identify the thermostatic requirements from the standard (e.g. programmable setback thermostat or heatpump with electric heat). . In the right column indicate the capabilities of the thermostat as scheduled.
6. If the unit has a furnace which is rated at >=225,000 Btuh of capacity, indicate the rated standby loss and ignition source (e.g. IID). If there is no furnace or the unit is rated for <225,000 Btuh indicate "N/A".
7. In the left column, enter both the required ventilation value from Table 120.1A and for the number of occupants times 15 cfm/person. In the right column enter the actual minimum ventilation as scheduled. If the space is naturally ventilated enter "N/A" in the left column and "the space is naturally ventilated" in the right column.
8. If the space is required to have either DCV or Occupant Sensor Ventilation Control indicate "required" in the left column (otherwise indicate "N/A" in the left column). If either DCV or Occupant Sensor Ventilation Control is provided indicate "provided" in the right column (otherwise indicate "N/A" in the right column)
9. In the left column indicate the required time controls from the standard. In the right column identify the device that provides this functionality (e.g. EMCS or programmable timeclock).
10. Enter N/A if there is no electric heating. If the system has electric heating indicate which exception to 140.4(g) applies.
*11. If duct leakage sealing and testing is required, a **MCH-04-A** form must be submitted.*

STATE OF CALIFORNIA

PROCESS COMPLIANCE FORMS AND WORKSHEETS

CEC-NRCC-PRC-01-E (Revised 05/15) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE — NRCC-PRC-01-E

Process Compliance Forms & Checklists — (Page 3 of 3)

Project Name: Hayward Fire Training Center — Date Prepared: 9/14/2018

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

1. I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name:	Michael Estrada	Documentation Author Signature:	
Company:	WSP USA	Signature Date:	
Address:	405 Howard Street Suite #500	CEA/ HERS Certification Identification (if applicable):	-
City/State/Zip:	San Francisco, CA 94105	Phone:	415-398-3833

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Responsible Designer Name:	Todd See	Responsible Designer Signature:	
Company :	WSP USA	Date Signed:	
Address:	405 Howard Street Suite #500	License:	M30765
City/State/Zip:	San Francisco, CA 94105	Phone:	415-398-3833

CERTIFICATE OF COMPLIANCE — NRCC-PRC-01-E

Process Compliance Forms & Checklists — (Page 2 of 3)

Project Name: Hayward Fire Training Center — Date Prepared: 9/14/2018

PROCESS ACCEPTANCE FORMS (check box for required forms)

Designer:
This form is to be used by the designer and attached to the plans. Listed below are all the acceptance tests for process systems. The designer is required to check the applicable boxes for all acceptance tests that apply and list all equipment that requires an acceptance test. If all equipment of the same type requires a test, list the equipment description and the number of systems.

Installing Contractor:
The contractor who installed the equipment is responsible to either conduct the acceptance test them self or have a qualified entity run the test for them. If more than one person has responsibility for the acceptance testing, each person shall sign and submit the Certificate of Acceptance applicable to the portion of the construction or installation for which they are responsible.

Enforcement Agency:
Plancheck - The NRCC-PRC-01-E form is not considered a completed form and is not to be accepted by the building department unless the correct boxes are checked.
Inspector - Before occupancy permit is granted all newly installed process systems must be tested to ensure proper operations.

Test Description		PRC-01A	PRC-02A	PRC-03A	PRC-04A	PRC-05A	PRC-06A	PRC-07A	PRC-08A
Equipment Requiring Testing or Verification	# of units	Compressed Air Systems	Garage Exhaust	Kitchen Exhaust	RHW Evap Fan Motor Controls	RHW Evap Condenser Controls	RHW Air-Cooled Condenser Controls	RHW Variable Speed Compressors	RHW Elect. Underslab Heating
EF-B1-4	1	☐	☑	☐	☐	☐	☐	☐	☐
		☐	☐	☐	☐	☐	☐	☐	☐
		☐	☐	☐	☐	☐	☐	☐	☐
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STATE OF CALIFORNIA

PROCESS COMPLIANCE FORMS AND WORKSHEETS

CEC-NRCC-PRC-01-E (Revised 05/15) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE — NRCC-PRC-01-E

Process Compliance Forms & Checklists — (Page 1 of 3)

Project Name: Hayward Fire Training Center — Date Prepared: 9/14/2018

PROCESS COMPLIANCE FORMS & WORKSHEETS (check box if worksheet is included)

For detailed instructions on the use of this and all Energy Efficiency Standards compliance forms, refer to the 2008 Nonresidential Manual Note: The Enforcement Agency may require all forms to be incorporated onto the building plans.

YES	NO	Form/Worksheet #	Title
☑	☐	PRC-01-E (1 of 2)	Covered Process Certificate of Compliance. Required on plans for all submittals with covered processes.
☐	☐	PRC-01-E (2 of 2)	Certificate of Compliance, Required Acceptance Tests (PRC-02-A to PRC-8-A). Required on plans for all submittals.
☑	☐	PRC-02-E	Compliance Form for Enclosed Parking Garage Exhaust Fans
☐	☑	PRC-03-E	Compliance Form for Commercial Kitchens
☐	☑	PRC-04-E	Compliance Form for Computer Rooms
☐	☑	PRC-05-E	Compliance Form for Commercial Refrigeration
☐	☑	PRC-06-E	Compliance Form for **ALL** Refrigerated Warehouses
☐	☑	PRC-07-E	Compliance Form for Refrigerated Warehouse ≥ 3,000 ft2
☐	☑	PRC-08-E	Compliance Form for Refrigerated Warehouse Where **Multiple** Spaces that (i) comprise a total of 3,000 square feet or more; and (ii) are collectively served by the same refrigeration system compressor(s) and condenser(s) (central systems).
☐	☑	PRC-09-E	Compliance Form for Laboratory Exhaust
☐	☑	PRC-10-E	Compliance Form for Compressed Air Systems
☐	☑	PRC-11-E	Compliance Form for Process Boilers

STATE OF CALIFORNIA

GARAGE EXHAUST

CEC-NRCC-PRC-02-E (Revised 05/15) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE — NRCC-PRC-02-E

Garage Exhaust — (Page 2 of 2)

Project Name: Hayward Fire Training Center — Date Prepared: 9/14/2018

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

1. I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name:	Michael Estrada	Documentation Author Signature:	
Company:	WSP USA	Signature Date:	
Address:	405 Howard Street Suite #500	CEA/ HERS Certification Identification (if applicable):	-
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Responsible Designer Name:	Todd See	Responsible Designer Signature:	
Company :	WSP USA	Date Signed:	
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City/State/Zip:	San Francisco, CA 94105	Phone:	415-398-3833

STATE OF CALIFORNIA

GARAGE EXHAUST

CEC-NRCC-PRC-02-E (Revised 05/15) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE — NRCC-PRC-02-E

Garage Exhaust — (Page 1 of 2)

Project Name: Hayward Fire Training Center — Date Prepared: 9/14/2018

DESIGN EXHAUST AIRFLOW (CFM)[1]:	**EXCEPTIONS[2]:**	3,640
Equipment Tags and System Description[3]		EF-B1-4
MANDATORY MEASURES	***T-24 Sections***	***Reference to the Requirements in theContract Documents4***
Exhaust Fan Control	120.6 (c)1 & 2	1-M0.02, 1-M2.01
CO Sensor Location	120.6 (c)3	N/A
CO Sensor Setpoint	120.6 (c)4	N/A
Minimum Ventilation	120.6 (c)5	N/A
Garage Pressurization	120.6 (c)6	N/A
CO Sensor Requirements	120.6 (c)7	N/A
Ventilation System Acceptance Testing	120.6 (c)8	N/A

Notes:

1. Enter the airflow (cfm) of garage exhaust that is being installed under this project.
2. Detail any exceptions that apply to this project. Reference appropriate exception number from §120.6 where applicable.
3. Provide equipment tags (e.g. EF-1 & 2 for garage exhaust fans that are part of this project)
4. Provide references to plans (i.e. Drawing Sheet Numbers) and/or specifications (including Section name/number and relevant paragraphs) where each requirement is specified. Enter "N/A" if the requirement is not applicable to this system.

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC: 01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery ARCHITECTURE
18294 Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: **KATHY GARCIA** DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

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425 Market St. 17th Floor
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wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER
TODD M SEE
No. M30765
MECHANICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

MECHANICAL TITLE 24 DOCUMENTATION

Drawn By: MCE — Checked By: TMS

Scale:

Date: **October 4, 2019**

Project No. B17.07369

1-M0.06

Drawing No.

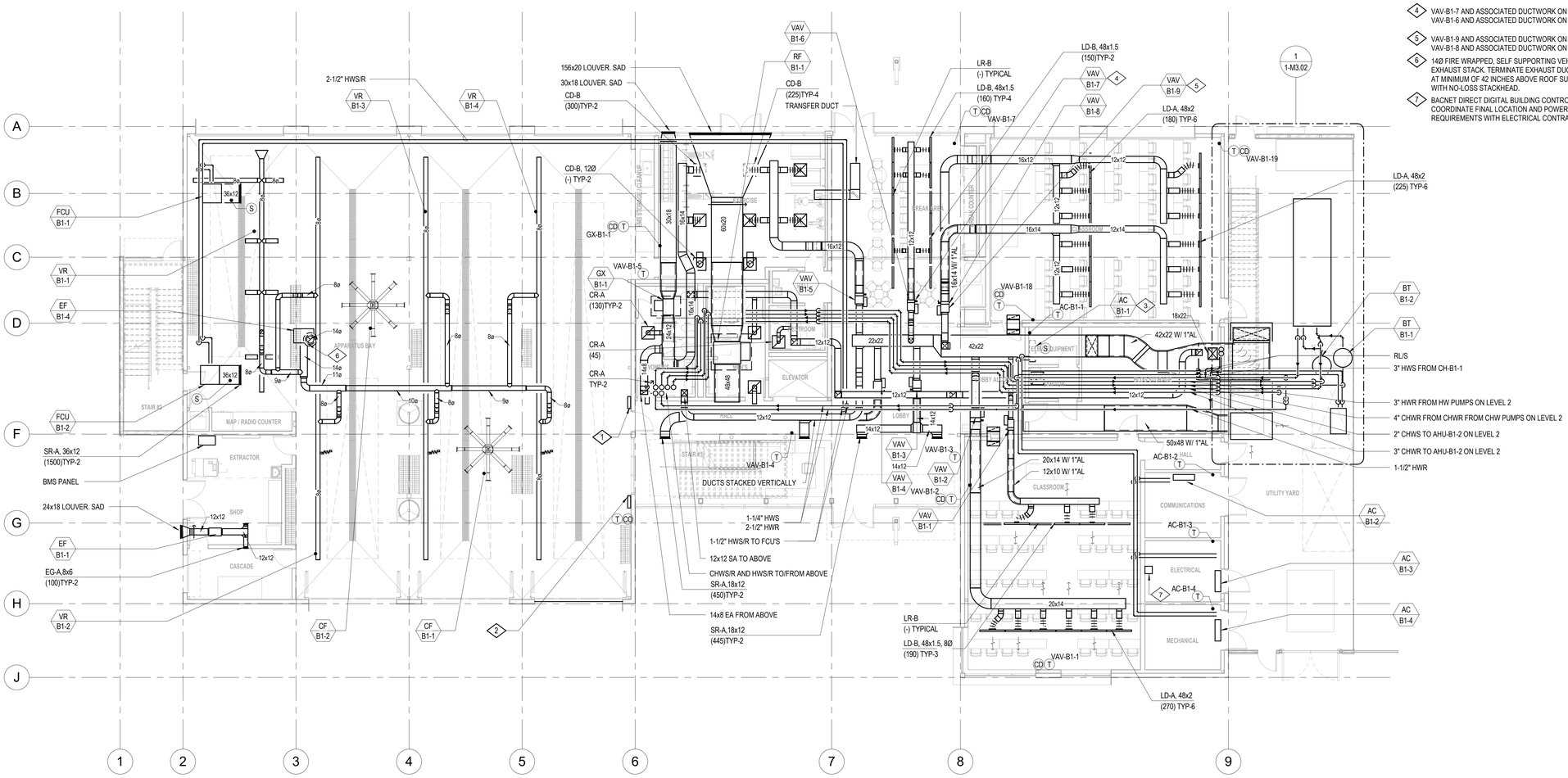
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SHEET NOTES:

1. NOTES

NUMBERED NOTES:

1. VEHICLE EXHAUST FAN CONTROL PANEL
2. CEILING FAN CONTROL PANEL
3. PROVIDE WITH SECURITY SCREEN
4. VAV-B1-7 AND ASSOCIATED DUCTWORK ON TOP, VAV-B1-6 AND ASSOCIATED DUCTWORK ON BOTTOM
5. VAV-B1-9 AND ASSOCIATED DUCTWORK ON TOP, VAV-B1-8 AND ASSOCIATED DUCTWORK ON BOTTOM
6. 14Ø FIRE WRAPPED, SELF SUPPORTING VEHICLE EXHAUST STACK. TERMINATE EXHAUST DUCTWORK AT MINIMUM OF 42 INCHES ABOVE ROOF SURFACE WITH NO-LOSS STACKHEAD.
7. BACNET DIRECT DIGITAL BUILDING CONTROLLER. COORDINATE FINAL LOCATION AND POWER REQUIREMENTS WITH ELECTRICAL CONTRACTOR.



RossDrulisCusenbery
ARCHITECTURE

18294
Sonoma Highway
Sonoma
CA 95476

TEL 707 996 8448
FAX 707 996 8542

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HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

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No.	Description	Date
1	INC 01_ADD_01_V1	12/06/2019

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Sheet Title

MECHANICAL FS#6/CLASSROOM FIRST FLOOR PLAN

Drawn By: MCE
Checked By: TMS

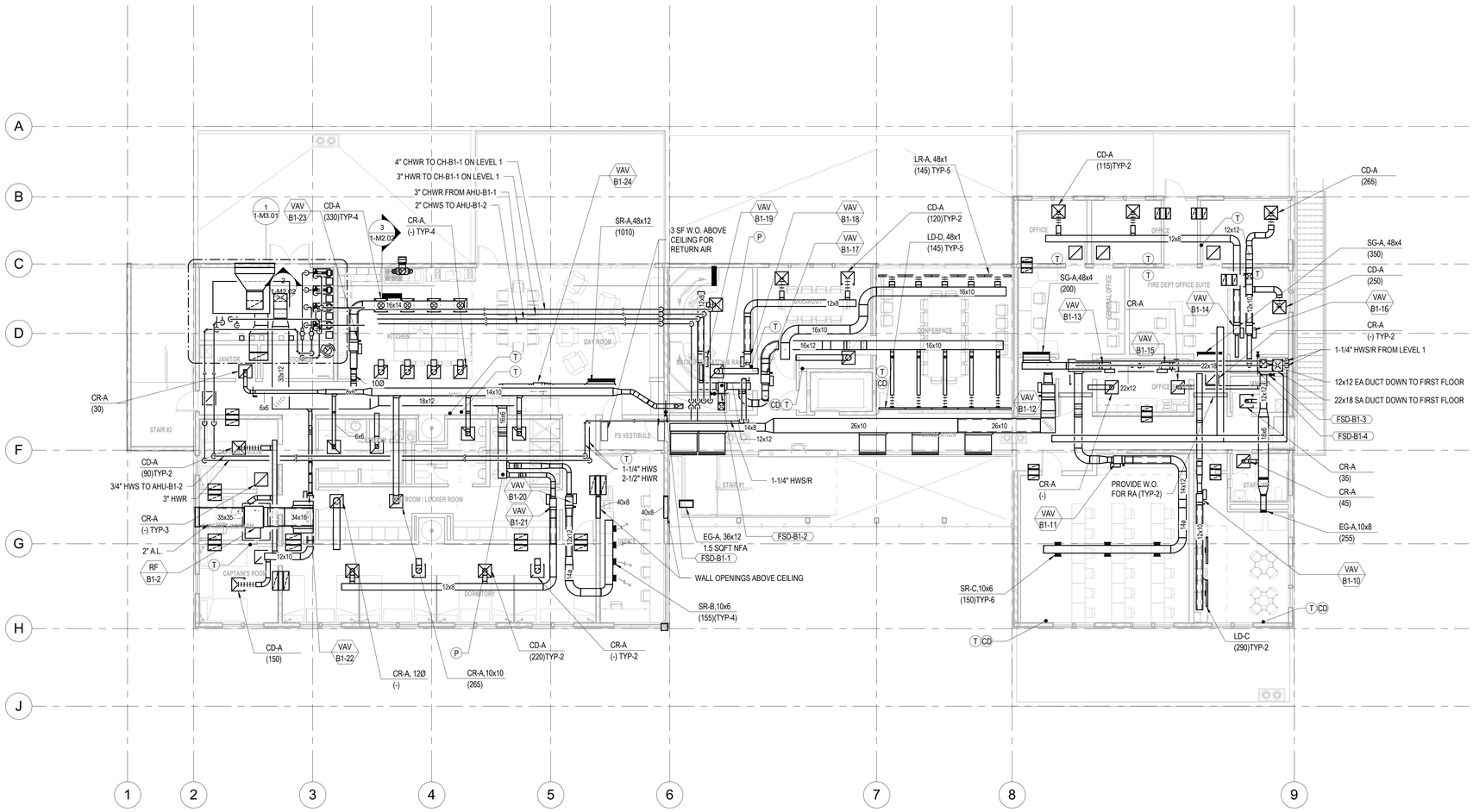
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Date: October 4, 2019

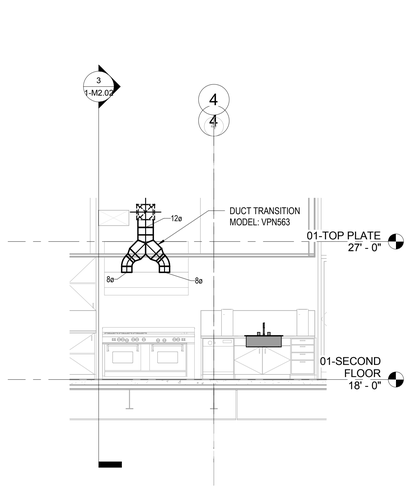
Project No. B17.07369

1-M2.01
Drawing No.

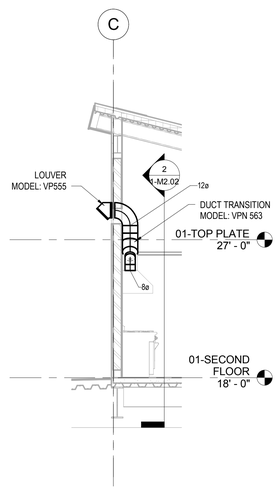
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1 01-MECH CLASS ROOM-02-SECOND FLOOR
1/8" = 1'-0"



2 KITCHEN HOOD INSTALLATION - SECTION
1/4" = 1'-0"



3 KITCHEN HOOD INSTALLATION - SECTION
1/4" = 1'-0"

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ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

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APPROVED BY:	
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MECHANICAL FS#6/CLASSROOM SECOND FLOOR PLAN

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October 4, 2019

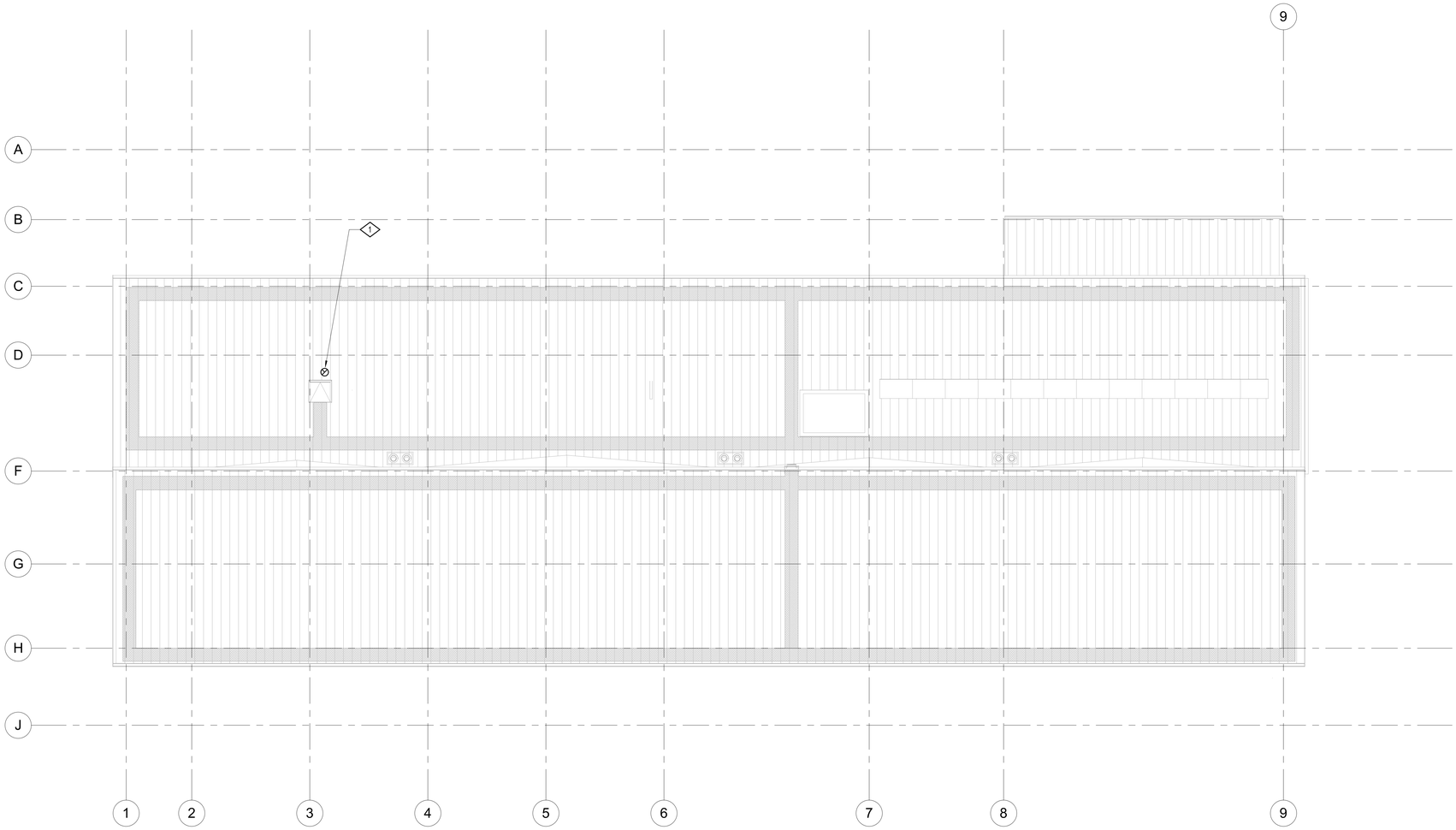
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NUMBERED NOTES:

1 140 FIRE WRAPPED, SELF SUPPORTING VEHICLE EXHAUST STACK. TERMINATE EXHAUST DUCTWORK AT MINIMUM OF 42 INCHES ABOVE ROOF SURFACE WITH NO-LOSS STACKHEAD.



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ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

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MECHANICAL FS#6/CLASSROOM ROOF PLAN

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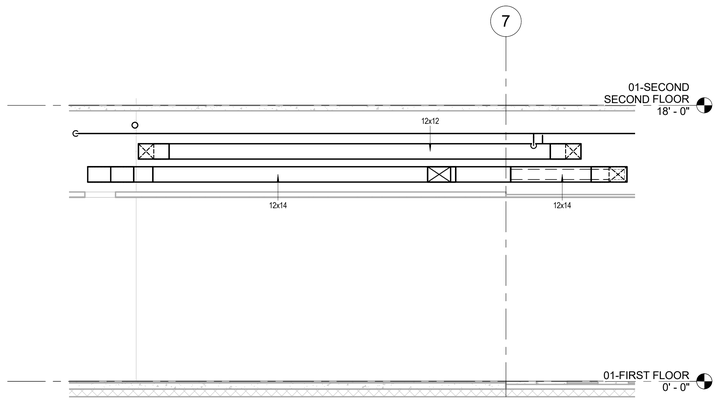
Scale:
1/8" = 1'-0"

Date:
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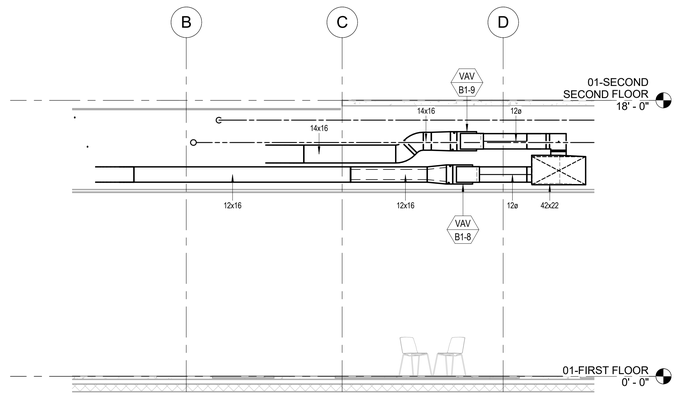
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1-M2.03
Drawing No.

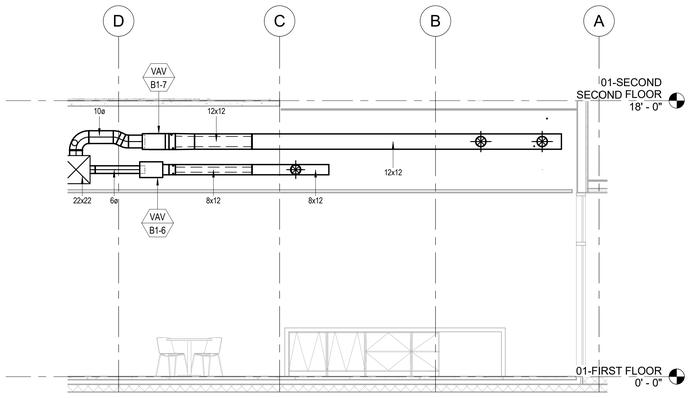
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2 Section 69
1/4" = 1'-0"



4 Section 68
1/4" = 1'-0"



3 Section 87
1/4" = 1'-0"

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ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

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KATHY GARCIA DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
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MECHANICAL SECTIONS

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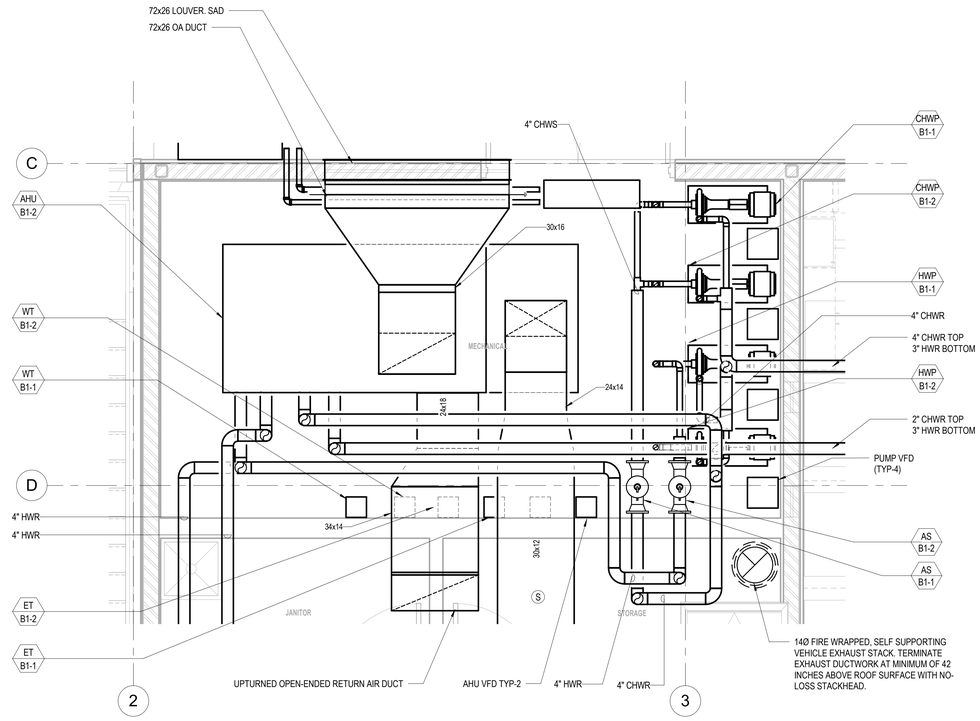
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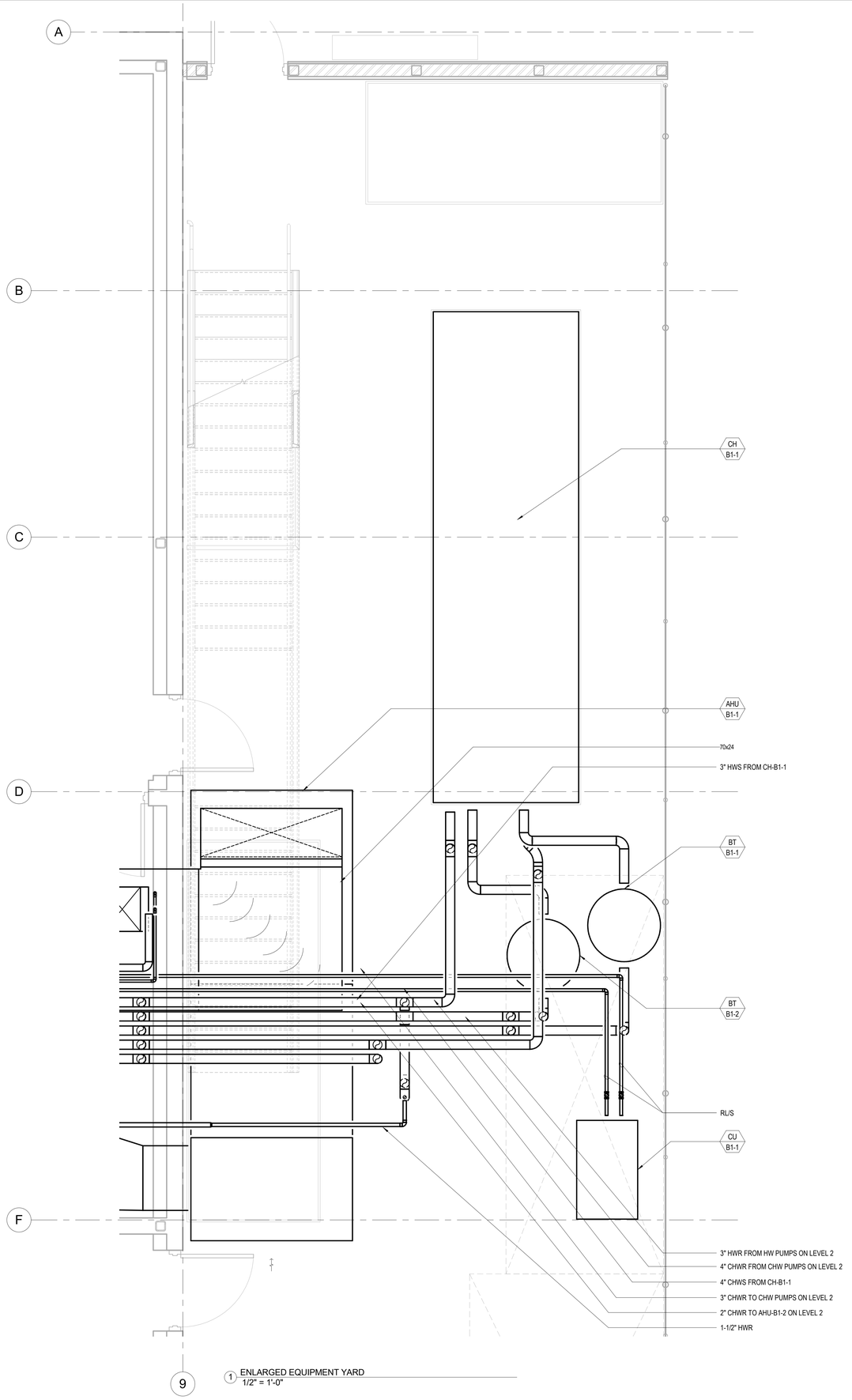
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2 ENLARGED MECHANICAL ROOM
1/2" = 1'-0"



1 ENLARGED EQUIPMENT YARD
1/2" = 1'-0"

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ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
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MECHANICAL ENLARGED PLANS

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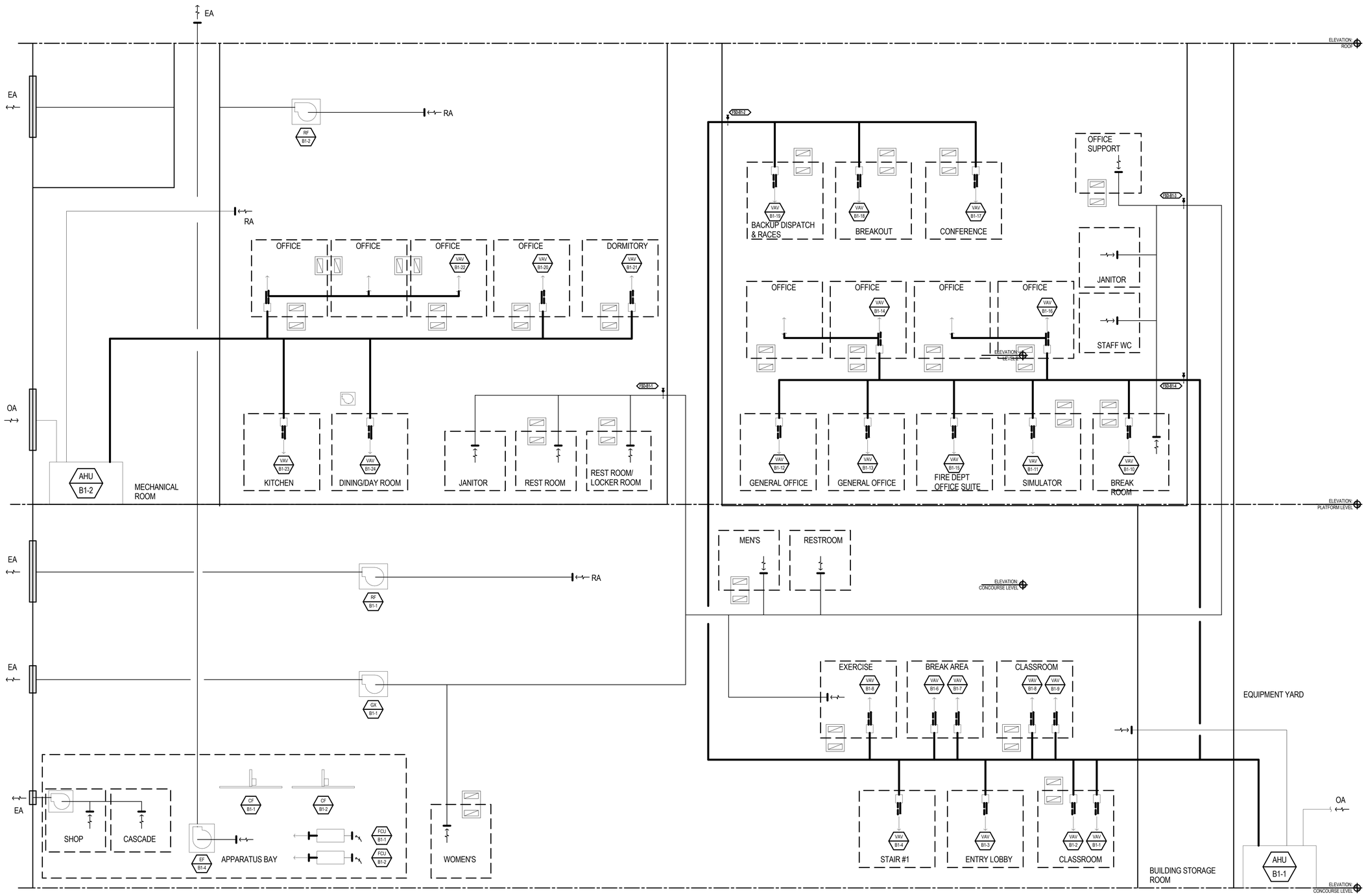
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ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
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BUILDING 1 MECHANICAL AIR RISER DIAGRAM

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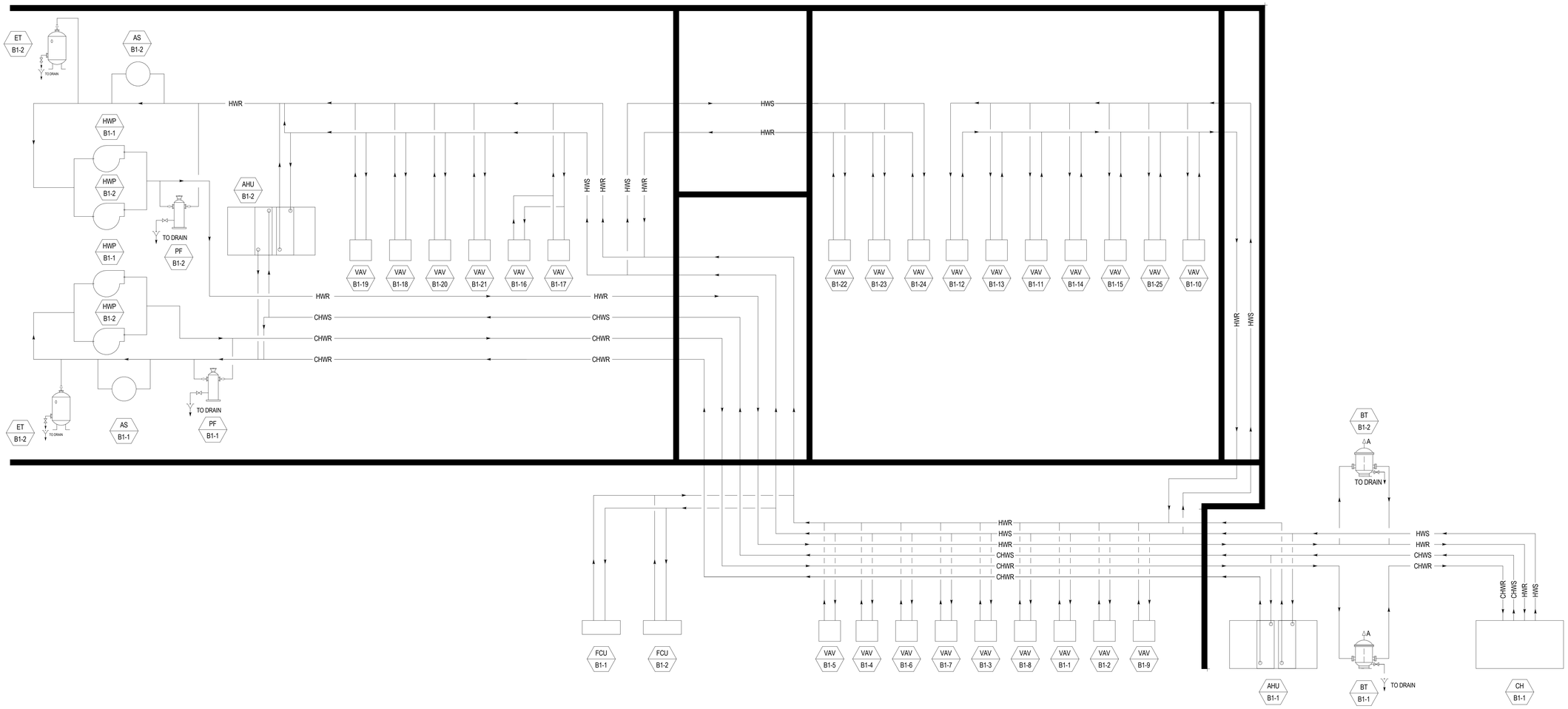
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BUILDING 1 MECHANICAL WATER RISER DIAGRAM

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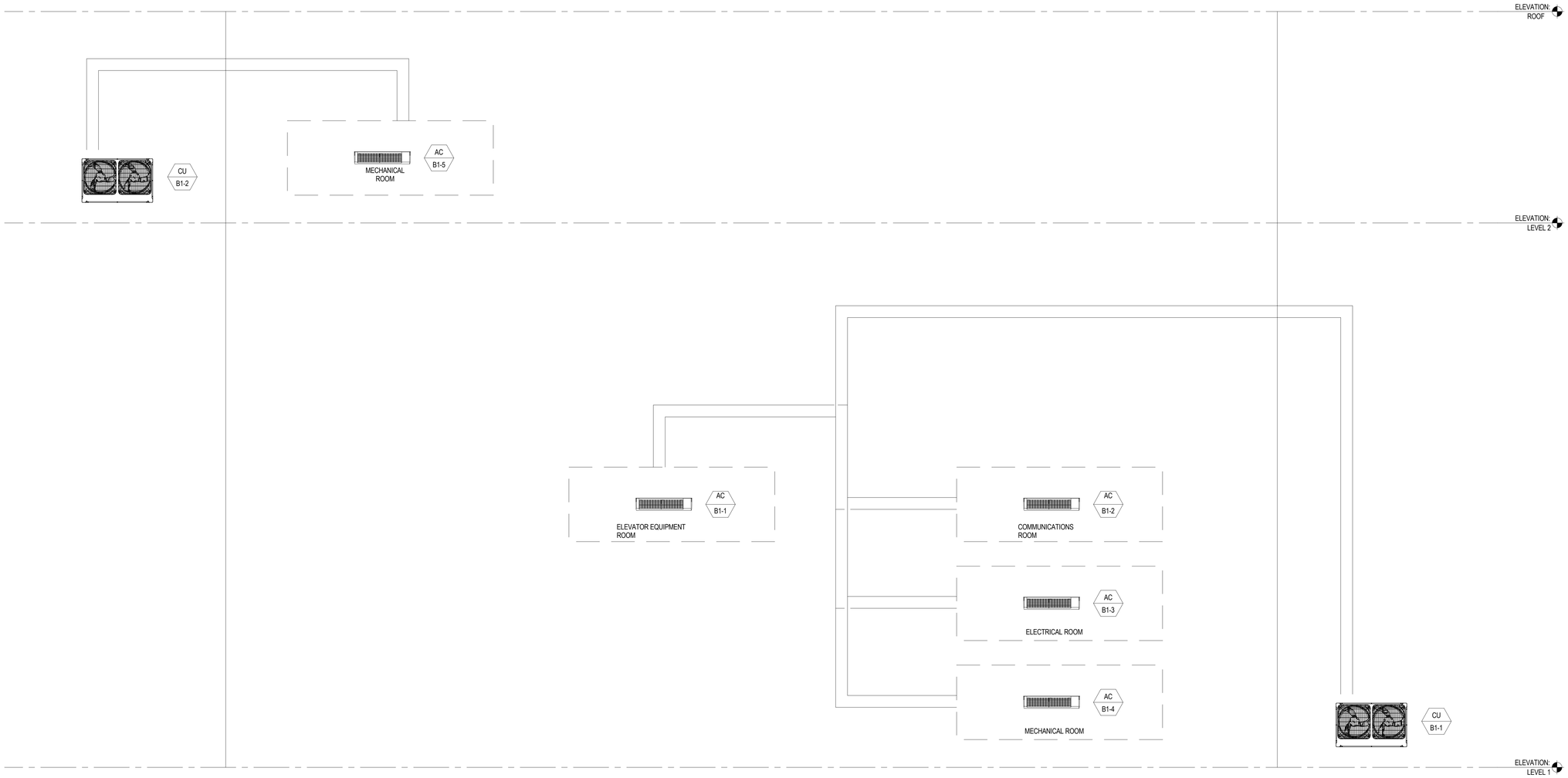
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ARCHITECTURE
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Sonoma
CA 95476
TEL 707 996 8448
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BUILDING 1 MECHANICAL VRF DIAGRAM

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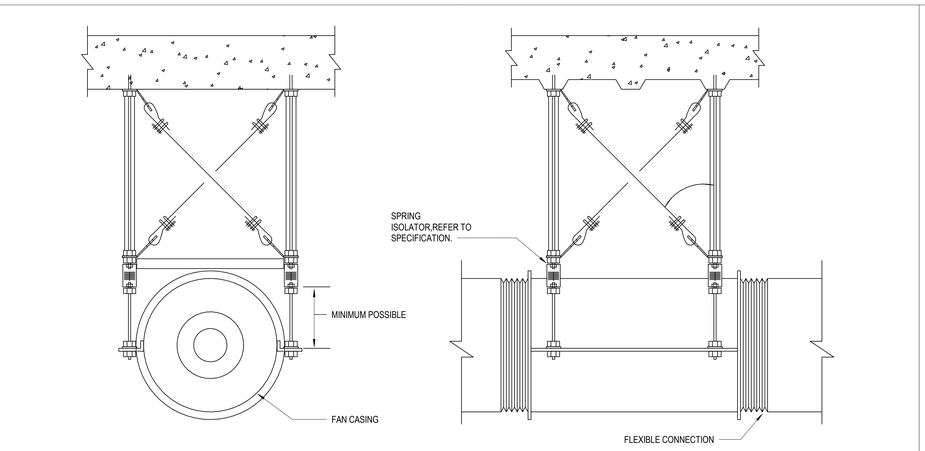
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Drawing No.

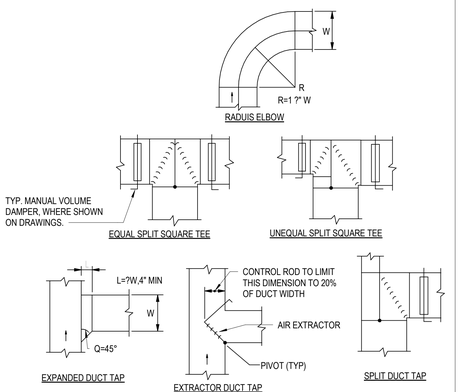
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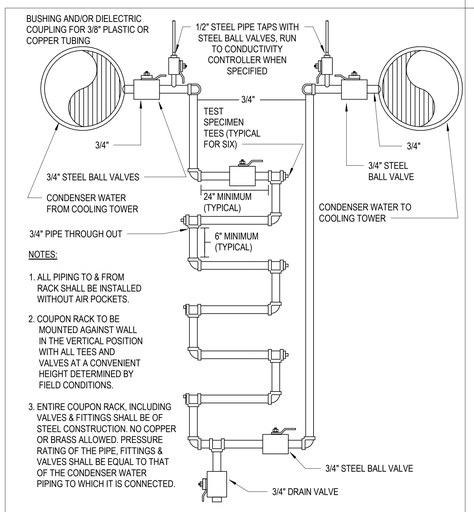
NOTE: 1. PROVIDE ADEQUATE SEISMIC BRACING TO RESIST ALL LATERAL MOTION.
2. REFER TO SMACNA SEISMIC RESTRAINT MANUAL: GUIDELINES FOR MECHANICAL SYSTEMS.

DETAIL IS DIAGRAMMATIC. REFER TO SPECIFIC OPM FOR SUPPORT AND SEISMIC DETAILS.

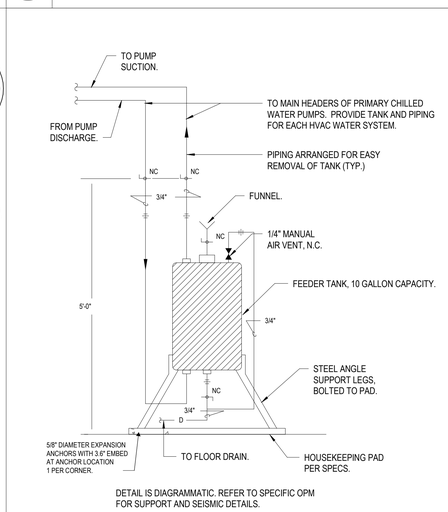
6 IN-LINE FAN SUPPORT — NOT TO SCALE



3 TYPICAL DUCT CONNECTIONS — NOT TO SCALE

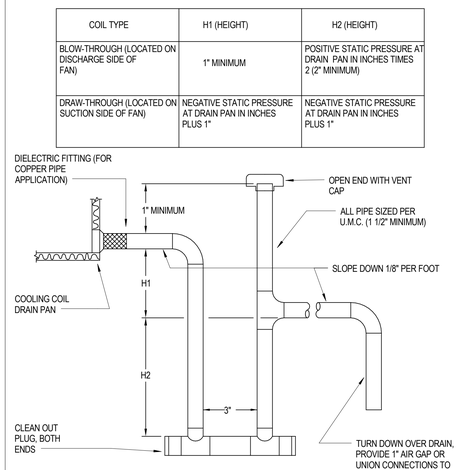


9 COUPON RACK — NOT TO SCALE

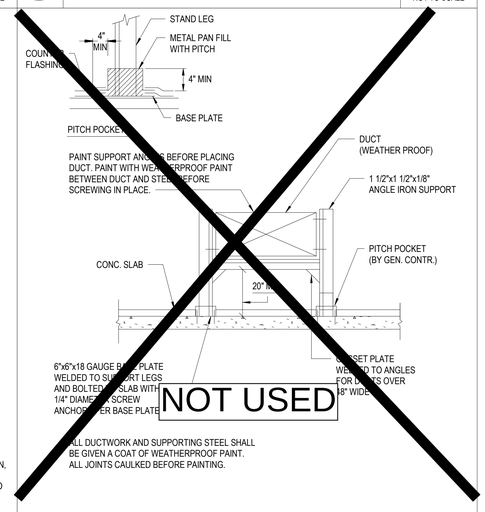


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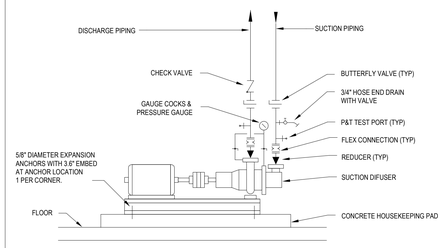
7 HEATING WATER SYSTEM AND CHILLED WATER SYSTEM CHEMICAL SHOT FEEDER PIPING DETAIL — NOT TO SCALE



5 COOLING COIL CONDENSATE TRAP — NOT TO SCALE

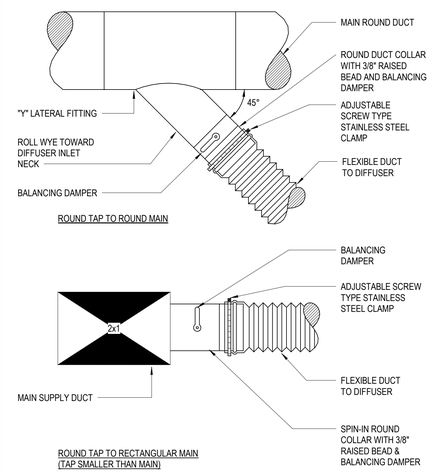


2 ROOFTOP/EXTERNAL DUCTWORK SUPPORT — NOT TO SCALE

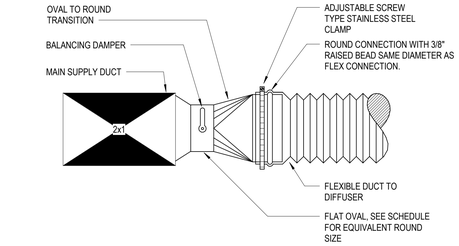


DETAIL IS DIAGRAMMATIC. REFER TO SPECIFIC OPM FOR SUPPORT AND SEISMIC DETAILS.

8 PUMP PIPING CONNECTION — NOT TO SCALE

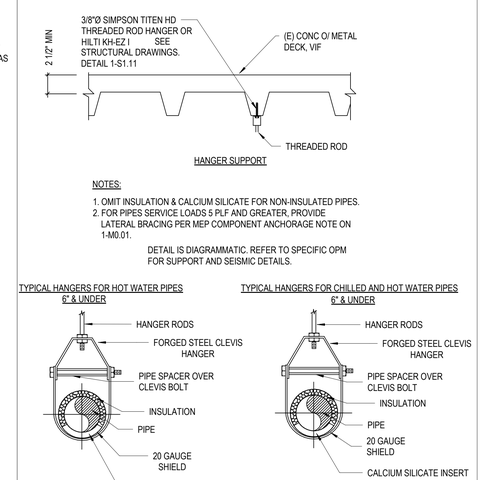


4 LOW PRESSURE BRANCH DUCT CONNECTIONS — NOT TO SCALE



FLAT OVAL EQUIVALENT ROUND	
ROUND Ø	FLAT OVAL INCHES
6"	4x9
7"	5x10
8"	6x11
10"	6x11
12"	7x20
14"	8x22
16"	8x30

ROUND TAP TO RECTANGULAR MAIN (TAP LARGER THAN MAIN)



1 HOT AND CHILLED WATER PIPE HANGER (SINGLE PIPES) — NOT TO SCALE

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18294 Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

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MECHANICAL DETAILS

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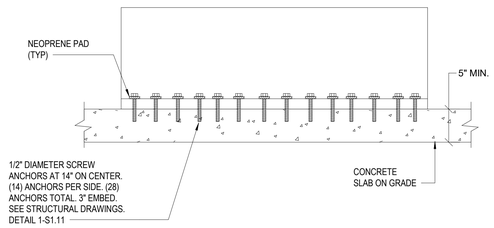
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Date: **October 4, 2019**

Project No. B17.07369

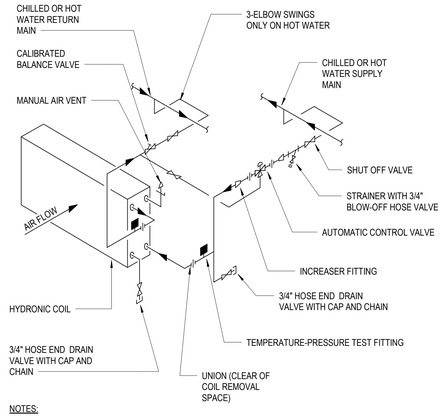
1-M5.01
Drawing No.

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DETAIL IS DIAGRAMMATIC. REFER TO SPECIFIC OPM FOR SUPPORT AND SEISMIC DETAILS.

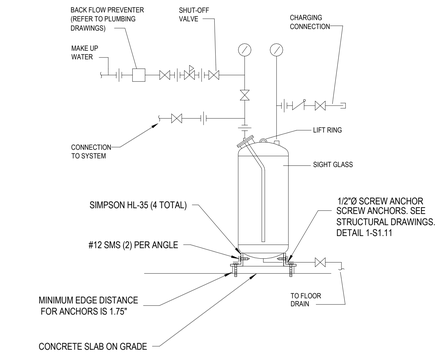
8 AHU-B1-1 MOUNTING DETAIL — NO SCALE



NOTES:

1. ALL BRANCH PIPING, SUPPLY, RETURN AND VERTICAL HEADERS TO BE FULL SIZE BOTTOM CONNECTION FROM MAIN (REFER TO DRAWINGS FOR PIPE SIZE).
2. ALL HORIZONTAL CONNECTIONS TO COIL FROM VERTICAL HEADERS TO BE SIZE OF COIL CONNECTION OUTLET/INLET, U.O.N.

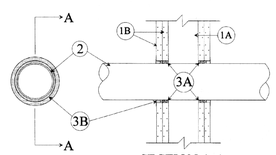
6 SINGLE HYDRONIC COIL PIPING (3-WAY CONTROL VALVE) — NO SCALE



DETAIL IS DIAGRAMMATIC. REFER TO SPECIFIC OPM FOR SUPPORT AND SEISMIC DETAILS.

3 VERTICAL DIAPHRAGM EXPANSION TANK CONNECTION DETAIL (ET-B1-1,2 & BT-B1-1,2) — NO SCALE

System No. W-L-1089
F Ratings— 1 and 2 Hr (See Item 1)
T Rating—0 Hr

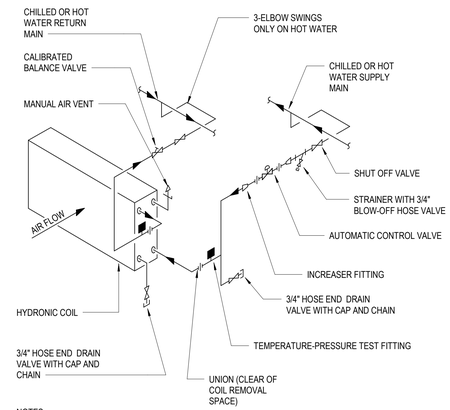


SECTION A-A

1. **Wall Assembly**—The fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner described in the Individual U300 or U400 Series Wall or Partition Design in the UL Fire Resistance Directory and shall include the following construction features:
   A. **Studs**—Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 in. OC. Steel studs to be min 2-1/2 in. wide and spaced max 24 in. OC. When steel studs are used and the diam of opening exceeds the width of stud cavity, the opening shall be framed on all sides using lengths of steel stud installed between the vertical studs and screw-attached to the steel studs at each end. The framed opening in the wall shall be 4 to 6 in. wider and 4 to 6 in. higher than the diam of the penetrating item such that, when the penetrating item is installed in the opening, a 2 to 3 in. clearance is present between the penetrating item and the framing in all four sides.
   B. **Wallboard Gypsum***—5/8 in. thick, 4 ft wide with square or tapered edges. The gypsum wallboard type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300 or U400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 24-5/8 in. for steel stud walls. Max diam of opening is 14-1/2 in. for wood stud walls.
   The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.
2. **Through Penetrant**—One metallic pipe, conduit or tubing to be installed either concentrically or eccentrically within the firestop system. The annular space between pipe, conduit or tubing and the periphery of opening shall be min 1/8 in. to max 1/2 in. Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:
   A. **Steel Pipe**—Nom 24 in diam (or smaller) Schedule 10 (or heavier) steel pipe.
   B. **Iron Pipe**—Nom 24 in. diam (or smaller) cast or ductile iron pipe.
   C. **Conduit**—Nom 4 in. diam (or smaller) steel electrical metallic tubing or 6 in. diam steel conduit.
   D. **Copper Tubing**—Nom 6 in. diam (or smaller) Type L (or heavier) copper tubing.
   E. **Copper Pipe**—Nom 6 in. diam (or smaller) Regular (or heavier) copper pipe.
3. **Firestop System**—The firestop system shall consist of the following:
   A. **Packing Material**—In 2 hr fire-rated assemblies, min 2 in. thickness of min 4 pcf mineral wool batt insulation firmly packed into opening as a permanent form on both sides of wall. Packing material to be recessed from both surfaces of the wall as required to accommodate the required thickness of fill material. In 1 hr fire-rated assemblies, min 3-3/4 in. thickness of min 4 pcf mineral wool batt insulation firmly packed into opening as a permanent form. Packing material to be flush with both surfaces of the wall.
   B. **Fill, Void or Cavity Material*—Sealant**—In 2 hr fire-rated assemblies, 1/4 in. thickness of fill material applied within the annulus on both surfaces of wall. Additional fill material to be installed such that a min 1-1/4 in. thick crown is formed around the penetrating item and lapping a min 1/4 in. beyond the periphery of the opening. In 1 hr fire-rated assemblies, a min 1/2 in. thick crown is formed around the penetrating item and lapping a min 1/2 in. beyond the periphery of the opening on both surfaces of wall.

International Protective Coatings Corp.—FS 1900 Sealant
*Bearing the UL Classification Marking

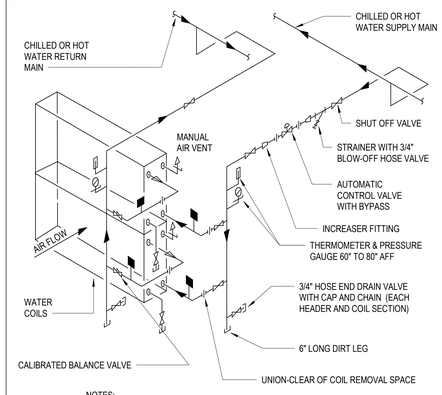
7 GYPSUM WALL PENETRATIONS W-L-1089 — NO SCALE



NOTES:

1. ALL BRANCH PIPING, SUPPLY, RETURN AND VERTICAL HEADERS TO BE FULL SIZE BOTTOM CONNECTION FROM MAIN (REFER TO DRAWINGS FOR PIPE SIZE).
2. ALL HORIZONTAL CONNECTIONS TO COIL FROM VERTICAL HEADERS TO BE SIZE OF COIL CONNECTION OUTLET/INLET, U.O.N.

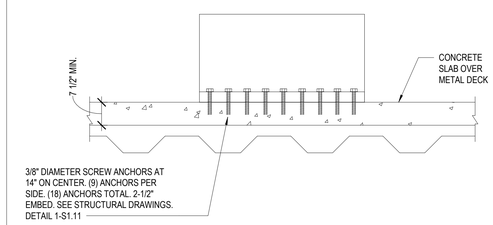
5 SINGLE HYDRONIC COIL PIPING (2-WAY CONTROL VALVE) — NO SCALE



NOTES:

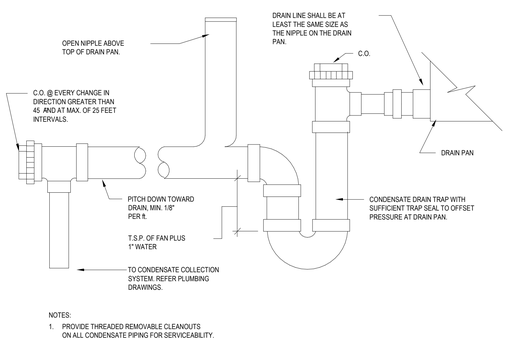
1. ALL BRANCH PIPING, SUPPLY, RETURN AND VERTICAL HEADERS TO BE FULL SIZE BOTTOM CONNECTION FROM MAIN. (REFER TO DRAWINGS FOR PIPE SIZE).
2. ALL HORIZONTAL CONNECTIONS TO COIL FROM VERTICAL HEADERS TO BE SIZE OF COIL CONNECTION OUTLET/INLET, U.O.N.
3. COIL BANKS HIGHER THAN 2 COILS TO HAVE SAME VALVING AND TRIM PER COIL.
4. BYPASS LINE TO BE SAME SIZE AS AUTOMATIC CONTROL VALVE.

2 MULTIPLE HYDRONIC COIL PIPING (2-WAY CONTROL VALVE) — NO SCALE



DETAIL IS DIAGRAMMATIC. REFER TO SPECIFIC OPM FOR SUPPORT AND SEISMIC DETAILS.

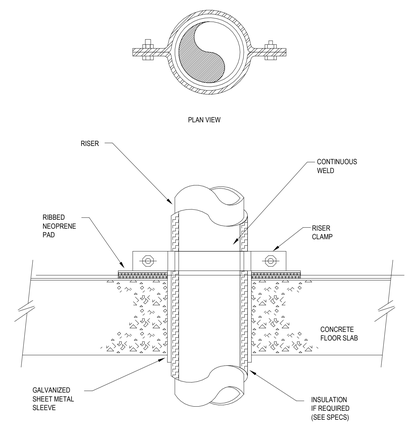
9 AHU-B1-2 MOUNTING DETAIL — NO SCALE



NOTES:
1. PROVIDE THREADED REMOVABLE CLEANOUTS ON ALL CONDENSATE PIPING FOR SERVICEABILITY.

03 CONDENSATE DRAIN TRAP DETAIL — NO SCALE

4 CONDENSATE DRAIN TRAP DETAIL — NO SCALE



1 TYPICAL RISER SUPPORT DETAIL — NO SCALE

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: **KATHY GARCIA** DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER
TODD M SYE
No. M30785
MECHANICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

MECHANICAL DETAILS

Drawn By: MCE Checked By: TMS

Scale:
As indicated

Date:
October 4, 2019

Project No. B17.07369

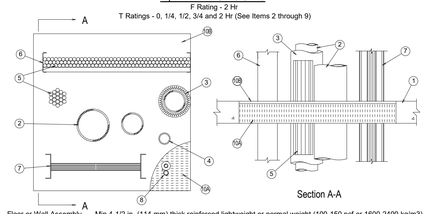
1-M5.02
Drawing No.

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System No. C-AJ-8113

F Rating - 2 Hr

T Ratings - 0, 1/4, 1/2, 3/4 and 2 Hr (See Items 2 through 9)



1. Floor or Wall Assembly - Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m3) concrete. Wall may also be constructed of any UL Classified Concrete Blocks* Max area of opening is 1024 sq in. (0.66 m2) with a max height of 32 in. (813 mm) when installed in a wall or a max width of 32 in. (813 mm) when installed in a floor.

See Concrete Blocks (CAZT) category in the Fire Resistance Directory for names of manufacturers.

2. Metallic Penetrants - One or more metallic pipes, conduits or tubes to be installed within the opening. Annulus between penetrants is min 0 in. (point contact) to max 5 in. (127 mm). Annulus between penetrants and periphery of opening is 0 in. (point contact) to max 6 in. (152 mm). Penetrants rigidly supported on both sides of floor or wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:

A. Steel Pipe - Nom 12 in. (305 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.

B. Iron Pipe - Nom 12 in. (305 mm) diam (or smaller) cast or ductile iron pipe.

C. Conduit - Nom 6 in. (152 mm) diam (or smaller) rigid steel conduit, nom 4 in. (102 mm) diam (or smaller) electrical metallic tubing (EMT), or nom 4 in. (102 mm) diam (or smaller) steel Flexible Metal Conduit#.

D. Copper Pipe or Tube - Nom 6 in. (152 mm) diam (or smaller) Regular (or heavier) copper pipe or Type M (or heavier) copper tube.

Type of Metallic Penetrant	Max Dim of Throught Penetrants, In.(mm)	T Rating, Hr
Steel or Iron Pipe, Conduit	12 (305)	0
Copper Pipe or Tube	6 (152)	0
Steel or iron Pipe, Conduit or EMT	4 (102)	1/4
Steel or iron Pipe, Conduit or EMT	2 (51)	1/2
Steel or iron Pipe, Conduit or EMT	1(25)	3/4

3. Pipe Insulation - (Optional) - The following types of pipe insulations may be installed on one or more of the max 4 in. (102 mm) diam metallic pipes or tubes:

A. Pipe and Equipment Covering Materials* - Nom 1 in. (25 mm) thick hollow cylindrical heavy density (min 3.5 pcf or 56 kg/m3) glass fiber units jacketed on the outside with an all service jacket. Longitudinal joints sealed with metal fasteners or factory-applied self-sealing lap tape. Transverse joints secured with metal fasteners or with butt tape supplied with the product. When Item 3A is used, T Rating is 3/4 Hr .

See Pipe and Equipment Covering Materials (BRGU) category in the Building Materials Directory for names of manufacturers. Any pipe covering meeting the above specifications and bearing the UL Classification Marking with a Flame Spread Index of 25 or less and a Smoke Developed Index of 50 or less may be used.

B. Pipe Covering Materials* - Nom 2 in. (51 mm) thick unfaced mineral fiber pipe insulation having a nom density of 3.5 pcf (56 kg/m3) (or heavier) and sized to the outside diam of the pipe or tube. Pipe insulation secured with min 8 AWG steel wire spaced max 12 in. (305 mm) OC. When Item 3B is used, T Rating is 2 Hr

IIG MINWOOL L L C - High Temperature Pipe Insulation 1200, High Temperature Pipe Insulation BWT and High Temperature Pipe Insulation Thermaloc

C. Sheathing Material* - Use in conjunction with Item 3B. Foil-scrim-kraft or all service jacket material shall be wrapped around the outer circumference of the pipe insulation (Item 3B) with the kraft side exposed. Longitudinal and transverse joints sealed with metal fasteners or butt tape.

See Sheathing Materials (BVDV) category in the Building Materials Directory for names of manufacturers. Any sheathing material meeting the above specifications and bearing the UL Classification Marking with a Flame Spread Index of 25 or less and a Smoke Developed Index of 50 or less may be used.

D. Tube Insulation-Plastics## - Nom 3/4 in. (19 mm) thick acrylonitrile butadiene/polyvinyl chloride (AB/PVC) flexible foam furnished in the form of tubing. When Item 3D is used, T Rating is 1/2 Hr

See Plastics (QMFZ2) category in the Plastics Recognized Component Directory for names of manufacturers. Any Recognized Component tube insulation meeting the above specifications and having a UL 94 Flammability Classification of 94-5VA may be used.

E. Pipe Covering Materials* - Cellular Glass Insulation - Nom 2 to 3 in. (51 to 76 mm) thick cellular glass units sized to the outside diam of the pipe or tube and supplied in nom 24 in. (610 mm) long half sections or nom 18 in.(457 mm) long segments. Pipe insulation installed on pipe in accordance with the manufacturer's instructions. When Item 3E is used, T Rating is 2 Hr.

PITTSBURGH CORNING CORP - FOAMGLAS

F. Metal Jacket - Used in conjunction with Item 3E. Min 12 in. (305 mm) long jacket formed from min 0.010 in. (0.25 mm) thick aluminum sheet cut to wrap tightly around the pipe insulation with a min 2 in. (51 mm) lap and secured using bands and seals of a similar material or min No. 18 AWG steel tie wire. Bands or steel tie wire to be located within 2 in. (51 mm) of each end of the jacket and spaced max 10 in. (254 mm) OC. Jacket installed with edge abutting surface of fill material (Item 9A) on top surface of floor or both surfaces of wall. Metal jacket to be used in addition to any other jacketing material which may be required on the pipe covering.

G. Pipe and Equipment Covering Materials* - Nom 2 to 3 in. (51 to 76 mm) thick hollow cylindrical calcium silicate (min 14 pcf or 224 kg/m3) units sized to the outside diam of the pipe or tube. Pipe insulation secured with stainless steel bands or min 8 AWG stainless steel wire spaced max 12 in. (305 mm) OC. When Item 3G is used, T Rating is 2 Hr.

4. Nonmetallic Penetrants - One or more nonmetallic pipes, conduits or tubes to be installed within the opening. Annulus between penetrants and periphery of opening is min 1 in. (25 mm) to max 6 in. (152 mm). Separation between metallic and nonmetallic penetrants is min 6 in. Penetrants rigidly supported on both sides of floor or wall assembly. The following types and sizes of nonmetallic pipes, conduits or tubing may be used:

A. Polyvinyl Chloride (PVC) Pipe - Nom 2 in. (51 mm) diam (or smaller) solid or cellular core Schedule 40 PVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.

B. Chlorinated Polyvinyl Chloride (CPVC) Pipe - Nom 2 in. (51 mm) diam (or smaller) SDR13.5 CPVC pipe for use in closed (process or supply) piping systems.

C. Rigid Nonmetallic Conduit+ - Nom 2 in. (51 mm) diam (or smaller) Schedule 40 PVC conduit installed in accordance with the National Electrical Code (NFPA 70).

D. Electrical Nonmetallic Tubing (ENT)+ - Nom 2 in. (51 mm) diam (or smaller) corrugated wall ENT formed of polyvinyl chloride (PVC) installed in accordance with the National Electrical Code (NFPA 70).

E. Optical Fiber Raceway+ - Nom 2 in. (51 mm) diam (or smaller) optical fibner raceway (innerduct). Optical fiber raceway installed in accordance with Article 770 of the National Electrical Code (NFPA 70).

When Item 4 is used, the T Rating of the firestop system is 2 hr.

5. Cables - Nom 4 in. (102 mm) diam (or smaller) tight bundle of cables. Annulus between cable bundle and periphery of opening is min 0 in. (point contact) to max 6 in. (152 mm). Separation between cable bundle and metallic or nonmetallic penetrants shall be min 6 in. (152 mm). Cable bundle rigidly supported on both sides of floor or wall assembly. The following types and sizes of cables may be used:

A. Max 1/C - 1000 kcmil cable with polyvinyl chloride (PVC) or cross-linked polyethylene (XLPE) insulation and jacket.

B. Max 7/C - No. 12 AWG cable with PVC-nylon insulation and PVC jacket.

C. Max 400 pair - No. 24 AWG copper conductor telephone cable with PVC insulation and jacket.

D. Max RG/U coaxial cables with fluorinated ethylene jacket and insulation.

E. Multiple fiber optic cables with PVC insulation.

F. Through Penetrating Products* - Max 4/C with ground No. 2/O AWG Metal-Clad Cable+.

AFC CABLE SYSTEMS INC

When cables are used, T Rating is 1/2 hr.

6. Cable Tray - Max 30 in. (762 mm) wide by max 6 in. (152 mm) deep open ladder cable tray with channel-shaped side rails formed from min 0.060 in. (1.5 mm) thick (No. 16 MSG) galv steel or min 0.060 in. (1.5 mm) thick aluminum with rungs spaced max 9 in. (229 mm) OC. A max of two cable trays may be installed within the opening with a min separation of 6 in. (203 mm) between trays. Annulus between the cable tray and the periphery of the opening is min 0 in. (point contact) to max 6 in. (152 mm). Separation between cable tray and metallic or nonmetallic penetrants is min 6 in. (152 mm). Cable trays to be rigidly supported on both sides of the floor or wall assembly. Aggregate cross-sectional area of cables in cable tray not to exceed 40 percent of the cross-sectional area of the cable tray based on a max 3 in. (76 mm) cable loading depth within tray. Any combination of the cable types specified in Item 5 may be used. When cable tray is used, T Rating is 1/2 hr.

7. Busway+ - Nom 19 in. (483 mm) wide (or smaller) by 6 in. (152 mm) deep "I" shaped aluminum enclosure containing factory-mounted copper bars rated for 600 V, 5000 A or max 26 in. (660 mm) wide by max 6 in. (152 mm) deep "I" shaped aluminum enclosure containing factory-mounted aluminum bars rated for 600 V, 4000 A . . A max of two busways may be installed within the opening. The annular space between the busway and the periphery of the opening shall be a min 0 in. (point contact) to a max 5 in. (125 mm). Busways spaced min 6 in. (152 mm) from all other penetrants. Busway to be rigidly supported on both sides of floor or wall assembly. The busway shall bear the UL Listing Mark and shall be installed in accordance with all provisions of the National Electrical Code, NFPA 70. When busway is used, the T Rating is 1/4 hr.

8. Air Conditioning (AC) Line Set - One or more AC line sets installed within opening. Each AC line set consists of two pipes or tubes (Item 8A), tubing insulation (Item 8B) and a thermostat cable (Item 8C). The space between the AC line sets shall be min 2 in. (51 mm). The space between the AC line sets and the periphery of the opening shall be min 0 in. (point contact) to max 6 in. (152 mm). The AC line sets shall be spaced min 6 in. from uninsulated metallic penetrants and shall be rigidly supported on both sides of the floor or wall assembly.

8A. Through Penetrant - A max of two pipes or tubes to be installed in each AC line set. Of the two pipes or tubes, only one may have a nom diam greater than 1/2 in. (13 mm). The following types and sizes of through penetrants may be used:

A. Steel Pipe - Nom 1 in. (25 mm) diam (or smaller) Schedule 5 (or heavier) steel pipe.

B. Iron Pipe - Nom 1 in. (25 mm) diam (or smaller) cast or ductile iron pipe.

C. Copper Pipe - Nom 1 in. (25 mm) diam (or smaller) Regular (or heavier) copper pipe.

D. Copper Tube - Nom 1 in. (25 mm) diam (or smaller) Type L (or heavier) copper tube.

8B. Tube Insulation - Plastics## - Nom 3/4 in. (19 mm) thick acrylonitrile butadiene/polyvinyl chloride (AB/PVC) flexible foam furnished in the form of tubing. The tube insulation may be installed on one max 3/4 in. (19 mm) diam pipe or tube in each AC line set. The space between the insulated and uninsulated pipes or tubes within each AC line set shall be 0 in. (point contact).

See Plastics (QMFZ2) category in the Plastics Recognized Component Directory for names of manufacturers. Any Recognized Component tube insulation meeting the above specifications and having a UL 94 Flammability Classification of 94SVA may be used.

8C. Cable - One 4 pair No. 18 AWG (or smaller) thermostat cable with polyvinyl chloride (PVC) insulation and jacket materials may be installed with each AC line set.

When Item 8 is used, the T Rating of the firestop system is 1/4 hr.

9. Steel Duct - (Not Shown) Nom 12 in. (305 mm) diameter (or smaller) No. 30 GA (or heavier) steel duct installed within opening when opening contains no cables or cable tray. A max of two steel ducts may be installed within the through-opening. Ducts to be spaced min 4 in. (102 mm) apart and min 8 in. (203 mm) from insulated penetrants and nonmetallic penetrants. Annulus between the steel duct and the periphery of the opening shall be min 0 in. (point contact) to max 6 in. (0 to 152 mm). Steel ducts to be rigidly supported on both sides of floor or wall assembly. When steel duct is used, the T Rating is 0 hr.

10. Firestop System - The firestop system shall consist of the following items:

A. Packing Material - Min 4 in. (102 mm) thickness of min 4 pcf (64 kg/m3) mineral wool batt insulation tightly packed into opening. Packing material recessed from top surface of floor assembly or from both surfaces of wall or precast concrete units to accommodate the required thickness of fill material.

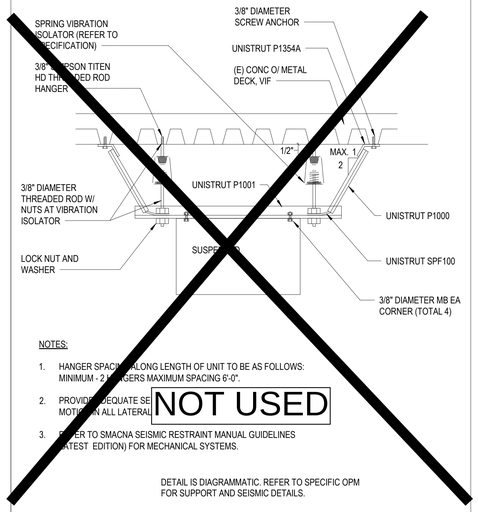
B. Fill, Void or Cavity Materials*-Sealant - Min 1/2 in. (13 mm) depth of fill material applied within the annulus, flush with top surface of floor assembly or with both surfaces of the wall assembly. Additional fill material forced into interstices of grouped cables and grouped cables within cable trays. At point contact location between through penetrant and concrete, a min 3/8 in. (9.6 mm) diam of fill material shall be applied at through penetrant/concrete interface on top surface of floor or both surfaces of the wall.

SPECIFIED TECHNOLOGIES INC - SpecSeal Series SSS Sealant or SpecSeal LCI Sealant

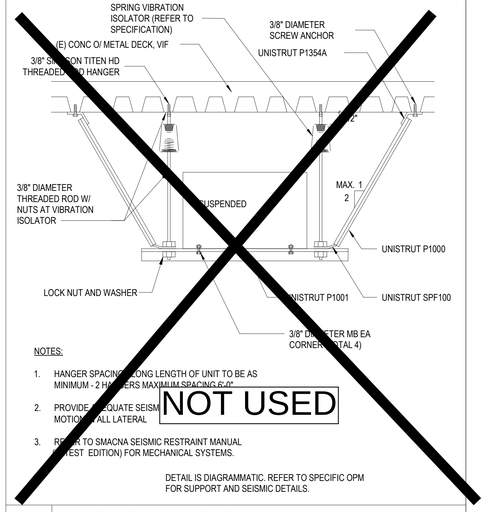
*Bearing the UL Classification Mark

#Bearing the UL Recognized Components Mark

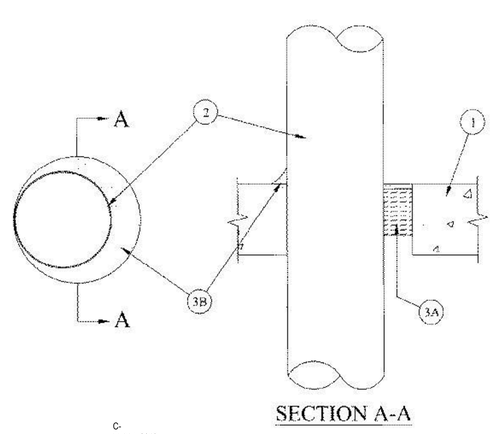
+Bearing the UL Listing Mark



3 SUSPENDED EQUIPMENT ALTERNATE (GX-B1-1, EF-B1-1, RF-B1-1, RF-B1-2, EF-B1-4) — NO SCALE



9 SUSPENDED EQUIPMENT (AS-B1-1, 2 & EF-B1-4 & FCU-B1-1,2 & ET-B1-1, 2) — NO SCALE



C-
MAY 7, 2010
F RATING - 2 HR
T RATING - 0 HR
L RATING AT AMBIENT - LESS THAN 1 CFM/SQ
L RATING AT 400 F - 2 CFM/SQ

1. FLOOR ASSEMBLY MIN 4-1/2 IN. THICK LIGHTWEIGHT OR NORMAL WEIGHT (100-150 PCF) WALL MAY ALSO BE CONSTRUCTED OF ANY UL CONCRETE BLOCKS*. MAX DIAM OF OPENING IS 25-7/8

SEE CONCRETE BLOCKS (CAZT) CATEGORY IN THE RESISTANCE DIRECTORY FOR NAMES OF

2. THROUGH PENETRANTS ONE METALLIC PIPE, TUBING CONDUIT TO BE INSTALLED EITHER CONCENTRICALLY ECCENTRICALLY WITHIN THE FIRESTOP SYSTEM. ANNULAR SPACE BETWEEN TUBE AND PERIPHERY OPENING SHALL BE MIN 0 IN. TO MAX 1-7/8 IN. PENETRANTS BE RIGIDLY SUPPORTED ON BOTH SIDES OF ASSEMBLY. THE FOLLOWING TYPES AND SIZES OF PIPES, TUBING OR CONDUIT MAY BE USED: A. STEEL PIPE NOM 24 IN. DIAM (OR SMALLER) SCHEDULE 10 (OR HEAVIER) PIPE.

B. IRON PIPE NOM 24 IN. DIAM (OR SMALLER) CAST OR IRON PIPE.

C. CONDUIT NOM 6 IN. DIAM (OR SMALLER) RIGID STEEL

D. CONDUIT NOM 4 IN. (OR SMALLER) STEEL METALLIC

E. COPPER TUBING NOM 6 IN. DIAM (OR SMALLER) TYPE L HEAVIER) COPPER

F. COPPER PIPE NOM 6 IN. DIAM (OR SMALLER) REGULAR HEAVIER) COPPER PIPE.

3. FIRESTOP SYSTEM THE DETAILS OF THE FIRESTOP SHALL BE AS

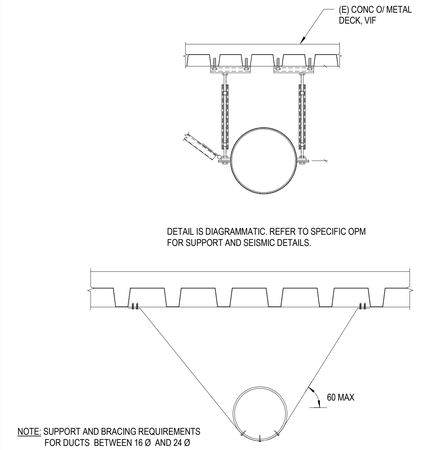
A. PACKING MATERIAL MIN 3 IN. THICKNESS OF MIN 4 PCF MINERAL WOOL BATT INSULATION FIRMLY PACKED OPENING AS A PERMANENT FORM. PACKING MATERIAL TO RECESSED FROM TOP SURFACE OF FLOOR ACCOMMODATE THE REQUIRED THICKNESS OF MATERIAL.

B. FILL, VOID OR CAVITY MATERIALS* - SEALANT MIN 1/4 IN. THICKNESS OF FILL MATERIAL APPLIED WITHIN ANNULUS, FLUSH WITH TOP SURFACE OF FLOOR. MIN 1/2 DIAM BEAD OF CAULK APPLIED TO PENETRANT/CONCRETE INTERFACE AT THE POINT LOCATION ON THE TOP SURFACE OF

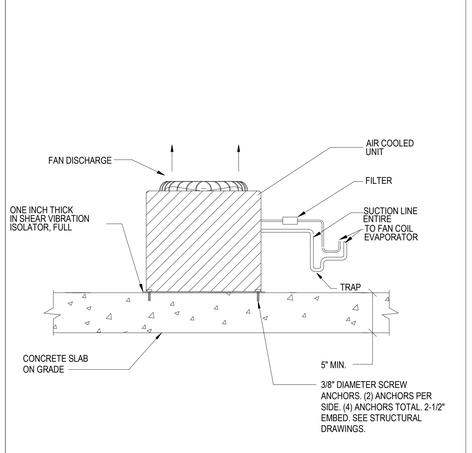
MINNESOTA MINING & MFG CO - FB-1000 NS, FB-1003

*BEARING THE UL CLASSIFICATION

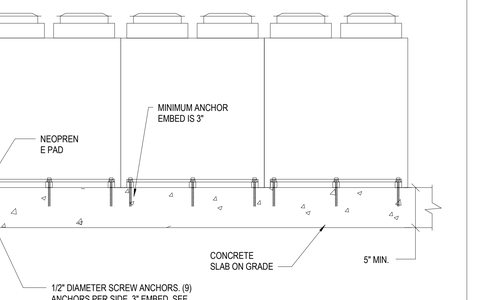
7 PIPE PENETRATION — NO SCALE



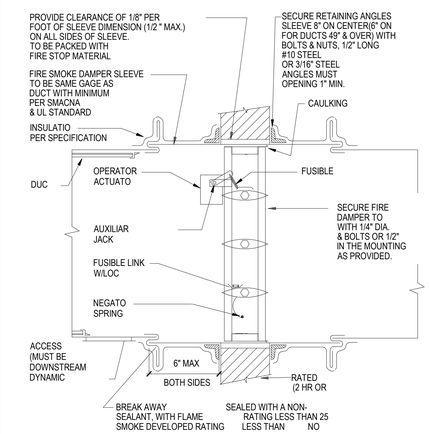
5 DUCT SUPPORT AND BRACING — NO SCALE



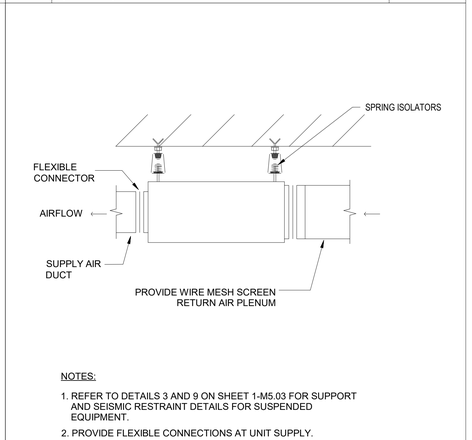
2 FLOOR MOUNTED CONDENSING UNIT DETAIL (CU-B1-1) — NO SCALE



8 CH-B1-1 MOUNTING DETAIL — NO SCALE



4 SMOKE/FIRE DAMPER INSTALLATION — NO SCALE



1 FAN COIL UNIT DETAIL (CEILING HUNG) — NO SCALE

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery ARCHITECTURE
18294 Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA (DEP. DIR. PUBLIC WORKS)	ALEX AMERI (INTERIM DIR. PUBLIC WORKS)
PROJ. NO. 07481 & 07482	FILE NO. E-2157

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER TODD M SEE No. M30765 MECHANICAL STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

MECHANICAL DETAILS

Drawn By: MCE Checked By: TMS

Scale: NTS

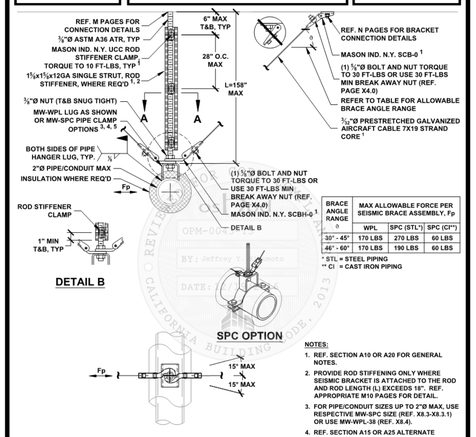
Date: October 4, 2019

Project No. B17.07369

1-M5.03
Drawing No.

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HANGER ROD DIAMETER = ⅜" — PIPING/CONDUIT TRANSVERSE SEISMIC CABLE BRACING SYSTEM 2"Ø PIPE/CONDUIT MAX — KIT OPTIONS C0T



BRACE ANGLE RANGE ∅	MAX ALLOWABLE FORCE PER SEISMIC BRACE ASSEMBLY, Fp		
	WPL	SPC (STL*)	SPC (CI**)
30° - 45°	170 LBS	270 LBS	60 LBS
46° - 60°	170 LBS	190 LBS	60 LBS

* STL = STEEL PIPING
** CI = CAST IRON PIPING

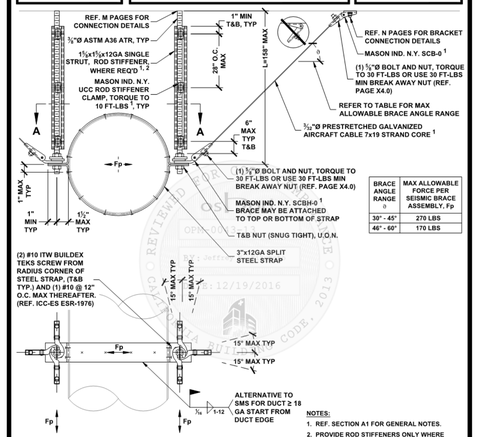
NOTES:
1. REF. SECTION A10 OR A20 FOR GENERAL NOTES.
2. PROVIDE ROD STIFFENING ONLY WHERE SEISMIC BRACKET IS ATTACHED TO THE ROD AND ROD LENGTH (L) EXCEEDS 18". REF. APPROPRIATE M10 PAGES FOR DETAIL.
3. FOR PIPE/CONDUIT SIZES UP TO 2"Ø MAX, USE RESPECTIVE MW-SPC SIZE (REF. X8.3-X8.3.1) OR USE MW-WPL-38 (REF. X8.4).
4. REF. SECTION A15 OR A25 ALTERNATE ARRANGEMENTS OF SEISMIC BRACES.
5. REF. PAGE A19.1 OR A28.1 FOR PIPE/CONDUIT CLAMP OPTION.

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1601 E. Miraloma Ave. Placentia, CA 92870
TEL (714) 630 - 0701, www.masonwest.com

Jiefu "Jeff" Zhang, SE
California SE No. S5270

PAGE **C2.10**

HANGER ROD DIAMETER = ⅜" — ROUND DUCT ALL-DIRECTIONAL SEISMIC CABLE BRACING SYSTEM 30 PLF MAX — KIT OPTIONS TC0A



BRACE ANGLE RANGE ∅	MAX ALLOWABLE FORCE PER SEISMIC BRACE ASSEMBLY, Fp
30° - 45°	270 LBS
46° - 60°	170 LBS

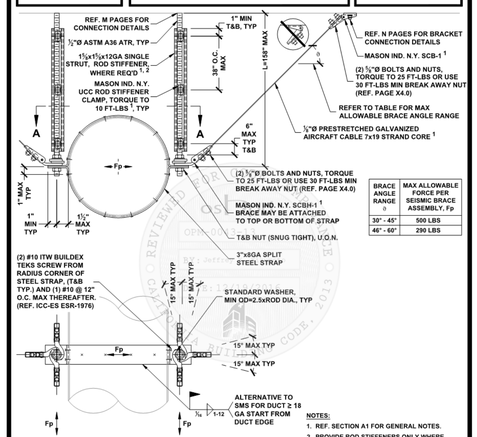
NOTES:
1. REF. SECTION A1 FOR GENERAL NOTES.
2. PROVIDE ROD STIFFENERS ONLY WHERE SEISMIC BRACKETS ARE ATTACHED TO THE ROD AND ROD LENGTH (L) EXCEEDS 18". REF. APPROPRIATE M10 PAGES FOR DETAIL.

MASON WEST, INC.
1601 E. Miraloma Ave. Placentia, CA 92870
TEL (714) 630 - 0701, www.masonwest.com

Jiefu "Jeff" Zhang, SE
California SE No. S5270

PAGE **D6.12**

HANGER ROD DIAMETER = ½" — ROUND DUCT ALL-DIRECTIONAL SEISMIC CABLE BRACING SYSTEM 60 PLF MAX — KIT OPTIONS TC1A



BRACE ANGLE RANGE ∅	MAX ALLOWABLE FORCE PER SEISMIC BRACE ASSEMBLY, Fp
30° - 45°	500 LBS
46° - 60°	290 LBS

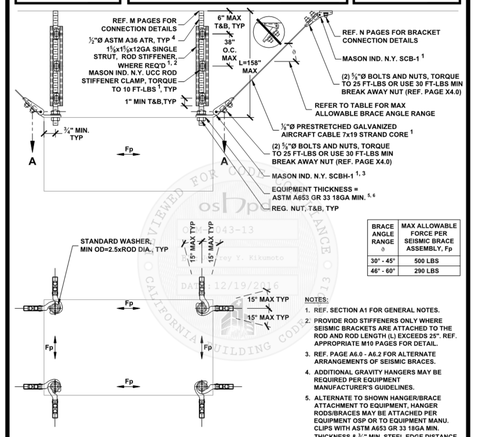
NOTES:
1. REF. SECTION A1 FOR GENERAL NOTES.
2. PROVIDE ROD STIFFENERS ONLY WHERE SEISMIC BRACKETS ARE ATTACHED TO THE ROD AND ROD LENGTH (L) EXCEEDS 25". REF. APPROPRIATE M10 PAGES FOR DETAIL.

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Jiefu "Jeff" Zhang, SE
California SE No. S5270

PAGE **D6.22**

HANGER ROD DIAMETER = ½" — SUSPENDED EQUIPMENT SEISMIC CABLE BRACING SYSTEM 375 LB MAX VERTICAL LOAD PER HANGER — KIT OPTIONS C1SE



BRACE ANGLE RANGE ∅	MAX ALLOWABLE FORCE PER SEISMIC BRACE ASSEMBLY, Fp
30° - 45°	500 LBS
46° - 60°	290 LBS

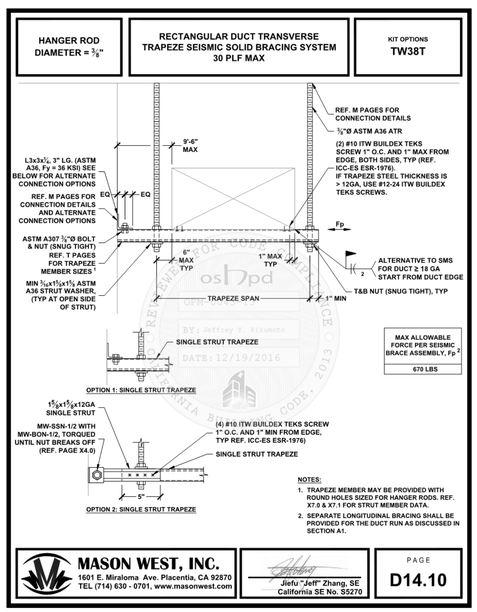
NOTES:
1. REF. SECTION A1 FOR GENERAL NOTES.
2. PROVIDE ROD STIFFENERS ONLY WHERE SEISMIC BRACKETS ARE ATTACHED TO THE ROD AND ROD LENGTH (L) EXCEEDS 25". REF. APPROPRIATE M10 PAGES FOR DETAIL.
3. REF. PAGE A6.0 - A6.2 FOR ALTERNATE ARRANGEMENTS OF SEISMIC BRACES.
4. ADDITIONAL GRAVITY HANGERS MAY BE REQUIRED PER EQUIPMENT MANUFACTURER'S GUIDELINES.
5. ALTERNATE TO SHOWN HANGER/BRACE ATTACHMENT TO EQUIPMENT, HANGER RODS/BRACES MAY BE ATTACHED PER EQUIPMENT OSP OR TO EQUIPMENT MANU. CLIPS WITH ASTM A653 OR 33 18GA MIN. THICKNESS & ¾" MIN. STEEL EDGE DISTANCE.
6. ATTACHMENT TO THE EQUIPMENT SHALL BE DESIGNED AND SUBMITTED TO OSHPD FOR APPROVAL.

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TEL (714) 630 - 0701, www.masonwest.com

Jiefu "Jeff" Zhang, SE
California SE No. S5270

PAGE **D12.11**

HANGER ROD DIAMETER = ⅜" — RECTANGULAR DUCT TRANSVERSE TRAPEZE SEISMIC SOLID BRACING SYSTEM 30 PLF MAX — KIT OPTIONS TW38T



MAX ALLOWABLE FORCE PER SEISMIC BRACE ASSEMBLY, Fp 2
670 LBS

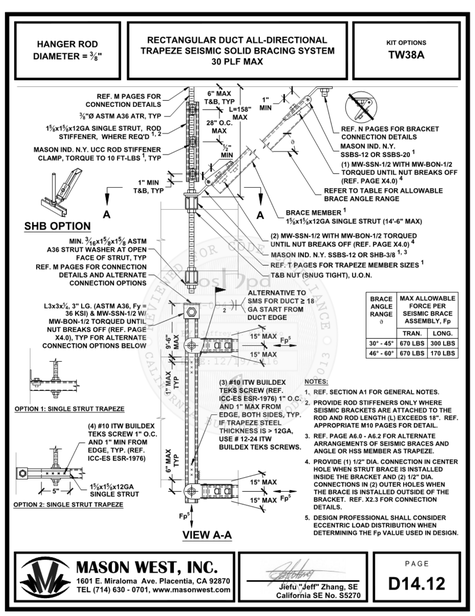
NOTES:
1. TRAPEZE MEMBER MAY BE PROVIDED WITH ROUND HOLES SIZED FOR HANGER RODS. REF. X7.0 & X7.1 FOR STRUT MEMBER DATA.
2. SEPARATE LONGITUDINAL BRACING SHALL BE PROVIDED FOR THE DUCT RUN AS DISCUSSED IN SECTION A1.

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Jiefu "Jeff" Zhang, SE
California SE No. S5270

PAGE **D14.10**

HANGER ROD DIAMETER = ⅜" — RECTANGULAR DUCT ALL-DIRECTIONAL TRAPEZE SEISMIC SOLID BRACING SYSTEM 30 PLF MAX — KIT OPTIONS TW38A



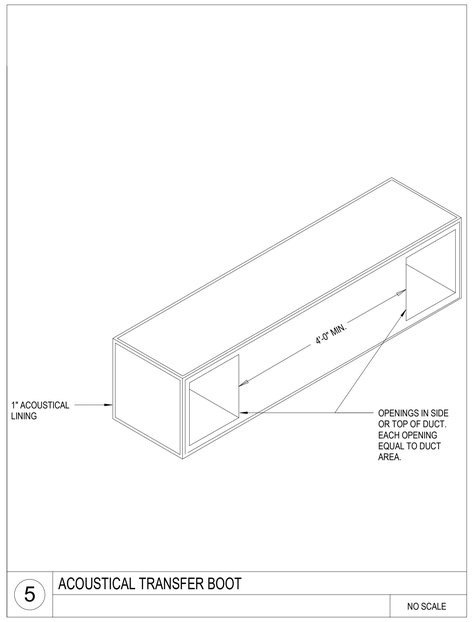
BRACE ANGLE RANGE ∅	MAX ALLOWABLE FORCE PER SEISMIC BRACE ASSEMBLY, Fp	
	TRAN.	LONG.
30° - 45°	670 LBS	300 LBS
46° - 60°	670 LBS	170 LBS

NOTES:
1. REF. SECTION A1 FOR GENERAL NOTES.
2. PROVIDE ROD STIFFENERS ONLY WHERE SEISMIC BRACKETS ARE ATTACHED TO THE ROD AND ROD LENGTH (L) EXCEEDS 18". REF. APPROPRIATE M10 PAGES FOR DETAIL.
3. REF. PAGE A6.0 - A6.2 FOR ALTERNATE ARRANGEMENTS OF SEISMIC BRACES AND ANGLE OR HSS MEMBER AS TRAPEZE.
4. PROVIDE (1) 1/2" DIA. CONNECTION IN CENTER HOLE WHEN STRUT BRACE IS INSTALLED INSIDE THE BRACKET AND (2) 1/2" DIA. CONNECTIONS IN (2) OUTER HOLES WHEN THE BRACE IS INSTALLED OUTSIDE OF THE BRACKET. REF. X2.3 FOR CONNECTION DETAILS.
5. DESIGN PROFESSIONAL SHALL CONSIDER ECCENTRIC LOAD DISTRIBUTION WHEN DETERMINING THE Fp VALUE USED IN DESIGN.

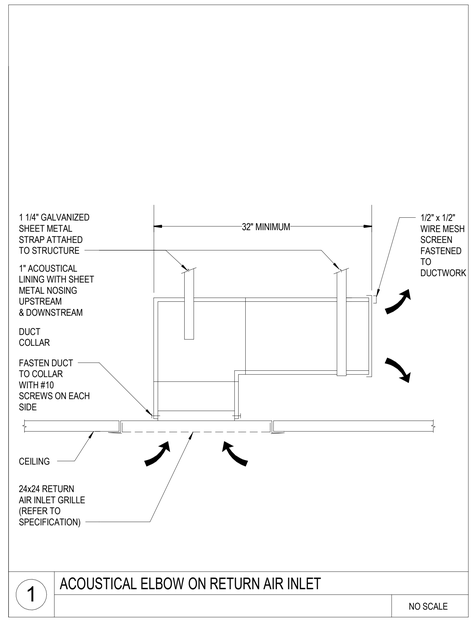
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TEL (714) 630 - 0701, www.masonwest.com

Jiefu "Jeff" Zhang, SE
California SE No. S5270

PAGE **D14.12**



5 ACOUSTICAL TRANSFER BOOT — NO SCALE



1 ACOUSTICAL ELBOW ON RETURN AIR INLET — NO SCALE

NOTE: REFER TO MASON OPM'S PER THE FOLLOWING:

M-ATR VERTICAL HANGARS
- CONCRETE FILLED DECK - M2.10, M2.11, M2.12, M2.20, M2.21.1, M2.23, M2.70 - DO NOT SPACE CLOSER THAN 5' OC EW
- WIDE FLANGED STEEL - M3.10 - MAX 1 CON PER BEAM UNLESS SPACED 13' OC
- COLD FORMED STEEL – M6.10, 3/1-S4.31 - DO NOT SPACE CLOSER THAN 9'6" OC EW
- BARE METAL DECK - M7.10, M7.11, M7.12 - DO NOT SPACE CLOSER THAN 2' OC EW

N-SEISMIC BRACKET
- CONCRETE FILLED DECK - N2.10, N2.11, N2.12, N2.20, N2.21 - DO NOT SPACE CLOSER THAN 3' OC EW
- WIDE FLANGED STEEL - N3.11, N3.15 - MAX 1 CON PER BEAM UNLESS SPACED 12' OC
- COLD FORMED STEEL – 4/1-S4.31 - DO NOT SPACE CLOSER THAN 10' OC EW
- BARE METAL DECK - N7.10 - DO NOT SPACE CLOSER THAN 1'6" OC EW

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery ARCHITECTURE
18294 Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

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425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER TODD M. SAE No. M30765 STATE OF CALIFORNIA MECHANICAL

PERMIT SUBMITTAL V3

Sheet Title

MECHANICAL DETAILS

Drawn By: MCE Checked By: TMS

Scale: AS INDICATED

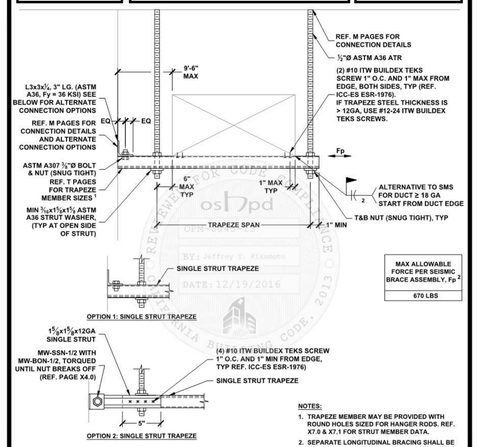
Date: October 4, 2019

Project No. B17.07369

1-M5.04
Drawing No.

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HANGER ROD DIAMETER = ½"	RECTANGULAR DUCT TRANSVERSE TRAPEZE SEISMIC SOLID BRACING SYSTEM 60 PLF MAX	KIT OPTIONS TW50T



NOTES:
1. TRAPEZE MEMBER MAY BE PROVIDED WITH ROUND HOLES SIZED FOR HANGER RODS. REF. X7.0 & X7.1 FOR STRUT MEMBER DATA.
2. SEPARATE LONGITUDINAL BRACING SHALL BE PROVIDED FOR THE DUCT RUN AS DISCUSSED IN SECTION A1.

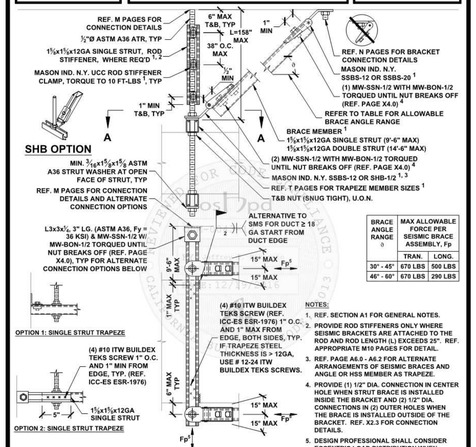
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1601 E. Miraloma Ave. Placentia, CA 92870
TEL (714) 630 - 0701, www.masonwest.com

Jiefu "Jeff" Zhang, SE
California SE No. S5270

PAGE D14.20

12/19/2016 OPM-0043-13: Reviewed for Code Compliance by Jeffrey Kikumoto Page 330 of 673

HANGER ROD DIAMETER = ½"	RECTANGULAR DUCT ALL-DIRECTIONAL TRAPEZE SEISMIC SOLID BRACING SYSTEM 60 PLF MAX	KIT OPTIONS TW50A



BRACE ANGLE RANGE θ	MAX ALLOWABLE FORCE PER SEISMIC BRACE ASSEMBLY, Fp 5	
	TRAN.	LONG.
30° - 45°	670 LBS	500 LBS
46° - 60°	670 LBS	290 LBS

NOTES:
1. REF. SECTION A1 FOR GENERAL NOTES.
2. PROVIDE ROD STIFFENERS ONLY WHERE SEISMIC BRACKETS ARE ATTACHED TO THE ROD AND ROD LENGTH (L) EXCEEDS 25". REF. APPROPRIATE M10 PAGES FOR DETAIL.
3. REF. PAGE A6.0 - A6.2 FOR ALTERNATE ARRANGEMENTS OF SEISMIC BRACES AND ANGLE OR HSS MEMBER AS TRAPEZE.
4. PROVIDE (1) 1/2" DIA. CONNECTION IN CENTER HOLE WHEN STRUT BRACE IS INSTALLED INSIDE THE BRACKET AND (2) 1/2" DIA. CONNECTIONS IN (2) OUTER HOLES WHEN THE BRACE IS INSTALLED OUTSIDE OF THE BRACKET. REF. X2.3 FOR CONNECTION DETAILS.
5. DESIGN PROFESSIONAL SHALL CONSIDER ECCENTRIC LOAD DISTRIBUTION WHEN DETERMINING THE Fp VALUE USED IN DESIGN.

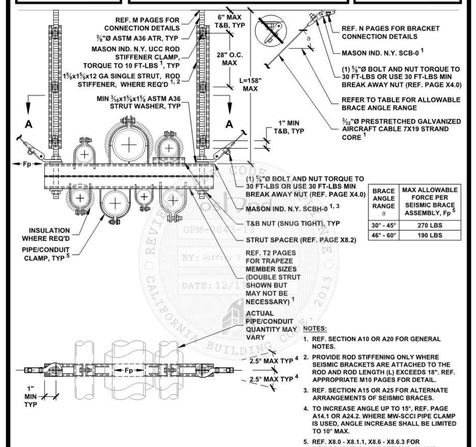
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TEL (714) 630 - 0701, www.masonwest.com

Jiefu "Jeff" Zhang, SE
California SE No. S5270

PAGE D14.22

12/19/2016 OPM-0043-13: Reviewed for Code Compliance by Jeffrey Kikumoto Page 331 of 673

HANGER ROD DIAMETER = ⅜"	PIPING/CONDUIT TRANSVERSE TRAPEZE SEISMIC CABLE BRACING SYSTEM 30 PLF MAX	KIT OPTIONS TC0T



BRACE ANGLE RANGE θ	MAX ALLOWABLE FORCE PER SEISMIC BRACE ASSEMBLY, Fp 5
30° - 45°	270 LBS
46° - 60°	190 LBS

NOTES:
1. REF. SECTION A10 OR A20 FOR GENERAL NOTES.
2. PROVIDE ROD STIFFENING ONLY WHERE SEISMIC BRACKETS ARE ATTACHED TO THE ROD AND ROD LENGTH (L) EXCEEDS 18". REF. APPROPRIATE M10 PAGES FOR DETAIL.
3. REF. SECTION A15 OR A25 FOR ALTERNATE ARRANGEMENTS OF SEISMIC BRACES.
4. TO INCREASE ANGLE UP TO 15°, REF. PAGE A14.1 OR A24.2. WHERE MW-SCCI PIPE CLAMP IS USED, ANGLE INCREASE SHALL BE LIMITED TO 10° MAX.
5. REF. X8.0 - X8.1.1, X8.6 - X8.6.3 FOR PIPE/CONDUIT CLAMP OPTIONS. CLAMP RATINGS MAY REDUCE MAX ALLOWABLE Fp.

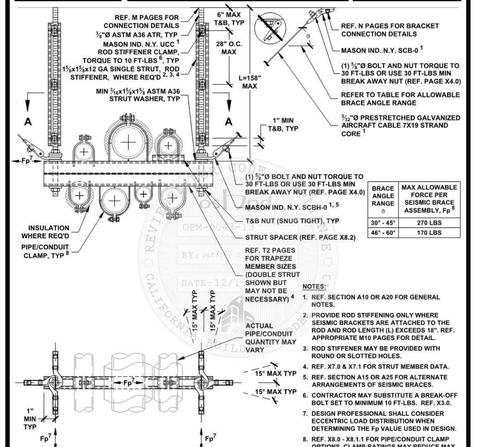
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1601 E. Miraloma Ave. Placentia, CA 92870
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California SE No. S5270

PAGE F2.10

12/19/2016 OPM-0043-13: Reviewed for Code Compliance by Jeffrey Kikumoto Page 394 of 673

HANGER ROD DIAMETER = ⅜"	PIPING/CONDUIT ALL-DIRECTIONAL TRAPEZE SEISMIC CABLE BRACING SYSTEM 30 PLF MAX	KIT OPTIONS TC0A



BRACE ANGLE RANGE θ	MAX ALLOWABLE FORCE PER SEISMIC BRACE ASSEMBLY, Fp 8
30° - 45°	270 LBS
46° - 60°	170 LBS

NOTES:
1. REF. SECTION A10 OR A20 FOR GENERAL NOTES.
2. PROVIDE ROD STIFFENING ONLY WHERE SEISMIC BRACKETS ARE ATTACHED TO THE ROD AND ROD LENGTH (L) EXCEEDS 18", REF. APPROPRIATE M10 PAGES FOR DETAIL.
3. ROD STIFFENER MAY BE PROVIDED WITH ROUND OR SLOTTED HOLES.
4. REF. X7.0 & X7.1 FOR STRUT MEMBER DATA.
5. REF. SECTION A15 OR A25 FOR ALTERNATE ARRANGEMENTS OF SEISMIC BRACES.
6. CONTRACTOR MAY SUBSTITUTE A BREAK-OFF BOLT SET TO MINIMUM 10 FT-LBS. REF. X3.0.
7. DESIGN PROFESSIONAL SHALL CONSIDER ECCENTRIC LOAD DISTRIBUTION WHEN DETERMINING THE Fp VALUE USED IN DESIGN.
8. REF. X8.0 - X8.1.1, X8.6 - X8.6.3 FOR PIPE/CONDUIT CLAMP OPTIONS. CLAMP RATINGS MAY REDUCE MAX ALLOWABLE Fp.

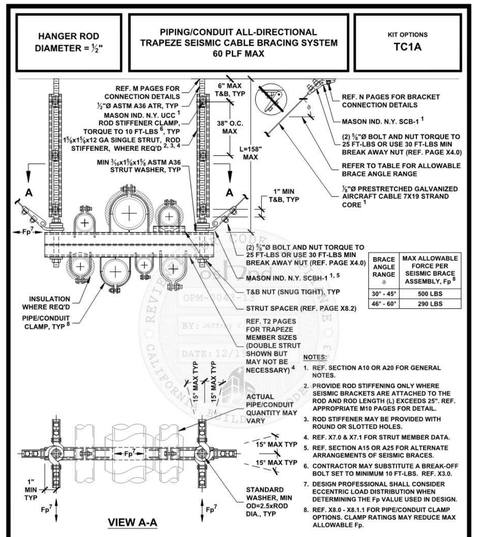
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1601 E. Miraloma Ave. Placentia, CA 92870
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PAGE F2.12

12/19/2016 OPM-0043-13: Reviewed for Code Compliance by Jeffrey Kikumoto Page 396 of 673

HANGER ROD DIAMETER = ½"	PIPING/CONDUIT ALL-DIRECTIONAL TRAPEZE SEISMIC CABLE BRACING SYSTEM 60 PLF MAX	KIT OPTIONS TC1A



BRACE ANGLE RANGE θ	MAX ALLOWABLE FORCE PER SEISMIC BRACE ASSEMBLY, Fp 8
30° - 45°	500 LBS
46° - 60°	290 LBS

NOTES:
1. REF. SECTION A10 OR A20 FOR GENERAL NOTES.
2. PROVIDE ROD STIFFENING ONLY WHERE SEISMIC BRACKETS ARE ATTACHED TO THE ROD AND ROD LENGTH (L) EXCEEDS 25". REF. APPROPRIATE M10 PAGES FOR DETAIL.
3. ROD STIFFENER MAY BE PROVIDED WITH ROUND OR SLOTTED HOLES.
4. REF. X7.0 & X7.1 FOR STRUT MEMBER DATA.
5. REF. SECTION A15 OR A25 FOR ALTERNATE ARRANGEMENTS OF SEISMIC BRACES.
6. CONTRACTOR MAY SUBSTITUTE A BREAK-OFF BOLT SET TO MINIMUM 10 FT-LBS. REF. X3.0.
7. DESIGN PROFESSIONAL SHALL CONSIDER ECCENTRIC LOAD DISTRIBUTION WHEN DETERMINING THE Fp VALUE USED IN DESIGN.
8. REF. X8.0 - X8.1.1 FOR PIPE/CONDUIT CLAMP OPTIONS. CLAMP RATINGS MAY REDUCE MAX ALLOWABLE Fp.

MASON WEST, INC.
1601 E. Miraloma Ave. Placentia, CA 92870
TEL (714) 630 - 0701, www.masonwest.com

Jiefu "Jeff" Zhang, SE
California SE No. S5270

PAGE F2.22

12/19/2016 OPM-0043-13: Reviewed for Code Compliance by Jeffrey Kikumoto Page 399 of 673

NOTE: REFER TO MASON OPM'S PER THE FOLLOWING:

M-ATR VERTICAL HANGARS
- CONCRETE FILLED DECK - M2.10, M2.11, M2.12, M2.20, M2.21.1, M2.23, M2.70 - DO NOT SPACE CLOSER THAN 5' OC EW
- WIDE FLANGED STEEL - M3.10 - MAX 1 CON PER BEAM UNLESS SPACED 13' OC
- COLD FORMED STEEL – M6.10, 3/1-S4.31 - DO NOT SPACE CLOSER THAN 9'6" OC EW
- BARE METAL DECK - M7.10, M7.11, M7.12 - DO NOT SPACE CLOSER THAN 2' OC EW

N-SEISMIC BRACKET
- CONCRETE FILLED DECK - N2.10, N2.11, N2.12, N2.20, N2.21 - DO NOT SPACE CLOSER THAN 3' OC EW
- WIDE FLANGED STEEL - N3.11, N3.15 - MAX 1 CON PER BEAM UNLESS SPACED 12' OC
- COLD FORMED STEEL – 4/1-S4.31 - DO NOT SPACE CLOSER THAN 10' OC EW
- BARE METAL DECK - N7.10 - DO NOT SPACE CLOSER THAN 1'6" OC EW

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery ARCHITECTURE
18294 Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER
ALAN W.H. J M BROWNLEE
No. M35026
MECHANICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

MECHANICAL DETAILS

Drawn By: Author
Checked By: Checker

Scale:
12" = 1'-0"

Date:
October 4, 2019

Project No. B17.07369

1-M5.05
Drawing No.

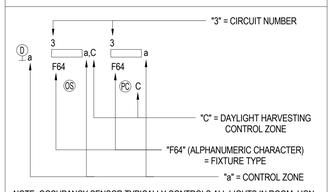
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ELECTRICAL LEGEND AND ABBREVIATIONS

FLOOR BOX LEGEND

	POKE THROUGH PEDESTAL
	COMBINATION DUPLEX RECEPTACLE/TELECOM OUTLET: 125V
	COMBINATION DOUBLE DUPLEX RECEPTACLE/ TELECOM OUTLET: 125V
	TELECOM OUTLET
	POWER CONNECTION TO ELECTRIFIED FURNITURE SYSTEM
	TELECOM CONNECTION TO ELECTRIFIED FURNITURE SYSTEM
	POKE THROUGH FLUSH
	COMBINATION DUPLEX RECEPTACLE/TELECOM OUTLET: 125V
	RECESSED FLUSH
	SINGLE RECEPTACLE OUTLET: 125V
	DUPLEX RECEPTACLE OUTLET: 125V
	DUPLEX RECEPTACLE OUTLET: 125V, DEDICATED
	DOUBLE DUPLEX RECEPTACLE OUTLET: 125V
	COMBINATION DUPLEX RECEPTACLE/TELECOM OUTLET: 125V
	COMBINATION DOUBLE DUPLEX RECEPTACLE/TELECOM OUTLET: 125V
	TELECOM OUTLET
	RAISED FLOOR ACCESS BOX, COMBINATION DOUBLE DUPLEX RECEPTACLE/TELECOM: 125V

LIGHTING & CONTROL DEVICE SUBSCRIPT LEGEND



NOTE: OCCUPANCY SENSOR TYPICALLY CONTROLS ALL LIGHTS IN ROOM, UON.

CONTROL ZONE SUBSCRIPT KEY

a-z =	ZONE CONTROLLED BY MANUAL DEVICES AND OCCUPANCY SENSORS INDICATED
A-Z =	DAYLIGHT HARVESTING ZONE CONTROLLED BY PHOTOCELL INDICATED

EQUIPMENT NAMING LEGEND

E O U S - B 2 A / 1,3,5

- 1,3,5 = CIRCUIT NUMBER(S)
- A = FIRST OF THIS TYPE ON FLOOR
- 2 = BUILDING NUMBER
- B = BUILDING

ATS	AUTOMATIC TRANSFER SWITCH
BUS	BUSWAY
DPH	DISTRIBUTION PANEL 277/480V
DPL	DISTRIBUTION PANEL 120/208V
DSH	DISTRIBUTION SWITCHBOARD 277/480V
DSL	DISTRIBUTION SWITCHBOARD 120/208V
LP	BRANCH CIRCUIT PANELBOARD 120/208V
LPH	BRANCH CIRCUIT PANELBOARD 277/480V
LRC	LIGHTING RELAY CABINET
MCC	MOTOR CONTROL CENTER
MP	MECHANICAL EQUIPMENT PANELBOARD
MS	MAIN SWITCHBOARD
PDU	POWER DISTRIBUTION UNIT
T	TRANSFORMER
TB	TELECOM BACKBOARD
TC	TELECOM CABINET

E	EMERGENCY LIFE SAFETY
O	POWER OPTIONAL STANDBY
U	UPS POWER
S	LEGALLY REQUIRED STANDBY

WIRING DEVICE LEGEND

	DUPLEX RECEPTACLE OUTLET: 125V; WALL MOUNTED
	DUPLEX RECEPTACLE OUTLET: 125V TOP HALF SWITCHED
	DUPLEX RECEPTACLE OUTLET: 125V, DEDICATED; WALL MOUNTED
	DOUBLE DUPLEX RECEPTACLE OUTLET: 125V; WALL MOUNTED
	SPECIAL PURPOSE RECEPTACLE OUTLET: RATING AS INDICATED; WALL MOUNTED
	DUPLEX RECEPTACLE OUTLET: 125V; CEILING MOUNTED
	DUPLEX RECEPTACLE OUTLET: 125V, DEDICATED; CEILING MOUNTED
	DOUBLE DUPLEX RECEPTACLE OUTLET: 125V; CEILING MOUNTED
	SPECIAL PURPOSE RECEPTACLE OUTLET: RATING AS INDICATED; CEILING MOUNTED
	PUSH BUTTON
B	BELL
	POWER TYPE PLUGSTRIP OR SURFACE RACEWAY, LENGTH APPROXIMATELY AS SHOWN
	POWER/TELECOM TYPE PLUGSTRIP OR SURFACE RACEWAY, LENGTH APPROXIMATELY AS SHOWN
	TELECOM OUTLET
TV	TELEVISION OUTLET
$	SINGLE POLE SWITCH
$2	DOUBLE POLE SWITCH
$3	THREE WAY SWITCH
$4	FOUR WAY SWITCH
$F	FAN SWITCH
$H	ILLUMINATED HANDLE SWITCH
$K	KEY SWITCH
D	WALL DIMMER
LV	LOW VOLTAGE SWITCH
PC	PHOTOCELL
OS	OCCUPANCY SENSOR; WALL MOUNTED
OS	2 WAY OCCUPANCY SENSOR; CEILING MOUNTED
OS	1 WAY OCCUPANCY SENSOR; CEILING MOUNTED
OS	CORRIDOR OCCUPANCY SENSOR; CEILING MOUNTED

WIRING DEVICE SUBSCRIPT LEGEND

AC	AC = ABOVE COUNTER
GFI	GFI = GROUND FAULT INTERRUPTER
IG	IG = ISOLATED GROUND
WP	WP = WEATHERPROOF
a	a = LOWER CASE LETTER INDICATES SWITCH CONTROL
6	6 = NUMBER INDICATES CIRCUIT NUMBER
IG	IG = ISOLATED GROUND (ONE OF DOUBLE DUPLEX)
$a	a = LOWER CASE INDICATES SWITCH CONTROL
D	FOR WALL DIMMER DEVICES INDICATING MULTIPLE ZONES, PROVIDE CAPABILITY TO DIM EACH ZONE SEPARATELY. PROVIDE BUTTONS/DEVICE QUANTITY AS REQUIRED TO MEET INTENT.

FIRE ALARM LEGEND

P	MANUAL PULL STATION
2	AREA SMOKE DETECTOR, CEILING MOUNTED (SMOKE DETECTOR, SEMI-FLUSH MOUNTED IN CEILING)
2	AREA SMOKE DETECTOR, WALL MOUNTED
2	DUCT TYPE SMOKE DETECTOR
I	HEAT DETECTOR, CEILING MOUNTED
W	SPRINKLER WATER FLOW SWITCH
T	SPRINKLER TAMPER SWITCH
H	FIRE ALARM HORN; CEILING MOUNTED
H	FIRE ALARM HORN; WALL MOUNTED
H	COMBINATION FIRE ALARM HORN/VISUAL ALARM; WALL MOUNTED
	VISUAL ALARM; CEILING MOUNTED
	VISUAL ALARM; WALL MOUNTED
H	MAGNETIC DOOR HOLDER
	FIRE ALARM BELL
FSD	FIRE/SMOKE DAMPER
SD	SMOKE DAMPER
FACP	FIRE ALARM AND CONTROL PANEL
FARP	FIRE ALARM REMOTE PANEL
FATC	FIRE ALARM TERMINAL CABINET
FARA	FIRE ALARM REMOTE ANNUNCIATOR
FTS	FIREFIGHTER'S TELEPHONE SYSTEM
VCS	VOICE COMMUNICATION SYSTEM
FCIP	FIREFIGHTER'S CONTROL AND INDICATING PANEL
FPSP	FIRE PUMP REMOTE STATUS PANEL
GSP	GENERATOR REMOTE STATUS PANEL

PROGRAMMABLE LIGHTING & RECEPTACLE CONTROL SYSTEM DEVICE LEGEND

$	SWITCH
D	DIMMER
PC	PHOTOCELL
OS	OCCUPANCY SENSOR; WALL MOUNTED
OS	2 WAY OCCUPANCY SENSOR; CEILING MOUNTED
OS	1 WAY OCCUPANCY SENSOR; CEILING MOUNTED
OS	CORRIDOR OCCUPANCY SENSOR; CEILING MOUNTED
#B	MULTI-BUTTON KEYPAD, # INDICATES QTY OF BUTTONS
#S	MULTI-BUTTON PRESET SCENE CONTROLLER WITH MASTER RAISE/LOWER, # INDICATES QTY OF SCENE BUTTONS
G	GRAPHICAL INTERFACE CONTROLLER

RACEWAY LEGEND

	CONDUIT CONCEALED ABOVE CEILING OR WITHIN WALL
	CONDUIT BELOW GRADE OR EMBEDDED WITHIN SLAB
	CONDUIT UP
	CONDUIT DOWN
	CONDUIT STUBBED OUT WITH BUSHING NOTE: PROVIDE PULLSTRING IN EACH EMPTY RACEWAY
E	CONDUIT STUBBED OUT AND CAPPED NOTE: PROVIDE PULLSTRING IN EACH EMPTY RACEWAY
AV	AUDIO/VISUAL SYSTEM RACEWAY
E	ELECTRICAL SYSTEM RACEWAY
G	GROUNDING SYSTEM RACEWAY
FA	FIRE ALARM SYSTEM RACEWAY
FP	FIRE PUMP FEEDER
G	GROUND CONDUCTOR
S	SECURITY SYSTEM RACEWAY NOTE: PROVIDE PULLSTRING IN EACH EMPTY RACEWAY
T	TELECOM SYSTEM RACEWAY NOTE: PROVIDE PULLSTRING IN EACH EMPTY RACEWAY
	CONDUIT HOMERUN, MAXIMUM OF (3) BRANCH CIRCUITS, UON NOTE: MAXIMUM OF THREE BRANCH CIRCUITS FOR EACH HOMERUN, UON
	PHASE CONDUCTOR(S) GROUNDING CONDUCTOR; ISOLATED GROUNDING CONDUCTOR; NEUTRAL CONDUCTOR

POWER LEGEND

	ATS, CPC, DPH, DPL, DSH, DSL, MCC OR MS: SIZE APPROXIMATELY AS SHOWN. DOUBLE LINE INDICATES FRONT.
	SURFACE MOUNTED LPH, LRC, MP OR TC: SIZE APPROXIMATELY AS SHOWN
	RECESSED MOUNTED LPH, LRC, MP OR TC: SIZE APPROXIMATELY AS SHOWN
	SURFACE MOUNTED LP: SIZE APPROXIMATELY AS SHOWN
	RECESSED MOUNTED LP: SIZE APPROXIMATELY AS SHOWN
	TB: LENGTH APPROXIMATELY AS SHOWN
T F	STEP DOWN TRANSFORMER
G	GENERATOR IN WP ENCLOSURE
	AUTOMATIC TRANSFER SWITCH
	HEAVY DUTY DISCONNECT SWITCH
	HEAVY DUTY DISCONNECT SWITCH WITH FUSE
	MOTOR STARTER
MCS	MOTOR STARTER, NOT PROVIDED UNDER ELECTRICAL SCOPE
	COMBINATION MOTOR STARTER/DISCONNECT SWITCH
MCS	COMBINATION MOTOR STARTER/DISCONNECT SWITCH, NOT PROVIDED UNDER ELECTRICAL SCOPE
MD	VFD WITH DISCONNECT, NOT PROVIDED UNDER ELECTRICAL SCOPE
MS	VFD WITHOUT DISCONNECT, NOT PROVIDED UNDER ELECTRICAL SCOPE
EPO	EMERGENCY POWER OFF BUTTON
$MD	MOTORIZED DOOR CONTROLLER (FURNISHED WITH DOOR)
$MS	MOTORIZED SHADE CONTROLLER (FURNISHED WITH SHADES)
$PS	PROJECTION SCREEN CONTROLLER (FURNISHED WITH SCREEN)
$T	THERMAL OVERLOAD/DISCONNECT SWITCH
M	MOTOR CONNECTION
J	JUNCTION BOX, CEILING MOUNTED
J	JUNCTION BOX, WALL MOUNTED
P B	PULL BOX
S B	SPLICE BOX
G	GROUND BUS CABINET
	GROUND ROD
	GROUND TEST WELL
	CIRCUIT BREAKER
	SWITCH AND FUSE
	CIRCUIT BREAKER IN ENCLOSURE
M	CURRENT TRANSFORMER COMPARTMENT AND KWH METER
GFR	GROUND FAULT RELAY
	NORMALLY OPEN CONTACT
	NORMALLY CLOSED CONTACT
	TRANSFORMER
F##	UNDERGROUND FEEDER TAG
CT 1-1	EQUIPMENT DESIGNATION; EQUIPMENT TYPE; NUMERICAL DESIGNATION. REFER TO EQUIPMENT CONNECTION SCHEDULE FOR CONNECTION DETAILS

LIGHTING LEGEND

	LIGHTING FIXTURE; CEILING MOUNTED
	LIGHTING FIXTURE; WALL MOUNTED
	LIGHTING FIXTURE, SIZE APPROXIMATELY AS SHOWN; CEILING MOUNTED
	LIGHTING FIXTURE, SIZE APPROXIMATELY AS SHOWN; WALL MOUNTED
	LIGHTING FIXTURE CONNECTED TO EMERGENCY POWER SYSTEM
	LIGHTING FIXTURE, CONTINUOUS ROW; CEILING MOUNTED
	LIGHTING FIXTURE, WALL WASHER; CEILING MOUNTED
	LIGHTING FIXTURE(S); POLE MOUNTED
2 a A	LIGHTING FIXTURE SUBSCRIPTIONS: NUMBER INDICATES CIRCUIT, LOWERCASE LETTER INDICATES SWITCH CONTROL UPPERCASE LETTER INDICATES FIXTURE TYPE
EXIT SIGNS	ARROWS AS SHOWN, ILLUMINATED FACE AS INDICATED BY SHADING, CONNECT TO EMERGENCY POWER SYSTEM
	EXIT SIGN; WALL MOUNTED
	EXIT SIGN; CEILING MOUNTED
R	EXIT SIGN; RECESSED IN WALL
P	EXIT SIGN; PENDENT MOUNTED
L	EXIT SIGN, LOW LEVEL; RECESSED IN WALL

ABBREVIATIONS

℄	CENTER LINE
AFF	ABOVE FINISHED FLOOR
AIC	AMPERES INTERRUPTING CAPACITY
AF/AS	AMPERE RATING OF FUSE/SWITCH
AT/AF	AMPERE RATING OF CIRCUIT, BREAKER TRIP/FRAME
A/V	AUDIO/VISUAL
BMS	BUILDING MANAGEMENT SYSTEM
CKT	CIRCUIT
COPS	CRITICAL OPERATIONS POWER SYSTEM
DPDT	DOUBLE POLE DOUBLE THROW
DPST	DOUBLE POLE SINGLE THROW
EC	EMPTY CONDUIT
ELEV	ELEVATOR
EMT	ELECTRICAL METALLIC TUBING
FCC	FIRE CONTROL CENTER
GFI	GROUND FAULT INTERRUPTOR
GND	GROUND
IDF	INTERMEDIATE DISTRIBUTION FRAME ROOM
IG	ISOLATED GROUND
MCP	MOTOR CIRCUIT PROTECTOR
MDF	MAIN DISTRIBUTION FRAME ROOM
MIC	MINERAL INSULATED CABLE
MS	MAIN SWITCHBOARD
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
NTS	NOT TO SCALE
PVC	POLYVINYL CHLORIDE CONDUIT
RAC	RIGID ALUMINUM CONDUIT
RSC	RIGID STEEL CONDUIT
SCC	SECURITY CONTROL CENTER
SPDT	SINGLE POLE DOUBLE THROW
SPST	SINGLE POLE SINGLE THROW
TEL	TELECOM
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSION
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
UPS	UNINTERRUPTIBLE POWER SUPPLY
WP	WEATHERPROOF
WT	WATERTIGHT
XP	EXPLOSION PROOF

HAYWARD FIRE TRAINING FACILITY
BUILDING 1 - ELECTRICAL DRAWING LIST
7/19/2019
WSP PROJECT: B17.07369.000

DRAWING NUMBER	DRAWING NAME	SCALE	50%CD 1/17/2018	90%CD 11/2/2018	100% CD 7/19/2019
1-E0.01	ELECTRICAL LEGEND, ABBREVIATIONS AND DRAWING LIST	NTS	X	X	X
1-E0.02	ELECTRICAL SCHEDULES	NTS	X	X	X
1-E0.03	ELECTRICAL SCHEDULES	NTS		X	X
1-E0.04	ELECTRICAL SCHEDULES	NTS		X	X
1-E0.10	ELECTRICAL LIGHT FIXTURE SCHEDULES	NTS	X	X	X
1-E0.11	ELECTRICAL LIGHT FIXTURE SCHEDULES	NTS	X	X	X
1-E0.12	ELECTRICAL LIGHT FIXTURE SCHEDULES	NTS		X	X
1-E0.13	ELECTRICAL LIGHT FIXTURE SCHEDULES	NTS		X	X
1-E0.14	ELECTRICAL LIGHT FIXTURE SCHEDULES	NTS		X	X
1-E0.20	ELECTRICAL TITLE 24	NTS		X	X
1-E0.21	ELECTRICAL TITLE 24	NTS		X	X
1-E0.22	ELECTRICAL TITLE 24	NTS		X	X
1-E0.23	ELECTRICAL TITLE 24	NTS		X	X
1-E0.24	ELECTRICAL TITLE 24	NTS		X	X
1-E0.25	ELECTRICAL TITLE 24	NTS		X	X
1-E2.01	ELECTRICAL FS#6 / CLASSROOM FIRST FLOOR PLAN	AS NOTED	X	X	X
1-E2.02	ELECTRICAL FS#6 / CLASSROOM SECOND FLOOR PLAN	1/8" = 1'-0"	X	X	X
1-E2.03	ELECTRICAL FS#6 / CLASSROOM ROOF PLAN	1/8" = 1'-0"	X	X	X
1-E4.01	ELECTRICAL ENLARGED PLAN	1/4" = 1'-0"		X	X
1-E5.01	ELECTRICAL RISER DIAGRAM	NTS	X	X	X
1-E5.02	ELECTRICAL GROUNDING DIAGRAM	NTS	X	X	X
1-E5.03	ELECTRICAL LIGHTING CONTROL SINGLE LINE DIAGRAM	NTS		X	X
1-E6.01	ELECTRICAL DETAILS	NTS		X	X
1-E6.02	ELECTRICAL DETAILS	NTS		X	X
1-E6.03	ELECTRICAL DETAILS	NTS		X	X
1-E6.04	ELECTRICAL DETAILS	NTS		X	X
1-E6.05	ELECTRICAL DETAILS	NTS		X	X
1-E6.06	ELECTRICAL DETAILS	NTS			X
1-E6.07	ELECTRICAL DETAILS	NTS			X

September 13, 2016

MEP Component Anchorage Note
All mechanical, plumbing, and electrical components shall be anchored and installed per the details on the DSA approved construction documents. Where no detail is indicated, the following components shall be anchored or braced to meet the force and displacement requirements prescribed in the 2016 CBC, Sections 1616A.1.18 through 1616A.1.26 and ASCE 7-10 Chapter 13, 26 and 30.

1. All permanent equipment and components.
2. Temporary or movable equipment that is permanently attached (e.g. hard wired) to the building utility services such as electricity, gas or water.
3. Movable equipment which is stationed in one place for more than 8 hours and heavier than 400 pounds or has a center of mass located 4 feet or more above the adjacent floor or roof level that directly support the component are required to be anchored with temporary attachments.

The following mechanical and electrical components shall be positively attached to the structure, but the attachment need not be detailed on the plans. These components shall have flexible connections provided between the component and associated ductwork, piping, and conduit.

A. Components weighing less than 400 pounds and have a center of mass located 4 feet or less above the adjacent floor or roof level that directly support the component.
B. Components weighing less than 20 pounds, or in the case of distributed systems, less than 5 pounds per foot, which are suspended from a roof or floor or hung from a wall.

For those elements that do not require details on the approved drawings, the installation shall be subject to the approval of the design professional in general responsible charge or structural engineer delegated responsibility and the DSA District Structural Engineer. The project inspector will verify that all components and equipment have been anchored in accordance with above requirements.

Piping, Ductwork, and Electrical Distribution System Bracing Note
Piping, ductwork, and electrical distribution systems shall be braced to comply with the forces and displacements prescribed in ASCE 7-10 Section 13.3 as defined in ASCE 7-10 Section 13.6.5.6, 13.6.7, 13.6.8, and 2016 CBC, Sections 1616A.1.24, 1616A.1.25 and 1616A.1.26.

The method of showing bracing and attachments to the structure for the identified distribution system are as noted below. When bracing and attachments are based on a preapproved installation guide (e.g., SMACNA or OSHPD OPM), copies of the bracing system installation guide or manual shall be available on the jobsite prior to the start of and during the hanging and bracing of the distribution systems. The Structural Engineer of Record shall verify the adequacy of the structure to support the hanger and brace loads.

Mechanical Piping (MP), Mechanical Ducts (MD), Plumbing Piping (PP), Electrical Distribution Systems (E):

MP☐MD☐PP☐ E☐ - Option 1: Detailed on the approved drawings with project specific notes and details.

MP☐MD☐PP☐ E☒ - Option 2: Shall comply with the applicable OSHPD Pre-Approval (OPM #) # OPM-0043-13 MASON WEST

MP☐MD☐PP☐ - Option 3: Shall comply with the SMACNA Seismic Restraint Manual, OSHPD Edition (2009), including any addenda. Fasteners and other attachments not specifically identified in the SMACNA Seismic Restraint Manual, OSHPD Edition, are detailed on the approved drawings with project specific notes and details. The details shall account for the applicable Seismic Hazard Level _____ and Connection Level _____ for the project and conditions.

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER
AMANDA J. BROWN
No. E17287
ELECTRICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

ELECTRICAL LEGEND, ABBREVIATIONS AND DRAWING LIST

Drawn By: ELW Checked By: AJB

Scale: **NTS**

Date: **October 4, 2019**

Project No. B17.07369

1-E0.01
Drawing No.

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277V, 1-PHASE COPPER WIRE

MAXIMUM LENGTH OF CONDUCTOR IN FT TO BE USED PER VA AND WIRE SIZE

kVA	CONDUCTOR SIZE						
	#12	#10	#8	#6	#4	#2	#1
0.9	663ft	1,057ft	1,644ft	2,609ft	4,152ft	6,592ft	8,304ft
1.8	331ft	528ft	822ft	1,302ft	2,076ft	3,296ft	4,152ft
2.7	221ft	352ft	548ft	868ft	1,384ft	2,197ft	2,768ft
3.6	166ft	264ft	411ft	651ft	1,038ft	1,648ft	2,076ft
4.5	133ft	211ft	329ft	521ft	830ft	1,318ft	1,661ft
5.4	110ft	176ft	274ft	434ft	692ft	1,099ft	1,384ft
6.3	-	151ft	236ft	372ft	593ft	942ft	1,186ft
7.2	-	132ft	205ft	326ft	519ft	824ft	1,038ft
8.1	-	117ft	183ft	289ft	461ft	732ft	923ft
9.0	-	-	164ft	260ft	415ft	659ft	830ft
9.9	-	-	149ft	237ft	377ft	599ft	755ft
10.8	-	-	137ft	217ft	346ft	549ft	692ft
11.7	-	-	-	200ft	319ft	507ft	639ft
12.6	-	-	-	186ft	297ft	471ft	593ft
13.5	-	-	-	174ft	277ft	439ft	554ft
14.4	-	-	-	163ft	260ft	412ft	519ft
15.3	-	-	-	153ft	244ft	388ft	488ft
16.2	-	-	-	-	231ft	366ft	461ft
17.1	-	-	-	-	219ft	347ft	437ft
18.0	-	-	-	-	208ft	330ft	415ft
18.9	-	-	-	-	198ft	314ft	395ft
19.8	-	-	-	-	-	300ft	377ft
20.7	-	-	-	-	-	287ft	361ft
21.6	-	-	-	-	-	275ft	346ft
22.5	-	-	-	-	-	264ft	332ft
23.4	-	-	-	-	-	254ft	319ft
24.3	-	-	-	-	-	244ft	308ft
25.2	-	-	-	-	-	235ft	297ft
26.1	-	-	-	-	-	227ft	286ft
27.0	-	-	-	-	-	-	277ft
27.9	-	-	-	-	-	-	268ft
28.8	-	-	-	-	-	-	260ft
29.7	-	-	-	-	-	-	252ft
30.6	-	-	-	-	-	-	-
31.5	-	-	-	-	-	-	-
32.4	-	-	-	-	-	-	-
33.3	-	-	-	-	-	-	-
34.2	-	-	-	-	-	-	-
35.1	-	-	-	-	-	-	-
36.0	-	-	-	-	-	-	-

BASED ON 3% VOLTAGE DROP ALLOWED FOR BRANCH CIRCUITS PER TITLE 24 2016.

VOLTAGE DROP = (CIRCUIT AMPS) X (TWICE THE LENGTH OF CONDUCTOR) X (WIRE RESISTANCE)

480V, 3-PHASE COPPER WIRE

MAXIMUM LENGTH OF CONDUCTOR IN FT TO BE USED PER VA AND WIRE SIZE

kVA	CONDUCTOR SIZE						
	#12	#10	#8	#6	#4	#2	#1
2.7	511ft	814ft	1,267ft	2,007ft	3,199ft	5,079ft	6,399ft
5.4	255ft	407ft	633ft	1,003ft	1,600ft	2,540ft	3,199ft
8.1	170ft	271ft	422ft	669ft	1,066ft	1,693ft	2,133ft
10.8	128ft	204ft	317ft	502ft	800ft	1,270ft	1,600ft
13.5	102ft	163ft	253ft	401ft	640ft	1,016ft	1,280ft
16.2	85ft	136ft	211ft	334ft	533ft	847ft	1,066ft
18.9	-	116ft	181ft	287ft	457ft	726ft	914ft
21.6	-	102ft	158ft	251ft	400ft	635ft	800ft
24.3	-	90ft	141ft	223ft	355ft	564ft	711ft
27.0	-	-	127ft	201ft	320ft	508ft	640ft
29.7	-	-	115ft	182ft	291ft	462ft	582ft
32.4	-	-	106ft	167ft	267ft	423ft	533ft
35.1	-	-	-	154ft	246ft	391ft	492ft
37.8	-	-	-	143ft	229ft	363ft	457ft
40.5	-	-	-	134ft	213ft	339ft	427ft
43.2	-	-	-	125ft	200ft	317ft	400ft
45.9	-	-	-	118ft	188ft	299ft	376ft
48.6	-	-	-	-	178ft	282ft	355ft
51.3	-	-	-	-	168ft	267ft	337ft
54.0	-	-	-	-	160ft	254ft	320ft
56.7	-	-	-	-	152ft	242ft	305ft
59.4	-	-	-	-	-	231ft	291ft
62.1	-	-	-	-	-	221ft	278ft
64.8	-	-	-	-	-	212ft	267ft
67.5	-	-	-	-	-	203ft	256ft
70.2	-	-	-	-	-	195ft	246ft
72.9	-	-	-	-	-	188ft	237ft
75.6	-	-	-	-	-	181ft	229ft
78.3	-	-	-	-	-	175ft	221ft
81.0	-	-	-	-	-	-	213ft
83.7	-	-	-	-	-	-	206ft
86.4	-	-	-	-	-	-	200ft
89.1	-	-	-	-	-	-	194ft
91.8	-	-	-	-	-	-	-
94.5	-	-	-	-	-	-	-
97.2	-	-	-	-	-	-	-
99.9	-	-	-	-	-	-	-
102.6	-	-	-	-	-	-	-
105.3	-	-	-	-	-	-	-
108.0	-	-	-	-	-	-	-

BASED ON 2% VOLTAGE DROP ALLOWED FOR FEEDERS PER TITLE 24 2016.

VOLTAGE DROP = (CIRCUIT AMPS) X (TWICE THE LENGTH OF CONDUCTOR) X (WIRE RESISTANCE)

120V, 1-PHASE COPPER WIRE

MAXIMUM LENGTH OF CONDUCTOR IN FT TO BE USED PER VA AND WIRE SIZE

kVA	CONDUCTOR SIZE						
	#12	#10	#8	#6	#4	#2	#1
0.4	280ft	446ft	694ft	1,100ft	1,753ft	2,784ft	3,506ft
0.8	140ft	223ft	347ft	550ft	877ft	1,392ft	1,753ft
1.2	93ft	149ft	231ft	367ft	584ft	928ft	1,169ft
1.6	70ft	112ft	174ft	275ft	438ft	696ft	877ft
2.0	56ft	89ft	139ft	220ft	351ft	557ft	701ft
2.4	47ft	74ft	116ft	183ft	292ft	464ft	584ft
2.8	-	64ft	99ft	157ft	250ft	398ft	501ft
3.2	-	56ft	87ft	137ft	219ft	348ft	438ft
3.6	-	50ft	77ft	122ft	195ft	309ft	390ft
4.0	-	-	69ft	110ft	175ft	278ft	351ft
4.4	-	-	63ft	100ft	159ft	253ft	319ft
4.8	-	-	58ft	92ft	146ft	232ft	292ft
5.2	-	-	-	85ft	135ft	214ft	270ft
5.6	-	-	-	79ft	125ft	199ft	250ft
6.0	-	-	-	73ft	117ft	186ft	234ft
6.4	-	-	-	69ft	110ft	174ft	219ft
6.8	-	-	-	-	103ft	164ft	206ft
7.2	-	-	-	-	97ft	155ft	195ft
7.6	-	-	-	-	92ft	147ft	185ft
8.0	-	-	-	-	88ft	139ft	175ft
8.4	-	-	-	-	83ft	133ft	167ft
8.8	-	-	-	-	-	127ft	159ft
9.2	-	-	-	-	-	121ft	152ft
9.6	-	-	-	-	-	116ft	146ft
10.0	-	-	-	-	-	111ft	140ft
10.4	-	-	-	-	-	107ft	135ft
10.8	-	-	-	-	-	103ft	130ft
11.2	-	-	-	-	-	99ft	125ft
11.6	-	-	-	-	-	-	121ft
12.0	-	-	-	-	-	-	117ft
12.4	-	-	-	-	-	-	113ft
12.8	-	-	-	-	-	-	110ft
13.2	-	-	-	-	-	-	106ft
13.6	-	-	-	-	-	-	-
14.0	-	-	-	-	-	-	-
14.4	-	-	-	-	-	-	-
14.8	-	-	-	-	-	-	-
15.2	-	-	-	-	-	-	-
15.6	-	-	-	-	-	-	-
16.0	-	-	-	-	-	-	-

BASED ON 3% VOLTAGE DROP ALLOWED FOR BRANCH CIRCUITS PER TITLE 24 2016.

VOLTAGE DROP = (CIRCUIT AMPS) X (TWICE THE LENGTH OF CONDUCTOR) X (WIRE RESISTANCE)

208V, 1-PHASE COPPER WIRE

MAXIMUM LENGTH OF CONDUCTOR IN FT TO BE USED PER VA AND WIRE SIZE

kVA	CONDUCTOR SIZE						
	#12	#10	#8	#6	#4	#2	#1
0.7	480ft	766ft	1,192ft	1,888ft	3,010ft	4,779ft	6,020ft
1.4	240ft	383ft	596ft	944ft	1,505ft	2,389ft	3,010ft
2.1	160ft	255ft	397ft	629ft	1,003ft	1,593ft	2,007ft
2.8	120ft	192ft	298ft	472ft	753ft	1,195ft	1,505ft
3.5	96ft	153ft	238ft	378ft	602ft	956ft	1,204ft
4.2	80ft	128ft	199ft	315ft	502ft	796ft	1,003ft
4.9	-	109ft	170ft	270ft	430ft	683ft	860ft
5.6	-	96ft	149ft	236ft	376ft	597ft	753ft
6.3	-	85ft	132ft	210ft	334ft	531ft	669ft
7.0	-	-	119ft	189ft	301ft	478ft	602ft
7.7	-	-	108ft	172ft	274ft	434ft	547ft
8.4	-	-	99ft	157ft	251ft	398ft	502ft
9.1	-	-	-	145ft	232ft	368ft	463ft
9.8	-	-	-	135ft	215ft	341ft	430ft
10.5	-	-	-	126ft	201ft	319ft	401ft
11.2	-	-	-	118ft	188ft	299ft	376ft
11.9	-	-	-	-	177ft	281ft	354ft
12.6	-	-	-	-	167ft	265ft	334ft
13.3	-	-	-	-	158ft	252ft	317ft
14.0	-	-	-	-	151ft	239ft	301ft
14.7	-	-	-	-	-	228ft	287ft
15.4	-	-	-	-	-	217ft	274ft
16.1	-	-	-	-	-	208ft	262ft
16.8	-	-	-	-	-	199ft	251ft
17.5	-	-	-	-	-	191ft	241ft
18.2	-	-	-	-	-	184ft	232ft
18.9	-	-	-	-	-	177ft	223ft
19.6	-	-	-	-	-	171ft	215ft
20.3	-	-	-	-	-	-	208ft
21.0	-	-	-	-	-	-	201ft
21.7	-	-	-	-	-	-	194ft
22.4	-	-	-	-	-	-	188ft
23.1	-	-	-	-	-	-	-
23.8	-	-	-	-	-	-	-
24.5	-	-	-	-	-	-	-
25.2	-	-	-	-	-	-	-
25.9	-	-	-	-	-	-	-
26.6	-	-	-	-	-	-	-
27.3	-	-	-	-	-	-	-
28.0	-	-	-	-	-	-	-

BASED ON 3% VOLTAGE DROP ALLOWED FOR BRANCH CIRCUITS PER TITLE 24 2013.

VOLTAGE DROP = (CIRCUIT AMPS) X (TWICE THE LENGTH OF CONDUCTOR) X (WIRE RESISTANCE)

EQUIPMENT CONNECTION SCHEDULE

DESIGNATION	HP	FLA	KVA	VOLT-AGE	PH	POWER SOURCE	CONNECTION TYPE	BRANCH CIRCUIT WIRING	REMARKS
ELEV-1		12		480	3	EDPH-B1A	SPC	20G	
CH-B1-1		160.00		480	3	EDPH-B1A	SPC	225G	
AHU-B1-1		5.7		480	3	EDPH-B1A	VFD	3#10, 1#10G,0.5"C	(4 FANS TOTAL) / 2 VFDS PER UNIT CIRCUIT 120V LIGHTING AND RECEPTACLES TO PANEL ELP-B1A/1
AHU-B1-2		3.7		480	3	EDPH-B1A	VFD	3#10, 1#10G,0.5"C	(2 FANS TOTAL) / 2 VFDS PER UNIT CIRCUIT 120V LIGHTING AND RECEPTACLES TO PANEL ELP-B1D/41
AC-B1-1		0.60		208	1	ELP-B1A	SPC	2#12, 1#12G, 0.5"C	PROVIDE CONDENSATE PUMP.
AC-B1-2		0.60		208	1	ELP-B1A	SPC	2#12, 1#12G, 0.5"C	PROVIDE CONDENSATE PUMP.
AC-B1-3		0.60		208	1	ELP-B1A	SPC	2#12, 1#12G, 0.5"C	PROVIDE CONDENSATE PUMP.
AC-B1-4		0.60		208	1	ELP-B1A	SPC	2#12, 1#12G, 0.5"C	PROVIDE CONDENSATE PUMP.
AC-B1-5		0.60		208	1	ELP-B1A	SPC	2#12, 1#12G, 0.5"C	PROVIDE CONDENSATE PUMP.
CU-B1-1		20.6		480	3	EDPH-B1A	SPC	3#10, 1#10G, 0.5"C	
CU-B1-2		15.3		208	1	ELP-B1A	SPC	2#12, 1#12G, 0.5"C	
GX-B1-1	1 1/2			480	3	EDPH-B1A	SPC	MCS	
EF-B1-1	1/2			120	1	ELP-B1D	FR	MCS	
RF-B1-1	5			480	3	EDPH-B1A	SPC	MCS	
RF-B1-2	1 1/2			480	3	EDPH-B1A	SPC	MCS	
EF-B1-4	10			480	3	EDPH-B1A	SPC	MCS	
CF-B1-1	1			480	3	EDPH-B1A	SPC	MCS	
CF-B1-2	1			480	3	EDPH-B1A	SPC	MCS	
FCU-B1-1	2			480	3	EDPH-B1A	SPC	MCS	
FCU-B1-2	2			480	3	EDPH-B1A	SPC	MCS	
CHWP-B1-1	2			480	3	EDPH-B1A	VFD	MCS	
CHWP-B1-2	2			480	3	EDPH-B1A	VFD	MCS	NON-SIMULTANEOUS
HWP-B1-1	1 1/2			480	3	EDPH-B1A	VFD	MCS	
HWP-B1-2	1 1/2			480	3	EDPH-B1A	VFD	MCS	NON-SIMULTANEOUS
1-EWH-2-1			30	480	3	DPH-B1A	SPC	3#6, 1#10G, 1#C	
DWBP-1-1	3			480	3	EDPH-B1A	SPC	MCS	
DWBP-1-2	3			480	3	EDPH-B1A	SPC	MCS	
FP-1-1	40			480	3	EDSH-B1A	SPC	SEE RISER	
JP-1-1	1 1/2			480	3	EDPH-B1A	SPC	MCS	
1-CP-2-1	1/3			120	1	ELP-B1D	SPC	2#12, 1#12G, 0.5"C	
1CA-1-1	5			480	3	EDPH-B1A	SPC	MCS	

MOTOR CONNECTION SCHEDULE: 208V-3 PHASE

HP	SHORT-CIRCUIT & GROUND FAULT		SWITCH AMPS	OVERLOAD FUSE AMPS	BRANCH CIRCUIT AMPACITY	GROUNDING CONDUCTOR SIZE	STARTER SIZE NEMA
	CIRCUIT BREAKER	FUSE SIZE					
1/2	15A	6A	30	2.5	15	#12	1
3/4	15A	10A	30	3.5	15	#12	1
1	15A	10A	30	5	15	#12	1
1 1/2	15A	15A	30	7	15	#12	1
2	15A	15A	30	9	15	#12	1
3	20A	20A	30	15	20	#12	1
5	35A	30A	30	20	30	#10	1
7 1/2	50A	45A	60	30	40	#10	2
10	60A	60A	60	40	50	#10	3
15	90A	90A	100	60	70	#8	3
20	100A	110A	100	80	80	#6	3
25	125A	150A	100	90	100	#6	4
30	150A	175A	200	110	125	#6	4
40	200A	200A	200	150	175	#6	5
50	250A	300A	200	175	200	#4	5
60	300A	300A	400	200	225	#4	5
75	350A	400A	400	250	300	#2	6
100	450A	500A	400	350	400	#2	6
125	600A	600A	600	450	450	#1	6
150	700A	700A	600	500	600	#1/0	6

REFER TO WIRING SCHEDULE FOR BRANCH CIRCUIT REQUIREMENTS
SIZES BASED ON COPPER CONDUCTORS

MOTOR CONNECTION SCHEDULE: 480V-3 PHASE

HP	SHORT-CIRCUIT & GROUND FAULT		SWITCH AMPS	OVERLOAD FUSE AMPS	BRANCH CIRCUIT AMPACITY	GROUNDING CONDUCTOR SIZE	STARTER SIZE NEMA
	CIRCUIT BREAKER	FUSE SIZE					
1/2	15A	4A	30	1.125	15	#12	1
3/4	15A	4A	30	1.6	15	#12	1
1	15A	6A	30	2	15	#12	1
1 1/2	15A	6A	30	2.8	15	#12	1
2	15A	6A	30	4	15	#12	1
3	15A	10A	30	5.6	15	#12	1
5	15A	15A	30	9	20	#12	1
7 1/2	25A	20A	30	15	20	#10	1
10	35A	25A	30	17.5	20	#10	2
15	45A	40A	30	25	30	#10	2
20	50A	50A	60	35	40	#10	2
25	70A	60A	60	40	50	#8	3
30	70A	70A	60	45	50	#8	3
40	100A	100A	100	60	70	#8	3
50	125A	125A	100	80	90	#6	4
60	150A	150A	200	90	100	#6	4
75	150A	175A	200	110	125	#6	4
100	175A	225A	200	150	175	#4	5
125	250A	300A	200	200	200	#4	5
150	300A	350A	400	225	225	#2	5
200	400A	450A	400	300	300	#2	5

REFER TO WIRING SCHEDULE FOR BRANCH CIRCUIT REQUIREMENTS
SIZES BASED ON COPPER CONDUCTORS

EQUIPMENT CONNECTION DESIGNATIONS LEGEND

DESIGNATION	DESCRIPTION	DESIGNATION	DESCRIPTION	DESIGNATION	DESCRIPTION
AC	AIR CONDITIONING UNIT	FCU	FAN COIL UNIT	OH	OIL HEATER
ACC	AIR COOLED CONDENSER	FOA	FUEL OIL ALARM PANEL	P	PUMP
AHU	AIR HANDLING UNIT	FOP	FUEL OIL PUMP	PS	PROJECTION SCREEN
BC	BATTERY CHARGER	FMS	FMS PANEL	REF	REFRIGERATOR
BMS	BMS PANEL	FP	FIRE PUMP	RF	RELIEF FAN
CF	CEILING FAN	FPB	FAN POWER BOX	RTU	ROOF TOP UNIT
CHWP	CHILLED WATER PUMP	FSD	FIRE/SMOKE DAMPER	SD	SMOKE DAMPER
CH	CHILLER	GD	GARBAGE DISPOSAL	SE	SEWAGE EJECTOR
COMP	COMPRESSOR	GS	GRAPHIC SIGNAGE	SF	SUPPLY FAN
COP	COPIER	GX	GENERAL EXHAUST	SP	SUMP PUMP
CP	CIRCULATING PUMP	HP	HEAT PUMP	UH	UNIT HEATER
CU	CONDENSING UNIT	HWP	HOT WATER PUMP	VAV	VAV BOX ELECTRIC HEAT
DF	DUCT FURNACE	HV	HEATING/VENTILATING UNIT	VM	VENDING MACHINE
DWBP	DOMESTIC WATER BOOSTER PUMP	IH	INSTANT HOT WATER HEATER	VFD	VARIABLE FREQUENCY DRIVE
ECH	ELECTRIC CABINET HEATER	JP	JOCKEY PUMP	TYPE DP	DUPLEX PUMP
EDH	ELECTRIC DUCT HEATER	JWH	JACKET WATER HEATER	TYPE FR	FRACTIONAL HP MOTOR
EF	EXHAUST FAN	KX	KITCHEN EXHAUST	TYPE FWS	FURNISHED WITH STARTER
EHC	ELECTRIC HEATING COIL	MCS	MOTOR CONNECTION SCHEDULE	TYPE M	MOTOR WITH STARTER
ELEV	ELEVATOR	MD	MOTORIZED DOOR OR GATE	TYPE SPC	SINGLE POINT CONNECTION
EUH	ELECTRIC UNIT HEATER	MS	MOTORIZED SHADE	TYPE VFD	VARIABLE FREQUENCY DRIVE
EWC	ELECTRIC WATER COOLER	MUA	MAKE UP AIR UNIT		
EWH	ELECTRIC WATER HEATER	MW	MICROWAVE OVEN		

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER
AMANDA J. BROWNLEE
No. E17287
ELECTRICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

ELECTRICAL SCHEDULES

Drawn By: ELW
Checked By: AJB

Scale: **NTS**

Date: **October 4, 2019**

Project No. B17.07369

1-E0.02

Drawing No.

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BUSSING: 225A, 10,000 AIC SYMMETRICAL
MAIN CB: 150A/3P

LP-B1A

LOCATION:ELECTRICAL ROOM
MOUNTING: SURFACE

120/208V, 3 PHASE, 4 WIRE
100% RATED NEUTRAL + GROUND

TYPE	DESCRIPTION	LOAD	DEVICE	CKT	A	B	C	CKT	DEVICE	LOAD	DESCRIPTION	TYPE
R	BREAK AREA 101 RECEPTS	720	20/1	1	●			2	20/1	900	STAFF 214, BREAK RM 216 RECEPTSR	
E	BREAK AREA 101 VENDING	1000	20/1	3		●		4	20/1	1000	BREAK RM 216 REFRIGERATOR	E
E	BREAK AREA 101 VENDING	1000	20/1	5			●	6	20/1	1000	BREAK RM 216 REFRIGERATOR	E
R	BREAK AREA & LOBBY 101 RECEPTS	900	20/1	7	●			8	20/1	1400	BREAK RM 216 GARBAGE DISPOSAL	M
E	BREAK AREA & LOBBY SIGN	500	20/1	9		●		10	20/1	540	SIMULATOR 218 RECEPTS	R
R	JANITOR 113 & STORAGE 112 RECEPTS	540	20/1	11			●	12	20/1	300	SIMULATOR 218 RECEPTS	R
R	EXTERIOR RECEPTS	540	20/1	13	●			14	20/1	1080	SIMULATOR 218 RECEPTS	R
E	LOBBY 101 AUTO DOOR	400	20/1	15		●		16	20/1	1080	SIMULATOR 218 RECEPTS	R
R	EXTERIOR RECEPTS LEVEL 2	360	20/1	17			●	18	20/1	1000	SIMULATOR 218 PROJECTOR	E
R	OFFICE 207, 208 RECEPTS	540	20/1	19	●			20	20/1	720	CIRCULATION 201 RECEPTS	R
R	OFFICE 212, HALL 211 RECEPTS	720	20/1	21		●		22	20/1	500	BUILDING 1 SIGNAGE	E
R	OFFICE 213 RECEPTS	540	20/1	23			●	24	20/1	360	ELEVATOR EQUIP RECEPTS	R
R	OFFICE 210 RECEPTS	720	20/1	25	●			26	20/1	500	IRRIGATION CONTROLLER	E
E	PRINTER 209	500	20/1	27		●		28	20/1	1080	SIMULATOR 218 RECEPTS	R
R	OFFICE 209, 205, & JANITOR RECEPTS	720	20/1	29			●	30	20/1	0	SPARE	
R	OFFICE 206 RECEPTS	900	20/1	31	●			32	20/1	0	SPARE	
R	OFFICE 206 & CONFERENCE 204	1080	20/1	33		●		34	20/1	0	SPARE	
R	CONFERENCE 204 RECEPTS	720	20/1	35			●	36	20/1	0	SPARE	
	SPACE	0		37	●			38		0	SPACE	
	SPACE	0		39		●		40		0	SPACE	
	SPACE	0		41			●	42		0	SPACE	
TOTAL ALL PHASES (VA)		PHASE A (VA)		PHASE B (VA)			PHASE C (VA)			TOTAL ALL PHASES (AMPS)		
23860		8920		8400			6540			66		

LOAD SUMMARY BY TYPE	CONN. LOAD	DEMAND FACTOR	NEC LOAD
E = EQUIPMENT	7400 VA	1.00	7400 VA
H = ELECTRIC HEAT	0 VA	1.00	0 VA
K = KITCHEN EQUIPMENT	0 VA	1.00	0 VA
L = LIGHTING	0 VA	1.25	0 VA
M = MOTOR	0 VA	1.00	0 VA
M = LARGEST MOTOR	1400 VA	1.25	1750 VA
R = RECEPTACLE	15060 VA	NEC DEMAND	12530 VA

CONNECTED LOAD SUMMARY
23860 VA
66 AMPS

NEC LOAD SUMMARY
21680 VA
60 AMPS

BUSSING: 225A, 10,000 AIC SYMMETRICAL
MAIN CB: 150A/3P

LP-B1B

LOCATION:ELECTRICAL ROOM
MOUNTING: SURFACE

120/208V, 3 PHASE, 4 WIRE
100% RATED NEUTRAL + GROUND

TYPE	DESCRIPTION	LOAD	DEVICE	CKT	A	B	C	CKT	DEVICE	LOAD	DESCRIPTION	TYPE
E	EV CHARGING	3328	40/2	1	●			2	20/1	0	SPARE	
E		3328		3		●		4	20/1	0	SPARE	
E	EV CHARGING	3328	40/2	5			●	6	20/1	0	SPARE	
E		3328		7	●			8	20/1	0	SPARE	
E	EV CHARGING	3328	40/2	9		●		10	20/1	0	SPARE	
E		3328		11			●	12	20/1	0	SPARE	
E	EV CHARGING	3328	40/2	13	●			14	20/1	0	SPARE	
E		3328		15		●		16	20/1	0	SPARE	
E	EV CHARGING	3328	40/2	17			●	18	20/1	0	SPARE	
E		3328		19	●			20	20/1	0	SPARE	
	SPARE	0	20/1	21		●		22	20/1	0	SPARE	
	SPARE	0	20/1	23			●	24	20/1	0	SPARE	
	SPARE	0	20/1	25	●			26	20/1	0	SPARE	
	SPARE	0	20/1	27		●		28	20/1	0	SPARE	
	SPARE	0	20/1	29			●	30	20/1	0	SPARE	
	SPARE	0	20/1	31	●			32	20/1	0	SPARE	
	SPARE	0	20/1	33		●		34	20/1	0	SPARE	
	SPARE	0	20/1	35			●	36	20/1	0	SPARE	
	SPACE	0		37	●			38		0	SPACE	
	SPACE	0		39		●		40		0	SPACE	
	SPACE	0		41			●	42		0	SPACE	
TOTAL ALL PHASES (VA)		PHASE A (VA)		PHASE B (VA)			PHASE C (VA)			TOTAL ALL PHASES (AMPS)		
33280		13312		9984			9984			92		

LOAD SUMMARY BY TYPE	CONN. LOAD	DEMAND FACTOR	NEC LOAD
E = EQUIPMENT	33280 VA	1.00	33280 VA
H = ELECTRIC HEAT	0 VA	1.00	0 VA
K = KITCHEN EQUIPMENT	0 VA	1.00	0 VA
L = LIGHTING	0 VA	1.25	0 VA
M = MOTOR	0 VA	1.00	0 VA
M = LARGEST MOTOR		1.25	0 VA
R = RECEPTACLE	0 VA	NEC DEMAND	0 VA

CONNECTED LOAD SUMMARY
33280 VA
92 AMPS

NEC LOAD SUMMARY
33280 VA
92 AMPS

BUSSING: 100A 14,000 AIC SYMMETRICAL
MAIN CB: MLO

LPH-B1A

LOCATION:ELECTRICAL ROOM
MOUNTING: SURFACE

277/480V, 3 PHASE, 4 WIRE
100% RATED NEUTRAL + GROUND

TYPE	DESCRIPTION	LOAD	DEVICE	CKT	A	B	C	CKT	DEVICE	LOAD	DESCRIPTION	TYPE
L	LEVEL 1 LIGHTING	495	20/1	1	●			2	20/1	1615	SITE LIGHTING	L
L	LEVEL 2 LIGHTING	2531	20/1	3		●		4	20/1	0	SPARE	
L	EXTERIOR LIGHTING	976	20/1	5			●	6	20/1	536	LEVEL 2 LIGHTING	L
	SPARE		20/1	7	●			8	20/1	0	SPARE	
	SPARE		20/1	9		●		10	20/1	0	SPARE	
L	SITE LIGHTING	510	20/1	11			●	12	20/1	0	SPARE	
	SPARE	0	20/1	13	●			14	20/1	0	SPARE	
	SPARE	0	20/1	15		●		16	20/1	0	SPARE	
	SPARE	0	20/1	17			●	18	20/1	0	SPARE	
	SPARE	0	20/1	19	●			20	20/1	0	SPARE	
	SPARE	0	20/1	21		●		22	20/1	0	SPARE	
	SPARE	0	20/1	23			●	24	20/1	0	SPARE	
	SPARE	0	20/1	25	●			26	20/1	0	SPARE	
	SPARE	0	20/1	27		●		28	20/1	0	SPARE	
	SPARE	0	20/1	29			●	30	20/1	0	SPARE	
	SPARE	0	20/1	31	●			32	20/1	0	SPARE	
	SPARE	0	20/1	33		●		34	20/1	0	SPARE	
	SPARE	0	20/1	35			●	36	20/1	0	SPARE	
	SPACE	0		37	●			38		0	SPACE	
	SPACE	0		39		●		40		0	SPACE	
	SPACE	0		41			●	42		0	SPACE	
TOTAL ALL PHASES (VA)		PHASE A (VA)		PHASE B (VA)			PHASE C (VA)			TOTAL ALL PHASES (AMPS)		
6663.2		2109.7		2531.4			2022.1			8		

LOAD SUMMARY BY TYPE	CONN. LOAD	DEMAND FACTOR	NEC LOAD
E = EQUIPMENT	0 VA	1.00	0 VA
H = ELECTRIC HEAT	0 VA	1.00	0 VA
K = KITCHEN EQUIPMENT	0 VA	1.00	0 VA
L = LIGHTING	6663 VA	1.25	8329 VA
M = MOTOR	0 VA	1.00	0 VA
M = LARGEST MOTOR		1.25	0 VA
R = RECEPTACLE	0 VA	NEC DEMAND	0 VA

CONNECTED LOAD SUMMARY
6663 VA
8 AMPS

NEC LOAD SUMMARY
8329 VA
10 AMPS

LOAD SUMMARY: MS-B1A

CIRCUIT	LOAD SERVED		LOAD (VA)	REMARKS
1	DPH-B1A		92,223	
2	EDPH-B1A		254,565	VIA ATS-E1C
3	ELPH-B1A		129,511	VIA ATS-E1A
4	ELPH-B1B		4,629	VIA ATS-E1B
5	LPH-B9A		184,610	
6	LPH-B2A		181,704	
7	DPH-PV		200,000	BACKFEED ONLY
		TOTAL	1,047,242	

LOAD SUMMARY BY TYPE	CONNECTED LOAD	DEMAND FACTOR	NEC LOAD
E = EQUIPMENT	450771 VA	1.00	450771 VA
H = ELECTRIC HEAT	6240 VA	1.00	6240 VA
K = KITCHEN	8720 VA	1.00	8720 VA
L = LIGHTING	34678 VA	1.25	43347 VA
M = MOTOR	372037 VA	1.00	372037 VA
M = LARGEST MOTOR	30000 VA	1.25	37500 VA
R = RECEPTACLE	144796 VA	NEC DEMAND	77398 VA
EL = ELEVATOR	0 VA	1.00	0 VA

CONNECTED LOAD SUMMARY
1047242 VA
1261 A

NEC LOAD SUMMARY
996013 VA
1199 A

EMERGENCY LOAD SUMMARY
996013 VA
1199 A

DPH-PV

BUS AMPACITY: 400A
MAIN: MLO

277/480V, 3 PHASE, 4 WIRE

LOCATION: EQUIPMENT PAD
AIC RMS: 65,000

CIRCUIT	LOAD SERVED	DEVICE RATING	LOAD (VA)	REMARKS
1	INV-B1A	150AT/225AF	100,000	PV INVERTER, BACKFEED
2	INV-B1B	150AT/2250AF	100,000	PV INVERTER, BACKFEED
		TOTAL	200,000	

LOAD SUMMARY BY TYPE	CONNECTED LOAD	DEMAND FACTOR	NEC LOAD
E = EQUIPMENT	200000 VA	1.00	200000 VA
H = ELECTRIC HEAT	0 VA	1.00	0 VA
K = KITCHEN	0 VA	1.00	0 VA
L = LIGHTING	0 VA	1.25	0 VA
M = MOTOR	0 VA	1.00	0 VA
M = LARGEST MOTOR		1.25	0 VA
R = RECEPTACLE	0 VA	NEC DEMAND	0 VA
EL = ELEVATOR	0 VA	1.00	0 VA

CONNECTED LOAD SUMMARY
200000 VA
241 A

NEC LOAD SUMMARY
200000 VA
241 A

DPH-B1A

BUS AMPACITY: 225A
MAIN: 225A

277/480V, 3 PHASE, 4 WIRE

LOCATION: ELECTRICAL ROOM
AIC RMS: 65,000

CIRCUIT	LOAD SERVED	DEVICE RATING	LOAD (VA)	REMARKS
1	LP-B1A	100AT/100AF	22,280	VIA T-B1A
2	LPH-B1A	100AT/100AF	6,663	
3	LP-B1B	100AT/100AF	33,280	VIA T-B1B
4	1EWH-2-1	40AT/100AF	30,000	
5	LPH-B1B	150AT/225AF	0	
6	SPACE	100AF	0	
		TOTAL	92,223	

LOAD SUMMARY BY TYPE	CONNECTED LOAD	DEMAND FACTOR	NEC LOAD
E = EQUIPMENT	40480 VA	1.00	40480 VA
H = ELECTRIC HEAT	0 VA	1.00	0 VA
K = KITCHEN	0 VA	1.00	0 VA
L = LIGHTING	6663 VA	1.25	8329 VA
M = MOTOR	1400 VA	1.00	1400 VA
M = LARGEST MOTOR	30000 VA	1.25	37500 VA
R = RECEPTACLE	13680 VA	NEC DEMAND	11840 VA
EL = ELEVATOR	0 VA	1.00	0 VA

CONNECTED LOAD SUMMARY
92223 VA
111 A

NEC LOAD SUMMARY
99549 VA
120 A

	LP-B1A	LPH-B1A	MS-B1A
	LP-B1B		DPH-PV
			DPH-B1A

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY:	
KATHY GARCIA DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	INC 01_ADD_01_V1	12/06/2019

REGISTERED PROFESSIONAL ENGINEER
AMANDA J. BROWNLEE
No. E17287
ELECTRICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

ELECTRICAL SCHEDULES

Drawn By: ELW
Checked By: AJB

Scale:
NTS

Date:
October 4, 2019

Project No. B17.07369

1-E0.03
Drawing No.

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ELP-B1D

BUSSING: 225A, 10,000 AIC SYMMETRICAL — LOCATION: ELECTRICAL ROOM
MAIN CB: 225A/3P — MOUNTING: SURFACE

120/208V, 3 PHASE, 4 WIRE
100% RATED NEUTRAL + GROUND

TYPE	DESCRIPTION	LOAD	DEVICE	CKT	A	B	C	CKT	DEVICE	LOAD	DESCRIPTION	TYPE
R	APPARATUS BAY 150 RECEPTS	1080	20/1	1	●			2		960		E
R	APPARATUS BAY 150 RECEPTS	1080	20/1	3		●		4	20/3	960	EXTRACTOR	E
R	APPARATUS BAY 150 RECEPTS	720	20/1	5			●	6		960		E
E	APP BAY 150 MOTORIZED DOOR	500	20/1	7	●			8	20/1	1000	DISHWASHER KITCHEN 252	K
E	APP BAY 150 MOTORIZED DOOR	500	20/1	9		●		10	20/1	1400	CARBAGE DISPOSAL KITCHEN 252	M
E	APP BAY 150 MOTORIZED DOOR	500	20/1	11			●	12	20/1	1000	DISHWASHER KITCHEN 252	K
E	APP BAY 150 MOTORIZED DOOR	500	20/1	13	●			14	20/1	1000	REFRIGERATOR KITCHEN 252	K
R	EXTRACTOR 152, BAY 150 RECEPTS	1080	20/1	15		●		16	20/1	1000	REFRIGERATOR KITCHEN 252	K
R	EXERCISE 105 RECEPTS	720	20/1	17			●	18	20/1	1000	REFRIGERATOR KITCHEN 252	K
E	EXERCISE 105 TV	300	20/1	19	●			20	20/1	720	OVEN KITCHEN 252	K
E	EXERCISE 105 TV	300	20/1	21		●		22	20/1	1500	KITCHEN 252 SMALL APPLIANCE	K
E	EXERCISE 105 TV	300	20/1	23			●	24	20/1	1500	KITCHEN 252 SMALL APPLIANCE	K
R	EXERCISE 105 RECEPTS	1080	20/1	25	●			26	20/1	1260	DAY ROOM 251 RECEPTS	R
R	RESTROOM RECEPTS	540	20/1	27		●		28	20/1	720	MECHNAICAL RM 020 RECEPTS	R
R	CAPTAINS RM 259, 258, 257 RECEPTS	1260	20/1	29			●	30	20/1	900	STORAGE/CORRIDOR RECEPTS	R
R	DORMITORY 256 RECEPTS	900	20/1	31	●			32	20/1	720	RESTROOM 261 RECEPTS	R
R	DORMITORY 256 RECEPTS	1080	20/1	33		●		34	20/1	1440	RESTROOM/LOCKER 260 RECEPTS	R
M	EF-B1-1	528	20/1	35			●	36	20/1	1260	OFFICE 255 RECEPTS	R
E	VEHICLE EXHAUST FAN CNTRL PANEL	500	20/1	37	●			38	20/1	200	KETRA N3 DEVICE	E
E	CEILING FAN CNTRL PANEL	500	20/1	39		●		40	20/1	200	KETRA N4 DEVICE	E
E	AHU-1-2 RECEPTS AND LIGHTS	295	20/1	41			●	42	20/1	864	1-CP-2-1	M
L	LEVEL 2 120V LIGHTING	193	20/1	43	●			44	20/1	360	DAY ROOM 251 RECEPTS	R
E	SOLENOID VALVE	200	20/1	45		●		46	20/1		SPARE	
E	BMS	200	20/1	47			●	48	20/1		SPARE	
E	CARBON MONOXIDE SENSORS	200	20/1	49	●			50	20/1		SPARE	
	SPARE		20/1	51		●		52	20/1		SPARE	
	SPACE			53			●	54			SPACE	
	SPACE			55	●			56		3666		M
	SPACE			57		●		58	40/3	3666	OFCI CASCADE AIR SYSTEM	M
	SPACE			59			●	60		3666		M
	TOTAL ALL PHASES (VA)	PHASE A (VA)		PHASE B (VA)			PHASE C (VA)				TOTAL ALL PHASES (AMPS)	
	46978	15139		16166			15673				130	

LOAD SUMMARY BY TYPE	CONN. LOAD	DEMAND FACTOR	NEC LOAD
E = EQUIPMENT	8075 VA	1.00	8075 VA
H = ELECTRIC HEAT	0 VA	1.00	0 VA
K = KITCHEN EQUIPMENT	8720 VA	0.65	5668 VA
L = LIGHTING	193 VA	1.25	241 VA
M = MOTOR	-2854 VA	1.00	-2854 VA
M = LARGEST MOTOR	16644 VA	1.25	20805 VA
R = RECEPTACLE	16200 VA	NEC DEMAND	13100 VA

CONNECTED LOAD SUMMARY
46978 VA
131 AMPS

NEC LOAD SUMMARY
45035 VA
125 AMPS

ELP-B1A

BUSSING: 400A, 10,000 AIC SYMMETRICAL — LOCATION: ELECTRICAL ROOM
MAIN CB: 400A/3P — MOUNTING: SURFACE

120/208V, 3 PHASE, 4 WIRE
100% RATED NEUTRAL + GROUND

TYPE	DESCRIPTION	LOAD	DEVICE	CKT	A	B	C	CKT	DEVICE	LOAD	DESCRIPTION	TYPE
E	AHU-1-1 RECEPTS AND LIGHTS	295	20/1	1	●			2	20/1	1080	CLASSROOM 110 RECEPTS	R
E	TAMPER SWITCH	200	20/1	3		●		4	20/1	900	CLASSROOM 110 RECEPTS	R
E	FLOW SWITCH	200	20/1	5			●	6	20/1	1080	CLASSROOM 110 RECEPTS	R
E	BMS	200	20/1	7	●			8	20/1	738	CLASSROOM 110 RECEPTS	R
	SPARE	0	20/1	9		●		10	20/1	480	CLASSROOM 110 RECEPTS & LCD	R
	SPARE	0	20/1	11			●	12	20/1	1000	CLASSROOM 110 PROJECTOR	E
	SPARE	0	20/1	13	●			14	20/1	1260	CLASSROOM 110 RECEPTS	R
	SPARE	0	20/1	15		●		16	20/1	1260	CLASSROOM 110 RECEPTS	R
	SPARE	0	20/1	17			●	18	20/1	1260	CLASSROOM 110 RECEPTS	R
	SPARE	0	20/1	19	●			20	20/1	1080	CLASSROOM 115 RECEPTS	R
	SPARE	0	20/1	21		●		22	20/1	1080	CLASSROOM 115 RECEPTS	R
	SPARE	0	20/1	23			●	24	20/1	720	CLASSROOM 115 RECEPTS	R
	SPARE	0	20/1	25	●			26	20/1	840	CLASSROOM 115 RECEPTS	R
	SPARE	0	20/1	27		●		28	20/1	1000	CLASSROOM 115 PROJECTOR	E
	SPARE	0	20/1	29			●	30	20/1	1080	CLASSROOM 115 RECEPTS	R
	SPARE	0	20/1	31	●			32	20/1	1080	CLASSROOM 115 RECEPTS	R
	SPARE	0	20/1	33		●		34	20/1	900	CLASSROOM 115 RECEPTS	R
	SPARE	0	20/1	35			●	36	20/1	0	SPARE	
		15139		37	●			38		18816		
	ELP-B1D	16166	225/3	39		●		40	100/3	14940	ELP-B1C	
		15673		41			●	42		14400		
	TOTAL ALL PHASES (VA)	PHASE A (VA)		PHASE B (VA)			PHASE C (VA)				TOTAL ALL PHASES (AMPS)	
	112867	40528		36926			35413				313	

LOAD SUMMARY BY TYPE	CONN. LOAD	DEMAND FACTOR	NEC LOAD
E = EQUIPMENT	10970 VA	1.00	10970 VA
H = ELECTRIC HEAT	0 VA	1.00	0 VA
K = KITCHEN EQUIPMENT	8720 VA	1.00	8720 VA
L = LIGHTING	193 VA	1.25	241 VA
M = MOTOR	12390 VA	1.00	12390 VA
M = LARGEST MOTOR	1400 VA	1.25	1750 VA
R = RECEPTACLE	79194 VA	NEC DEMAND	44597 VA

CONNECTED LOAD SUMMARY
112867 VA
314 AMPS

NEC LOAD SUMMARY
78668 VA
219 AMPS

ELPH-B1A

BUSSING: 225A, 14,000 AIC SYMMETRICAL — LOCATION: ELECTRICAL ROOM
MAIN CB: 150A/3P — MOUNTING: SURFACE

277/480V, 3 PHASE, 4 WIRE
100% RATED NEUTRAL + GROUND

TYPE	DESCRIPTION	LOAD	DEVICE	CKT	A	B	C	CKT	DEVICE	LOAD	DESCRIPTION	TYPE
L	APP 150 EAST - LTS	2094	20/1	1	●			2	20/1	753.7	SPARE	
L	APP 150 EAST, EXERCISE, BATH - LTS	2193	20/1	3		●		4	20/1	0	SPARE	
L	CLASS 110, 110, ELEC, MECH - LTS	3046	20/1	5			●	6	20/1	0	SPARE	
L	RESIDENTIAL - LTS	3486	20/1	7	●			8	20/1	0	SPARE	
L	EXIT SIGNS	150	20/1	9		●		10	20/1	0	SPARE	
	SPARE	0	20/1	11			●	12	20/1	0	SPARE	
	SPARE	0	20/1	13	●			14	20/1	0	SPARE	
	SPARE	0	20/1	15		●		16	20/1	0	SPARE	
	SPARE	0	20/1	17			●	18	20/1	0	SPARE	
	SPARE	0	20/1	19	●			20	20/1	0	SPARE	
	SPARE	0	20/1	21		●		22	20/1	0	SPARE	
	SPARE	0	20/1	23			●	24	20/1	0	SPARE	
	SPARE	0	20/1	25	●			26	20/1	0	SPARE	
	SPARE	0	20/1	27		●		28	20/1	0	SPARE	
	SPARE	0	20/1	29			●	30	20/1	0	SPARE	
	SPARE	0	20/1	31	●			32	20/1	0	SPARE	
	SPARE	0	20/1	33		●		34	20/1	0	SPARE	
	SPARE	0	20/1	35			●	36	20/1	0	SPARE	
	SPACE	0		37	●			38		0	SPACE	
	SPACE	0		39		●		40	50/3	800	ELP-B1B VIA ET-B1B	
	SPACE	0		41			●	42		0	SPACE	
	TOTAL ALL PHASES (VA)	PHASE A (VA)		PHASE B (VA)			PHASE C (VA)				TOTAL ALL PHASES (AMPS)	
	4628.7	1707.7		1829			1092				6	

LOAD SUMMARY BY TYPE	CONN. LOAD	DEMAND FACTOR	NEC LOAD
E = EQUIPMENT	1800 VA	1.00	1800 VA
H = ELECTRIC HEAT	0 VA	1.00	0 VA
K = KITCHEN EQUIPMENT	0 VA	1.00	0 VA
L = LIGHTING	2503 VA	1.25	3128 VA
M = MOTOR	0 VA	1.00	0 VA
M = LARGEST MOTOR		1.25	0 VA
R = RECEPTACLE	326 VA	NEC DEMAND	326 VA

CONNECTED LOAD SUMMARY
4629 VA
6 AMPS

NEC LOAD SUMMARY
5254 VA
6 AMPS

LOAD SUMMARY: EDSH-B1A

CIRCUIT	LOAD SERVED		LOAD (VA)	REMARKS
1	FP-B1		43,231	
2	ELPH-B1B		4,629	VIA ATS-E1B
3	ELPH-B1A		129,511	VIA ATS-E1A
4	EDPH-B1A		254,565	VIA ATS-E1C
5	SPARE		0	
		TOTAL	431,936	

LOAD SUMMARY BY TYPE	CONNECTED LOAD	DEMAND FACTOR	NEC LOAD
E = EQUIPMENT	14770 VA	1.00	14770 VA
H = ELECTRIC HEAT	0 VA	1.00	0 VA
K = KITCHEN	8720 VA	1.00	8720 VA
L = LIGHTING	14820 VA	1.25	18525 VA
M = MOTOR	268355 VA	1.00	268355 VA
M = LARGEST MOTOR	43231 VA	1.25	54039 VA
R = RECEPTACLE	82040 VA	NEC DEMAND	46020 VA
EL = ELEVATOR	0 VA	1.00	0 VA

CONNECTED LOAD SUMMARY
431936 VA
520 A

NEC LOAD SUMMARY
410428 VA
494 A

EMERGENCY LOAD SUMMARY
410428 VA
494 A

ULP-B1A

BUSSING: 50A, 10,000 AIC SYMMETRICAL — LOCATION:ELECTRICAL ROOM
MAIN CB: 50A/3P — MOUNTING: SURFACE

120/208V, 3 PHASE, 4 WIRE
200% RATED NEUTRAL + GROUND + ISOLATED GROUND

TYPE	DESCRIPTION	LOAD	DEVICE	CKT	A	B	C	CKT	DEVICE	LOAD	DESCRIPTION	TYPE
R	DISPATCH 202 RECEPTACLES	360	20/1	1	●			2	20/1	180	DISPATCH 202 RECEPTACLES	R
R	DISPATCH 202 RECEPTACLES	360	20/1	3		●		4	20/1	180	DISPATCH 202 RECEPTACLES	R
R	DISPATCH 202 RECEPTACLES	360	20/1	5			●	6	20/1	360	DISPATCH 202 RECEPTACLES	R
R	DISPATCH 202 RECEPTACLES	360	20/1	7	●			8	20/1	750	IDF 205 RECEPTACLE	E
R	DISPATCH 202 RECEPTACLES	360	20/1	9		●		10	20/1	750	IDF 205 RECEPTACLE	E
	SPARE	0	20/1	11			●	12	20/1	750	IDF 205 RECEPTACLE	E
	SPARE	0	20/1	13	●			14	20/1	750	IDF 205 RECEPTACLE	E
	SPARE	0	20/1	15		●		16	20/1	0	SPARE	
	SPARE	0	20/1	17			●	18	20/1	0	SPARE	
	SPARE	0	20/1	19	●			20	20/1	0	SPARE	
	SPARE	0	20/1	21		●		22	20/1	0	SPARE	
	SPARE	0	20/1	23			●	24	20/1	0	SPARE	
	TOTAL ALL PHASES (VA)	PHASE A (VA)		PHASE B (VA)			PHASE C (VA)				TOTAL ALL PHASES (AMPS)	
	5520	2400		1650			1470				15	

LOAD SUMMARY BY TYPE	CONN. LOAD	DEMAND FACTOR	NEC LOAD
E = EQUIPMENT	3000 VA	1.00	3000 VA
H = ELECTRIC HEAT	0 VA	1.00	0 VA
K = KITCHEN EQUIPMENT	0 VA	1.00	0 VA
L = LIGHTING	0 VA	1.25	0 VA
M = MOTOR	0 VA	1.00	0 VA
M = LARGEST MOTOR		1.25	0 VA
R = RECEPTACLE	2520 VA	NEC DEMAND	2520 VA

CONNECTED LOAD SUMMARY
5520 VA
15 AMPS

NEC LOAD SUMMARY
5520 VA
15 AMPS

ELP-B1B

BUSSING: 100A, 10,000 AIC SYMMETRICAL — LOCATION: ELECTRICAL ROOM
MAIN CB: 100A/3P — MOUNTING: SURFACE

120/208V, 3 PHASE, 4 WIRE
100% RATED NEUTRAL + GROUND

TYPE	DESCRIPTION	LOAD	DEVICE	CKT	A	B	C	CKT	DEVICE	LOAD	DESCRIPTION	TYPE
R	ELEVATOR RECEPTACLE AND LTS	326	20/1	1	●			2	20/1	0	SPARE	
E	FIRE PUMP STATUS PANEL	500	20/1	3		●		4	20/1	0	SPARE	
E	FIRE ALARM CONTROL PANEL	500	20/1	5			●	6	20/1	0	SPARE	
E	FIRE ALARM REMOTE ANUNCIATOR	500	20/1	7	●			8	20/1	0	SPARE	
E	FIRE SMOKE DAMPERS	300	20/1	9		●		10	20/1	0	SPARE	
L	ELEVATOR FAN AND CAB LIGHTS	200	20/1	11			●	12	20/1	0	SPARE	
	SPARE	0	20/1	13	●			14	20/1	0	SPARE	
	SPARE	0	20/1	15		●		16	20/1	0	SPARE	
	SPARE	0	20/1	17			●	18	20/1	0	SPARE	
	SPARE	0	20/1	19	●			20	20/1	0	SPARE	
	SPARE	0	20/1	21		●		22	20/1	0	SPARE	
	SPARE	0	20/1	23			●	24	20/1	0	SPARE	
	SPARE	0	20/1	25	●			26	20/1	0	SPARE	
	SPARE	0	20/1	27		●		28	20/1	0	SPARE	
	SPARE	0	20/1	29			●	30	20/1	0	SPARE	
	SPARE	0	20/1	31	●			32	20/1	0	SPARE	
	SPARE	0	20/1	33		●		34	20/1	0	SPARE	
	SPARE	0	20/1	35			●	36	20/1	0	SPARE	
	SPACE	0		37	●			38		0	SPACE	
	SPACE	0		39		●		40		0	SPACE	
	SPACE	0		41			●	42		0	SPACE	
	TOTAL ALL PHASES (VA)	PHASE A (VA)		PHASE B (VA)			PHASE C (VA)				TOTAL ALL PHASES (AMPS)	
	2326	826		800			700				6	

LOAD SUMMARY BY TYPE	CONN. LOAD	DEMAND FACTOR	NEC LOAD
E = EQUIPMENT	1800 VA	1.00	1800 VA
H = ELECTRIC HEAT	0 VA	1.00	0 VA
K = KITCHEN EQUIPMENT	0 VA	1.00	0 VA
L = LIGHTING	200 VA	1.25	250 VA
M = MOTOR	0 VA	1.00	0 VA
M = LARGEST MOTOR		1.25	0 VA
R = RECEPTACLE	326 VA	NEC DEMAND	326 VA

CONNECTED LOAD SUMMARY
2326 VA
6 AMPS

NEC LOAD SUMMARY
2376 VA
7 AMPS

ELPH-B1B

BUSSING: 100A, 14,000 AIC SYMMETRICAL — LOCATION: ELECTRICAL ROOM
MAIN CB: 100A/3P — MOUNTING: SURFACE

277/480V, 3 PHASE, 4 WIRE
100% RATED NEUTRAL + GROUND

TYPE	DESCRIPTION	LOAD	DEVICE	CKT	A	B	C	CKT	DEVICE	LOAD	DESCRIPTION	TYPE
	SPARE	0	20/1	1	●			2	20/1	753.7	LEVEL 1 EMERGENCY LIGHTING	L
	SPARE	0	20/1	3		●		4	20/1	879	LEVEL 2 EMERGENCY LIGHTING	L
	SPARE	0	20/1	5			●	6	20/1	392	EXTERIOR LIGHTING	L
	SPARE	0	20/1	7	●			8	20/1	128	STAIR EMERGENCY LIGHTING	L
	SPARE	0	20/1	9		●		10	20/1	150	EXIT SIGNS	I
	SPARE	0	20/1	11			●	12	20/1	0	SPARE	
	SPARE	0	20/1	13	●			14	20/1	0	SPARE	
	SPARE	0	20/1	15		●		16	20/1	0	SPARE	
	SPARE	0	20/1	17			●	18	20/1	0	SPARE	
	SPARE	0	20/1	19	●			20	20/1	0	SPARE	
	SPARE	0	20/1	21		●		22	20/1	0	SPARE	
	SPARE	0	20/1	23			●	24	20/1	0	SPARE	
	SPARE	0	20/1	25	●			26	20/1	0	SPARE	
	SPARE	0	20/1	27		●		28	20/1	0	SPARE	
	SPARE	0	20/1	29			●	30	20/1	0	SPARE	
	SPARE	0	20/1	31	●			32	20/1	0	SPARE	
	SPARE	0	20/1	33		●		34	20/1	0	SPARE	
	SPARE	0	20/1	35			●	36	20/1	0	SPARE	
	SPACE	0		37	●			38		826		
	SPACE	0		39		●		40	50/3	800	ELP-B1B VIA ET-B1B	
	SPACE	0		41			●	42		700		
	TOTAL ALL PHASES (VA)	PHASE A (VA)		PHASE B (VA)			PHASE C (VA)				TOTAL ALL PHASES (AMPS)	
	4629.7	1800.7		1829			1000				6	

LOAD SUMMARY BY TYPE	CONN. LOAD	DEMAND FACTOR	NEC LOAD
E = EQUIPMENT	1800 VA	1.00	1800 VA
H = ELECTRIC HEAT	0 VA	1.00	0 VA
K = KITCHEN EQUIPMENT	0 VA	1.00	0 VA
L = LIGHTING	2503 VA	1.25	3128 VA
M = MOTOR	0 VA	1.00	0 VA
M = LARGEST MOTOR		1.25	0 VA
R = RECEPTACLE	326 VA	NEC DEMAND	326 VA

CONNECTED LOAD SUMMARY
4629 VA
6 AMPS

NEC LOAD SUMMARY
5254 VA
6 AMPS

EDPH-B1A

BUS AMPACITY: 600A — 277/480V, 3 PHASE, 4 WIRE — LOCATION: ELECTRICAL ROOM
MAIN: 600A — AIC RMS: 100,000

CIRCUIT	LOAD SERVED	DEVICE RATING	LOAD (VA)	REMARKS
1	CH-B1-1	200AT/225AF	133,021	
2	ELEV-1	20AT/100AF	9,976	
3	AHU-B1-2	30AT/100AF	13,302	
4	AHU-B1-1	15AT/100AF	21,616	
5	CU-B1-1	30AT/100AF	17,126	
6	GX-B1-1	15AT/100AF	2,494	
7	RF-B1-1	15AT/100AF	6,319	
8	RF-B1-2	15AT/100AF	2,494	
9	EF-B1-4	20AT/100AF	11,639	
10	CF-B1-1	15AT/100AF	1,745	
11	CF-B1-2	15AT/100AF	1,745	
12	FCU-B1-1	15AT/100AF	2,826	
13	FCU-B1-2	15AT/100AF	2,826	
14	CHWP-B1-1	15AT/100AF	2,827	
15	CHWP-B1-2	15AT/100AF	2,827	
16	HWP-B1-1	15AT/100AF	2,495	
17	HWP-B1-2	15AT/100AF	2,495	
18	DWBP-1-1	15AT/100AF	3,990	
19	DWBP-1-2	15AT/100AF	3,990	
20	JP-1-1	15AT/100AF	2,494	
21	1CA-1-1	15AT/100AF	6,318	
22			0	
23			0	
24			0	
		TOTAL	254,565	

LOAD SUMMARY BY TYPE	CONNECTED LOAD	DEMAND FACTOR	NEC LOAD
E = EQUIPMENT	0 VA	1.00	0 VA
H = ELECTRIC HEAT	0 VA	1.00	0 VA
K = KITCHEN	0 VA	1.00	0 VA
L = LIGHTING	0 VA	1.25	0 VA
M = MOTOR	121544 VA	1.00	121544 VA
M = LARGEST MOTOR	133021 VA	1.25	166276 VA
R = RECEPTACLE	0 VA	NEC DEMAND	0 VA
EL = ELEVATOR	0 VA	1.00	0 VA

CONNECTED LOAD SUMMARY
254565 VA
307 A

NEC LOAD SUMMARY
287820 VA
347 A

EMERGENCY LOAD SUMMARY
287820 VA
347 A

ELP-B1C

BUSSING: 100A, 10,000 AIC SYMMETRICAL — LOCATION: ELECTRICAL ROOM
MAIN CB: 100A/3P — MOUNTING: SURFACE

120/208V, 3 PHASE, 4 WIRE
100% RATED NEUTRAL + GROUND

TYPE	DESCRIPTION	LOAD	DEVICE	CKT	A	B	C	CKT	DEVICE	LOAD	DESCRIPTION	TYPE
R	TELECOM RACK	2496	30/2	1	●			2	20/1	1920	TELECOM RECEPTACLE	R
R		2496		3		●		4	20/1	1920	TELECOM RECEPTACLE	R
R	TELECOM RACK	2496	30/2	5			●	6	20/1	1920	TELECOM RECEPTACLE	R
R		2496		7	●			8	20/1	1920	TELECOM RECEPTACLE	R
R	TELECOM RACK	2496	30/2	9		●		10	20/1	540	TELECOM CONVENIENCE RCEPTACLE	R
R		2496		11			●	12	20/1	0	SPARE	
R	TELECOM RACK	2496	30/2	13	●			14	20/1	0	SPARE	
R		2496		15		●		16	20/1	0	SPARE	
R	TELECOM RACK	2496	30/2	17			●	18	20/1	0	SPARE	
R		2496		19	●			20	20/1	0	SPARE	
R	TELECOM RACK	2496	30/2	21		●		22	20/1	0	SPARE	
R		2496		23			●	24	20/1	0	SPARE	
R	TELECOM RACK	2496	30/2	25	●			26	20/1	0	SPARE	
R		2496		27		●		28	20/1	0	SPARE	
R	TELECOM RACK	2496	30/2	29			●	30	20/1	0	SPARE	
R		2496		31	●			32	20/1	0	SPARE	
	SPARE	0	20/1	33		●		34	20/1	0	SPARE	
	SPARE	0	20/1	35			●	36	20/1	0	SPARE	
	SPACE	0		37	●			38		0	SPACE	
	SPACE	0		39		●		40		0	SPACE	
	SPACE	0		41			●	42		0	SPACE	
	TOTAL ALL PHASES (VA)	PHASE A (VA)		PHASE B (VA)			PHASE C (VA)				TOTAL ALL PHASES (AMPS)	
	48156	18816		14940			14400				134	

LOAD SUMMARY BY TYPE	CONN. LOAD	DEMAND FACTOR	NEC LOAD
E = EQUIPMENT	0 VA	1.00	0 VA
H = ELECTRIC HEAT	0 VA	1.00	0 VA
K = KITCHEN EQUIPMENT	0 VA	1.00	0 VA
L = LIGHTING	0 VA	1.25	0 VA
M = MOTOR	0 VA	1.00	0 VA
M = LARGEST MOTOR		1.25	0 VA
R = RECEPTACLE	48156 VA	NEC DEMAND	29078 VA

CONNECTED LOAD SUMMARY
48156 VA
134 AMPS

NEC LOAD SUMMARY
29078 VA
81 AMPS

NUMBERED NOTES

1. PROVIDE AFCI PROTECTED BREAKERS.

ELP-B1D	ELP-B1A	ELPH-B1A	EDSH-B1A
ULP-B1A	ELP-B1B	ELPH-B1B	EDPH-B1A
	ELP-B1C		

RossDrulisCusenbery
ARCHITECTURE
18294 Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY: | CHECKED BY:
DRAWN BY: | APPROVAL REC'D:
APPROVED BY:
KATHY GARCIA, DEP. DIR. PUBLIC WORKS
ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482 | FILE NO. E-2157

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	INC 01_ADD_01_V1	12/06/2019

REGISTERED PROFESSIONAL ENGINEER
AMANDA J. BROWNE
No. E17267
ELECTRICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

ELECTRICAL SCHEDULES

Drawn By: ELW — Checked By: AJB

Scale: **NTS**

Date: **October 4, 2019**

Project No. B17.07369

1-E0.04
Drawing No.

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LIGHTING FIXTURE SCHEDULE

PROJECT: HAYWARD FIRE TRAINING CENTER
ISSUE: PERMIT SUBMITTAL V3 - INCREMENT #1
DATE: 10/16/2019

FIXTURE TYPE	DESCRIPTION	LOCATION	LIGHT SOURCE	COLOR TEMPERATURE (K)	INPUT WATTS (W)	UNIT	BALLAST / TRANSFORMER / DRIVER	VOLTAGE	REFLECTOR	MOUNTING	FIXTURE WEIGHT (LBS)		SHIELDING	FINISH	MANUFACTURER / CATALOG #	REMARKS
F1	4' NOMINAL LENGTH LED LINEAR PENDANT	APPARATUS BAY	WHITE LED MODULE, 83 CRI, 5512 DELIVERED LUMENS, L70 110,000 HOURS	3500K	50	EA	INTEGRAL, ELECTRONIC, 0-10V, DIM TO 1%	120-277V	22 GA STEEL, WHITE POWERED COAT	MOUNTED TO SUSPENDED UNISTRUT	10	(PER 4')	FROSTED POLYCARBONATE	BLACK	BEGHELLI LUCE, ILLUMINA SERIES BS100LED-4-(OPERATION)-LO-WT-35-120-277V-(MOUNTING)-OPTIONS AS REQ'D-B	1. FINISH TO BE SELECTED BY ARCHITECT. 2. CONTRACTOR TO SELECT MOUNTING TO MOUNT FIXTURE TO UNISTRUT AND COORDINATE FINAL FIXTURE LOCATION AND UNISTRUT LOCATION WITH DUCTS AND FANS TO AVOIDE CONFLICT PER SITE CONDITION PRIOR TO INSTALLING. 3. TYPE F1 AND F1A FIXTURES TO BE MOUNTED END TO END WITH MINIMUM GAP BETWEEN FIXTURES. 4. REFER TO DRAWINGS FOR MOUNTING HEIGHTS.
F1A	2' NOMINAL LENGTH LED LINEAR PENDANT	APPARATUS BAY	WHITE LED MODULE, 83 CRI, 3585 DELIVERED LUMENS, L70 110,000 HOURS	3500K	30	EA	INTEGRAL, ELECTRONIC, 0-10V, DIM TO 1%	120-277V	22 GA STEEL, WHITE POWERED COAT	MOUNTED TO SUSPENDED UNISTRUT	5	(PER 2')	FROSTED POLYCARBONATE	BLACK	BEGHELLI LUCE, ILLUMINA SERIES BS100LED-2-(OPERATION)-LO-WT-35-120-277V-(MOUNTING)-OPTIONS AS REQ'D-B	1. FINISH TO BE SELECTED BY ARCHITECT. 2. CONTRACTOR TO SELECT MOUNTING TO MOUNT FIXTURE TO UNISTRUT AND COORDINATE FINAL FIXTURE LOCATION AND UNISTRUT LOCATION WITH DUCTS AND FANS TO AVOIDE CONFLICT PER SITE CONDITION PRIOR TO INSTALLING. 3. TYPE F1 AND F1A FIXTURES TO BE MOUNTED END TO END WITH MINIMUM GAP BETWEEN FIXTURES. 4. REFER TO DRAWINGS FOR MOUNTING HEIGHTS.
F3	LED LINEAR PENDANT	CLASSROOM	WHITE LED MODULE, 80 CRI, 1180 DELIVERED LUMENS PER LINEAR FT, 150,000 HOURS, L70	3500K	13	PER LF	REMOTE IN CEILING, ELECTRONIC, 0-10V, DIMMABLE TO 1%	120-277V	HIGH DIFFUSE REFLECTOR FILM, DIRECT INDIRECT	SUSPENDED	5	(PER FT)	-	STANDARD FINISH, TBD	PRUDENTIAL LTG. STOV -LED-35-SO-(LENGTH)-(FINISH)-D1-SYM-SC-UNV-CA(XX)-(CEILING SYSTEM)-X(XX)-(BOX/FINISH)-DM01	1. FINISH TO BE SELECTED BY ARCHITECT. 2. REFER TO ARCHITECTURAL DRAWINGS FOR FIXTURE LENGTHS AND LENGTHS OF CONTINUOUS RUNS. 3. REFER TO DRAWINGS FOR MOUNTING HEIGHTS. CONTRACTOR TO PROVIDE CABLE LENGTH AS REQUIRED. PROVIDE STRAIGHT POWER CORD AS REQUIRED. 4. CONTRACTOR TO SELECT CEILING SYSTEM. 5. REMOTE DRIVER TO BE LOCATED ABOVE CEILING. CONTRACTOR TO SELECT X1 OR X3 AS REQUIRED.
F4	LED LINEAR PENDANT - WALL WASHER OPTIC	CLASSROOM	WHITE LED MODULE, 80 CRI, 550 DELIVERED LUMENS PER LINEAR FT, 150,000 HOURS, L70	3500K	7	PER LF	REMOTE IN CEILING, ELECTRONIC, 0-10V, DIMMABLE TO 1%	120-277V	HIGH DIFFUSE REFLECTOR FILM	SUSPENDED	11	(PER FT)	-	STANDARD FINISH, TBD	PRUDENTIAL LTG. BIO2-LIN-LED35-MO-(LENGTH)-(FINISH)-MWG-D1G-NU-SC-UNV-CA(XX)-(CEILING SYSTEM)-X(XX)- (BOX/FINISH)-DM01	1. FINISH TO BE SELECTED BY ARCHITECT. 2. REFER TO ARCHITECTURAL DRAWINGS FOR FIXTURE LENGTHS AND LENGTHS OF CONTINUOUS RUNS. 3. REFER TO DRAWINGS FOR MOUNTING HEIGHTS. CONTRACTOR TO PROVIDE CABLE LENGTH AS REQUIRED. PROVIDE STRAIGHT POWER CORD AS REQUIRED. 4. CONTRACTOR TO SELECT CEILING SYSTEM. 5. REMOTE DRIVER TO BE LOCATED ABOVE CEILING. CONTRACTOR TO SELECT X1 OR X3 AS REQUIRED. 6. CONTRACTOR TO INSTALL FIXTURE IN APPROPRIATE ORIENTATION SO THAT LIGHT GRAZE ADJACENT WALL.
F5	RECESSED 4" WIDE CONTINUOUS LENSED LED LINEAR LIGHT	BLDG 01 CIRCURATION, BREAK AREA	WHITE LED MODULE, 80CRI, 375 DELIVERED LUMENS PER LINEAR FT, 61,000 HOURS, L70	3500K	4	PER LF	INTEGRAL, ELECTRONIC, 0-10V, DIMMABLE TO 10%	120/277V	WHITE POWDER COATED STEEL	CEILING RECESSED	5	(PER FT)	FLUSH SATIN LENS	MATTE WHITE	FOCAL POINT SEEM 4 FSM4L-FL-375LF-35K-1C-UNV-LD1-(CEILING TYPE)-WH-(LENGTH PER DWG)	1. WHITE FINISH TO BE CONFIRMED BY ARCHITECT. 2. REFER TO ARCHITECTURAL DRAWINGS FOR FIXTURE LENGTHS AND LENGTHS OF CONTINUOUS RUNS. 3. CONTRACTOR TO SELECT CEILING SYSTEM.
F5A	RECESSED 4" WIDE CONTINUOUS LENSED LED LINEAR LIGHT	GYM	WHITE LED MODULE, 80CRI, 875 DELIVERED LUMENS PER LINEAR FT, 61,000 HOURS, L70	3500K	9.25	PER LF	INTEGRAL, ELECTRONIC, 0-10V, DIMMABLE TO 10%	120/277V	WHITE POWDER COATED STEEL	CEILING RECESSED	5	(PER FT)	FLUSH SATIN LENS	MATTE WHITE	FOCAL POINT SEEM 4 FSM4L-FL-875LF-35K-1C-UNV-LD1-(CEILING TYPE)-WH-(LENGTH PER DWG)	1. WHITE FINISH TO BE CONFIRMED BY ARCHITECT. 2. REFER TO ARCHITECTURAL DRAWINGS FOR FIXTURE LENGTHS AND LENGTHS OF CONTINUOUS RUNS. 3. CONTRACTOR TO SELECT CEILING SYSTEM.
F7	RECESSED 4" WIDE CONTINUOUS PERIMETER LED COVE LIGHT	VARIES	WHITE LED MODULE, 80CRI, 602 DELIVERED LUMENS PER LINEAR FT, 200,000 HOURS, L70	3500K	7.1	PER LF	INTEGRAL, ELECTRONIC, 0-10V, DIMMABLE TO 10%	277V	WHITE POWDER COATED	CEILING RECESSED AT WALL PERIMETER	5.6	(PER FT)	-	WHITE POWDER COAT	FINELITE HP2 SERIES HP-WS-4W-4D-(LENGTH)-H-835-277V-SC-(MOUNTING)-SW-TP-(TELESCOPING END CONDITIONS)-(CEILING TYPE)	1. REFER TO ARCHITECTURAL DRAWINGS FOR FIXTURE LENGTHS AND LENGTHS OF CONTINUOUS RUNS. CONTRACTOR SHALL FIELD VERIFY EACH RUN LENGTH PRIOR TO ORDERING. 2. FIXTURE SHALL BE INSTALLED IN A CONTINUOUS WALL-TO-WALL INSTALLATION FOR FIXTURES THAT BUTT UP AGAINST AN END WALL. FIXTURES THAT DO NOT BUTT UP AGAINST AN END WALL SHALL RUN THE FULL LENGTH OF THE WALL BEING ILLUMINATED. PROVIDE EXTENSIONS, AND END CAPS AS REQUIRED FOR INSTALLATION OF A COMPLETE SYSTEM. FIXTURE SHALL HAVE CLEAN, TIGHT BUTT JOINTS. LIGHT SHALL APPEAR CONTINUOUS. 3. CONTRACTOR TO SELECT MOUNTING OPTIONS, TELESCOPINGEND CONDITIONS AND CEILING TYPE AS REQUIRED FOR INSTALLATION OF A COMPLETE SYSTEM.
F7A	RECESSED 4" WIDE CONTINUOUS PERIMETER LED COVE LIGHT	VARIES	WHITE LED MODULE, 80CRI, 398 DELIVERED LUMENS PER LINEAR FT, 200,000 HOURS, L70	3500K	4.6	PER LF	INTEGRAL, ELECTRONIC, 0-10V, DIMMABLE TO 10%	277V	WHITE POWDER COATED	CEILING RECESSED AT WALL PERIMETER	5.6	(PER FT)	-	WHITE POWDER COAT	FINELITE HP2 SERIES HP-WS-4W-4D-(LENGTH)-B-835-277V-SC-(MOUNTING)-SW-TP-(TELESCOPING END CONDITIONS)-(CEILING TYPE)	1. REFER TO ARCHITECTURAL DRAWINGS FOR FIXTURE LENGTHS AND LENGTHS OF CONTINUOUS RUNS. CONTRACTOR SHALL FIELD VERIFY EACH RUN LENGTH PRIOR TO ORDERING. 2. FIXTURE SHALL BE INSTALLED IN A CONTINUOUS WALL-TO-WALL INSTALLATION FOR FIXTURES THAT BUTT UP AGAINST AN END WALL. FIXTURES THAT DO NOT BUTT UP AGAINST AN END WALL SHALL RUN THE FULL LENGTH OF THE WALL BEING ILLUMINATED. PROVIDE EXTENSIONS, AND END CAPS AS REQUIRED FOR INSTALLATION OF A COMPLETE SYSTEM. FIXTURE SHALL HAVE CLEAN, TIGHT BUTT JOINTS. LIGHT SHALL APPEAR CONTINUOUS. 3. CONTRACTOR TO SELECT MOUNTING OPTIONS, TELESCOPINGEND CONDITIONS AND CEILING TYPE AS REQUIRED FOR INSTALLATION OF A COMPLETE SYSTEM.
F8	WALL MOUNTED LED LINEAR INDIRECT UPLIGHT	BLDG 01 OFFICE	WHITE LED MODULE, 80CRI, 550 DELIVERED LUMENS PER LINEAR FT, 150,000 HOURS, L70	3500K	7	PER LF	INTEGRAL, ELECTRONIC, 0-10V, DIMMABLE TO 10%	120-277V	ASYMETRIC INDIRECT	WALL MOUNTED			ACRYLIC LENS	STANDARD FINISH, TBD	PRUDENTIAL LIGHTING BIO2-LIN-LED35-MO-(LENGTH)-(FINISH)-NW-ACW-SC-UNV-WB-(CEILING SYS IF REQ'D)-DM10	1. FINISH TO BE SELECTED BY ARCHITECT. 2. REFER TO ARCHITECTURAL DRAWINGS FOR FIXTURE LENGTHS AND LENGTHS OF CONTINUOUS RUNS. 3. REFER TO DRAWINGS FOR MOUNTING HEIGHTS.
F9	LENSED LINEAR LED STRIP	UNDER CABINET, VANITY MIRROR	WHITE LED MODULE, 93CRI, 438 DELIVERED LUMENS PER FT, 65,000 RATED HOURS	3500K	5.6	PER LF	REMOTE, ELECTRONIC, 0-10V, DIMMABLE TO 1%	PRIMARY 110-277V, SECONDARY 24V	-	SURFACE MOUNTED IN MILLWORK DETAIL			FROSTED LENS	STANDARD FINISH, TBD	AION HOUSING: AT-801-(LENGTH)-FROSTED LENS-(FINISH) TAPE: 8924-35-LE DRIVER: D100-Z2-24	1. FINISH TO BE SELECTED BY ARCHITECT. 2. REFER TO ARCHITECTURAL DRAWINGS FOR FIXTURE LENGTHS AND LENGTHS OF CONTINUOUS RUNS. 3. LOCATE REMOTE DRIVERS IN A SECURE, CONCEALED, ACCESSIBLE AND WELL VENTILATED LOCATION IN COMPLIANCE WITH MANUFACTURER'S RECOMMENDATIONS. CONTRACTOR TO SELECT WATTAGE AND QUANTITY OF REMOTE DRIVER AS REQUIRED FOR COMPLETE INSTALLATIONS.
F10	RECESSED 4.5" APERTURE SQUARE LED DOWNLIGHT	GYP CEILING	WHITE LED MODULE, 80CRI, 2050 DELIVERED LUMENS, L70 50,000 HOURS	3500K	24	EA	INTEGRAL, ELECTRONIC, 0-10V, DIMMABLE TO 10%	277V	50° BEAM SPREAD	CEILING RECESSED	8	(EA)	SOLITE LENS	STANDARD FINISH, TBD	USAI BEVELED 2.1 SERIES 3110-B1-S-(FINISH) LSTD4-9024-C3-35KS-50-(HOUSING TYPE)-277V-DIML2	1. FINISH TO BE SELECTED BY ARCHITECT. 2. CONTRACTOR TO SELECT HOUSING TYPE.
F11	RECESSED 4.5" APERTURE SQUARE ADJUSTABLE LED ACCENTLIGHT	GYP CEILING	WHITE LED MODULE, 80CRI, 2250 DELIVERED LUMENS, L70 50,000 HOURS	3500K	33	EA	INTEGRAL, ELECTRONIC, 0-10V, DIMMABLE TO 10%	277V	25° BEAM SPREAD	CEILING RECESSED	8	(EA)	SOLITE LENS	STANDARD FINISH, TBD	USAI BEVELED 2.1 SERIES 3131-B1-S-(FINISH) LSTA4-8433-C3-35KS-25-(HOUSING TYPE)-277V-DIML2	1. FINISH TO BE SELECTED BY ARCHITECT. 2. CONTRACTOR TO SELECT HOUSING TYPE.
F12	RECESSED 4.5" APERTURE ROUND ADJUSTABLE LED ACCENTLIGHT - FLOOD	SLOPED CEILING FEATURE WALL	WHITE LED MODULE, 80CRI, 2175 DELIVERED LUMENS, L70 50,000 HOURS	3500K	33	EA	INTEGRAL, ELECTRONIC, 0-10V, DIMMABLE TO 10%	277V	25° BEAM SPREAD + OPTICAL ACCESSORY	CEILING RECESSED	8	(EA)	SOLITE LENS	STANDARD FINISH, TBD	USAI BEVELED 2.1 SERIES 3231-B1-S-(FINISH)-ALXX ACCESORY LRTA4-8433-C3-35KS-25-(HOUSING TYPE)-277V-DIML2	1. FINISH TO BE SELECTED BY ARCHITECT. 2. CONTRACTOR TO SELECT HOUSING TYPE.
F12A	RECESSED 4.5" APERTURE ROUND ADJUSTABLE LED ACCENTLIGHT - SPOT	SLOPED CEILING FEATURE WALL	WHITE LED MODULE, 80CRI, 2175 DELIVERED LUMENS, L70 50,000 HOURS	3500K	33	EA	INTEGRAL, ELECTRONIC, 0-10V, DIMMABLE TO 10%	277V	25° BEAM SPREAD + OPTICAL ACCESSORY	CEILING RECESSED	8	(EA)	SOLITE LENS	STANDARD FINISH, TBD	USAI BEVELED 2.1 SERIES 3231-B1-S-(FINISH)-ALXX ACCESORY LRTA4-8433-C3-35KS-25-(HOUSING TYPE)-277V-DIML2	1. FINISH TO BE SELECTED BY ARCHITECT. 2. CONTRACTOR TO SELECT HOUSING TYPE.
F14	DECORATIVE LED PENDANT	BREAK ROOM	WHITE LED MODULE, 98CRI	3500K	13.3	EA	REMOTE , ELECTRONIC, 0-10V, DIMMABLE TO 10%	120-277V	TBD	SUSPENDED BY RIGGID STEM WITH SWIVEL	2.6	(EA)	TBD	STANDARD FINISH, TBD	V2 LIGHTING MODO MSBP-D-R-V-D-13-98-60-D-N-(FINISH)-SS(STEM LENGTH) REMOTE DRIVER BY V2 LIGHTING	1. FINAL FIXTURE STYLE AND SIZE TO BE REVIEWED BY ARCHITECT. 2. FINISH TO BE SELECTED BY ARCHITECT. 3. ARCHITECT TO SELECT MOUNTING HEIGHTS. CONTRACTOR TO PROVIDE STEM LENGTH AS REQUIRED. PROVIDE STRAIGHT POWER CORD AS REQUIRED.
F15	2X2 LED RECESSED LIGHT	BACKUP DISPATCH	WHITE LED MODULE, 80CRI, 4241 DELIVERED LUMENS, L70 200,000 HOURS	3500K	38	EA	INTEGRAL, ELECTRONIC, 0-10V, DIMMABLE TO 10%	277V	DIE FORMED STEEL	RECESSED	16	(EA)	ACRYLIC DIFFUSER	WHITE POWDER COAT	FINELITE HPR LED HPR LED-ANR-2X2-SCO-B-835-277V-SC-(CEILING TYPE)	1. CONTRACTOR TO SELECT CEILING TYPE.
F16	RECESSED 2" WIDE CONTINUOUS LENSED LED LINEAR LIGHT	SLOPED CEILING	WHITE LED MODULE, 80CRI, 921 DELIVERED LUMENS PER FT, L70 60,000 HOURS	3500K	10	PER LF	INTEGRAL, ELECTRONIC, 0-10V, DIMMABLE TO 1%	277V	OPAQUE WHITE	RECESSED	4	(PER FT)	DIFFUSED ACRYLIC LENS	STANDARD FINISH, TBD	A LIGHT ACL5 ACL5-LENGTH-LH-35-U-HE-(MOUNTING)-(FINISH)-D	1. FINISH TO BE SELECTED BY ARCHITECT. 2. CONTRACTOR TO SELECT CEILING TYPE.
F21	RECESSED 3.75" WIDE CONTINUOUS LED LINEAR LIGHT	CLASSROOM	WHITE LED MODULE, 80 CRI, 1100 DELIVERED LUMENS PER LINEAR FT, 150,000 HOURS, L70	3500K	11	PER LF	INTEGRAL, ELECTRONIC, 0-10V, DIMMABLE TO 10%	120-277V	HIGH DIFFUSE REFLECTOR FILM	RECESSED	3.75	(PER FT)	-	TEXTURED MATTE WHITE	PRUDENTIAL LTG. STR4-LED35-HO-(LENGTH)-TMW-D1-SC-UNV-(CEILING)-DM10	1. REFER TO ARCHITECTURAL DRAWINGS FOR FIXTURE LENGTHS AND LENGTHS OF CONTINUOUS RUNS. 2. CONTRACTOR TO SELECT CEILING SYSTEM.

GENERAL NOTES:
1. REFER TO SPECIFICATION SECTION 26 51 00 ARCHITECTURAL LIGHTING FOR ADDITIONAL REQUIREMENTS.
2. REFER TO SPECIFICATION SECTION 26 09 26 FOR NETWORKED LIGHTING CONTROL.
3. FIXTURE SHALL BE ORDERED WITH NECESSARY POWER SUPPLIES, DRIVERS, LEADER CABLES, JUMPER CABLES, POWER FEEDS, TERMINATORS AND CONTROL INTERFACES FOR INSTALLATION OF A COMPLETE WORKING SYSTEM.

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DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER
AMANDA J. BROWN, PE
No. E17287
ELECTRICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

ELECTRICAL LIGHT FIXTURE SCHEDULES

Drawn By: ELW Checked By: AJB

Scale: **NTS**

Date: **October 4, 2019**

Project No. B17.07369

1-E0.10
Drawing No.

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LIGHTING FIXTURE SCHEDULE

PROJECT: HAYWARD FIRE TRAINING CENTER
ISSUE: PERMIT SUBMITTAL V3 - INCREMENT #1
DATE: 10/16/2019

FIXTURE TYPE	DESCRIPTION	LOCATION	LIGHT SOURCE	COLOR TEMPERATURE (K)	INPUT WATTS (W)	UNIT	BALLAST / TRANSFORMER / DRIVER	VOLTAGE	REFLECTOR	MOUNTING	FIXTURE WEIGHT (LBS)	SHIELDING	FINISH	MANUFACTURER / CATALOG #	REMARKS
F23	DECORATIVE LED PENDANT	BLDG 01 BREAK AREA	(1) 15W LED /A-19/MED GREEN CREATIVE # 28395 9A19DIM/927	2700K	15	EA	N/A	120V	SPUN ALUMINUM	SUSPENDED	2.3 (EA)	-	MATTE WHITE	LOUIS POULSEN 5741911547	1. FINAL FIXTURE STYLE AND SIZE, FINISH TO BE CONFIRMED BY ARCHITECT. 2. ARCHITECT TO SELECT MOUNTING HEIGHTS. CONTRACTOR TO PROVIDE CORD LENGTH AS REQUIRED. TIE BACK PENDANTS IF REQUIRED.
F24	2" WIDE, 4" HT. LINEAR PENDANT WITH DIRECT LIGHT	BLDG 01 WEST STAIRCASE	WHITE LED MODULE, 80CRI, 329 DELIVERED LUMENS PER FOOT,	3500K	3.6	LF	INTEGRAL, ELECTRONIC, 0-10V, DIMMABLE TO 10%	277V	MATTE WHITE POWDER COATED STEEL	SUSPENDED BY AIR CRAFT CABLE	2.3 (PER FT)	FLUSH FROST WHITE	WHITE POWDER COAT	FINELITE HP2 SERIES HP-2-D-(LENGTH)-S-835-F-277V-(MOUNTING)-SC-(CEILING TYPE)	1. REFER TO ARCHITECTURAL DRAWINGS FOR FIXTURE LENGTHS AND LENGTHS OF CONTINUOUS RUNS. 2. CONTRACTOR TO SELECT CEILING SYSTEM. 3. REFER TO DRAWINGS FOR MOUNTING HEIGHTS. CONTRACTOR TO PROVIDE CABLE LENGTH AS REQUIRED. PROVIDE STRAIGHT POWER CORD AS REQUIRED. TIE BACK PENDANTS IF REQUIRED. 4. CONTRACTOR TO SELECT MOUNTING OPTIONS AS REQUIRED
FR1	RECESSED 4.5" APERTURE ROUND ADJUSTABLE LED ACCENTLIGHT	VARIES	WHITE LED MODULE, 90CRI, 1670 DELIVERED LUMENS, L70 50,000 HOURS	3000K	18	EA	INTEGRAL, ELECTRONIC, 0-10V, DIMMABLE TO 5%	277V	40° BEAM SPREAD	CEILING RECESSED	9 (EA)	SOLITE LENS	STANDARD FINISH, TBD	TECH ELEMENT E4R-F-LO-930-40-A-I-010-277 E4R-L-(CEILING THICKNESS)-F-L-(FINISH)	1. FINISH TO BE SELECTED BY ARCHITECT. 2. CONTRACTOR TO SELECT CEILING THICKNESS.
FR2	RECESSED 4.5" APERTURE SQUARE ADJUSTABLE LED ACCENTLIGHT - PINHOLE - TUNABLE WHITE	SLEEPING ROOM	TUNABLE SPECTRUM WHITE LED MODULE, 90CRI, 955 DELIVERED LUMENS, L70 50,000 HOURS	2700K-5000K	18	EA	INTEGRAL, ELECTRONIC, KETRANET MESH, DIMMABLE TO 0.1%	277V	40° BEAM SPREAD	CEILING RECESSED	7.75 (EA)	SOLITE LENS	STANDARD FINISH, TBD	KETRA D3TFSPA-(TRIM FINISH)-N D3ADSQ-18-BT-40L-12-NCIC-S	1. FINISH TO BE SELECTED BY ARCHITECT. 2. FIXTURE TO BE CONNECTED TO KETRA CONTROL VIA KETRA'S KEYPAD. REFER SPEC SECTION 26 09 26 FOR NETWORKED LIGHTING CONTROL.
FR3	2" WIDE, 4" HT. LINEAR PENDANT WITH DIRECT LIGHT	LOCKER ROOM	WHITE LED MODULE, 90CRI, 599 DELIVERED LUMENS PER FOOT, 200,000 HOURS, L70	3000K	9.2	PER LF	INTEGRAL, ELECTRONIC, 0-10V, DIMMABLE TO 10%	277V	MATTE WHITE POWDER COATED STEEL	SUSPENDED BY AIR CRAFT CABLE	2.3 (PER FT)	FLUSH FROST WHITE	WHITE POWDER COAT	FINELITE HP2 SERIES HP-2 D-(LENGTH)-V-930-F-277V-FA-SC-(CEILING TYPE)	1. REFER TO ARCHITECTURAL DRAWINGS FOR FIXTURE LENGTHS AND LENGTHS OF CONTINUOUS RUNS. 2. CONTRACTOR TO SELECT CEILING SYSTEM. 3. REFER TO DRAWINGS FOR MOUNTING HEIGHTS. CONTRACTOR TO PROVIDE CABLE LENGTH AS REQUIRED. PROVIDE STRAIGHT POWER CORD AS REQUIRED.
FR4	LINEAR LED UPLIGHT	LOCKER ROOM	WHITE LED MODULE, 90CRI, 439 DELIVERED LUMENS PER FOOT	3000K	4.9	PER LF	INTEGRAL, ELECTRONIC, 0-10V, DIMMABLE TO 10%	277V	WHITE POWDER COATED STEEL	SURFACE MOUNTED, IN LOCKER DETAIL	1.5 (PER FT)	ACYLIC DIFFUSE LENS	WHITE POWDER COAT	FINELITE 1 MICRO COVE S11-LED-MP-(LENGTH)-V-930-SC-96W-277V-TXL	1. REFER TO ARCHITECTURAL DRAWINGS FOR FIXTURE LENGTHS AND LENGTHS OF CONTINUOUS RUNS. FIXTURES TO BE MOUNTED END TO END FOR CONTINUOUS RUN OF COVE LIGHT.
FR5	LINEAR LED UNDER CABINET LIGHT	KITCHEN	WHITE LED MODULE, 90CRI, 249 DELIVERED LUMENS PER FT, 50,000 HOURS	3000K	6.2	PER LF	INTEGRAL, ELECTRONIC, ELV, DIMMABLE TO 20%	120V	-	SURFACE MOUNTED IN MILLWORK DETAIL		POLY CARBONATE	STANDARD FINISH, TBD	JUNO UPS-LENGTH-30K-90CRI-(FINISH)-NS	1. FINISH TO BE SELECTED BY ARCHITECT. 2. REFER TO ARCHITECTURAL DRAWINGS FOR FIXTURE LENGTHS AND LENGTHS OF CONTINUOUS RUNS. FIXTURES TO BE MOUNTED END TO END. CONTRACTOR TO COORDINATE LENGTH OF LIGHT FIXTURES PER MILLWORK SHOPDRAWINGS.
FR7	WALL MOUNTED LINEAR LED LIGHT	RESTROOM	WHITE LED MODULE, 90CRI, 611 DELIVERED LUMENS PER FT, L70 200,000 HOURS	3000K	9.2	PER LF	INTEGRAL, ELECTRONIC, 0-10V, DIMMABLE TO 10%	277V	MATTE WHITE POWDER COATED STEEL	WALL MOUNTED		FLUSH FROST WHITE	WHITE POWDER COAT	FINELITE HP2 SERIES HP-2 WM D-(LENGTH)-V-930-F-277V-SC-MB	1. REFER TO ARCHITECTURAL DRAWINGS FOR FIXTURE LENGTHS AND LENGTHS OF CONTINUOUS RUNS.
FR8	WALL MOUNTED LINEAR UPLIGHT	KITCHEN, DINING, LOCKER ROOM	WHITE LED MODULE, 90CRI, 359 LUMENS PER FOOT, L70 200,000 HOURS	3000K	4.6	PER LF	INTEGRAL, ELECTRONIC, 0-10V, DIMMABLE TO 10%	277V	MATTE WHITE POWDER COATED STEEL	WALL MOUNTED		FROSTED DIFFUSER	WHITE POWDER COAT	FINELITE HP2 SERIES HP-2 WM I - (LENGTH)* B-930-ASY-R-277V-MB-SC	1. REFER TO ARCHITECTURAL DRAWINGS FOR FIXTURE LENGTHS AND LENGTHS OF CONTINUOUS RUNS. 2. REFER TO DRAWINGS FOR MOUNTING HEIGHTS.
FR9	WALL RECESSED STEP LIGHT LISTED IN	SLEEPING ROOM	AMBER LED MODULE, 85CRI, 40,000 RATED HOURS	AMBER	6.5	EA	INTEGRAL, ELECTRONIC, ELV DIMMABLE TO 10%	277V	-	WALL RECESSED		-	STANDARD FINISH, TBD	WAC LIGHTING WL-LED100F-AM-(FINISH)	1. FINISH TO BE SELECTED BY ARCHITECT. 2. COLOR TEMPRATURE TO BE CONFIRMED BY ARCHITECT (WHITE OR AMBER).
FR12	DECORATIVE WALL SCONCE	SLEEPING ROOM	WHITE LED MODULE, 90CRI	3000K	11	EA	INTEGRAL, ELECTRONIC, ELV, DIMMABLE TO 10%	277V	N/A	WALL MOUNTED		GLASS DIFFUSER	STANDARD FINISH, TBD	MODERN FORMS WS-W1911F-FINISH	1. FINAL FIXTURE STYLE TO BE CONFIRMED BY ARCHITECT. 2. REFER TO DRAWINGS FOR MOUNTING HEIGHTS.
FR13	DECORATIVE LED PENDANT	BLDG 01 BREAK AREA	(1) 15W LED /A-19/MED GREEN CREATIVE # 28395 9A19DIM/927	2700K	15	EA	N/A	120V	SPUN ALUMINUM	SUSPENDED	2.3 (EA)	-	MATTE WHITE	LOUIS POULSEN 5741911547	1. FINAL FIXTURE STYLE AND SIZE, FINISH TO BE CONFIRMED BY ARCHITECT. 2. ARCHITECT TO SELECT MOUNTING HEIGHTS. CONTRACTOR TO PROVIDE CORD LENGTH AS REQUIRED. TIE BACK PENDANTS IF REQUIRED.
FR14	RECESSED 4.5" APERTURE SQUARE LED DOWNLIGHT	GYP CEILING	WHITE LED MODULE, 90CRI, 1600 DELIVERED LUMENS, L70 50,000 HOURS	3500K	24	EA	INTEGRAL, ELECTRONIC, 0-10V, DIMMABLE TO 10%	277V	50° BEAM SPREAD	CEILING RECESSED	8 (EA)	SOLITE LENS	STANDARD FINISH, TBD	USAI BEVELED 2.1 SERIES 3110-B1-S-(FINISH) LSTD4-9024-C3-(CUSTOM 35KH)-50-IC-277V-DIML2	1. FINISH TO BE SELECTED BY ARCHITECT.
FR14A	RECESSED 4.5" APERTURE SQUARE LED DOWNLIGHT - WET LOCATION	SHOWER	WHITE LED MODULE, 90CRI, 1600 DELIVERED LUMENS, L70 50,000 HOURS	3500K	24	EA	INTEGRAL, ELECTRONIC, 0-10V, DIMMABLE TO 10%	277V	50° BEAM SPREAD	CEILING RECESSED	8 (EA)	SOLITE LENS	STANDARD FINISH, TBD	USAI BEVELED 2.1 SERIES 3110-W-B1-S-(FINISH) LSTD4-9024-C3-(CUSTOM 35KH)-50-IC-277V-DIML2	1. FINISH TO BE SELECTED BY ARCHITECT.
FR15	RECESSED 2" WIDE CONTINUOUS LENSED LED LINEAR LIGHT	SHOWER ROOM VANITY	WHITE LED MODULE, 90CRI, 624 DELIVERED LUMENS, L70 200,000 HOURS	3000K	9.2	PER LF	INTEGRAL, ELECTRONIC, 0-10V, DIMMABLE TO 10%	277V	MATTE WHITE POWDER COATED STEEL	RECSSSED IN GYP. CEILING	2.3 (PER FT)	ACRYLIC DIFFUSE LENS	WHITE POWDER COAT	FINELITE HP2 SERIES HP-2-R-(LENGTH)-V-930-F-277V-SC-VF	1. REFER TO ARCHITECTURAL DRAWINGS FOR FIXTURE LENGTHS AND LENGTHS OF CONTINUOUS RUNS.
FR15A	RECESSED 2" WIDE CONTINUOUS LENSED LED LINEAR LIGHT	TILE CEILING	WHITE LED MODULE, 90CRI, 624 DELIVERED LUMENS, L70 200,000 HOURS	3000K	9.2	PER LF	INTEGRAL, ELECTRONIC, 0-10V, DIMMABLE TO 10%	277V	MATTE WHITE POWDER COATED STEEL	CEILING RECESSED	5.6 (PER FT)	ACRYLIC DIFFUSE LENS	WHITE POWDER COAT	FINELITE HP2 SERIES HP-2 R-(LENGTH)-V-930-F-277V-SC-(CEILING TYPE)	1. REFER TO ARCHITECTURAL DRAWINGS FOR FIXTURE LENGTHS AND LENGTHS OF CONTINUOUS RUNS. 2. CONTRACTOR TO SELECT CEILING SYSTEM.
FR16	RECESSED 4" WIDE CONTINUOUS PERIMETER LED GRAZER LIGHT	RESTROOM	WHITE LED MODULE, 90CRI, 449 DELIVERED LUMENS PER LINEAR FT, 200,000 HOURS, L70	3000K	7.1	PER LF	INTEGRAL, ELECTRONIC, 0-10V, DIMMABLE TO 10%	277V	WHITE POWDER COATED	RECSSSED IN GYP. CEILING	5.6 (PER FT)	ACRYLIC DIFFUSE LENS	WHITE POWDER COAT	FINELITE HP SERIES HP-W-S-4W-4D-(LENGTH)-H-930-277V-SC-(MOUNTING)-SW-TP-FE-L-TXL-R-SF	1. REFER TO ARCHITECTURAL DRAWINGS FOR FIXTURE LENGTHS AND LENGTHS OF CONTINUOUS RUNS. CONTRACTOR SHALL FIELD VERIFY EACH RUN LENGTH PRIOR TO ORDERING. 2. FIXTURE SHALL BE INSTALLED IN A CONTINUOUS WALL-TO-WALL INSTALLATION FOR FIXTURES THAT BUTT UP AGAINST AN END WALL. FIXTURES THAT DO NOT BUTT UP AGAINST AN END WALL SHALL RUN THE FULL LENGTH OF THE WALL BEING ILLUMINATED. PROVIDE EXTENSIONS, AND END CAPS AS REQUIRED FOR INSTALLATION OF A COMPLETE SYSTEM. FIXTURE SHALL HAVE CLEAN, TIGHT BUTT JOINTS. LIGHT SHALL APPEAR CONTINUOUS. 3. CONTRACTOR TO SELECT MOUNTING OPTIONS, TELESCOPINGEND CONDITIONS AND CEILING TYPE AS REQUIRED FOR INSTALLATION OF A COMPLETE SYSTEM.
FE1	WET LISTED SURFACE MOUNTED LENSED LINEAR LED LIGHT	EXTERIOR SECURITY GATE SCANOPY	WHITE LED MODULE, 83CRI, 5909 DELIVERED LUMENS PER 4FT, L70 110,000 HOURS	4000K	30	PER 4 FOOT	INTEGRAL, ELECTRONIC, 0-10V	120-277V	22 GA STEEL, WHITE POWERED COAT	SURFACE MOUNTED TO ROOF CANOPY		FROSTED POLYCARBONATE	GRAY (STANDARD) OR WHITE (OPTION)	BEGHELLI LUCE, ILLUMINA SERIES BS100LED-LENGTH-HT-LO-WT40-120-277V-MOUNTING	1. FINISH TO BE SELECTED BY ARCHITECT. 2. REFER TO ARCHITECTURAL DRAWINGS FOR FIXTURE LENGTHS AND LENGTHS OF CONTINUOUS RUNS. FIXTURES TO BE MOUNTED END TO END FOR CONTINUOUS RUN.
FE2	16" WIDE WET LISTED WALL MOUNTED LED SCONCE TYPE 4 DISTRIBUTION IP66	EXTERIOR BUILDING FAÇADE	WHITE LED MODULE, 70CRI, 5316 DELIVERED LUMENS, L70 100,000 HOURS	4000K	32	EA	INTEGRAL, ELECTRONIC, 0-10V, DIMMABLE	277V	TYPE 4 DISTRIBUTION	WALL MOUNTED		UV STABILIZEDPOLYMER REFLECTOR LENS	STANDARD FINISH, TBD	GARDCO 101L SERIES 101L-32L-530-NWG1-4-277V-DD-(FINISH)	1. FINISH TO BE SELECTED BY ARCHITECT. 2. REFER TO DRAWINGS FOR MOUNTING HEIGHTS.
FE3	12" WIDE WET LISTED WALL MOUNTED LED SCONCE TYPE 3 DISTRIBUTION IP66	EXTERIOR BUILDING FAÇADE	WHITE LED MODULE, 70CRI, 3591 DELIVERED LUMENS, L70 100,000 HOURS	4000K	40	EA	INTEGRAL, ELECTRONIC, 0-10V, DIMMABLE	277V	TYPE 3 DISTRIBUTION	WALL MOUNTED		DIFFUSING LENS	STANDARD FINISH, TBD	GARDCO 111L SERIES 111L-16-750-NW-G2-3-277V-DD-DL-(FINISH)	1. FINISH TO BE SELECTED BY ARCHITECT. 2. REFER TO DRAWINGS FOR MOUNTING HEIGHTS.
FE5	WET LISTED LINEAR LED FAÇADE LIGHT - IP66	EXTERIOR SIGNAGE	WHITE LED MODULE, 80CRI, 785 DELIVERED LUMENS PER FT, L70 150,000 HOURS	4000K	10	PER LF	INTEGRAL, ELECTRONIC, 0-10V, DIMMABLE TO 0.1%	120-277V	25° X 45° BEAM SPREAD	SURFACE MOUNTED		25° X 45° BEAM SPREAD LENS	ALUMINUM	ECOSENSE TROV L50-E-LENGTH-10-40-80-MULT-25x45 LDCM-PL-120-277-010V-GR MNT-L-LFAB	1. FIXTURES TO BE MOUNTED END TO END FOR CONTINUOUS ILLUMINATION. PLACE LIGHT MODULE 2" FROM BACK WALL. DRIVER TO BE LOCATED AT SIGN SIDE. LIGHT MODULE TO BE LOCATED AT BACKWALL SIDE. 2. ALL FIXTURES SHALL BE IN SAME AIMING ANGLE (STRAIGHT UP) FOR UNIFORMED ILLUMINATION THROUGHOUT SIGNAGE. 3. CONTRACTOR TO PROVIDE ALL REQUIRED CONNECTORS, MOUNTING ACCESSORIES FOR COMPLETE INSTALLATION. 4. REFER TO SEQUENCE OF OPERATIONS FOR SPECIFIC CONTROL REQUIREMENTS FOR THIS SIGNAGE LIGHT FOR COMPLIANCE WITH LEED.
FE7	WET LISTED WALL RECESSED LED STEP LIGHT IP65	EXTERIOR STAIR	WHITE LED MODULE, 80CRI, 241 DELIVERED LUMENS, L70 332,000 HOURS	4000K	11	EA	INTEGRAL, ELECTRONIC, 0-10V, DIMMABLE	120-277V	ALUMINUM, ASYMETRIC	WALL RECESSED		CLEAR TEMPERED GLASS	STANDARD FINISH, TBD	BEGA 22372-40K-(FINISH)	1. FINISH TO BE SELECTED BY ARCHITECT. 2. REFER TO DRAWINGS FOR MOUNTING HEIGHTS.
FE7A	WET LISTED WALL RECESSED LED STEP LIGHT IP65	EXTERIOR BALCONY	WHITE LED MODULE, 80CRI, 585 DELIVERED LUMENS, L70 64,000 LUMENS	3000K	11	EA	INTEGRAL, ELECTRONIC, 0-10V, DIMMABLE	120-277V	ASYMETRIC FORWARD THROW	WALL RECESSED		CLEAR TEMPERED GLASS	STANDARD FINISH, TBD	BEGA 24065-K3-(FINISH)	1. FINISH TO BE SELECTED BY ARCHITECT. 2. REFER TO DRAWINGS FOR MOUNTING HEIGHTS.

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3. FIXTURE SHALL BE ORDERED WITH NECESSARY POWER SUPPLIES, DRIVERS, LEADER CABLES, JUMPER CABLES, POWER FEEDS, TERMINATORS AND CONTROL INTERFACES FOR INSTALLATION OF A COMPLETE WORKING SYSTEM.

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RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY
DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER
AMNON J. BROWN
No. E17287
ELECTRICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

ELECTRICAL LIGHT FIXTURE SCHEDULES

Drawn By: ELW Checked By: AJB

Scale: **12" = 1'-0"**

Date: **October 4, 2019**

Project No. B17.07369

1-E0.11
Drawing No.

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LIGHTING FIXTURE SCHEDULE

PROJECT: HAYWARD FIRE TRAINING CENTER
ISSUE: PERMIT SUBMITTAL V3 - INCREMENT #1
DATE: 10/16/2019

FIXTURE TYPE	DESCRIPTION	LOCATION	LIGHT SOURCE	COLOR TEMPERATURE (K)	INPUT WATTS (W)	UNIT	BALLAST / TRANSFORMER / DRIVER	VOLTAGE	REFLECTOR	MOUNTING	FIXTURE WEIGHT (LBS)	SHIELDING	FINISH	MANUFACTURER / CATALOG #	REMARKS
FE10	SURFACE MOUNTED 2" WIDE CONTINUOUS LED LINEAR LIGHT DAMP LISTED	EXTERIOR BLDG.1 CANOPY	WHITE LED MODULE, 80CRI, 375 DELIVERED LUMENS PER FT, L70 61,000 HOURS	3500K	4	PER LF	INTEGRAL, ELECTRONIC, 0-10V, DIMMABLE TO 10%	120/277V	WHITE POWDER COATED STEEL	CEILING RECESSED		FLUSH SATIN LENS	MATTE WHITE	FOCAL POINT SEEM 4 FSM4LWL-FL-375LF-35K-1C-UNV-LD1-(CEILING TYPE)-WH-(LENGTH PER DWG)	1. WHITE FINISH TO BE CONFIRMED BY ARCHITECT. 2. REFER TO ARCHITECTURAL DRAWINGS FOR FIXTURE LENGTHS AND LENGTHS OF CONTINUOUS RUNS. 3. CONTRACTOR TO SELECT CEILING SYSTEM.
FE11	WALL MOUNTED JELLY JAR STYLE LUMINAIRE WITH RED GLASS	EXTERIOR FIRE STATION FAÇADE	WHITE LED MODULE, 85CRI, 2000 SOURCE LUMENS	4000K	15.8	EA	INTEGRAL, ELECTRONIC, 0-10V, DIMMABLE TO 10%	277V	N/A	WALL MOUNTED		RED GLASS GLOBE	STANDARD FINISH, TBD	SPECTRUM WJ1LW-20L-40K-DS10X-277V-RDJ1-CP104-(FINISH)	1. FINISH AND GLASS FINISH TO BE SELECTED BY ARCHITECT. 2. REFER TO DRAWINGS FOR MOUNTING HEIGHTS.
FE11 ALT	WALL MOUNTED JELLY JAR STYLE LUMINAIRE WITH RED GLASS	EXTERIOR FIRE STATION FAÇADE	WHITE LED MODULE, 1390 DELIVERED LUMENS, L70 54,000 HOURS	4000K	14	EA	INTEGRAL, ELECTORONIC, CONSTANT CURRETN	120-277V	N/A	WALL MOUNTED		RUBY GLASS GLOBE	SHOT BLASTED ALUMINUM FINISH	PHILIPS STONCO VWXL-14-NW-G1-8-VGR100	1. GLASS FINISH TO BE SELECTED BY ARCHITECT. 2. REFER TO DRAWINGS FOR MOUNTING HEIGHTS.
FE12	WET LISTED RECESSED 4.5" APERTURE ADJUSTABLE LED ACCENTLIGHT	EXTERIOR BLDG.01 STAIR LANDING, SLOPE CEILING	WHITE LED MODULE, 80CRI, 1800 DELIVERED LUMENS, L70 50,000 HOURS	3500K	24	EA	INTEGRAL, ELECTRONIC, 0-10V, DIMMABLE TO 10%	277V	25° BEAM SPREAD	CEILING RECESSED		SOLITE LENS	STANDARD FINISH, TBD	USAI BEVELED 2.1 SERIES 3131-W-B1-S-(FINISH) LSTA4-8424-C3-35KS-25-(HOUSING TYPE)'-277V-DIML2-AL30F	1. FINISH TO BE SELECTED BY ARCHITECT. 2. CONTRACTOR TO SELECT HOUSING TYPE.

GENERAL NOTES:
1. REFER TO SPECIFICATION SECTION 26 51 00 ARCHITECTURAL LIGHTING FOR ADDITIONAL REQUIREMENTS.
2. REFER TO SPECIFICATION SECTION 26 09 26 FOR NETWORKED LIGHTING CONTROL.
3. FIXTURE SHALL BE ORDERED WITH NECESSARY POWER SUPPLIES, DRIVERS, LEADER CABLES, JUMPER CABLES, POWER FEEDS, TERMINATORS AND CONTROL INTERFACES FOR INSTALLATION OF A COMPLETE WORKING SYSTEM.

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

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HEART OF THE BAY

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AMANDA J. BROWN, CE
No. E17287
ELECTRICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

ELECTRICAL LIGHT FIXTURE SCHEDULES

Drawn By: ELW
Checked By: AJB

Scale: 12" = 1'-0"

Date: October 4, 2019

Project No. B17.07369

1-E0.12
Drawing No.

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BOH LIGHTING FIXTURE SCHEDULE

TYPE	DESCRIPTION	MANUFACTURER/CATALOG NO.	LAMP DATA				REMARKS
			COLOR TEMP.	DESCRIPT	WATTS	VOLTS	
W1	SURFACE OR PENDANT MOUNTED INDUSTRIAL CORROSION-RESISTANT 4 FOOT LONG FIXTURE. LAMPS IN SECTION, POLYURETHANE GASKET, UV STABILIZED PATTERN ACRYLIC HIGH IMPACT DIFFUSER, INTEGRAL ELECTRONIC DRIVER AND DIMMING.	WILLIAMS 17-4-L55-835-A-DIM-UNV PARAMOUNT STARDUSTER C5-2-L-4-3-D3-277-35K DAYBRITE: DWAE43L-835-4-UNV-OPTIONS	3500K	LED	40	277	BACK OF HOUSE SPACES
W3	SURFACE OR PENDANT MOUNTED 4 FOOT LONG. BAKED WHITE ENAMEL FINISH, DIE FORMED CODE GAUGE PRIME COLD ROLLED STEEL, INTEGRAL ELECTRONIC DRIVER AND DIMMING.	DAYBRITE FLUXSTREAM LF4-FR35 WILLIAMS LLM-4-L34/835-S-SQ-DIM-UNV LEDALITE: MQ11L-B-GFN-4-7-2-E-WH	3500K	LED	33	277	TELECOM CLOSETS
W4	SURFACE MOUNTED 4 FOOT LONG WET LABEL , ENCLOSED AND GASKETED, INTEGRAL ELECTRONIC DRIVER AND DIMMING.	WILLIAMS 96-4-L62/835-HIAFR-DIM-UNV KENALL MLHA8-48-X-X-CP-LED-45L50K-IS-1-DV PARAMOUNT: C5-2-L-4-3-D3-120	5000K	LED	73	120	ELEVATOR SHAFTS/PITS
W6	EXTERIOR WEDGE WALL SCONCE WITH FULL CUTOFF, MEDIUM THROW DISTRIBUTION. FINISH BY ARCHITECT.	GARDCO 101 LED 55LA WILLIAMS WPTZ LED PHILIPS STONCO: WRM-40W-L-U-MC3	1	LED	52	277	EXTERIOR
X1	LED EDGE-LIT EXIT SIGN CONNECTED TO EMERGENCY SYSTEM. NUMBER OF FACES AND SURFACE, WALL, CEILING OR PENDANT MOUNTED EXIT SIGN WITH DIRECTIONAL ARROWS AS INDICATED. GREEN LETTERS, WHITE FINISH.	EMERGI-LITE PRESTIGE X40 SERIES EVENLITE TELESIS LITHONIA LRP-EL-N SERIES-120/277	NA	LED	5	277	FRONT OF HOUSE SPACES
XW	LED WET LABEL EXIT SIGN MADE OF CAST ALUMINUM OR STAINLESS STEEL. SURFACE, WALL, CEILING OR PENDANT MOUNTED EXIT SIGN WITH DIRECTIONAL ARROWS AS INDICATED. GREEN LETTER, ALUMINUM ON BLACK FINISH	EMERGI-LITE SURVIVE-ALL SVX EXIT SERIES WILLIAMS EXIT/WET LITHONIA LV SERIES	NA	LED	5	277	EXTERIOR

LIGHTING ZONE SUMMARY

PROJECT: HAYWARD FIRE TRAINING CENTER
ISSUE: PERMIT SUBMITTAL
DATE: 9/18/2018

GENERAL NOTES:
* CONTRACTOR TO COORDINATE DIRECTLY TO THE OWNER FOR REQUIRED ZONES AND SCENES.
SCENE NAMES SHOWN IN THIS TABLE ARE ONLY PLACE HOLDER.
* LIGHTING CONTROL MANUFACTURE TO PROVIDE FOUR PRESET.
* OWNER TO VERIFY DURING SUBMITTAL PHASE.

LOCATION: BLDG.1 CLASSROOM #110
SCENE 1: GENERAL
SCENE 2: USE OF PROJECTOR
SCENE 3: CLEANING

LIGHTING ZONE	FIXTURE TYPE	ZONE NAME	LOAD (W)
a	F4	FRONT WALL	REFER ELECTRICAL PANELS SCHEDULES.
b	F21	GENERAL	REFER ELECTRICAL PANELS SCHEDULES.

LOCATION: BLDG.1 CLASSROOM #115
SCENE 1: GENERAL
SCENE 2: USE OF PROJECTOR
SCENE 3: CLEANING
SCENE 4: UNDER USE OF EMERGENCY OPERATIONS

LIGHTING ZONE	FIXTURE TYPE	ZONE NAME	LOAD (W)
a	F4	FRONT WALL	REFER ELECTRICAL PANELS SCHEDULES.
b	F21	FIRST ROW	REFER ELECTRICAL PANELS SCHEDULES.
c	F21	GENERAL	REFER ELECTRICAL PANELS SCHEDULES.
d	F4	WALLS	REFER ELECTRICAL PANELS SCHEDULES.

LOCATION: BLDG.1 SIMULATOR #218
SCENE 1: GENERAL
SCENE 2: USE OF PROJECTOR
SCENE 3: CLEANING

LIGHTING ZONE	FIXTURE TYPE	ZONE NAME	LOAD (W)
a	F4	FRONT WALL	REFER ELECTRICAL PANELS SCHEDULES.
b	F3	GENERAL	REFER ELECTRICAL PANELS SCHEDULES.
C	F7A	ALCOVE	REFER ELECTRICAL PANELS SCHEDULES.

LOCATION: BLDG.1 CONFERENCE #204
SCENE 1: GENERAL
SCENE 2: USE OF LCD SCREEN
SCENE 3: VIDEO CONFERENCE

LIGHTING ZONE	FIXTURE TYPE	ZONE NAME	LOAD (W)
a	F3	GENERAL	REFER ELECTRICAL PANELS SCHEDULES.

LOCATION: BLDG.1 BREAKOUT #203
SCENE 1: GENERAL
SCENE 2: USE OF LCD SCREEN
SCENE 3: VIDEO CONFERENCE

LIGHTING ZONE	FIXTURE TYPE	ZONE NAME	LOAD (W)
a	F3	GENERAL	REFER ELECTRICAL PANELS SCHEDULES.
b	F11	ACCENT	REFER ELECTRICAL PANELS SCHEDULES.
c	F7	ALCOVE	REFER ELECTRICAL PANELS SCHEDULES.

LOCATION: BLDG.1 DINING #251.A/ DAY ROOM #251.B
SCENE 1: GENERAL
SCENE 2: DINING ONLY
SCENE 3: DAY ROOM ONLY
SCENE 4: BAR

LIGHTING ZONE	FIXTURE TYPE	ZONE NAME	LOAD (W)
b	FR1	GENERAL AT DINING	REFER ELECTRICAL PANELS SCHEDULES.
f	FR1	GENERAL AT DAY ROOM	REFER ELECTRICAL PANELS SCHEDULES.
h	FR8	DAY ROOM/ DINING INDIRECT LIGHT	REFER ELECTRICAL PANELS SCHEDULES.

LOCATION: BLDG.1 KITCHEN #252
SCENE 1: KITCHEN GENERAL
SCENE 2: BAR
SCENE 3: CLEANING

LIGHTING ZONE	FIXTURE TYPE	ZONE NAME	LOAD (W)
c	FR14	GENERAL AT KITCHEN	REFER ELECTRICAL PANELS SCHEDULES.
d	FR13	KITCHEN PENDANT	REFER ELECTRICAL PANELS SCHEDULES.
e	FR5	KITCHEN TASK	REFER ELECTRICAL PANELS SCHEDULES.

LOCATION: BLDG.1 DORMITORY #256
SCENE 1: GENERAL
SCENE 2: NIGHT LIGHT
SCENE 3: CLEANING
ALARM OVERRIDE DISPATCH

LIGHTING ZONE	FIXTURE TYPE	ZONE NAME	LOAD (W)
a	FR2	GENERAL	REFER ELECTRICAL PANELS SCHEDULES.
b	FR12	READING LIGHT LIGHT	REFER ELECTRICAL PANELS SCHEDULES.
c	FR9	STEP LIGHT	REFER ELECTRICAL PANELS SCHEDULES.
d	FR1	POLE ACLOVE	REFER ELECTRICAL PANELS SCHEDULES.

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LIGHTING CONTROL INTENT MATRIX AND SEQUENCE OF OPERATIONS

SPACE TYPE	LED DIMMING				AUTOMATIC CONTROL: OCCUPANCY SENSOR				PHOTOCELL		CONTROL DEVICE LOCATION		NORMAL BUSINESS HOURS		AFTER HOURS		OVERRIDE			EMERGENCY LTG STRATEGY	AUTOMATIC DEMAND RESPONSE
	MINIMUM AS REQUIRED BY TITLE-24 (2016)	MINIMUM AS REQUIRED BY LEED BD+C V4	DIMMING PERCENTAGE DOWN TO	WSP RECOMMENDATION	MINIMUM AS REQUIRED BY TITLE-24 (2016)	SENSOR DELAY SETPOINT	WSP RECOMMENDATION	AS REQUIRED BY T-24	PHOTOCELL SETPOINT	REMARKS	MINIMUM AS REQUIRED BY LEED BD+C V4	WSP RECOMMENDATION	LIGHTING	RECEPTACLES	LIGHTING	RECEPTACLES	LIGHTING	RECEPTACLES	DURATION	LIGHTING	
BLDG.1 -FIRE STATION #6/ CLASSROOM (T24 NON-RESIDENTIAL)																					
APPARATUS BAY	CONTINUOUS DIMMING 10-100 PERCENT	DIMMING AT 3 LEVELS (ON/OFF/MIDLEVEL)	10%	CONTINUOUS DIMMING TO 10%	AUTO FULL ON AUTO PARTIAL OFF	15 MINUTES	AUTO FULL ON AUTO PARTIAL OFF	REQUIRED IN DAYLIGHT ZONES	TBD	DAYLIGHT DIMMING RESPONSE	LOCAL	LOCAL		N/A		N/A	ALERT SYSTEM ON/OFF VIA MANUAL CONTROL	N/A	N/A	UL 924 DEVICE REQUIRED TO BRING EGRESS LIGHTING UP TO FULL BRIGHTNESS UPON LOSS OF NORMAL POWER OR FIRE ALARM SIGNAL	CAPABLE OF REDUCING BY 15% THE "TOTAL LIGHTING POWER" FOR ALL HABITABLE SPACES >=0.5 W/SF
LOBBY, HALL	CONTINUOUS DIMMING 10-100 PERCENT	DIMMING AT 3 LEVELS (ON/OFF/MIDLEVEL)	10%	CONTINUOUS DIMMING TO 10%	AUTO FULL ON AUTO PARTIAL OFF	5 MINUTES	AUTO FULL ON AUTO PARTIAL OFF	REQUIRED IN DAYLIGHT ZONES	TBD	DAYLIGHT DIMMING RESPONSE	LOCAL	LOCAL	ALL LIGHTING IS 50% ON PER TIMECLOCK, OCCUPANCY SENSOR ACTIVATES TO 100% ON.	ON/OFF PER TIMECLOCK	ALL LIGHTING IS 50% ON PER TIMECLOCK, OCCUPANCY SENSOR ACTIVATES TO 100% ON.	ON/OFF PER OVERRIDE	ON/OFF VIA MANUAL CONTROL	ON/OFF VIA MANUAL SWITCH	2 HOURS	UL 924 DEVICE REQUIRED TO BRING EGRESS LIGHTING UP TO FULL BRIGHTNESS UPON LOSS OF NORMAL POWER OR FIRE ALARM SIGNAL	CAPABLE OF REDUCING BY 15% THE "TOTAL LIGHTING POWER" FOR ALL HABITABLE SPACES >=0.5 W/SF
BREAK AREA (1ST LEVEL)	CONTINUOUS DIMMING 10-100 PERCENT	DIMMING AT 3 LEVELS (ON/OFF/MIDLEVEL)	10%	CONTINUOUS DIMMING TO 10%	AUTO FULL ON AUTO PARTIAL OFF	5 MINUTES	AUTO FULL ON AUTO PARTIAL OFF	REQUIRED IN DAYLIGHT ZONES	TBD	DAYLIGHT DIMMING RESPONSE	LOCAL	LOCAL	ALL LIGHTING IS 50% ON PER TIMECLOCK, OCCUPANCY SENSOR ACTIVATES TO 100% ON.	N/A	ALL LIGHTING IS 50% ON PER TIMECLOCK, OCCUPANCY SENSOR ACTIVATES TO 100% ON.	N/A	ON/OFF VIA MANUAL DIMMER	N/A	N/A	UL 924 DEVICE REQUIRED TO BRING EGRESS LIGHTING UP TO FULL BRIGHTNESS UPON LOSS OF NORMAL POWER OR FIRE ALARM SIGNAL	CAPABLE OF REDUCING BY 15% THE "TOTAL LIGHTING POWER" FOR ALL HABITABLE SPACES >=0.5 W/SF
HALLWAY AND CIRCULATION	CONTINUOUS DIMMING 10-100 PERCENT	DIMMING AT 3 LEVELS (ON/OFF/MIDLEVEL)	10%	CONTINUOUS DIMMING TO 10%	AUTO FULL ON AUTO PARTIAL OFF	5 MINUTES	AUTO FULL ON AUTO PARTIAL OFF	NO	--	--	LOCAL	LOCAL	ALL LIGHTING IS 50% ON PER TIMECLOCK, OCCUPANCY SENSOR ACTIVATES TO 100% ON.	N/A	ALL LIGHTING IS 50% ON PER TIMECLOCK, OCCUPANCY SENSOR ACTIVATES TO 100% ON.	N/A	ON/OFF VIA MANUAL DIMMER	N/A	2 HOURS	UL 924 DEVICE REQUIRED TO BRING EGRESS LIGHTING UP TO FULL BRIGHTNESS UPON LOSS OF NORMAL POWER OR FIRE ALARM SIGNAL	CAPABLE OF REDUCING BY 15% THE "TOTAL LIGHTING POWER" FOR ALL HABITABLE SPACES >=0.5 W/SF
STAIR #1 (AT LOBBY)	NOT REQUIRED IF UNDER 0.5 W/SF	DIMMING AT 3 LEVELS (ON/OFF/MIDLEVEL)	--	SUGGEST AUTOMATIC DIMMING TO 50% AS REQUIRED BY T24 BUT NO MANUAL DIMMING	AUTO FULL ON AUTO PARTIAL OFF	5 MINUTES	AUTO FULL ON AUTO PARTIAL OFF	NO	--	--	LOCAL	LOCAL	ALL LIGHTING IS 50% ON PER TIMECLOCK, OCCUPANCY SENSOR ACTIVATES TO 100% ON.	N/A	ALL LIGHTING IS 50% ON PER TIMECLOCK, OCCUPANCY SENSOR ACTIVATES TO 100% ON.	N/A	ON/OFF VIA MANUAL DIMMER	N/A	2 HOURS	UL 924 DEVICE REQUIRED TO BRING EGRESS LIGHTING UP TO FULL BRIGHTNESS UPON LOSS OF NORMAL POWER OR FIRE ALARM SIGNAL	CAPABLE OF REDUCING BY 15% THE "TOTAL LIGHTING POWER" FOR ALL HABITABLE SPACES >=0.5 W/SF
STAIR #2	NOT REQUIRED IF UNDER 0.5 W/SF	DIMMING AT 3 LEVELS (ON/OFF/MIDLEVEL)	--	SUGGEST AUTOMATIC DIMMING TO 50% AS REQUIRED BY T24 BUT NO MANUAL DIMMING	AUTO FULL ON AUTO PARTIAL OFF	5 MINUTES	AUTO FULL ON AUTO PARTIAL OFF	NO	--	--	LOCAL	LOCAL	ALL LIGHTING IS 50% ON PER TIMECLOCK, OCCUPANCY SENSOR ACTIVATES TO 100% ON.	N/A	ALL LIGHTING IS 50% ON PER TIMECLOCK, OCCUPANCY SENSOR ACTIVATES TO 100% ON.	N/A	ON/OFF VIA MANUAL DIMMER	N/A	2 HOURS	UL 924 DEVICE REQUIRED TO BRING EGRESS LIGHTING UP TO FULL BRIGHTNESS UPON LOSS OF NORMAL POWER OR FIRE ALARM SIGNAL	CAPABLE OF REDUCING BY 15% THE "TOTAL LIGHTING POWER" FOR ALL HABITABLE SPACES >=0.5 W/SF
CLASSROOMS/SIMULATOR	CONTINUOUS DIMMING 10-100 PERCENT	DIMMING AT 3 LEVELS (ON/OFF/MIDLEVEL)	1%	CONTINUOUS DIMMING TO 1%	MANUAL ON AUTO OFF	5 MINUTES	MANUAL ON AUTO OFF	REQUIRED IN DAYLIGHT ZONES	TBD	DAYLIGHT DIMMING RESPONSE	LOCAL	LOCAL	PRESET SCENE CONTROL (MANUAL) AND OFF PER OCCUPANCY SENSOR	ON/OFF PER NEAREST OCC SENSOR	OFF, UNLESS OVERRIDDEN VIA MANUAL CONTROLS. THEN CONTROLLED AS NORMAL AND OFF PER OCCUPANCY SENSOR	ON/OFF PER NEAREST OCC SENSOR	ON/OFF VIA MANUAL KEYPAD	ON/OFF PER NEAREST OCC SENSOR	N/A	UL 924 DEVICE REQUIRED TO BRING EGRESS LIGHTING UP TO FULL BRIGHTNESS UPON LOSS OF NORMAL POWER OR FIRE ALARM SIGNAL	CAPABLE OF REDUCING BY 15% THE "TOTAL LIGHTING POWER" FOR ALL HABITABLE SPACES >=0.5 W/SF
EXERCISE ROOM	CONTINUOUS DIMMING 10-100 PERCENT	DIMMING AT 3 LEVELS (ON/OFF/MIDLEVEL)	10%	CONTINUOUS DIMMING TO 10%	MANUAL ON AUTO OFF	5 MINUTES	MANUAL ON AUTO OFF	REQUIRED IN DAYLIGHT ZONES	TBD	DAYLIGHT DIMMING RESPONSE	LOCAL	LOCAL	ON/OFF PER MANUAL CONTROLS AND OFF PER OCCUPANCY SENSOR	N/A	OFF, UNLESS OVERRIDDEN VIA MANUAL CONTROLS. THEN CONTROLLED AS NORMAL	N/A	ON/OFF VIA MANUAL DIMMER	N/A	N/A	UL 924 DEVICE REQUIRED TO BRING EGRESS LIGHTING UP TO FULL BRIGHTNESS UPON LOSS OF NORMAL POWER OR FIRE ALARM SIGNAL	CAPABLE OF REDUCING BY 15% THE "TOTAL LIGHTING POWER" FOR ALL HABITABLE SPACES >=0.5 W/SF
TYPICAL OFFICE/ WORK STATION	CONTINUOUS DIMMING 10-100 PERCENT	DIMMING AT 3 LEVELS (ON/OFF/MIDLEVEL)	10%	CONTINUOUS DIMMING TO 10%	MANUAL ON AUTO OFF	5 MINUTES	MANUAL ON AUTO OFF	NO	--	--	LOCAL	LOCAL	ON/OFF PER MANUAL CONTROLS AND OFF PER OCCUPANCY SENSOR	ON/OFF PER NEAREST OCC SENSOR	OFF, UNLESS OVERRIDDEN VIA MANUAL CONTROLS. THEN CONTROLLED AS NORMAL	ON/OFF PER NEAREST OCC SENSOR	ON/OFF VIA MANUAL DIMMER	ON/OFF PER NEAREST OCC SENSOR	N/A	UL 924 DEVICE REQUIRED TO BRING EGRESS LIGHTING UP TO FULL BRIGHTNESS UPON LOSS OF NORMAL POWER OR FIRE ALARM SIGNAL	CAPABLE OF REDUCING BY 15% THE "TOTAL LIGHTING POWER" FOR ALL HABITABLE SPACES >=0.5 W/SF
OFFICE SUPPORT/ SECURE FILES	CONTINUOUS DIMMING 10-100 PERCENT	DIMMING AT 3 LEVELS (ON/OFF/MIDLEVEL)	10%	CONTINUOUS DIMMING TO 10%	MANUAL ON AUTO OFF	5 MINUTES	MANUAL ON AUTO OFF	NO	--	--	LOCAL	LOCAL	OFF, UNLESS OVERRIDDEN VIA MANUAL CONTROLS. THEN CONTROLLED AS NORMAL	ON/OFF PER NEAREST OCC SENSOR	OFF, UNLESS OVERRIDDEN VIA MANUAL CONTROLS. THEN CONTROLLED AS NORMAL	ON/OFF PER NEAREST OCC SENSOR	ON/OFF VIA MANUAL DIMMER	ON/OFF PER NEAREST OCC SENSOR	N/A	UL 924 DEVICE REQUIRED TO BRING EGRESS LIGHTING UP TO FULL BRIGHTNESS UPON LOSS OF NORMAL POWER OR FIRE ALARM SIGNAL	CAPABLE OF REDUCING BY 15% THE "TOTAL LIGHTING POWER" FOR ALL HABITABLE SPACES >=0.5 W/SF
CONFERENCE ROOM	CONTINUOUS DIMMING 10-100 PERCENT	DIMMING AT 3 LEVELS (ON/OFF/MIDLEVEL)	1%	CONTINUOUS DIMMING TO 1%	MANUAL ON AUTO OFF	5 MINUTES	MANUAL ON AUTO OFF	REQUIRED IN DAYLIGHT ZONES	TBD	DAYLIGHT DIMMING RESPONSE	LOCAL	LOCAL	PRESET SCENE CONTROL (MANUAL) AND OFF PER OCCUPANCY SENSOR	ON/OFF PER NEAREST OCC SENSOR	OFF, UNLESS OVERRIDDEN VIA MANUAL CONTROLS. THEN CONTROLLED AS NORMAL AND OFF PER OCCUPANCY SENSOR	ON/OFF PER NEAREST OCC SENSOR	ON/OFF VIA MANUAL KEYPAD	ON/OFF PER NEAREST OCC SENSOR	N/A	UL 924 DEVICE REQUIRED TO BRING EGRESS LIGHTING UP TO FULL BRIGHTNESS UPON LOSS OF NORMAL POWER OR FIRE ALARM SIGNAL	CAPABLE OF REDUCING BY 15% THE "TOTAL LIGHTING POWER" FOR ALL HABITABLE SPACES >=0.5 W/SF
BREAK ROOM (2ND LEVEL)	CONTINUOUS DIMMING 10-100 PERCENT	DIMMING AT 3 LEVELS (ON/OFF/MIDLEVEL)	10%	CONTINUOUS DIMMING TO 10%	AUTO FULL ON AUTO PARTIAL OFF	5 MINUTES	AUTO FULL ON AUTO PARTIAL OFF	REQUIRED IN DAYLIGHT ZONES	TBD	DAYLIGHT DIMMING RESPONSE	LOCAL	LOCAL	ON/OFF PER MANUAL CONTROLS AND OFF PER OCCUPANCY SENSOR	N/A	ON/OFF PER MANUAL CONTROLS AND OFF PER OCCUPANCY SENSOR	N/A	ON/OFF VIA MANUAL DIMMER	N/A	N/A	UL 924 DEVICE REQUIRED TO BRING EGRESS LIGHTING UP TO FULL BRIGHTNESS UPON LOSS OF NORMAL POWER OR FIRE ALARM SIGNAL	CAPABLE OF REDUCING BY 15% THE "TOTAL LIGHTING POWER" FOR ALL HABITABLE SPACES >=0.5 W/SF
BREAKOUT (2ND LEVEL)	CONTINUOUS DIMMING 10-100 PERCENT	DIMMING AT 3 LEVELS (ON/OFF/MIDLEVEL)	10%	CONTINUOUS DIMMING TO 10%	MANUAL ON AUTO OFF	5 MINUTES	MANUAL ON AUTO OFF	REQUIRED IN DAYLIGHT ZONES	TBD	DAYLIGHT DIMMING RESPONSE	LOCAL	LOCAL	ON/OFF PER MANUAL CONTROLS AND OFF PER OCCUPANCY SENSOR	ON/OFF PER NEAREST OCC SENSOR	ON/OFF PER MANUAL CONTROLS AND OFF PER OCCUPANCY SENSOR	ON/OFF PER NEAREST OCC SENSOR	ON/OFF VIA MANUAL DIMMER	ON/OFF PER NEAREST OCC SENSOR	N/A	UL 924 DEVICE REQUIRED TO BRING EGRESS LIGHTING UP TO FULL BRIGHTNESS UPON LOSS OF NORMAL POWER OR FIRE ALARM SIGNAL	CAPABLE OF REDUCING BY 15% THE "TOTAL LIGHTING POWER" FOR ALL HABITABLE SPACES >=0.5 W/SF
BACKUP DISPATCH	CONTINUOUS DIMMING 10-100 PERCENT	DIMMING AT 3 LEVELS (ON/OFF/MIDLEVEL)	1%	CONTINUOUS DIMMING TO 1%	MANUAL ON AUTO OFF	5 MINUTES	MANUAL ON AUTO OFF	NO	--	--	LOCAL	LOCAL	ON/OFF PER MANUAL CONTROLS AND OFF PER OCCUPANCY SENSOR	N/A	ON/OFF PER MANUAL CONTROLS AND OFF PER OCCUPANCY SENSOR	N/A	ON/OFF VIA MANUAL DIMMER	N/A	N/A	UL 924 DEVICE REQUIRED TO BRING EGRESS LIGHTING UP TO FULL BRIGHTNESS UPON LOSS OF NORMAL POWER OR FIRE ALARM SIGNAL	CAPABLE OF REDUCING BY 15% THE "TOTAL LIGHTING POWER" FOR ALL HABITABLE SPACES >=0.5 W/SF
RESTROOMS	CONTINUOUS DIMMING 10-100 PERCENT	DIMMING AT 3 LEVELS (ON/OFF/MIDLEVEL)	10%	CONTINUOUS DIMMING TO 10%	AUTO ON AUTO OFF	15 MINUTES	AUTO ON AUTO OFF	NO	--	--	LOCAL	LOCAL	ON/OFF PER MANUAL CONTROLS AND OFF PER OCCUPANCY SENSOR	N/A	ON/OFF PER MANUAL CONTROLS AND OFF PER OCCUPANCY SENSOR	N/A	ON/OFF VIA MANUAL DIMMER	N/A	N/A	UL 924 DEVICE REQUIRED TO BRING EGRESS LIGHTING UP TO FULL BRIGHTNESS UPON LOSS OF NORMAL POWER OR FIRE ALARM SIGNAL	CAPABLE OF REDUCING BY 15% THE "TOTAL LIGHTING POWER" FOR ALL HABITABLE SPACES >=0.5 W/SF
BALCONY	CONTINUOUS DIMMING 40-90 PERCENT	N/A	40%	CONTINUOUS DIMMING TO 40%	MANUAL ON AUTO OFF	15 MINUTES	MANUAL ON AUTO OFF	REQUIRED IN DAYLIGHT ZONES	TBD	DAYLIGHT DIMMING RESPONSE	N/A	N/A	ON/OFF PER ASTRONOMICAL TIMECLOCK	N/A	N/A	N/A	LOCAL SWITCH AND TIMECLOCK	N/A	N/A	UL 924 DEVICE REQUIRED TO BRING EGRESS LIGHTING UP TO FULL BRIGHTNESS UPON LOSS OF NORMAL POWER OR FIRE ALARM SIGNAL	CAPABLE OF REDUCING BY 15% THE "TOTAL LIGHTING POWER" FOR ALL HABITABLE SPACES >=0.5 W/SF
BOH SPACES	NOT REQUIRED IF UNDER 0.5 W/SF NOT REQUIRED IF UNDER 100 SQ. FT.	DIMMING AT 3 LEVELS (ON/OFF/MIDLEVEL)	--	SUGGEST NO DIMMING IF NOT REQUIRED BY CODE	MANUAL ON AUTO OFF	5 MINUTES	MANUAL ON MANUAL OFF	NO	--	--	LOCAL	LOCAL		N/A		N/A		N/A	N/A	UL 924 DEVICE REQUIRED TO BRING EGRESS LIGHTING UP TO FULL BRIGHTNESS UPON LOSS OF NORMAL POWER OR FIRE ALARM SIGNAL	CAPABLE OF REDUCING BY 15% THE "TOTAL LIGHTING POWER" FOR ALL HABITABLE SPACES >=0.5 W/SF
BLDG.1 - FIRE STATION #6 DORM (T24 RESIDENTIAL)																					
DAY ROOM/ DINING/ KITCHEN	CONTINUOUS DIMMING 10-100 PERCENT	DIMMING AT 3 LEVELS (ON/OFF/MIDLEVEL)	10%	CONTINUOUS DIMMING TO 10%	AUTO ON AUTO OFF	15 MINUTES	AUTO ON AUTO OFF	NO	--	--	LOCAL	LOCAL	ON/OFF MANUAL CONTROLS	N/A	ON/OFF MANUAL CONTROLS	N/A	LOCAL SWITCH AND ALERT SYSTEM	N/A	N/A	UL 924 DEVICE REQUIRED TO BRING EGRESS LIGHTING UP TO FULL BRIGHTNESS UPON LOSS OF NORMAL POWER OR FIRE ALARM SIGNAL	NOT REQUIRED
LOCKERS/ SHOWER ROOM/ RESTROOMS	CONTINUOUS DIMMING 10-100 PERCENT	DIMMING AT 3 LEVELS (ON/OFF/MIDLEVEL)	10%	CONTINUOUS DIMMING TO 10%	AUTO ON AUTO OFF	15 MINUTES	AUTO ON AUTO OFF	NO	--	--	LOCAL	LOCAL	ON/OFF MANUAL CONTROLS AND OFF PER VACANCY SENSOR	N/A	ON/OFF MANUAL CONTROLS AND OFF PER VACANCY SENSOR	N/A	LOCAL SWITCH AND ALERT SYSTEM	N/A	N/A	UL 924 DEVICE REQUIRED TO BRING EGRESS LIGHTING UP TO FULL BRIGHTNESS UPON LOSS OF NORMAL POWER OR FIRE ALARM SIGNAL	NOT REQUIRED
DOMITORY	CONTINUOUS DIMMING 10-100 PERCENT	DIMMING AT 3 LEVELS (ON/OFF/MIDLEVEL)	10%	CONTINUOUS DIMMING TO 10%	NOT REQUIRED IF HIGH EFFICACY AND CEC LISTED	NO SENSORS	NO SENSOR. HIGH EFFICACY WILL BE SPECIFIED	NO	--	--	LOCAL	LOCAL	ON/OFF MANUAL CONTROLS AND DIMMING/COLOR TUNABLE PRESET SELECTION CONTROLS	N/A	ON/OFF MANUAL CONTROLS AND DIMMING/COLOR TUNABLE PRESET SELECTION CONTROLS	NA	LOCAL SWITCH AND ALERT SYSTEM	N/A	N/A	UL 924 DEVICE REQUIRED TO BRING EGRESS LIGHTING UP TO FULL BRIGHTNESS UPON LOSS OF NORMAL POWER OR FIRE ALARM SIGNAL	NOT REQUIRED
CAPTAIN'S ROOMS	CONTINUOUS DIMMING 10-100 PERCENT	DIMMING AT 3 LEVELS (ON/OFF/MIDLEVEL)	10%	CONTINUOUS DIMMING TO 10%	NOT REQUIRED IF HIGH EFFICACY AND CEC LISTED	NO SENSORS	NO SENSOR. HIGH EFFICACY WILL BE SPECIFIED	NO	--	--	LOCAL	LOCAL	ON/OFF MANUAL CONTROLS AND DIMMING/COLOR TUNABLE PRESET SELECTION CONTROLS	N/A	ON/OFF MANUAL CONTROLS AND DIMMING/COLOR TUNABLE PRESET SELECTION CONTROLS	NA	LOCAL SWITCH AND ALERT SYSTEM	N/A	N/A	UL 924 DEVICE REQUIRED TO BRING EGRESS LIGHTING UP TO FULL BRIGHTNESS UPON LOSS OF NORMAL POWER OR FIRE ALARM SIGNAL	NOT REQUIRED
CAPTAIN'S WORKROOM	CONTINUOUS DIMMING 10-100 PERCENT	DIMMING AT 3 LEVELS (ON/OFF/MIDLEVEL)	10%	CONTINUOUS DIMMING TO 10%	NOT REQUIRED IF HIGH EFFICACY AND CEC LISTED	NO SENSORS	NO SENSOR. HIGH EFFICACY WILL BE SPECIFIED	NO	--	--	LOCAL	LOCAL	ON/OFF MANUAL CONTROLS	N/A	ON/OFF MANUAL CONTROLS	NA	LOCAL SWITCH AND ALERT SYSTEM	N/A	N/A	UL 924 DEVICE REQUIRED TO BRING EGRESS LIGHTING UP TO FULL BRIGHTNESS UPON LOSS OF NORMAL POWER OR FIRE ALARM SIGNAL	NOT REQUIRED

NOTES:
1. THE INTENT OF THIS SCHEDULE IS TO CLARIFY THE PROGRAMMING AND FUNCTION OF CONTROLS THAT MAY BE LOCATED IN EACH SPACE TYPE.
2. THIS SCHEDULE IS NOT INTENDED TO DEFINE WHICH CONTROLS ARE TO BE INSTALLED IN EACH SPACE TYPE.
3. FOR ACTUAL CONTROL DEVICES TO BE INSTALLED IN EACH SPACE, REFER TO PLANS.
4. ALL SETPOINTS AND TIME SCHEDULES TO BE VERIFIED WITH OWNER PRIOR TO PROGRAMMING.
5. FOOTCANDLE LEVELS ARE BASED ON THE IESNA LIGHTING STANDARDS AND ARE TO BE USED AS A BASELINE DEFAULT FOR PROGRAMMING. LEVELS SUBJECT TO CHANGE PER ENERGY CODE COMPLIANCE AND OWNER REQUEST.
6. PER TITLE 24, BUILDING LIGHTING CONTROL SYSTEM TO BE DEMAND RESPONSE CAPABLE AND ABLE TO REDUCE TOTAL LIGHTING POWER BY AT LEAST 15%.
7. NA = NOT APPLICABLE WITH CONTROL DESIGN.

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY:	
KATHY GARCIA DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER
AMADA J. BROWNLEE
No. E17287
ELECTRICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

ELECTRICAL LIGHT FIXTURE SCHEDULES

Drawn By: ELW Checked By: AJB

Scale: **NTS**

Date: **October 4, 2019**

Project No. B17.07369

1-E0.14
Drawing No.

If this drawing is not 30" x 42", it is a reduced print - scale accordingly. All rights reserved. Material may not be reproduced in any form without permission from RossDrulisCusenbery Architecture, Inc.

STATE OF CALIFORNIA
INDOOR LIGHTING
CEC-NRCC-LTI-01-E (Revised 04/16) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-01-E
Indoor Lighting	(Page 1 of 6)

Project Name: Hayward Fire Training Center - Building 1 Date Prepared: 7/16/2019

A. General Information

Climate Zone: 3	Conditioned Floor Area: 16,377 Unconditioned Floor Area: 0						
Building Type:		☑	Nonresidential	☐	High-Rise Residential	☐	Hotel/Motel
☐ Schools		☐	Relocatable Public Schools	☑	Conditioned Spaces	☐	Unconditioned Spaces
Phase of Construction:		☑	New Construction	☐	Addition	☐	Alteration
Method of Compliance:		☐	Complete Building	☑	Area Category	☐	Tailored
Project Address: 1401 W. Winton Ave.							

B. Lighting Compliance Documents (select yes for each document included)

For detailed instructions on the use of this and all Energy Efficiency Standards compliance documents, refer to the Nonresidential Manual published by the California Energy Commission.

YES	NO	COMP. DOC.	TITLE
☑	☐	NRCC-LTI-01-E	Certificate of Compliance. All Pages required on plans for all submittals.
☑	☐	NRCC-LTI-02-E	Lighting Controls, Certificate of Compliance, and PAF Calculation. All Pages required on plans for all submittals.
☑	☐	NRCC-LTI-03-E	Indoor Lighting Power Allowance
☐	☑	NRCC-LTI-04-E	Tailored Method Worksheets
☐	☑	NRCC-LTI-05-E	Line Voltage Track Lighting Worksheets
☐	☑	NRCC-LTI-06-E	Indoor Lighting Existing Conditions

STATE OF CALIFORNIA
Electrical Power Distribution
CEC-NRCC-ELC-01-E (Revised 01/16) CALIFORNIA ENERGY COMMISSION NRCC-ELC-01-E (Page 4 of 6)

CERTIFICATE OF COMPLIANCE	
Electrical Power Distribution	Date Prepared: 7/16/2019
Project Name: Hayward Fire Training Center - Building 1	

B. Separation of Electrical Circuits for Electrical Energy Monitoring
Check one of the following boxes to indicate compliance with Section 130.5(b).

☑ The electrical power distribution system meets the separation of electrical circuits for electrical energy monitoring requirement of Section 130.5(b). The electrical power distribution systems is designed so that measurement devices can monitor the electrical energy usage of load types according to TABLE 130.5-B.

☐ Describe the electrical power distribution system installed and the compliance method chosen in meeting the requirements of Section 130.5(b). Include on the plans sheets the information. Examples of compliance methods are detailed in Nonresidential Compliance Manual Chapter 8.

Fill out Columns 1 thru 3 with the compliance information.

General Information	Electrical Power Distribution System information and Method of compliance		Electrical Service Rating	Enforcement Agency
01	02		03	04
Electrical Service Designation/Location/Description	Describe the electrical power distribution system installed and the compliance method used.		kVA	Check that the system complies
LP-B1A	PANELBOARD DISAGGREGATION		21	☐
LPH-B1A	PANELBOARD DISAGGREGATION		8	
LP-B1B	PANELBOARD DISAGGREGATION		33	
DPH-B1A	PANELBOARD DISAGGREGATION		100	
ELP-B1B	PANELBOARD DISAGGREGATION		3	
ELPH-B1B	PANELBOARD DISAGGREGATION		5	
LPH-B1B	PANELBOARD DISAGGREGATION		150	
ULP-B1A	PANELBOARD DISAGGREGATION		3	
ELP-B1D	PANELBOARD DISAGGREGATION		45	
ELP-B1C	PANELBOARD DISAGGREGATION		29	
ELP-B1A	PANELBOARD DISAGGREGATION		79	
ELP-B2A	PANELBOARD DISAGGREGATION		97	
LP-B2A	PANELBOARD DISAGGREGATION		67	

STATE OF CALIFORNIA
INDOOR LIGHTING
CEC-NRCC-LTI-01-E (Revised 04/16) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-01-E
Indoor Lighting	(Page 6 of 6)
Project Name: Hayward Fire Training Center - Building 1	Date Prepared: 7/16/2019

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

1. I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name:	Hayley Vero	Documentation Author Signature:	Hayley Vero
Company:	WSP	Signature Date:	7/16/2019
Address:	425 Market Street, 17th floor	CEA Certification Identification (if applicable):	
City/State/Zip:	San Francisco, CA 94105	Phone:	415-243-4600

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer).
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name:	Amanda Brownlee	Responsible Designer Signature:	Amanda Brownlee
Company :	WSP	Date Signed:	7/16/2019
Address:	425 Market Street, 17th Floor	License:	E17287
City/State/Zip:	San Francisco, CA 94105	Phone:	415-243-4600

STATE OF CALIFORNIA
INDOOR LIGHTING
CEC-NRCC-LTI-01-E (Revised 04/16) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-01-E
Indoor Lighting	(Page 5 of 6)
Project Name: Hayward Fire Training Center - Building 1	Date Prepared: 7/16/2019

A Separate Lighting Schedule Must Be Filled Out for Conditioned and Unconditioned Spaces. Installed Lighting Power listed on this Lighting Schedule is only for:
☑ **CONDITIONED SPACE** ☐ **UNCONDITIONED SPACE**

H. Indoor Lighting Schedule and Field Inspection Energy Checklist

Luminaire Schedule		Installed Watts					Location	Field Inspector [1]	
01	02	03	04		05	06	07	08	
Name or Item Tag	Complete Luminaire Description (i.e, 3 lamp fluorescent troffer, F32T8, one dimmable electronic ballast)	Watts per Luminaire	How wattage was determined: CEC-Default from NA8	How wattage was determined: According to §130.6(c)	Number Luminaires	Total Installed Watts in this area (H03 x H05)	Primary Function area in which these luminaires are installed	Pass	Fail
F3 (1')	F3 (1')	13.0	☐	☑	60	780	Office <= 250 sqft	☐	☐
F3 (1')	F3 (1')	13.0	☐	☑	45	585	Convention/Conference/Meetin	☐	☐
F3 (1')	F3 (1')	13.0	☐	☑	32	416	Classroom, Lecture, Training	☐	☐
F4 (1')	F4 (1')	7.0	☐	☑	104	728	Classroom, Lecture, Training	☐	☐
F5 (1')	F5 (1')	4.0	☐	☑	136	544	Lobby, Main Entry	☐	☐
F5 (1')	F5 (1')	4.0	☐	☑	42	168	Corridor/Restroom/Support	☐	☐
F5A (1')	F5A (1')	9.3	☐	☑	48	446	Exercise Room	☐	☐
F6 (1')	F6 (1')	9.2	☐	☑	2	18	Office <= 250 sqft	☐	☐
F6 (1')	F6 (1')	9.2	☐	☑	16	147	Police/Fire Station	☐	☐
					INSTALLED WATTS PAGE TOTAL:	3,833	Enter sum total of all pages into NRCC-LTI-01-E; Page 2		

STATE OF CALIFORNIA
INDOOR LIGHTING
CEC-NRCC-LTI-01-E (Revised 04/16) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-01-E
Indoor Lighting	(Page 4 of 6)
Project Name: Hayward Fire Training Center - Building 1	Date Prepared: 7/16/2019

G. Installed Portable Luminaires in Offices – Exception to Section 140.6(a)

☐ This section shall be filled out ONLY for portable luminaires in offices (As defined in §100.1). All other planned portable luminaires shall be documented on next page of this compliance document.

☐ This section is used to determine if greater than 0.3 watts of portable lighting is planned for any office

☐ Fill out a separate line for each different office. Small offices that are typical (having the same general and portable lighting) may be grouped together. This allowance shall not be traded between offices having different lighting systems.

Office Portable Luminaire Schedule	Office Installed Portable Luminaire W/ft²							Office Location	Field Inspector	
1	2	3	4	5	6	7	8	9	10	
Complete Luminaire Description (i.e., LED, under cabinet, furniture mounted direct/indirect)	Watts per Luminaire	Number of Luminaires	Installed portable luminaire watts in this office (G02 x G03)	Square feet of this office	Watts per square foot (G04 / G05)	if G06 ≤ 0.3, enter zero; if G06 > 0.3, (G06-0.3)	(G05 x G07)	Identify Office area in which these portable luminaires are installed	Pass	Fail
									☐	☐
									☐	☐
									☐	☐
									☐	☐
									☐	☐
Total installed portable luminaire watts that are greater than 0.3 W/ft² per office:								Enter sum total of all pages into NRCC-LTI-01-E; Page 1		

STATE OF CALIFORNIA
INDOOR LIGHTING – LIGHTING CONTROLS
CEC-NRCC-LTI-02-E (Revised 07/16) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-02-E
Indoor Lighting - Lighting Controls	(Page 1 of 3)
Project Name: Hayward Fire Training Center - Building 1	Date Prepared: 7/16/2019

A. Mandatory Lighting Control Declaration Statements (Indicate if the measure applies by checking yes or no below.)

YES	NO	Control Requirements
☑	☐	Lighting shall be controlled by self-contained lighting control devices which are certified to the Energy Commission according to the Title 20 Appliance Efficiency Regulations in accordance with Section 110.9.
☑	☐	Lighting shall be controlled by a lighting control system or energy management control system in accordance with §110.9. An Installation Certificate shall be submitted in accordance with Section 130.4(b).
☐	☑	One or more Track Lighting Integral Current Limiters shall be installed which have been certified to the Energy Commission in accordance with §110.9 and §130.0. Additionally, an Installation Certificate shall be submitted in accordance with Section 130.4(b).
☐	☑	A Track Lighting Supplementary Overcurrent Protection Panel shall be installed in accordance with Section 110.9 and Section 130.0. Additionally, an Installation Certificate shall be installed in accordance with Section 130.4(b).
☑	☐	All lighting controls and equipment shall comply with the applicable requirements in §110.9 and shall be installed in accordance with the manufacturer's instructions in accordance with Section 130.1.
☑	☐	All luminaires shall be functionally controlled with manually switched ON and OFF lighting controls in accordance with Section 130.1(a).
☑	☐	General lighting shall be separately controlled from all other lighting systems in an area. Floor and wall display, window display, case display, ornamental, and special effects lighting shall each be separately controlled on circuits that are 20 amps or less. When track lighting is used, general, display, ornamental, and special effects lighting shall each be separately controlled; in accordance with Section 130.1(a)4.
☑	☐	The general lighting of any enclosed area 100 square feet or larger, with a connected lighting load that exceeds 0.5 watts per square foot shall meet the multi-level lighting control requirements in accordance with Section 130.1(b).
☑	☐	All installed indoor lighting shall be equipped with controls that meet the applicable Shut-OFF control requirements in Section 130.1(c).
☐	☐	Lighting in all Daylit Zones shall be controlled in accordance with the requirements in Section 130.1(d) and daylit zones are shown on the plans.
☐	☐	Lighting power in buildings larger than 10,000 square feet shall be capable of being automatically reduced in response to a Demand Responsive Signal in accordance with Section 130.1(e).
☐	☐	Before an occupancy permit is granted for a newly constructed building or area, or a new lighting system serving a building, area, or site is operated for normal use, indoor lighting controls serving the building, area, or site shall be certified as meeting the Acceptance Requirements for Code Compliance in accordance with Section 130.4.(a). The controls required to meet the Acceptance Requirements include automatic daylight controls, automatic shut-OFF controls, and demand responsive controls.

STATE OF CALIFORNIA
INDOOR LIGHTING
CEC-NRCC-LTI-01-E (Revised 04/16) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-01-E
Indoor Lighting	(Page 5 of 6)
Project Name: Hayward Fire Training Center - Building 1	Date Prepared: 7/16/2019

A Separate Lighting Schedule Must Be Filled Out for Conditioned and Unconditioned Spaces. Installed Lighting Power listed on this Lighting Schedule is only for:
☑ **CONDITIONED SPACE** ☐ **UNCONDITIONED SPACE**

H. Indoor Lighting Schedule and Field Inspection Energy Checklist

Luminaire Schedule		Installed Watts					Location	Field Inspector [1]	
01	02	03	04		05	06	07	08	
Name or Item Tag	Complete Luminaire Description (i.e, 3 lamp fluorescent troffer, F32T8, one dimmable electronic ballast)	Watts per Luminaire	How wattage was determined: CEC-Default from NA8	How wattage was determined: According to §130.6(c)	Number Luminaires	Total Installed Watts in this area (H03 x H05)	Primary Function area in which these luminaires are installed	Pass	Fail
F7 (1')	F7 (1')	7.1	☐	☑	5	36	Corridor/Restroom/Support	☐	☐
F7 (1')	F7 (1')	7.1	☐	☑	17	121	Lobby, Main Entry	☐	☐
F7A (1')	F7A (1')	4.6	☐	☑	10	46	Convention/Conference/Meetin	☐	☐
F7A (1')	F7A (1')	4.6	☐	☑	13	60	Classroom, Lecture, Training	☐	☐
F7A (1')	F7A (1')	4.6	☐	☑	54	248	Corridor/Restroom/Support	☐	☐
F8 (1')	F8 (1')	7.0	☐	☑	23	161	Office <= 250 sqft	☐	☐
F9 (1')	F9 (1')	5.6	☐	☑	9	50	Kitchenette	☐	☐
F9 (1')	F9 (1')	5.6	☐	☑	17	95	Lobby, Main Entry	☐	☐
F9 (1')	F9 (1')	5.6	☐	☑	9	50	Corridor/Restroom/Support	☐	☐
					INSTALLED WATTS PAGE TOTAL:	867	Enter sum total of all pages into NRCC-LTI-01-E; Page 2		

STATE OF CALIFORNIA
INDOOR LIGHTING
CEC-NRCC-LTI-01-E (Revised 04/16) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-01-E
Indoor Lighting	(Page 5 of 6)
Project Name: Hayward Fire Training Center - Building 1	Date Prepared: 7/16/2019

A Separate Lighting Schedule Must Be Filled Out for Conditioned and Unconditioned Spaces. Installed Lighting Power listed on this Lighting Schedule is only for:
☑ **CONDITIONED SPACE** ☐ **UNCONDITIONED SPACE**

H. Indoor Lighting Schedule and Field Inspection Energy Checklist

Luminaire Schedule		Installed Watts					Location	Field Inspector [1]	
01	02	03	04		05	06	07	08	
Name or Item Tag	Complete Luminaire Description (i.e, 3 lamp fluorescent troffer, F32T8, one dimmable electronic ballast)	Watts per Luminaire	How wattage was determined: CEC-Default from NA8	How wattage was determined: According to §130.6(c)	Number Luminaires	Total Installed Watts in this area (H03 x H05)	Primary Function area in which these luminaires are installed	Pass	Fail
W1	W1	40.0	☐	☑	8	320	Classroom, Lecture, Training	☐	☐
W1	W1	40.0	☐	☑	11	440	Corridor/Restroom/Support	☐	☐
W1	W1	40.0	☐	☑	19	760	Electrical, Mechanical Room	☐	☐
W2	W2	21.0	☐	☑	4	84	Corridor/Restroom/Support	☐	☐
W4	W4	73.0	☐	☑	2	146	Electrical, Mechanical Room	☐	☐
			☐	☐				☐	☐
			☐	☐				☐	☐
			☐	☐				☐	☐
					INSTALLED WATTS PAGE TOTAL:	1,750	Enter sum total of all pages into NRCC-LTI-01-E; Page 2		

STATE OF CALIFORNIA
INDOOR LIGHTING
CEC-NRCC-LTI-01-E (Revised 04/16) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-01-E
Indoor Lighting	(Page 5 of 6)
Project Name: Hayward Fire Training Center - Building 1	Date Prepared: 7/16/2019

A Separate Lighting Schedule Must Be Filled Out for Conditioned and Unconditioned Spaces. Installed Lighting Power listed on this Lighting Schedule is only for:
☑ **CONDITIONED SPACE** ☐ **UNCONDITIONED SPACE**

H. Indoor Lighting Schedule and Field Inspection Energy Checklist

Luminaire Schedule		Installed Watts					Location	Field Inspector [1]	
01	02	03	04		05	06	07	08	
Name or Item Tag	Complete Luminaire Description (i.e, 3 lamp fluorescent troffer, F32T8, one dimmable electronic ballast)	Watts per Luminaire	How wattage was determined: CEC-Default from NA8	How wattage was determined: According to §130.6(c)	Number Luminaires	Total Installed Watts in this area (H03 x H05)	Primary Function area in which these luminaires are installed	Pass	Fail
F14	F14	13.3	☐	☑	6	80	Kitchenette	☐	☐
F15	F15	38.0	☐	☑	2	76	Corridor/Restroom/Support	☐	☐
F15	F15	38.0	☐	☑	8	304	Office <= 250 sqft	☐	☐
F15	F15	38.0	☐	☑	6	228	Convention/Conference/Meetin	☐	☐
F16 (1')	F16 (1')	10.0	☐	☑	47	470	Lobby, Main Entry	☐	☐
F1A	F1A	30.0	☐	☑	3	90	Police/Fire Station	☐	☐
F21 (1')	F21 (1')	11.0	☐	☑	20	220	Convention/Conference/Meetin	☐	☐
F21 (1')	F21 (1')	11.0	☐	☑	176	1,936	Classroom, Lecture, Training	☐	☐
F23	F23	13.3	☐	☑	3	40	Lobby, Main Entry	☐	☐
					INSTALLED WATTS PAGE TOTAL:	3,444	Enter sum total of all pages into NRCC-LTI-01-E; Page 2		

STATE OF CALIFORNIA
INDOOR LIGHTING – LIGHTING CONTROLS
CEC-NRCC-LTI-02-E (Revised 07/16) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-02-E
Indoor Lighting - Lighting Controls	(Page 2 of 3)
Project Name: Hayward Fire Training Center - Building 1	Date Prepared: 7/16/2019

A separate document must be filled out for Conditioned and Unconditioned Spaces. This page is used only for the following:
☑ CONDITIONED SPACES ☐ UNCONDITIONED SPACES

B. Mandatory and Prescriptive Indoor Lighting Control Schedule, PAF Calculation, and Field Inspection Checklist

Lighting Control Schedule			Standards Complying With [1] (✓ all that apply, or enter 'E' if Exempted)						PAF Credit Calculation [2]				Field Inspector	
									Watts of Controlled Lighting	PAF	Control Credit (K x L)	✓ if Acceptance Test Required		
01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	
Location in Building	Type/Description of Lighting Control (i.e.: occupancy sensor, automatic time switch, dimmer, automatic daylight, etc...)	# of Units	§130.1(a)	§130.0(b)	§130.1(c)	§130.1(d)	§130.1(e)	§140.6(d)2	§140.6(d)					Pass	Fail
MULTIPURPOSE, LOBBY	OCC. SENSOR, DAYLIGHT, DIMMER	SEE PLAN	☑	☐	☑	☑	☑	☑	☑					☐	☐
SUPPORT, RESTROOM	OCC. SENSOR, DIMMER	SEE PLAN	☑	☐	☑	☐	☑	☑	☐					☐	☐
OFFICE	OCC. SENSOR, DIMMER	SEE PLAN	☑	☐	☑	☐	☑	☑	☐					☐	☐
APPARATUS, EXERCISE	OCC. SENSOR, DAYLIGHT, DIMMER	SEE PLAN	☑	☐	☑	☑	☑	☑	☑					☐	☐
BREAK	OCC. SENSOR, DAYLIGHT, DIMMER	SEE PLAN	☑	☐	☑	☑	☑	☑	☑					☐	☐
			☐	☐	☐	☐	☐	☐	☐					☐	☐
Control Credit PAGE TOTAL (Sum of Column 13):												0			
IF MULTIPLE PAGES ARE USED, ENTER SUM TOTAL OF Control Credit for all pages HERE (Sum of all Column 13):												0			
												Enter Control Credit total into NRCC-LTI-01-E; Page 1.			

1. §130.1(a) = Manual area controls; §130.0(b) = Multi Level; §130.1(c) = Auto Shut-Off; §130.1(d) = Mandatory Daylight; §130.1(e) = Demand Responsive; §140.6(d) = Additional lighting controls installed to earn a PAF; §140.6(d) = Prescriptive Secondary Sidelit Daylight Controls.
2. Check Table 140.6-A for correct Factor. PAFs shall not be traded between conditioned and unconditioned spaces. As a condition to earn a PAF, an Installation Certificate is also required to be filled out, signed, and submitted.

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

Ross Drulis Cusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

**1401 W. WINTON AVE.
HAYWARD, CA 94545**

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER
AMANDA J. BROWNLEE
No. E17287
ELECTRICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

ELECTRICAL TITLE 24

Drawn By: ELW Checked By: AJB

Scale: **NTS**

Date: **October 4, 2019**

Project No. B17.07369

1-E0.21
Drawing No.

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STATE OF CALIFORNIA
OUTDOOR LIGHTING
CEC-NRCC-LTO-01-E (Revised 03/16)
CALIFORNIA ENERGY COMMISSION NRCC-LTO-01-E

CERTIFICATE OF COMPLIANCE	(Page 2 of 4)
Outdoor Lighting	
Project Name: Hayward Fire Training Center - Building 1	Date Prepared: 7/16/2019

G. Schedule of Luminaires Exempt from the Cutoff Requirements in §130.2(b)

01	02
Name or Symbol	Description of exempt luminaire in accordance with the exemptions

H. Schedule of Luminaires Exempt from the Outdoor Lighting Control Requirements in §130.2(c)

01	02
Name or Symbol	Description of exempt luminaire in accordance with the exemptions

STATE OF CALIFORNIA
INDOOR LIGHTING POWER ALLOWANCE
CEC-NRCC-LTI-03-E (Revised 03/16) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-03-E
Certificate of Compliance - Indoor Lighting Power Allowance	(Page 3 of 4)
Project Name: Hayward Fire Training Center - Building 1	Date Prepared: 7/16/2019

A separate page must be filled out for Conditioned and Unconditioned Spaces. This page is only for:
☑ CONDITIONED spaces ☐ UNCONDITIONED spaces

C-3 AREA CATEGORY METHOD ADDITIONAL LIGHTING WATTAGE ALLOWANCE (from Table 140.6-C Footnotes)

01	02	03 [2]	04	05	06	07
Primary Function	Sq Ft or Linear ft [1]	Additional Watts Allowed	Wattage Allowance (02 x 03)	Description(s) and Quantity of Special Luminaire Types in each Primary Function Area	Total Design Watts [3]	ALLOWED WATTS Smaller of 04 or 06
				TOTALS – Enter into TOTAL AREA CATEGORY METHOD ADDITIONAL ALLOWANCES – Section C-1		0

1. Use linear feet only for additional allowance for white board or chalk board. All other additional Area Category allowances shall use watts per square foot.
2 . Additional watts are available only when allowed according to the footnotes on bottom of Table 140.6-C, which include: Specialized task work; Ornamental lighting; Precision commercial and industrial work; Per linear foot of white board or chalk board; Accent, display and feature lighting; and Videoconferencing studio lighting..
3. Luminaire classification and wattage shall be determined in accordance with §130.0(c) of the Standards.

STATE OF CALIFORNIA
INDOOR LIGHTING -- LIGHTING CONTROLS
CEC-NRCC-LTI-02-E (Revised 03/16) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-02-E
Indoor Lighting - Lighting Controls	(Page 3 of 3)
Project Name: Hayward Fire Training Center - Building 1	Date Prepared: 7/16/2019

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT
1. I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name:	Hayley Vero	Documentation Author Signature:	Hayley Vero
Company:	WSP	Signature Date:	7/16/2019
Address:	425 Market Street, 17th floor	CEA Certification Identification (if applicable):	
City/State/Zip:	San Francisco, CA 94105	Phone:	415-243-4600

RESPONSIBLE PERSON'S DECLARATION STATEMENT
I certify the following under penalty of perjury, under the laws of the State of California:
1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer).
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name:	Amanda Brownlee	Responsible Designer Signature:	Amanda Brownlee
Company :	WSP	Date Signed:	7/16/2019
Address:	425 Market Street, 17th Floor	License:	E17287
City/State/Zip:	San Francisco, CA 94105	Phone:	415-243-4600

STATE OF CALIFORNIA
OUTDOOR LIGHTING
CEC-NRCC-LTO-01-E (Revised 03/16) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTO-01-E
Outdoor Lighting	(Page 3 of 4)
Project Name: Hayward Fire Training Center - Building 1	Date Prepared: 7/16/2019

I. Outdoor Lighting Schedule and Field Inspection Energy Checklist

Luminaire Schedule		Installed Watts					Location	Cutoff	Field Inspector	
01	02	03	04		05	06	07	08	09	
Name or Item Tag	Complete Luminaire Description	Watts per Luminaire	How wattage was determined: CEC Default from Adj	How wattage was determined: According to §130.0(c)	Number of Luminaires	Total Installed Watts in this area (3 x 5)	Primary Function area in which the luminaires are installed (Outdoor Lighting Zone)	BUG Rating	Pass	Fail
FE10 (1')	FE10 (1')	4.0	☐	☑	16	64	Senior/Police/Fire/Emergenc	UH: n/a UL: n/a FVH: n/a BVH: n/a FH: n/a BH: n/a	☐	☐
FE3	FE3	40.0	☐	☑	7	280	Other Entrance/Exit	UH: n/a UL: n/a FVH: n/a BVH: n/a FH: n/a BH: n/a	☐	☐
FE12	FE12	24.0	☐	☑	1	24	Other Entrance/Exit	UH: n/a UL: n/a FVH: n/a BVH: n/a FH: n/a BH: n/a	☐	☐
				INSTALLED WATTS PAGE TOTAL:		368	Enter sum total of all pages (**Sum Total INSTALLED** Outdoor lighting wattage) into NRCC-LTO-01-E, page 1.		933	

STATE OF CALIFORNIA
INDOOR LIGHTING POWER ALLOWANCE
CEC-NRCC-LTI-03-E (Revised 03/16) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-03-E
Certificate of Compliance - Indoor Lighting Power Allowance	(Page 4 of 4)
Project Name: Hayward Fire Training Center - Building 1	Date Prepared: 7/16/2019

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT
1. I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name:	Hayley Vero	Documentation Author Signature:	Hayley Vero
Company:	WSP	Signature Date:	7/16/2019
Address:	425 Market Street, 17th floor	CEA Certification Identification (if applicable):	
City/State/Zip:	San Francisco, CA 94105	Phone:	415-243-4600

RESPONSIBLE PERSON'S DECLARATION STATEMENT
I certify the following under penalty of perjury, under the laws of the State of California:
1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer).
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name:	Amanda Brownlee	Responsible Designer Signature:	Amanda Brownlee
Company :	WSP	Date Signed:	7/16/2019
Address:	425 Market Street, 17th Floor	License:	E17287
City/State/Zip:	San Francisco, CA 94105	Phone:	415-243-4600

STATE OF CALIFORNIA
INDOOR LIGHTING POWER ALLOWANCE
CEC-NRCC-LTI-03-E (Revised 03/16) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-03-E
Certificate of Compliance - Indoor Lighting Power Allowance	(Page 1 of 4)
Project Name: Hayward Fire Training Center - Building 1	Date Prepared: 7/16/2019

A separate page must be filled out for Conditioned and Unconditioned Spaces. This page is only for:
☑ CONDITIONED spaces ☐ UNCONDITIONED spaces

A. SUMMARY TOTALS OF LIGHTING POWER ALLOWANCES
☐ If using Complete Building Method for compliance, use only the total in column (a) as total allowed building watts.
☐ If using Area Category Method, Tailored Method, or a combination of Area Category and Tailored Method for compliance, use only the total in column (b) as the total allowed building watts

	(a)		(b)
01 Complete Building Method Allowed Watts. Documented in section B of NRCC-LTI-03-E (below on this page)			
02 Area Category Method Allowed Watts. Documented in section C-1 of NRCC-LTI-03-E (below on this page)			15,124
03 Tailored Method Allowed Watts. Documented in section A of NRCC-LTI-04-E			0
TOTAL ALLOWED BUILDING WATTS. Enter number into correct cell on NRCC-LTI-01, Page 2, Row 1			15,124

☐ Check here if building contains both conditioned and unconditioned areas.

B. COMPLETE BUILDING METHOD LIGHTING POWER ALLOWANCE

01	02		03		04
TYPE OF BUILDING (From §140.6 Table 140.6-B)	WATTS PER ft²	X	COMPLETE BLDG. AREA	=	ALLOWED WATTS
Total Area:					
Total Watts. Enter Total Watts into section A, row 1 (Above on this page)					

C -1 AREA CATEGORY METHOD TOTAL LIGHTING POWER ALLOWANCES

	Watts
Total from section C-2	15,124
Total from section C-3	0
Total Watts. Enter Total Watts into section A, row 2 (Above on this page)	15,124
For Alterations Only – Reduced lighting power option (Total Allowed Watts x 0.85). Enter this value into section A, row 2 if using this option.	

STATE OF CALIFORNIA
OUTDOOR LIGHTING
CEC-NRCC-LTO-01-E (Revised 03/16) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTO-01-E
Outdoor Lighting	(Page 4 of 4)
Project Name: Hayward Fire Training Center – Building 1	Date Prepared:

A. General Information
Project Address: 1401 W. Winton Ave. Hayward, CA 94545
Total Illuminated Hardscape Area: 156
Phase of Construction: ☑ New Construction ☐ Addition ☐ Alteration
Outdoor Lighting Zone (LZ) ☐ LZ-1 ☐ LZ-2 ☑ LZ-3 ☐ LZ-4
I have confirmed with the AHJ which LZ applies to this site. For default lighting zone designations, see Title 24 Part 6, §10-114

B. Lighting Compliance Documents (check box for each document included)
For detailed instructions on the use of this and all Energy Efficiency Standards compliance documents, refer to the Nonresidential Manual published by the California Energy Commission.
☑ NRCC-LTO-01-E Certificate of Compliance
☐ NRCC-LTO-02-E Outdoor Lighting Controls Certificate of Compliance
☐ NRCC-LTO-03-E Outdoor Lighting Power Allowance Certificate of Compliance
☐ NRCC-LTO-04-E Outdoor Lighting Existing Conditions Certificate of Compliance

C. Summary of Allowed Outdoor Lighting Power

		Watts
01	**Sum Total ALLOWED** Outdoor Lighting Wattage From NRCC-LTO-03-E, page 1	1,196
	Alterations with NO increase of connected lighting load may instead use the allowed wattage from NRCC-LTO-03-E, page 2. Complete C-2 if **Installed** (Box 01) > **Allowed** (Box 01)	
02	**Sum Total INSTALLED** Outdoor Lighting Wattage From NRCC-LTO-01-E, page 3	933

D. Declaration of Required Installation Certificates
Declare by checking all installation Certificates that will be submitted. (Retain copies and verify compliance documents are completed and signed.)
☑ NRCI-LTO-01-E - Must be submitted for all buildings ☐ Field Inspector
☑ NRCI-LTO-02-E - Must be submitted for a lighting control system, or for an Energy Management Control System (EMCS), to be recognized for compliance. ☐ Field Inspector

E. Declaration of Required Certificates of Acceptance
Declare by checking all of the Certificates of Acceptance that will be submitted. (Retain copies and verify compliance documents are completed and signed.)
☐ NRCA-LTO-02-A - Must be submitted for outdoor lighting controls. ☐ Field Inspector

F. Schedule of Luminaires Exempt from the Outdoor Lighting Power Requirements in §140.7

01	02
Name or Symbol	Description of exempt luminaire in accordance with the exemptions

STATE OF CALIFORNIA
OUTDOOR LIGHTING
CEC-NRCC-LTO-01-E (Revised 03/16) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTO-01-E
Outdoor Lighting	(Page 3 of 4)
Project Name: Hayward Fire Training Center – Building 1	Date Prepared: 7/16/2019

I. Outdoor Lighting Schedule and Field Inspection Energy Checklist

Luminaire Schedule		Installed Watts					Location	Cutoff	Field Inspector	
01	02	03	04		05	06	07	08	09	
Name or Item Tag	Complete Luminaire Description	Watts per Luminaire	How wattage was determined: CEC Default from Adj	How wattage was determined: According to §130.0(c)	Number of Luminaires	Total Installed Watts in this area (3 x 5)	Primary Function area in which the luminaires are installed (Outdoor Lighting Zone)	BUG Rating	Pass	Fail
FE2	FE2	32.0	☐	☑	8	256	Building Facade	UH: n/a UL: n/a FVH: n/a BVH: n/a FH: n/a BH: n/a	☐	☐
FE4	FE4	24.0	☐	☑	1	24	Building Facade	UH: n/a UL: n/a FVH: n/a BVH: n/a FH: n/a BH: n/a	☐	☐
FE3	FE3	40.0	☐	☑	2	80	Building Facade	UH: n/a UL: n/a FVH: n/a BVH: n/a FH: n/a BH: n/a	☐	☐
				INSTALLED WATTS PAGE TOTAL:		360	Enter sum total of all pages (**Sum Total INSTALLED** Outdoor lighting wattage) into NRCC-LTO-01-E, page 1.		933	

STATE OF CALIFORNIA
INDOOR LIGHTING POWER ALLOWANCE
CEC-NRCC-LTI-03-E (Revised 03/16) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-03-E
Certificate of Compliance - Indoor Lighting Power Allowance	(Page 2 of 4)
Project Name: Hayward Fire Training Center - Building 1	Date Prepared: 7/16/2019

A separate page must be filled out for Conditioned and Unconditioned Spaces. This page is only for:
☑ CONDITIONED spaces ☐ UNCONDITIONED spaces

C -2 AREA CATEGORY METHOD GENERAL LIGHTING POWER ALLOWANCE
☐ Do not include portable lighting for offices. Portable lighting for offices shall be documented only in Section G of NRCC-LTI-01-E.
☐ Separately list lighting for each primary function area as defined in §100.1 of the Standards.

01		02		03		04
AREA CATEGORY (From §140.6 Table 140.6-C)		WATTS PER ft²	X	AREA (ft²)	=	ALLOWED WATTS
Location in Building	Primary Function Area per Table 140.6-C					
Classroom/Training/Multipurpose	Classroom, Lecture, Training	1.20		3,148		3,778
Lobby	Lobby, Main Entry	0.95		1,523		1,447
Storage	Corridor/Restroom/Support	0.60		831		499
Corridor/Stair	Corridor/Restroom/Support	0.60		1,825		1,095
Apparatus	Police/Fire Station	0.90		4,883		4,395
Exercise	Exercise Room	1.00		600		600
Conference	Convention/Conference/Meeting	1.20		956		1,147
Office <250SF	Office <= 250 sqft	1.00		1,168		1,168
Restroom	Corridor/Restroom/Support	0.60		469		281
Electrical/Mechanical	Electrical, Mechanical Room	0.55		699		384
Kitchenette	Kitchenette	1.20		275		330
				TOTALS		
Enter sum total Area Category allowed watts into section C-1 of NRCC-LTI-03-E (this compliance document)						15,124
						WATTS

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY:	
KATHY GARCIA DEP. DIR. PUBLIC WORKS	ALEX AMERI INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
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HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER
AMANDA J. BROWNLEE
No. E17287
ELECTRICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

ELECTRICAL TITLE 24

Drawn By: ELW Checked By: AJB

Scale: **NTS**

Date: **October 4, 2019**

Project No. B17.07369

1-E0.22
Drawing No.

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STATE OF CALIFORNIA
OUTDOOR LIGHTING POWER ALLOWANCES
CEC-NRCC-LTO-03-E (Revised 07/16) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTO-03-E
Outdoor Lighting Power Allowances	(Page 2 of 4)
Project Name: Hayward Fire Training Center - Building 1	Date Prepared: 7/16/2019

C. ADDITIONAL "USE IT OR LOSE IT" OUTDOOR LIGHTING POWER ALLOWANCES FOR SPECIFIC APPLICATIONS

☐ The additional specific outdoor lighting power allowance shall be the smaller of the allowed lighting power or the actual lighting power used.

☐ Use Outdoor Lighting Zone (OLZ) that is documented on page 1 of NRCC-LTO-01-E to calculate the specific wattage allowances.

C-1. WATTAGE ALLOWANCE PER APPLICATION – Table 140.7-B

☐ Available only for qualifying locations, which include Building Entrances or Exits; Primary Entrances to Senior Care Facilities, Police Stations, Hospitals, Fire Stations, and Emergency Vehicle Facilities; Drive Up Windows; Vehicle Service Station Uncovered Fuel Dispenser, ATM Machine Lighting

☐ If more than one luminaire type is used per location, use multiple rows for that location

01	02	03	04	05	06	07	08	09	10
	ALLOTTED WATTS			DESIGN WATTS					
Name of Location for Which Allowance is Claimed	Number of Qualifying Locations	Wattage Allowance per Qualifying Location	Allotted Watts (02 x 03)	Luminaire Code or Symbol	Luminaire Description	Luminaire Quantity	Watts per Luminaire	Design Watts (07 x 08)	Allowed Watts (smaller of 04 or 09)
MAIN ENTRANCE	2	120	240	FE10 (1')	FE10 (1')	16	4.0	64	64
OTHER ENTRAN	1	35	35	FE3	FE3	7	40.0	280	35
				FE12	FE12	1	24.0	24	
					Sum total allowance per application on this site:				99

C-2. WATTAGE ALLOWANCE PER UNIT LENGTH (Sales Frontage) from Table 140.7-B

☐ If more than one luminaire type is used per location, use multiple rows for that location

01	02	03	04	05	06	07	08	09	10
	ALLOTTED WATTS			DESIGN WATTS					
Name of Location for Which Allowance is Claimed	Linear Feet of Sales Frontage	Wattage Allowance per Linear Foot	Allotted Watts (02 x 03)	Luminaire Code or Symbol	Luminaire Description	Luminaire Quantity	Watts per Luminaire	Design Watts (07 x 08)	Allowed Watts (smaller of 04 or 09)
					Sum total allowance for sales frontage on the site:				0

STATE OF CALIFORNIA
OUTDOOR LIGHTING CONTROLS
CEC-NRCC-LTO-02-E (Revised 08/16) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTO-02-E
Outdoor Lighting Controls	(Page 2 of 3)
Project Name: Hayward Fire Training Center - Building 1	Date Prepared: 7/16/2019

B. Mandatory Outdoor Lighting Control Schedule and Field Inspection Checklist

Outdoor Lighting Control Schedule			Standards Complying With (✓ all that apply, or enter 'E' if Exempted)						✓ if Acceptance Test Required	Field Inspector	
01	02	03	04	05	06	07	08	09	10	11	
Location and Application of Luminaires Being Controlled	Type/ Description of Lighting Control (i.e. outdoor motion sensor, outdoor photocontrol, outdoor astronomical time-switch control, automatic scheduling control, part-night outdoor lighting control)	# of Units	§130.2(a)	§130.2(c)1	§130.2(c)2	§130.2(c)3	§130.2(c)4	§130.2(c)5		Pass	Fail
ENTRANCE	ASTRONOMICAL TIMECLOCK	SEE PLAN	NA	✓	✓	✓	NA	NA	☐	☐	☐
STAIRWAY	ASTRONOMICAL TIMECLOCK	SEE PLAN	NA	✓	✓	✓	NA	NA	☐	☐	☐
BUILDING FACADE	ASTRONOMICAL TIMECLOCK	SEE PLAN	NA	✓	✓	✓	NA	✓	☐	☐	☐
OTHER ENTRANCE	ASTRONOMICAL TIMECLOCK, MOTION SENSOR	SEE PLAN	NA	✓	✓	✓	NA	NA	☐	☐	☐
									☐	☐	☐
									☐	☐	☐
									☐	☐	☐
									☐	☐	☐
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									☐	☐	☐
									☐	☐	☐

STATE OF CALIFORNIA
OUTDOOR LIGHTING
CEC-NRCC-LTO-01-E (Revised 02/16) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTO-01-E
Outdoor Lighting	(Page 3 of 4)
Project Name: Hayward Fire Training Center - Building 1	Date Prepared: 7/16/2019

I. Outdoor Lighting Schedule and Field Inspection Energy Checklist

Luminaire Schedule		Installed Watts				Location	Cutoff	Field Inspector	
01	02	03	04	05	06	07	08	09	
Name or Item Tag	Complete Luminaire Description	Watts per Luminaire	How wattage was determined: CEC Default from NA8	How wattage was determined: According to §130.0(c)	Number of Luminaires	Total Installed Watts in this area (3 x 5)	Primary Function area in which the luminaires are installed (Outdoor Lighting Zone)	BUG Rating	Pass	Fail
FE11	FE11	15.8	☐	☑	2	32	Building Facade	UH: n/a UL: n/a FVH: n/a BVH: n/a FH: n/a BH: n/a	☐	☐
FE7	FE7	10.2	☐	☑	15	153	Building Facade	UH: n/a UL: n/a FVH: n/a BVH: n/a FH: n/a BH: n/a	☐	☐
FE7	FE7	10.2	☐	☑	2	20	Stairway	UH: n/a UL: n/a FVH: n/a BVH: n/a FH: n/a BH: n/a	☐	☐
					INSTALLED WATTS PAGE TOTAL:	205	Enter sum total of all pages (**Sum Total INSTALLED** Outdoor lighting wattage) into NRCC-LTO-01-E, page 1.		933	

STATE OF CALIFORNIA
OUTDOOR LIGHTING POWER ALLOWANCES
CEC-NRCC-LTO-03-E (Revised 07/16) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTO-03-E
Outdoor Lighting Power Allowances	(Page 3 of 4)
Project Name: Hayward Fire Training Center - Building 1	Date Prepared: 7/16/2019

C-3. WATTAGE ALLOWANCE PER SQUARE FOOT OF HARDSCAPE AREA (Ornamental Lighting) – Table 140.7-B

☐ Allowance for the total site illuminated hardscape area. Luminaires qualifying for this allowance shall be rated for 100 watts or less as determined in accordance with Section 130.0(c), and shall be post-top luminaires, lanterns, pendant luminaires, or chandeliers.

☐ If more than one luminaire type is used per location, use multiple rows for that location

01	02	03	04	05	06	07	08	09	10
	ALLOTTED WATTS			DESIGN WATTS					
Name of area for which ornamental allowance is claimed	Square Feet of Hardscape	Wattage Allowance per Square Foot	Allotted Watts (02 x 03)	Luminaire Code or Symbol	Luminaire Description	Luminaire Quantity	Watts per Luminaire	Design Watts (07 x 08)	Allowed Watts (smaller of 04 or 09)
					Sum total allowance for ornamental lighting on the site:				0

C-4. WATTAGE ALLOWANCE PER SQUARE FOOT OF SPECIFIC AREA - Table 140.7-B

☐ Allowances for Building Facades; Outdoor Sales Lots; Vehicle Service Station Hardscape; Vehicle Service Station Canopies; Sales Canopies; Non-sales Canopies; Tunnels; Guard Stations; Student Pick-up/Drop-off zone: Outdoor Dining; Special Security Lighting for Retail Parking and Pedestrian Hardscape.

☐ If more than one luminaire type is used per location, use multiple rows for that location

01	02	03	04	05	06	07	08	09	10
	ALLOTTED WATTS			DESIGN WATTS					
Name of Location for Which Allowance is Claimed	Illuminated Area of Application	Wattage Allowance per square Foot	Allotted Watts (02 x 03)	Luminaire Code or Symbol	Luminaire Description	Luminaire Quantity	Watts per Luminaire	Design Watts (07 x 08)	Allowed Watts (smaller of 04 or 09)
BUILDING FACADE	3,324	0.350	2,913	FE2	FE2	8	32.0	256	545
				FE4	FE4	1	24.0	24	
				FE3	FE3	2	40.0	80	
				FE11	FE11	2	15.8	32	
					Sum total allowance for specific area on the site:				545

STATE OF CALIFORNIA
OUTDOOR LIGHTING CONTROLS
CEC-NRCC-LTO-02-E (Revised 08/16) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTO-02-E
Outdoor Lighting Controls	(Page 3 of 3)
Project Name: Hayward Fire Training Center - Building 1	Date Prepared: 7/16/2019

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

1. I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: Hayley Vero	Documentation Author Signature: Hayley Vero
Company: WSP	Signature Date: 7/16/2019
Address: 425 Market Street, 17th floor	CEA Certification Identification (if applicable):
City/State/Zip: San Francisco, CA 94105	Phone: 415-243-4600

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer).
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name: Amanda Brownlee	Responsible Designer Signature: Amanda Brownlee
Company : WSP	Date Signed: 7/16/2019
Address: 425 Market Street, 17th Floor	License: E17287
City/State/Zip: San Francisco, CA 94105	Phone: 415-243-4600

STATE OF CALIFORNIA
OUTDOOR LIGHTING
CEC-NRCC-LTO-01-E (Revised 02/16) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTO-01-E
Outdoor Lighting	(Page 4 of 4)
Project Name: Hayward Fire Training Center - Building 1	Date Prepared: 7/16/2019

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

1. I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: Hayley Vero	Documentation Author Signature: Hayley Vero
Company: WSP	Signature Date: 7/16/2019
Address: 425 Market Street, 17th floor	CEA Certification Identification (if applicable):
City/State/Zip: San Francisco, CA 94105	Phone: 415-243-4600

RESPONSIBLE PERSON'S DECLARATION STATEMENT

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1. The information provided on this Certificate of Compliance is true and correct.
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3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
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Responsible Designer Name: Amanda Brownlee	Responsible Designer Signature: Amanda Brownlee
Company : WSP	Date Signed: 7/16/2019
Address: 425 Market Street, 17th Floor	License: E17287
City/State/Zip: San Francisco, CA 94105	Phone: 415-243-4600

STATE OF CALIFORNIA
OUTDOOR LIGHTING POWER ALLOWANCES
CEC-NRCC-LTO-03-E (Revised 07/16) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTO-03-E
Outdoor Lighting Power Allowances	(Page 3 of 4)
Project Name: Hayward Fire Training Center - Building 1	Date Prepared: 7/16/2019

C-3. WATTAGE ALLOWANCE PER SQUARE FOOT OF HARDSCAPE AREA (Ornamental Lighting) – Table 140.7-B

☐ Allowance for the total site illuminated hardscape area. Luminaires qualifying for this allowance shall be rated for 100 watts or less as determined in accordance with Section 130.0(c), and shall be post-top luminaires, lanterns, pendant luminaires, or chandeliers.

☐ If more than one luminaire type is used per location, use multiple rows for that location

01	02	03	04	05	06	07	08	09	10
	ALLOTTED WATTS			DESIGN WATTS					
Name of area for which ornamental allowance is claimed	Square Feet of Hardscape	Wattage Allowance per Square Foot	Allotted Watts (02 x 03)	Luminaire Code or Symbol	Luminaire Description	Luminaire Quantity	Watts per Luminaire	Design Watts (07 x 08)	Allowed Watts (smaller of 04 or 09)
					Sum total allowance for ornamental lighting on the site:				0

C-4. WATTAGE ALLOWANCE PER SQUARE FOOT OF SPECIFIC AREA - Table 140.7-B

☐ Allowances for Building Facades; Outdoor Sales Lots; Vehicle Service Station Hardscape; Vehicle Service Station Canopies; Sales Canopies; Non-sales Canopies; Tunnels; Guard Stations; Student Pick-up/Drop-off zone: Outdoor Dining; Special Security Lighting for Retail Parking and Pedestrian Hardscape.

☐ If more than one luminaire type is used per location, use multiple rows for that location

01	02	03	04	05	06	07	08	09	10
	ALLOTTED WATTS			DESIGN WATTS					
Name of Location for Which Allowance is Claimed	Illuminated Area of Application	Wattage Allowance per square Foot	Allotted Watts (02 x 03)	Luminaire Code or Symbol	Luminaire Description	Luminaire Quantity	Watts per Luminaire	Design Watts (07 x 08)	Allowed Watts (smaller of 04 or 09)
				FE7	FE7	15	10.2	153	
					Sum total allowance for specific area on the site:				545

STATE OF CALIFORNIA
OUTDOOR LIGHTING POWER ALLOWANCES
CEC-NRCC-LTO-03-E (Revised 01/16) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTO-03-E
Outdoor Lighting Power Allowances	(Page 1 of 4)
Project Name: Hayward Fire Training Center - Building 1	Date Prepared: 7/16/2019

A. OUTDOOR LIGHTING POWER ALLOWANCE SUMMARY

1. General Hardscape Lighting Power Allowance (Site Total from Section B of NRCC-LTO-03-E)									1.	552
2. Additional Specific "use it or lose it" Lighting Power Allowances listed in each of these cells shall be identical to total allowed watts determined in Section C-1 to C-4 of NRCC-LTO-03-E.										
PER APPLICATION from Section C-1		PER UNIT LENGTH (SALES FRONTAGE) from Section C-2		PER HARDSCAPE AREA (ORNAMENTAL LIGHTING) from Section C-3		PER SPECIFIC AREA from Section C-4.			2.	644
99	+	0	+	0	+	545	=			
3. **Sum Total ALLOWED** Outdoor Lighting Wattage (add rows 1 and 2)									3.	1,196

B. GENERAL HARDSCAPE LIGHTING POWER ALLOWANCE FROM TABLE 140.7-A

Area Wattage Allowance (AWA)				Linear Wattage Allowance (LWA)			Initial Wattage Allowance (IWA)	Total General Hardscape Lighting Allowance
01	02	03	04	05	06	07	08	09
Name of Area	Illuminated Hardscape Area	AWA Per Square Foot	AWA (B02 x B03)	Perimeter Length of General Hardscape	LPA per Linear Foot	LWA (B05 x B06)	IWA (Watts)	B04 + B07 + B08
STAIRWAY	156	0.040	6	75	0.350	26	520	552
							TOTAL	552

STATE OF CALIFORNIA
OUTDOOR LIGHTING CONTROLS
CEC-NRCC-LTO-02-E (Revised 08/16) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTO-02-E
Outdoor Lighting Controls	(Page 1 of 3)
Project Name: Hayward Fire Training Center - Building 1	Date Prepared: 7/16/2019

A. Mandatory Outdoor Lighting Control Declaration Statements

Check all that apply:

- ☑ Lighting shall be controlled by self-contained lighting control devices which are certified to the Energy Commission according to the Title 20 Appliance Efficiency Regulations in accordance with §110.9(a).
- ☑ Lighting shall be controlled by a lighting control system or energy management control system in accordance with §110.9. An Installation Certificate shall be submitted in accordance with §130.4(b).
- ☑ All lighting controls and equipment shall comply with the applicable requirements in §110.9 and shall be installed in accordance with the manufacturer's instructions in accordance with §130.0(d).
- ☐ Part-Night Outdoor Lighting Controls, as defined in Section 100.1(b), shall meet the requirements in Section 110.9(b)5.
- ☐ All outdoor incandescent luminaires rated over 100 watts, determined in accordance with Section 130.0(c), shall be controlled by a motion sensor.
- ☑ All outdoor luminaires rated for use with lamps greater than 150 lamp watts, determined in accordance with Section 130.0(c), shall comply with Uplight and Glare requirements in accordance with Section 130.2(b).
- ☑ All installed outdoor lighting shall be controlled by a photocontrol or outdoor astronomical time-switch control, or other control capable of automatically switching OFF in accordance with Section 130.2(c)1.
- ☑ All installed outdoor lighting shall be independently controlled from other electrical loads by an automatic scheduling control in accordance with Section 130.2(c)2.
- ☑ All installed outdoor lighting, where the bottom of the luminaire is mounted 24 feet or less above the ground, shall be controlled with automatic lighting controls in accordance with Section 130.2(c)3.
- ☐ For Outdoor Sales Frontage, an automatic lighting control shall be installed in accordance with Section 130.2(c)4.
- ☑ For Building Facade, Ornamental Hardscape and Outdoor Dining lighting, an automatic lighting control shall be installed in accordance with Section 130.2(c)5.
- ☑ Before an occupancy permit is granted for the newly constructed building or for the addition, or for any altered outdoor lighting, the outdoor lighting controls shall be certified as meeting the Acceptance Requirements for Code Compliance in accordance with §130.4.(a). Outdoor lighting controls shall comply with the applicable requirements of Section 130.2(c) and Reference Nonresidential Appendix NA7.8.

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY:	
KATHY GARCIA DEP. DIR. PUBLIC WORKS	ALEX AMERI INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER
AMANDA J. BROWNLEE
No. E17287
ELECTRICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

ELECTRICAL TITLE 24

Drawn By: ELW Checked By: AJB

Scale:
NTS

Date:
October 4, 2019

Project No. B17.07369

1-E0.23
Drawing No.

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STATE OF CALIFORNIA
SIGN LIGHTING
CEC-NRCC-LTS-01-E (Revised 08/16) — CALIFORNIA ENERGY COMMISSION — NRCC-LTS-01-E

CERTIFICATE OF COMPLIANCE — (Page 1 of 5)

Sign Lighting

Project Name: Hayward Fire Training Center - Building 1 — Date Prepared: 7/16/2019

A. General Information

Project Address: 1401 W. Winton Ave. Hayward, CA 94545

Location of Sign: ☐ Outdoor Signs ☐ Indoor Signs
Phase of Sign Construction: ☑ New Signs ☐ Sign Alterations
This Certificate of Compliance includes the following components (check all that apply): ☐ Sign ☐ Sign Lighting Controls ☐ Not Installing Lighting Controls
☑ Mandatory Measures (Lighting Controls) ☑ Maximum Allowed Lighting Power ☐ Specific Lighting Sources

1. Mandatory Sign Lighting Controls

NOTES:

1. *The same responsible person may install both the sign lighting power and the sign lighting controls, or a different responsible person may install the sign lighting controls than the responsible person installing the sign lighting power.*
2. *The Mandatory Measures (sign lighting controls) are required for compliance with the sign lighting Standards. If the person responsible for installing the sign lighting controls, then the owner of the sign, is not installing the sign lighting controls, each responsible person shall prepare and sign a Certificate of Compliance and an Installation Certificate applicable to the portion of construction for which they are responsible; alternatively, the responsible person may complete parts 1a and 1b on one compliance document and a C-45 contractor may complete parts 2a and 2b on a separate compliance document – the Responsible Designer shall submit the two compliance documents together for the same complete installation.*
3. *If more than one person has responsibility for compliance, each responsible person shall prepare and sign a Certificate of Compliance and an Installation Certificate applicable to the portion of construction for which they are responsible; alternatively, the responsible person may complete parts 1a and 1b on one compliance document and a C-45 contractor may complete parts 2a and 2b on a separate compliance document (e.g. a C-10 contractor may complete parts 1a and 1b and a C-45 contractor may complete parts 2a and 2b on a separate compliance document) – the Responsible Designer shall submit the two compliance documents together for the same complete installation.*

1 **Mandatory Measures for Installing the Sign Lighting Controls.** ☐ Yes, I have responsibility for installing the sign lighting controls. ☐ No, I do not have responsibility for installing the sign lighting controls. Someone else will complete parts 1a and 1b of this compliance document.

1a. Check Yes or No for all of the following statements:

1. ☐ Yes ☑ No — There are existing sign lighting controls and I will be installing sign lighting controls that comply with the applicable provisions of §110.9 and §130.3
2. ☐ Yes ☐ No — There are no existing sign lighting controls and I will be installing sign lighting controls that comply with the applicable provisions of §110.9 and §130.3
3. ☐ Yes ☐ No — There are existing sign lighting controls that do not comply with the applicable provisions of §110.9 and §130.3 and I will be installing sign lighting controls aht comply with the applicable provisions of §110.9 and §130.3

STATE OF CALIFORNIA
SIGN LIGHTING
CEC-NRCC-LTS-01-E (Revised 08/16) — CALIFORNIA ENERGY COMMISSION — NRCC-LTS-01-E

CERTIFICATE OF COMPLIANCE — (Page 2 of 5)

Sign Lighting

Project Name: Hayward Fire Training Center - Building 1 — Date Prepared: 7/16/2019

1b. Mandatory Sign Lighting Controls

If there are construction documents, indicate where on the building plans the mandatory measures (sign lighting control) note block can be located:

If the Certificate of Compliance Declaration Statement on this NRCC-LTS-01-E is responsible for complying with the sign lighting control requirements, that person shall answer all of the following questions:

		Y	N	NA
1	**§130.3(a)1A. All indoor sign lighting** is controlled with an automatic time-switch control or astronomical time-switch control.	☐	☐	☑
2	**§130.3(a)2A. All outdoor sign lighting** is controlled with a photocontrol in addition to an automatic time-switch control, or an astronomical time-switch control.	Y ☑	N ☐	NA ☐
	EXCEPTION to Section 130.3(a)2A: Outdoor signs in tunnels, and signs in large permanently covered outdoor areas that are intended to be continuously lit, 24 hours per day and 365 days per year.	☐	☐	☑
3	**§130.3(a)2B. All outdoor sign lighting** that is ON both day and night is controlled with a dimmer that provides the ability to automatically reduce sign lighting power by a minimum of 65% during nighttime hours. Signs that are not illuminated at night and for more than 1 hour during daylight hours shall be considered ON both day and night.	Y ☐	N ☐	NA ☑
	EXCEPTION to Section 130.3(a)2B: Outdoor signs in tunnels and large covered areas that are intended to be illuminated both day and night.	Y ☐		NA ☑
4	**§130.3(a)3A. Electronic Message Center Control.** An Electronic Message Center (EMC) having a new connected lighting power load greater than 15 kW has a control installed that is capable of reducing the lighting power by a minimum of 30% when receiving a demand response signal.	Y ☐	N ☐	N/A ☐
	EXCEPTION to Section 130.3(a)3: Lighting for EMCs that is not permitted by a health or life safety statute, ordinance, or regulation to be reduced by 30%.	Y ☐		NA ☑

Field Inspector Notes:

STATE OF CALIFORNIA
SIGN LIGHTING
CEC-NRCC-LTS-01-E (Revised 08/16) — CALIFORNIA ENERGY COMMISSION — NRCC-LTS-01-E

CERTIFICATE OF COMPLIANCE — (Page 3 of 5)

Sign Lighting

Project Name: Hayward Fire Training Center - Building 1 — Date Prepared: 7/16/2019

2a. Mandatory Sign Lighting Measures

☑ **I have responsibility for installing the sign lighting**
☐ Yes, I have responsibility for the sign lighting, and will complete parts 2a and 2b of this compliance document.
☐ No, I do not have responsibility for installing the sign lighting. Someone else will complete parts 2a and 2b of this compliance document.

2b. Maximum Allowed Lighting Power Method of Compliance

Certificate of Compliance and Field Inspection Energy Checklist.

Completes this part if there are signs using the maximum allowed lighting power method of compliance. (Complete part 2b of this Certificate of Compliance if there are signs using the Specific Lighting Sources method of compliance)

A	B	C	D	E	F	G	H	I	J
Symbol or Code	Description of the Sign	OPTIONAL – Energy Verified Label (see instructions below)	Sign Area (ft^2)	Internally (I) or Externally (E) Illuminated	Allowed LPD (I = 12 W/ft^2) (E = 2.3 W/ft^2)	Allowed Watts (D x F)	Total Installed Watts for Sign	Design Watts	Complies Y/N	Field Inspector Check that Sign Complies
FES	FIRE TRAINING SIG	☐	97	Ext	2.3	223	220	Y	☐	✓
FES	FIRE STATION 6 SIG	☐	222	Ext	2.3	511	330	Y	☐	☐
		☐							☐	☐
		☐							☐	☐
		☐							☐	☐
		☐							☐	☐
		☐							☐	☐
		☐							☐	☐

A — Symbol or code used on the plans (when plans are required) and other documents.
B — A narrative description of the sign, or location of sign on the building, as used on the construction documents.
C — OPTIONAL - Check this box only if this sign has a permanent, pre-printed, factory-installed, ENERGY VERIFIED label, confirming that the sign complies with the Section 140.8 of the California 2016 Title 24, Part 6 Standards, using the Maximum Allowed Lighting Power Method of Compliance. The ENERGY VERIFIED label shall be issued by an Accredited Certification Body that is authorized by Underwriters Laboratories (UL) or other Product Certification Body accredited to ISO/IEC Guide 65 by the American National Standards Institute in accordance with ISO/IEC 17020. Surveillance by the Accredited Certification Body shall be an ongoing annual inspection program carried out by a Type A Inspection body in accordance with ISO/IEC 17020. For signs with such an ENERGY VERIFIED label, columns 'D' through 'I' are not required to be filled out. Note: Using an ENERGY VERIFIED label is an optional method to validate compliance. An ENERGY VERIFIED label is not needed for compliance.
D — Sign Area in square feet.
E — List "I" if the sign is internally illuminated. List "E" if the sign is externally illuminated.
F — Allowed watts per square foot. Enter 12 if the sign is listed as "I" in column E. Enter 2.3 if sign is listed as "E" in column E.
G — Multiply the square footage in column D times the allowed lighting power density (LPD = watts / ft sq.) in column F.
H — Total installed watts for the sign, including ballast losses and transformer losses.
I — Enter 'Y' if the number in column H is less than or equal to the number in column G. Otherwise, the sign does not comply.
J — This page doubles as a field inspection checklist.

Field Inspector Notes:

STATE OF CALIFORNIA
SIGN LIGHTING
CEC-NRCC-LTS-01-E (Revised 08/16) — CALIFORNIA ENERGY COMMISSION — NRCC-LTS-01-E

CERTIFICATE OF COMPLIANCE — (Page 4 of 5)

Sign Lighting

Project Name: Hayward Fire Training Center - Building 1 — Date Prepared: 7/16/2019

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

1. I certify that this certificate of compliance documentation is accurate and complete.

Documentation Author Name:	Hayley Vero	Documentation Author Signature:	Hayley Vero
Company:	WSP	Signature Date:	7/16/2019
Address:	425 Market Street, 17th floor	CEA Certification Identification (if applicable):	
City/State/Zip:	San Francisco, CA 94105	Phone:	415-243-4600

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible (under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer).
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for all applicable inspections.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name:	Amanda Brownlee	Responsible Designer Signature:	Amanda Brownlee
Company:	WSP	Date Signed:	7/16/2019
Address:	425 Market Street, 17th Floor	License:	E17287
City/State/Zip:	San Francisco, CA 94105	Phone:	415-243-4600

STATE OF CALIFORNIA
OUTDOOR LIGHTING POWER ALLOWANCES
(CEC-NRCC-LTO-03-E (Revised 01/16)) — CALIFORNIA ENERGY COMMISSION — NRCC-LTO-03-E

CERTIFICATE OF COMPLIANCE — (Page 4 of 4)

Outdoor Lighting Power Allowances

Project Name: Hayward Fire Training Center - Building 1 — Date Prepared: 7/16/2019

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

1. I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name:	Hayley Vero	Documentation Author Signature:	Hayley Vero
Company:	WSP	Signature Date:	7/16/2019
Address:	425 Market Street, 17th floor	CEA Certification Identification (if applicable):	
City/State/Zip:	San Francisco, CA 94105	Phone:	415-243-4600

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer).
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for all applicable inspections.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name:	Amanda Brownlee	Responsible Designer Signature:	Amanda Brownlee
Company:	WSP	Date Signed:	7/16/2019
Address:	425 Market Street, 17th Floor	License:	E17287
City/State/Zip:	San Francisco, CA 94105	Phone:	415-243-4600

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY:	
KATHY GARCIA DEP. DIR. PUBLIC WORKS	ALEX AMERI INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER
AMANDA J. BROWNLEE
No. E17287
ELECTRICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

ELECTRICAL TITLE 24

Drawn By: ELW — Checked By: AJB

Scale: **NTS**

Date: **October 4, 2019**

Project No. B17.07369

1-E0.24
Drawing No.

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STATE OF CALIFORNIA
LIGHTING – MULTI FAMILY DWELLINGS
CALIFORNIA ENERGY COMMISSION
CF2R-LTG-02-E
(Page 4 of 4)

CERTIFICATE OF INSTALLATION (CF2R-LTG-02-E Revised 10/18)
Lighting – Multi-Family Dwellings – For Non-HERS Registered Projects

Project Name: Hayward Fire Training Center - 1	Enforcement Agency:	Permit Number:	
Street or Avenue: 1401 W. Winton Ave.	City: Hayward	Zip Code: 94545	

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT
I certify the following under penalty of perjury, under the laws of the State of California:
1. The documentation author identified below is the author of the Certificate of Installation documentation.
2. I am either: a) a responsible person eligible under Division 3 of the Business and Professions Code in the applicable classification to accept responsibility for the system design, construction, or installation of features, materials, components, or manufactured devices for the building project for which this Certificate of Installation is submitted; or b) an employee with sufficient technical training to act as a representative of the responsible person and attest to the declarations in this statement on the responsible person's behalf.
3. The constructed or installed features, materials, components or manufactured devices (the installation) identified on this Certificate of Installation are consistent with the information provided on the applicable certificate of compliance forms to the requirements given on that certificate of compliance, plans, and specifications approved by the enforcement agency.
4. I will ensure that a registered copy of this Certificate of Installation shall be posted or made available with the building permit(s) issued for the building project for which this Certificate of Installation is submitted, and any subsequent amendments to this Certificate of Installation shall be submitted to the enforcement agency and shall be posted or made available with the building permit(s) issued for the building project in which this Certificate of Installation is required to be included with the documentation the builder provides to the building owner at occupancy.

Documentation Author Name: Hayley Ann	Documentation Author Signature: Hayley Ann
Documentation Author Company Name: WSP	Date Signed: 09/12/2018
Address: 499 Howard Street, Suite 500	CEA/HERS Certification Identification (If applicable):
City/State/Zip: San Francisco, CA 94105	Phone: 415-398-3833

RESPONSIBLE PERSON'S DECLARATION STATEMENT
I certify the following under penalty of perjury, under the laws of the State of California:
1. I am the responsible person for the design of the building features specified on this Certificate of Installation.
2. I am either: a) a responsible person eligible under Division 3 of the Business and Professions Code in the applicable classification to accept responsibility for the system design, construction, or installation of features, materials, components, or manufactured devices for the building project for which this Certificate of Installation is submitted; or b) an employee with sufficient technical training to act as a representative of the responsible person and attest to the declarations in this statement on the responsible person's behalf.
3. The constructed or installed features, materials, components or manufactured devices (the installation) identified on this Certificate of Installation are consistent with the information provided on the applicable certificate of compliance forms to the requirements given on that certificate of compliance, plans, and specifications approved by the enforcement agency.
4. I will ensure that a registered copy of this Certificate of Installation shall be posted or made available with the building permit(s) issued for the building project for which this Certificate of Installation is submitted, and any subsequent amendments to this Certificate of Installation shall be submitted to the enforcement agency and shall be posted or made available with the building permit(s) issued for the building project in which this Certificate of Installation is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Builder/Installer Name:	Responsible Builder/Installer Signature:
Company Name: (Installing Subcontractor or General Contractor or Builder/Owner)	Position With Company (Title):
Address:	CSLB License:
City/State/Zip:	Phone: State Signed:

STATE OF CALIFORNIA
LIGHTING – MULTI FAMILY DWELLINGS
CALIFORNIA ENERGY COMMISSION
CF2R-LTG-02-E
(Page 2 of 4)

CERTIFICATE OF INSTALLATION (CF2R-LTG-02-E Revised 10/18)
Lighting – Multi-Family Dwellings – For Non-HERS Registered Projects

Project Name: Hayward Fire Training Center - 1	Enforcement Agency:	Permit Number:	
Street or Avenue: 1401 W. Winton Ave.	City: Hayward	Zip Code: 94545	

A. Installed Lighting and Controls
Select Yes or No according to whether your work on the project includes each of the following types of lighting and controls. See Section 10-103(a)1 and Table 150.0-A for additional requirements.

		Yes or No
01	High efficacy luminaires installed in any interior rooms. (See Section B.)	Yes ● No ○
02	JA8 compliant luminaires and controls installed in any interior rooms. (See Section B.)	Yes ● No ○
03	Blank electrical boxes installed more than 5 feet from finished floor. (See Section F.)	Yes ● No ○
04	Screw-based luminaires installed in any interior rooms. (See Section D.)	Yes ● No ○
05	Lighting and controls in bathrooms. (See Section E.)	Yes ● No ○
06	Lighting and controls in garage. (See Section E.)	Yes ● No ○
07	Lighting and controls in utility rooms. (See Section E.)	Yes ● No ○
08	Lighting and controls in garage. (See Section F.)	Yes ● No ○
09	Blank electrical boxes installed more than 5 feet from finished floor. (See Section F.)	Yes ● No ○
10	Internally illuminated address signs. (See Section G.)	Yes ○ No ●
11	Parking Garages. (See Section I.)	Yes ○ No ●
12	Enclosed Parking Garages. (See Sections I, J & K.)	Yes ○ No ●
13	Common areas. See (Section M. & N.)	Yes ○ No ●
14	Outdoor lighting. See (Section O.)	Yes ○ No ●

B. High Efficacy Luminaire and Controls
All luminaires are installed with:
01 • Light sources of one of the light source technologies indicated under the "High Efficacy" column of TABLE 150.0-A; or
• Luminaires that have been tested in accordance with JA8-2016-E.
02 150.0(k)2A: Dimmers or other occupant control: All luminaires required to have JA8 compliant light sources are
03 150.0(k)2A Forward phase cut dimmers used shall comply with NEMA SSL 7A.
The responsible person's signature on this compliance document affirms that all applicable requirements in this table have been met.

C. Recessed Downlight Luminaires in Ceilings
01 150.0(k)1A: Contact: JA8 compliant light sources that are marked with a label reading "JA8-2016-E".
02 150.0(k)1A: Label: Certified luminaires that have been tested to JA8-2016-E.
03 150.0(k)1D: Has label certifying air tight.
04 150.0(k)1Ciii: Sealed with a gasket or caulk between the luminaire housing and ceiling, and all air leakage paths between conditioned and unconditioned spaces are caulked, gasketed, or sealed.
05 150.0(k)1Cv: Allows ballast maintenance and replacement to be readily accessible to building occupants from below the ceiling without requiring the cutting of holes in the ceiling.
06 150.0(k)1Civ: Has a socket that complies with Section 150.0(k)3.
The responsible person's signature on this compliance document affirms that all applicable requirements in this table have been met.

D. Additional Luminaire Requirements
01 150.0(k)2A: Luminaires are installed with all of the following requirements:
• The luminaire is not recessed downlight luminaire in ceilings; and
• The luminaire contains a JA8 compliant lamps.
02 150.0(k)2A: No light source marked "not for use in enclosed fixture" or "not for use in recessed fixture" are installed in enclosed luminaires.
03 150.0(k)1D: Ballasts for fluorescent lamps rated 13 Watts or greater are electronic.
04 150.0(k)1Civ: Luminaires are marked to indicate they are suitable for insulation contact.
05 150.0(k)1F: Lighting integral to exhaust fans meets all applicable requirements of Section 150.0(k).
The responsible person's signature on this compliance document affirms that all applicable requirements in this table have been met.

STATE OF CALIFORNIA
LIGHTING – MULTI FAMILY DWELLINGS
CALIFORNIA ENERGY COMMISSION
CF2R-LTG-02-E
(Page 3 of 4)

CERTIFICATE OF INSTALLATION (CF2R-LTG-02-E Revised 10/18)
Lighting – Multi-Family Dwellings – For Non-HERS Registered Projects

Project Name: Hayward Fire Training Center - 1	Enforcement Agency:	Permit Number:	
Street or Avenue: 1401 W. Winton Ave.	City: Hayward	Zip Code: 94545	

F. Outdoor Lighting for Residential Parking Lots and Residential Carports with Less than Eight Vehicles per Site
01 150.0(k)3B: Outdoor lighting are controlled by a manual ON and OFF switch and one of the following automatic control types:
• Photocontrol and automatic time switch control;
• Astronomical time clock that automatically turns the lighting OFF during daytime hours;
• Energy management control system (EMCS) that provides the functionality of an astronomical time clock, does not have an override that allows the luminaire to be always ON, and is programmed to automatically turn outdoor lighting off during daytime hours; or
02 150.0(k)3B: Outdoor lighting complies with the applicable requirements in Sections 110.9, 130.0, 130.2, 130.4, 140.7, and 141.0.
Applicable ITO forms shall also be submitted.
The responsible person's signature on this compliance document affirms that all applicable requirements in this table have been met.

J. For Low-rise Multi-family Buildings with Four or More Dwelling Units, Outdoor Lighting for Other than Private Patios, Entrances, Balconies, Porches, or for Other than Residential Parking Lots and Residential Carports with Eight or More Vehicles
01 150.0(k)3A: Outdoor lighting complies with the applicable requirements in Sections 110.9, 130.0, 130.2, 130.4, 140.7, and 141.0.
Applicable ITO forms shall also be submitted.
The responsible person's signature on this compliance document affirms that all applicable requirements in this table have been met.

K. Outdoor Lighting for Residential Parking Lots and Residential Carports with Eight or More Vehicles per Site
01 150.0(k)3D: Outdoor lighting complies with the applicable requirements in Sections 110.9, 130.0, 130.2, 130.4, 140.7, and 141.0.
Applicable ITO forms shall also be submitted.
The responsible person's signature on this compliance document affirms that all applicable requirements in this table have been met.

L. Lighting for Residential Garages with Eight or More Vehicles
01 150.0(k)3E: Outdoor lighting complies with the applicable requirements for nonresidential garages in Sections 110.9, 130.0, 130.1, 130.4, 140.6, and 141.0. Applicable ITO forms shall also be submitted.
The responsible person's signature on this compliance document affirms that all applicable requirements in this table have been met.

M. Lighting for Interior Common Areas (≤ 20%) of Low-rise Multi-family
01 ☐ 150.0(k)4A: Installed luminaires are high efficacy and controlled by an occupancy sensor
The responsible person's signature on this compliance document affirms that all applicable requirements in this table have been met.

N. Lighting for Interior Common Areas (> 20%) of Low-rise Multi-family
01 150.0(k)4B: Lighting complies with the applicable requirements in Sections 110.9, 130.0, 130.1, 140.6, and 141.0. Applicable ITO forms shall also be submitted.
02 150.0(k)4B: Lighting installed in corridors and stairwells is controlled by occupant sensors that reduce the lighting power by at least 50% and capable of turning light fully on and off.
The responsible person's signature on this compliance document affirms that all applicable requirements in this table have been met.

STATE OF CALIFORNIA
LIGHTING – MULTI FAMILY DWELLINGS
CALIFORNIA ENERGY COMMISSION
CF2R-LTG-02-E
(Page 1 of 4)

CERTIFICATE OF INSTALLATION (CF2R-LTG-02-E Revised 10/18)
Lighting – Multi-Family Dwellings – For Non-HERS Registered Projects

Project Name: Hayward Fire Training Center - 1	Enforcement Agency:	Permit Number:	
Street or Avenue: 1401 W. Winton Ave.	City: Hayward	Zip Code: 94545	

A. Installed Lighting and Controls
Select Yes or No according to whether your work on the project includes each of the following types of lighting and controls. See Section 10-103(a)1 and Table 150.0-A for additional requirements.

		Yes or No
01	High efficacy luminaires installed in any interior rooms. (See Section B.)	Yes ● No ○
02	JA8 compliant luminaires and controls installed in any interior rooms. (See Section B.)	Yes ● No ○
03	Blank electrical boxes installed more than 5 feet from finished floor. (See Section F.)	Yes ● No ○
04	Screw-based luminaires installed in any interior rooms. (See Section D.)	Yes ● No ○
05	Lighting and controls in bathrooms. (See Section E.)	Yes ● No ○
06	Lighting and controls in garage. (See Section E.)	Yes ● No ○
07	Lighting and controls in utility rooms. (See Section E.)	Yes ● No ○
08	Lighting and controls in garage. (See Section F.)	Yes ● No ○
09	Blank electrical boxes installed more than 5 feet from finished floor. (See Section F.)	Yes ● No ○
10	Internally illuminated address signs. (See Section G.)	Yes ○ No ●
11	Parking Garages. (See Section I.)	Yes ○ No ●
12	Enclosed Parking Garages. (See Sections I, J & K.)	Yes ○ No ●
13	Common areas. See (Section M. & N.)	Yes ○ No ●
14	Outdoor lighting. See (Section O.)	Yes ○ No ●

B. High Efficacy Luminaire and Controls
All luminaires are installed with:
01 • Light sources of one of the light source technologies indicated under the "High Efficacy" column of TABLE 150.0-A; or
• Luminaires that have been tested in accordance with JA8-2016-E.
02 150.0(k)2A: Dimmers or other occupant control: All luminaires required to have JA8 compliant light sources are
03 150.0(k)2A Forward phase cut dimmers used shall comply with NEMA SSL 7A.
The responsible person's signature on this compliance document affirms that all applicable requirements in this table have been met.

C. Recessed Downlight Luminaires in Ceilings
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02 150.0(k)1A: Label: Certified luminaires that have been tested to JA8-2016-E.
03 150.0(k)1D: Has label certifying air tight.
04 150.0(k)1Ciii: Sealed with a gasket or caulk between the luminaire housing and ceiling, and all air leakage paths between conditioned and unconditioned spaces are caulked, gasketed, or sealed.
05 150.0(k)1Cv: Allows ballast maintenance and replacement to be readily accessible to building occupants from below the ceiling without requiring the cutting of holes in the ceiling.
06 150.0(k)1Civ: Has a socket that complies with Section 150.0(k)3.
The responsible person's signature on this compliance document affirms that all applicable requirements in this table have been met.

D. Additional Luminaire Requirements
01 150.0(k)2A: Luminaires are installed with all of the following requirements:
• The luminaire is not recessed downlight luminaire in ceilings; and
• The luminaire contains a JA8 compliant lamps.
02 150.0(k)2A: No light source marked "not for use in enclosed fixture" or "not for use in recessed fixture" are installed in enclosed luminaires.
03 150.0(k)1D: Ballasts for fluorescent lamps rated 13 Watts or greater are electronic.
04 150.0(k)1Civ: Luminaires are marked to indicate they are suitable for insulation contact.
05 150.0(k)1F: Lighting integral to exhaust fans meets all applicable requirements of Section 150.0(k).
The responsible person's signature on this compliance document affirms that all applicable requirements in this table have been met.

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
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DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY
DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY:	
KATHY GARCIA DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER
AMANDA J. BROWNLEE
No. E17287
ELECTRICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

ELECTRICAL TITLE 24

Drawn By: ELW Checked By: AJB

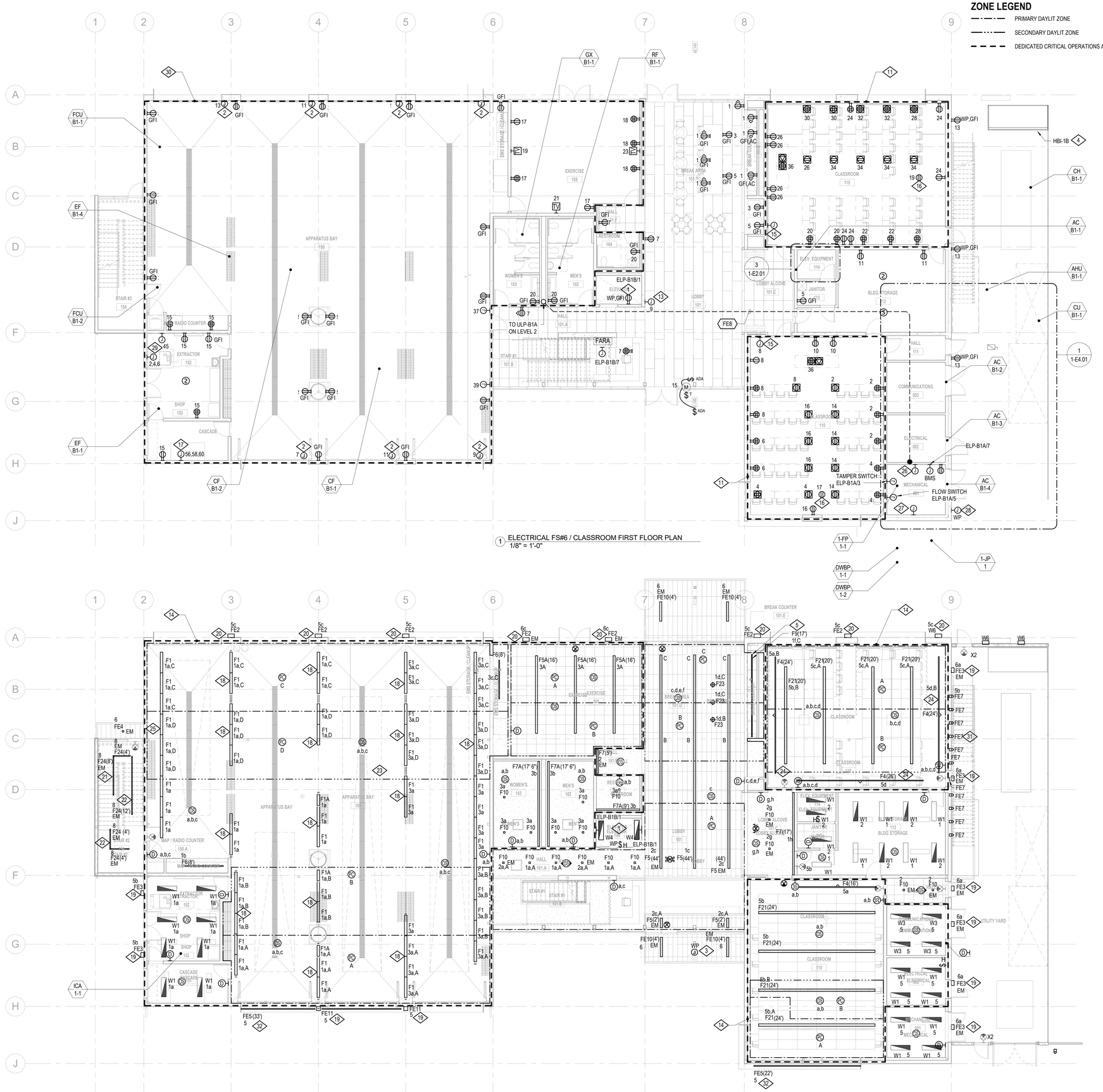
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NTS

Date:
October 4, 2019

Project No. B17.07369

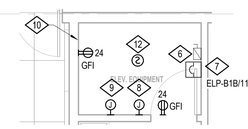
1-E0.25
Drawing No.

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1 ELECTRICAL FS#6 / CLASSROOM FIRST FLOOR PLAN
1/8" = 1'-0"

2 01-ELEC LIGHTING CLASSROOM-FIRST FLOOR
1/8" = 1'-0"



3 ENLARGED ELEVATOR MACHINE ROOM
1/4" = 1'-0"

ZONE LEGEND

- PRIMARY DAYLIT ZONE
- SECONDARY DAYLIT ZONE
- DEDICATED CRITICAL OPERATIONS AREA

SHEET NOTES:

A. PROVIDE CONDUIT AND WIRE FOR CIRCUITING AND SWITCHING SHOWN.

B. VERIFY EXACT LOCATION AND MOUNTING HEIGHT OF ALL DEVICES, SWITCHES, AND LIGHT FIXTURES WITH ARCHITECT.

C. PROVIDE NEMA 4X RATED ENCLOSURE FOR ALL EXTERIOR EQUIPMENT, UON.

D. ALL EXIT SIGNS ON THIS SHEET SHALL BE TYPE X1, UON. CONNECT TO ELPH-B1B/9.

E. ALL DIMMERS ARE TO HAVE A MASTER RAISE/LOWER.

F. RUN ALL IN-GROUND CONDUIT 24" BELOW GRADE, MINIMUM.

G. CONNECT ALL 120/208V POWER EQUIPMENT AND DEVICES TO PANEL LP-B1A, UON.

H. CONNECT ALL 277/480V LIGHTING TO PANEL LPH-B1A, UON.

I. CONNECT ALL 277/480V EMERGENCY LIGHTING TO PANEL ELPH-B1B, UON.

J. FOR ALL DATA CABLING, PATHWAY INFRASTRUCTURE AND DEVICES REFER TO T SERIES DRAWINGS.

NUMBERED NOTES:

1. DEVICES LOCATED IN ELEVATOR PIT. COORDINATE EXACT LOCATION WITH ELEVATOR CONTRACTOR.
2. PROVIDE CONNECTION TO MOTORIZED DOOR.
3. INTERNALLY ILLUMINATED SIGNAGE TO BE PROVIDED BY SIGN CONSULTANT.
4. EQUIPMENT SHOWN FOR COORDINATION PURPOSES ONLY. REFER TO SHEET 1-H2.01.
5. LIGHT FIXTURE TO BE SURFACE MOUNTED TO UNDERSIDE OF CABINET IN MILLWORK DETAIL. PROVIDE FASCIA TO CONCEAL FIXTURE FROM VIEW. REFER ARCHITECTURAL/MILLWORK DRAWINGS. LOCATE REMOTE DRIVER IN CABINET OR ADJACENT ACCESSIBLE LOCATION.
6. PROVIDE POWER FOR ELEVATOR CONTROLLER. PROVIDE LOCKABLE DISCONNECT. CONNECT TO SHUNT TRIP CIRCUIT BREAKER IN DISTRIBUTION PANEL. VERIFY FUSE AND WIRE SIZE WITH ELEVATOR CONTRACTOR PRIOR TO ROUGH IN.
7. PROVIDE POWER FOR ELEVATOR CAB FAN AND LIGHTS. PROVIDE LOCKABLE DISCONNECT SWITCH.
8. PROVIDE CONNECTION FROM FIRE ALARM CABINET TO ELEVATOR CONTROLLER FOR ELEVATOR RECALL.
9. PROVIDE 120V, 1 PHASE CONNECTION FOR SECURITY AND/OR INTERCOM.
10. PROVIDE 2" EC WITH PULLSTRING TO NEAREST TELEPHONE ROOM FOR TELEPHONE IN ELEVATOR CAB.
11. CONNECT 120/208V POWER TO PANEL ELP-B1A,UON.
12. INTERWIRE TO CONTROLLER. ALSO INTERWIRE FIRE ALARM SYSTEM WITH HVAC UNITS SUCH THAT DETECTION OF SMOKE AT SMOKE DETECTOR AUTOMATICALLY SHUTS DOWN HVAC UNITS TO ELEVATOR CONTROL ROOM.
13. PROVIDE POWER AND DATA FOR SIGNAGE. COORDINATE EXACT LOCATION AND MOUNTING HEIGHT WITH ARCHITECT AND EQUIPMENT MANUFACTURER PRIOR TO ROUGH-IN.
14. CONNECT 277/480V LIGHTING TO PANEL ELPH-B1B, UON.
15. PROVIDE HARDWIRED CONNECTION TO SCREEN MOTOR.
16. PROVIDE CONNECTION TO CEILING MOUNTED VIDEO PROJECTOR.
17. PROVIDE 208V, 3-PHASE, 4-WIRE CONNECTION TO OFCI CASCADE AIR SYSTEM. PROVIDE 1/2"C - 4#10 & 1#10G.
18. TYPICAL NOTE - BOTTOM OF FIXTURE SHALL BE MOUNTED AT 13'-9" AFF.
FIXTURE TO BE MOUNTED TO THE SUSPENDED UNISTRUT. CONTRACTOR TO COORDINATE FINAL FIXTURE LOCATION AND UNISTRUT LOCATION WITH DUCTS AND FANS TO AVOID CONFLICT PER SITE CONDITION PRIOR TO INSTALLING.
19. BOTTOM OF FE3 AND FE11 FIXTURE SHALL BE MOUNTED AT 9'-0" AFF.
20. CENTER OF FE2 FIXTURE SHALL BE MOUNTED AT 12'-9" AFF.
21. BOTTOM OF F24 FIXTURE SHALL BE MOUNTED AT 16' AFF OF FIRST FLOOR.
22. BOTTOM OF F24 FIXTURE SHALL BE MOUNTED AT 8' AFF OF FIRST FLOOR.
23. CONTRACTOR TO PROVIDE SUSPENDED UNISTRUT FOR ALL TYPE F1/F1A LIGHT FIXTURES TO MOUNT ON IN THIS ROOM AND SHALL BE IN COMPLIANCE WITH ALL SEISMIC REQUIREMENTS.
24. BOTTOM OF THE FIXTURE TO 4" ABOVE TOP OF ADJACENT SUSPENDED CEILING PANEL. CENTER OF FIXTURE TO BE ALIGNED TO EDGE OF CEILING PANEL AT FRONT OF ROOM.
25. TYPICAL NOTE - BOTTOM OF F1 FIXTURE SHALL BE MOUNTED AT 12'-6" AFF. FIXTURE TO BE MOUNTED TO THE UNDERSIDE OF THE SUSPENDED UNISTRUT. CONTRACTOR TO COORDINATE FINAL FIXTURE LOCATION AND UNISTRUT LOCATION WITH DUCTS AND FANS TO AVOID CONFLICT PER SITE CONDITION PRIOR TO INSTALLING.
26. PROVIDE CONNECTION TO FIRE PUMP CONTROL PANEL.
27. PROVIDE CONNECTION TO JOCKEY PUMP CONTROL PANEL.
28. PROVIDE CONNECTION TO DOMESTIC BOOSTER PUMP CONTROL PANEL.
29. PROVIDE CONNECTION TO EXTRACTOR. 1/2"C - 3#12 +1#12G.
30. CONNECT 120/208V POWER TO PANEL ELP-B1D, UON.
31. FE7 STEP LIGHTS TO BE LOCATED 2'AFF AT EVERY THREE STEPS. TOTAL (11) STEP LIGHS AT STAIR FROM SERVICE YARD TO BUILDING 02 SECOND FLOOR.
32. FIXTURE TYPE FE5 TO BE MOUNTED WITHIN SIGNAGE DETAIL. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT FIXTURE LOCATION.

RossDrulisCusenbery
ARCHITECTURE
18294 Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY:	
KATHY GARCIA DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

WSP USA Buildings Inc.
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San Francisco, CA 94105
(415) 243-4600
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1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	INC 01_ADD_01_V1	12/06/2019

REGISTERED PROFESSIONAL ENGINEER
AMANDA J. BROWNLEE
No. E17287
ELECTRICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

ELECTRICAL FS#6/CLASSROOM FIRST FLOOR PLAN

Drawn By: ELW
Checked By: AJB

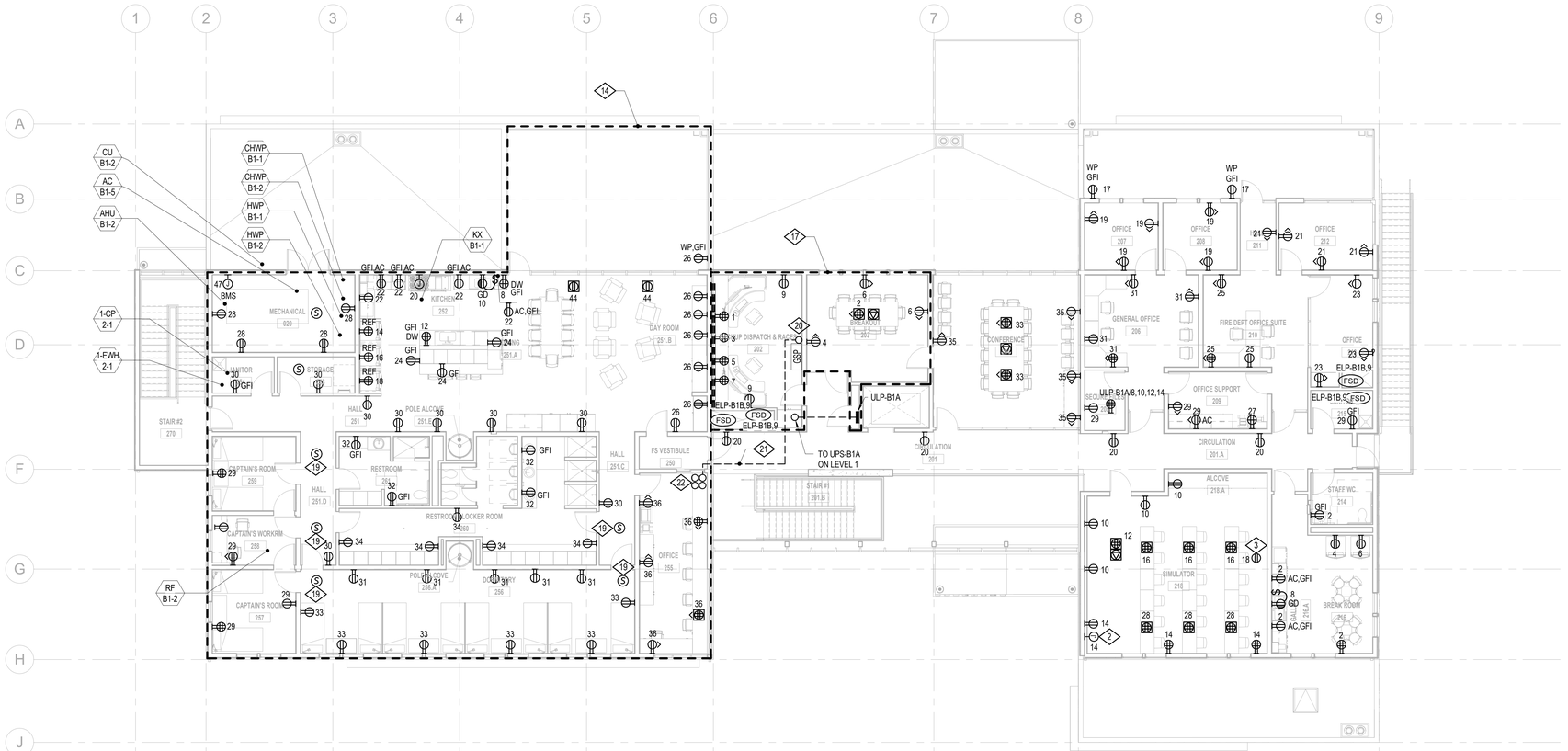
Scale:
As indicated

Date:
October 4, 2019

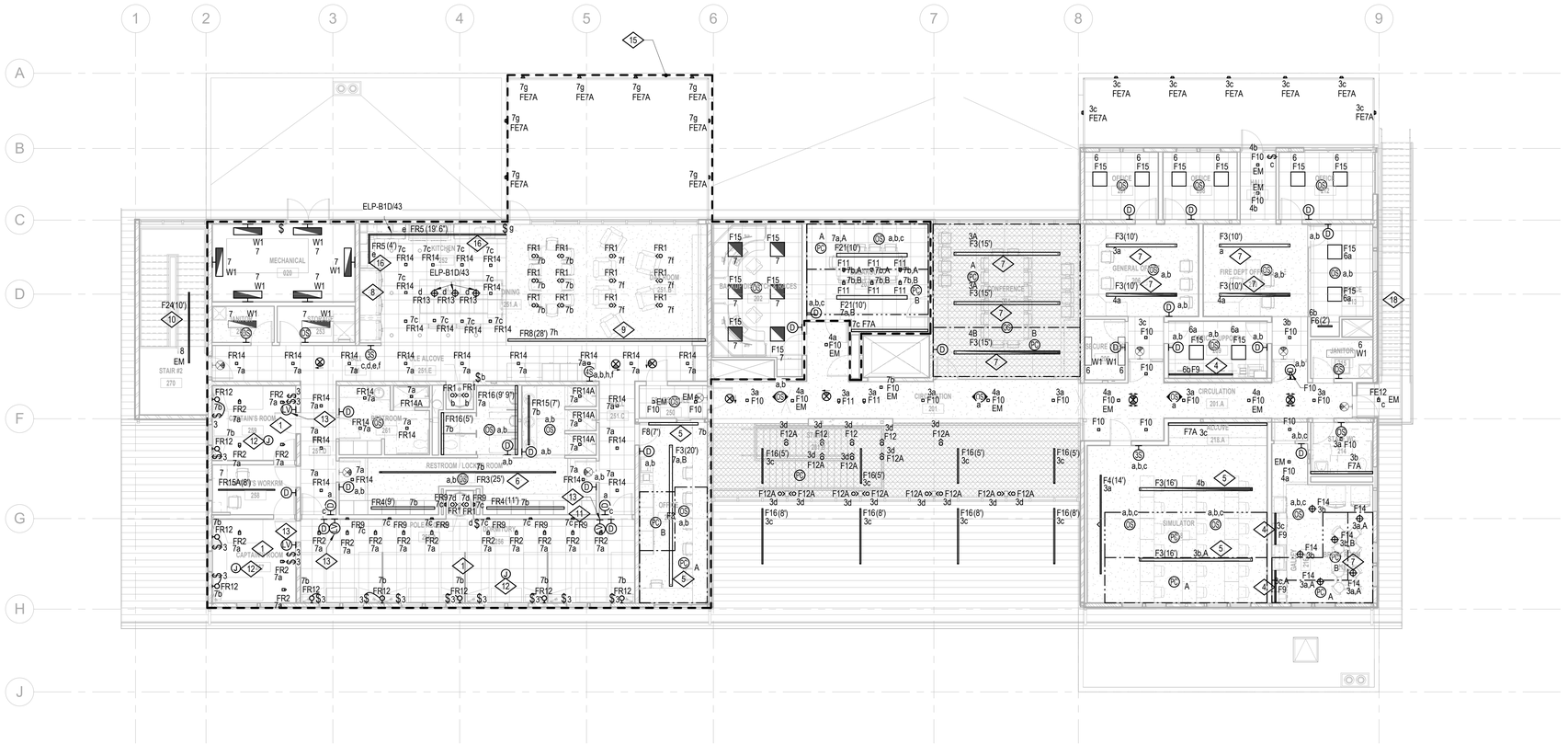
Project No. B17.07369

1-E2.01
Drawing No.

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1 01-ELEC POWER CLASS ROOM-SECOND FLOOR
1/8" = 1'-0"



2 01-ELEC LIGHTING CLASSROOM-SECOND FLOOR
1/8" = 1'-0"

SHEET NOTES:

A. PROVIDE CONDUIT AND WIRE FOR CIRCUITING AND SWITCHING SHOWN.

B. VERIFY EXACT LOCATION AND MOUNTING HEIGHT OF ALL DEVICES, SWITCHES, AND LIGHT FIXTURES WITH ARCHITECT.

C. ALL EXIT SIGNS ON THIS SHEET SHALL BE TYPE X1, UON. CONNECT TO ELPH-B1B/9.

D. ALL DIMMERS ARE TO HAVE A MASTER RAISE/LOWER.

E. CONNECT ALL 120/208V POWER EQUIPMENT AND DEVICES TO PANEL LP-B1A, UON.

F. CONNECT ALL 277/480V LIGHTING TO PANEL LPH-B1A, UON.

G. CONNECT ALL 277/480V EMERGENCY LIGHTING TO PANEL ELPH-B1B, UON.

H. FOR ALL DATA CABLING, PATHWAY INFRASTRUCTURE AND DEVICES REFER TO T SERIES DRAWINGS.

NUMBERED NOTES:

1. ALARMS / DISPATCH LIGHTING TO BE PROVIDED BY OTHERS.
2. PROVIDE HARDWIRED CONNECTION TO SCREEN MOTOR.
3. PROVIDE CONNECTION TO CEILING MOUNTED VIDEO PROJECTOR
4. LIGHT FIXTURE TO BE SURFACE MOUNTED TO UNDERSIDE OF CABINET IN MILL WORK DETAIL. PROVIDE FASCIA TO CONCEAL FIXTURE FROM VIEW. REFER ARCHITECTURAL/MILLWORK DRAWINGS. LOCATE REMOTE DRIVER IN CABINET OR ADJACENT ACCESSIBLE LOCATION.
5. BOTTOM OF FIXTURE SHALL BE MOUNTED AT 8'-0" AFF.
6. BOTTOM OF FIXTURE SHALL BE MOUNTED AT 8'-6" AFF.
7. BOTTOM OF FIXTURE SHALL BE MOUNTED AT 8'-0" AFF.
8. LIGHTING INTEGRATED IN KITCHEN RANGE HOOD. REFER ARCHITECTURAL / KITCHEN HOOD DRAWINGS FOR DETAIL. COLOR TEMPERATURE OF INTEGRATED LIGHTS TO MATCH COLOR TEMPERATURE OF ADJACENT ARCHITECTURAL LIGHTINGS (3000K)
9. BOTTOM OF WALL MOUNTED UPLIGHT (TYPE FR8) TO BE ALIGNED TO BOTTOM OF UPPER WALL.
10. BOTTOM OF FIXTURE SHALL BE MOUNTED AT 7'-2" AFF FROM SECOND LEVEL FLOOR.
11. LOCATE CENTER OF FR9 FIXTURES AT 12" AFF.
12. KETRA CONTROLLER. REFER TO LIGHTING FIXTURE SCHEDULE FOR SPECIFICATION.
13. PROVIDE 4-BUTTON LOW-VOLTAGE WALL MOUNTED DIMMING SCENE SELECTOR WITH RAISE/FLOOR. WALL STATION SHALL BE KETRA #X2 KEYPAD.
14. CONNECT 120/208V POWER TO PANEL ELP-B1D, UON.
15. CONNECT 277/480V LIGHTING TO PANEL ELPH-B1B, UON.
16. LIGHT FIXTURE TO BE SURFACE MOUNTED TO UNDERSIDE OF CABINET IN MILL WORK DETAIL. PROVIDE FASCIA TO CONCEAL FIXTURE FROM VIEW. REFER ARCHITECTURAL/MILLWORK DRAWINGS.
17. CONNECT 120/208V POWER TO PANEL ULP-B1A, UON.
18. FE7 STEP LIGHTS TO BE LOCATED 2'AFF AT EVERY THREE STEPS. TOTAL (11) STEP LIGHTS AT STAIR FROM SERVICE YARD TO BUILDING 02 SECOND FLOOR.
19. PROVIDE COMBINATION SMOKE DETECTOR/CARBON MONOXIDE ALARM.
20. PROVIDE 2" CONDUIT FOR HAM RADIO OPERATOR CABLING TO ROOF.
21. COORDINATE ROUTING OF CONDUIT PATHWAY WITH STRUCTURE, HVAC EQUIPMENT, AND STATION ALERTING SYSTEM VENDOR.
22. PROVIDE (4) 3" SLEEVES TO ROOF FOR STATION ALERTING SYSTEM ANTENNAS. COORDINATE WITH STATION ALTERING SYSTEM VENDOR.

ZONE LEGEND

- PRIMARY DAYLIT ZONE
- SECONDARY DAYLIT ZONE
- DEDICATED CRITICAL OPERATIONS AREA

RossDrulisCusenbery
ARCHITECTURE
18294 Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION	
DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

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1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	INC 01_ADD_01_V1	12/06/2019

REGISTERED PROFESSIONAL ENGINEER
AMANDA J. BROWNLEE
No. E17287
ELECTRICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

ELECTRICAL FS#6/CLASSROOM SECOND FLOOR PLAN

Drawn By: ELW
Checked By: AJB

Scale: 1/8" = 1'-0"

Date: October 4, 2019

Project No. B17.07369

1-E2.02
Drawing No.

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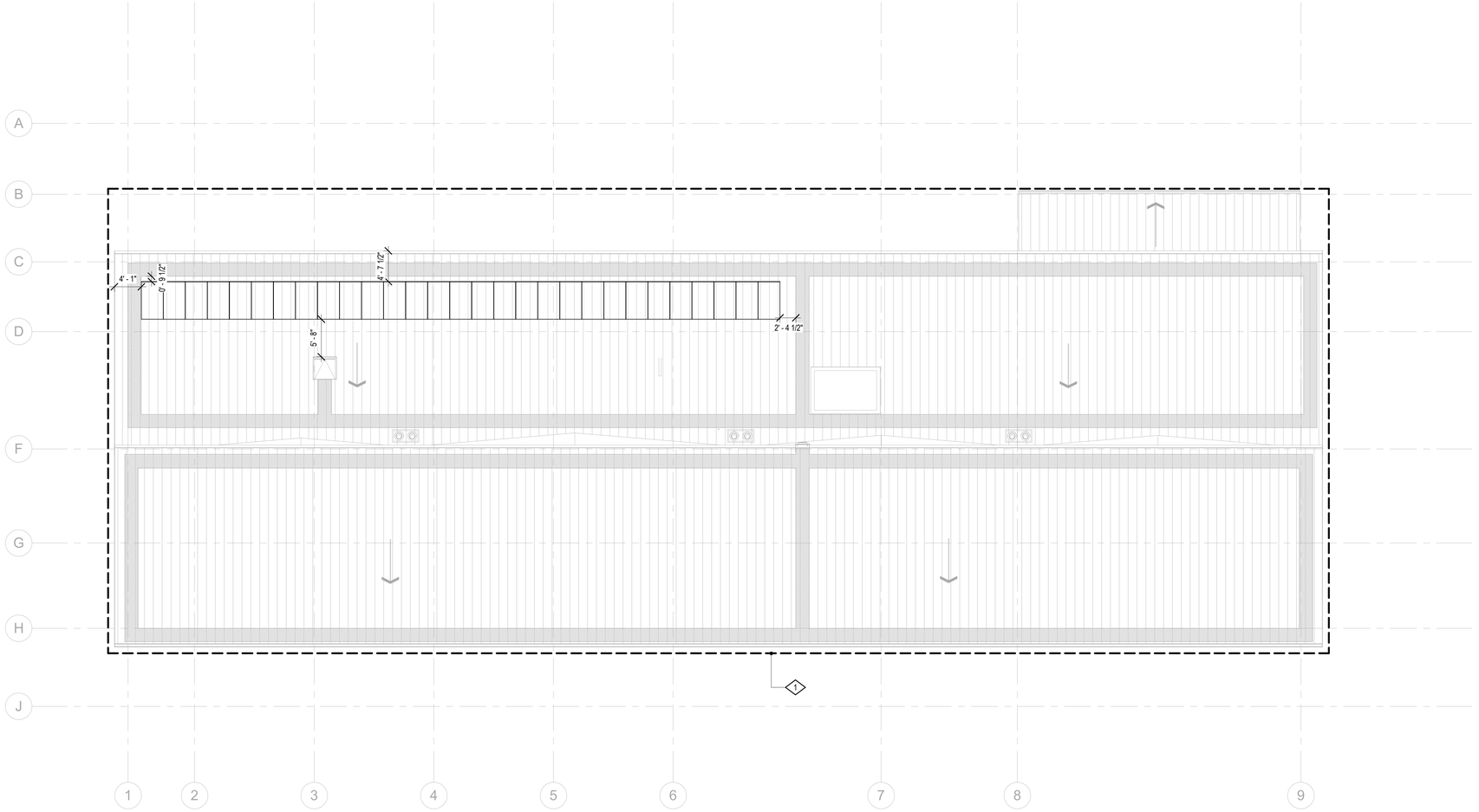
SHEET NOTES:

A. PROVIDE CONDUIT AND WIRE FOR CIRCUITING AND SWITCHING SHOWN.

B. VERIFY EXACT LOCATION AND MOUNTING HEIGHT OF ALL DEVICES, SWITCHES, AND LIGHT FIXTURES WITH ARCHITECT.

NUMBERED NOTES:

1 REFER TO BUILDING 1 HYBRID POWER SYSTEM DRAWING SHEET 1-H2.02 FOR PHOTOVOLTAIC PANEL LAYOUT AND DETAILS.



1 01-ELEC POWER CLASS ROOM-TOP PLATE
1/8" = 1'-0"

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY:	
KATHY GARCIA DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

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425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
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No. E17287
ELECTRICAL
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Sheet Title

ELECTRICAL FS#6/CLASSROOM ROOF PLAN

Drawn By: ELW Checked By: AJB

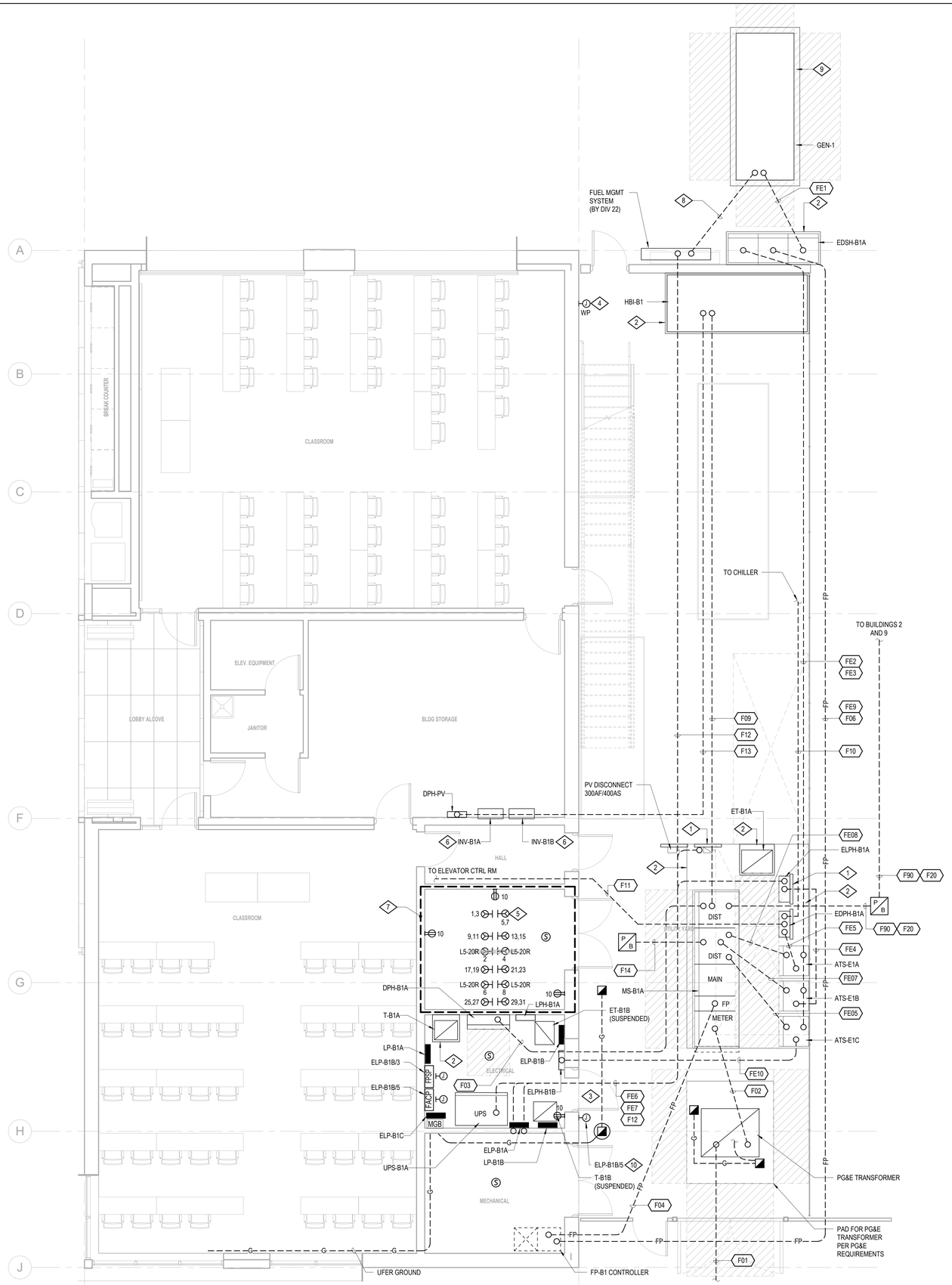
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1/8" = 1'-0"

Date:
October 4, 2019

Project No. B17.07369

1-E2.03
Drawing No.

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1 EQUIPMENT ROOM/YARD CLASSROOM FIRST FLOOR ENLARGED POWER PLAN
1/4" = 1'-0"

SHEET NOTES:

A. ALL OUTDOOR EQUIPMENT SHALL BE RATED NEMA 4X, UON.

B. RUN IN-GROUND CONDUIT 24" BELOW GRADE, MINIMUM.

C. FOR ALL DATA CABLING, PATHWAY INFRASTRUCTURE AND DEVICES REFER TO T SERIES DRAWINGS.

NUMBERED NOTES:

1. PROVIDE INDEPENDENT SUPPORT.
2. CONCRETE HOUSEKEEPING PAD.
3. PROVIDE PANIC HARDWARE ON DOOR.
4. PROVIDE CONNECTION TO IRRIGATION CONTROLLER. COORDINATE MOUNTING LOCATION WITH LANDSCAPE CONSULTANT. CONNECT TO LP-B1A/26.
5. PROVIDE NEMA L5-30 RECEPTACLE FOR ALL SPECIAL PURPOSE RECEPTACLES IN THIS ROOM. COORDINATE MOUNTING HEIGHT AND EXACT LOCATION WITH TELECOM DRAWINGS PRIOR TO INSTALLATION. 1/2"C - 2#10 +1#10G.
6. EQUIPMENT SHOWN FOR COORDINATION PURPOSES ONLY. REFER TO SHEET 1-H2.01.
7. ALL DEVICES IN THIS DESIGNATED AREA SHALL COMPLY WITH NEC ARTICLE 708 CRITICAL OPERATIONS POWER SYSTEMS (COPS). CONNECT 120/208V POWER TO PANEL ELP-B1C, UON.
8. PROVIDE 120V "PUMP ON" SIGNAL FROM GENERATOR TO FUEL MANAGEMENT SYSTEM PANEL. PROVIDE 2#12C & 1#12G IN 1/2" CONDUIT. COORDINATE TERMINATION LOCATION WITHIN FUEL MANAGEMENT SYSTEM PANEL WITH FUEL SYSTEM CONSULTANT PRIOR TO ROUGH-IN.
9. PROVIDE 6" CONCRETE HOUSEKEEPING PAD.
10. PROVIDE 120V CONNECTION TO FIRE SPRINKLER BELL.

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DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
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DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

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HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY:	
KATHY GARCIA DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

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AMANDA J. BROWN, CE
No. E17287
ELECTRICAL
STATE OF CALIFORNIA

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Sheet Title

ELECTRICAL ENLARGED PLAN

Drawn By: ELW Checked By: AJB

Scale: **1/4" = 1'-0"**

Date: **October 4, 2019**

Project No. B17.07369

1-E4.01

Drawing No.

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WIRING SCHEDULE - COPPER CONDUCTORS (0-600V)

CIRCUIT RATING	CONDUIT SIZE (INCHES)							CONDUCTOR SIZE	
	NONE	G	N	NG	NGI	NNG	NNGI	PHASE/ NEUTRAL	GND/* IG
15	0.5	0.5	0.5	0.5	0.5	0.5	0.5	12	12
20	0.5	0.5	0.5	0.5	0.5	0.5	0.5	12	12
30	0.5	0.5	0.5	0.5	0.75	0.75	0.75	10	10
40	0.75	0.75	0.75	1	1	1	1	8	10
50	1	1	1	1.25	1.25	1.25	1.25	6	10
60	1	1.25	1.25	1.25	1.5	1.5	1.5	4	10
70	1	1.25	1.25	1.25	1.5	1.5	1.5	4	8
80	1.25	1.25	1.25	1.5	2	2	2	2	8
90	1.25	1.25	1.25	1.5	2	2	2	2	8
100	1.25	1.5	1.5	2	2	2	2.5	1	8
110	1.25	1.5	1.5	2	2	2	2.5	1	6
125	1.25	1.5	1.5	2	2	2	2.5	1	6
150	1.5	2	2	2	2.5	2.5	2.5	1/0	6
175	1.5	2	2	2	2.5	2.5	2.5	2/0	6
200	2	2	2	2.5	2.5	2.5	3	3/0	6
225	2	2.5	2.5	2.5	3	3	3	4/0	4
250	2.5	2.5	2.5	3	3	3	3.5	250	4
300	2.5	3	3	3.5	3.5	3.5	4	350	4
350	3	3.5	3.5	4	4	4	5	500	2
400	2@2	2@2	2@2	2@2.5	2@2.5	2@2.5	2@3	3/0	2
450	2@2	2@2.5	2@2.5	2@2.5	2@3	2@3	2@3	4/0	2
500	2@2.5	2@2.5	2@2.5	2@3	2@3	2@3	2@3.5	250	1
600	2@2.5	2@3	2@3	2@3.5	2@3.5	2@3.5	2@4	350	1
700	2@3	2@3.5	2@3.5	2@4	2@4	2@4	2@5	500	1/0
800	3@2.5	3@3	3@3	3@3	3@3.5	3@3.5	3@3.5	300	1/0
1000	3@3	3@3	3@3	3@3.5	3@4	3@4	3@4	400	2/0
1200	4@2.5	4@3	4@3	4@3.5	4@3.5	4@3.5	4@4	350	3/0
1600	5@3	5@3	5@3	5@3.5	5@4	5@4	5@4	400	4/0
2000	6@3.5	6@3.5	6@3.5	6@4	6@4	6@4	6@5	500	250
2500	7@3.5	7@3.5	7@3.5	7@4	7@4	7@4	7@4	500	350
3000	8@3.5	8@3.5	8@3.5	8@4	8@4	8@4	8@4	500	400

SUBSCRIPT KEY

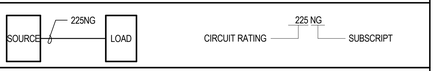
SUBSCRIPT	CONDUCTORS PER CONDUIT
NONE	3 PHASE CONDUCTORS, CONDUIT GROUND
G	3 PHASE CONDUCTORS, 1 GROUNDING CONDUCTOR
N	3 PHASE CONDUCTORS, 1 NEUTRAL CONDUCTOR, CONDUIT GROUND
NG	3 PHASE CONDUCTORS, 1 NEUTRAL CONDUCTOR, 1 GROUNDING CONDUCTOR
NGI	3 PHASE CONDUCTORS, 1 NEUTRAL CONDUCTOR, 1 GROUNDING CONDUCTOR, 1 ISOLATED GROUNDING CONDUCTOR
NNG	3 PHASE CONDUCTORS, 2 NEUTRAL CONDUCTORS*, 1 GROUNDING CONDUCTOR
NNGI	3 PHASE CONDUCTORS, 2 NEUTRAL CONDUCTORS*, 1 GROUNDING CONDUCTOR, 1 ISOLATED GROUNDING CONDUCTOR

* SINGLE NEUTRAL CONDUCTOR SIZES FOR CIRCUIT RATING 125 AND LESS

PARALLEL CONDUCTORS ARE NOT PERMITTED UNDER 1/0. WHERE DOUBLE NEUTRAL CONDUCTORS ARE INDICATED, PROVIDE AN OVERSIZED NEUTRAL CONDUCTOR IN ACCORDANCE WITH THE FOLLOWING TABLE:

CIRCUIT RATING	15	20	30	40	50	60
SINGLE NEUTRAL CONDUCOTR SIZE	10	8	4	2	1	1/0
CIRCUIT RATING	70	80	90	100	125	
SINGLE NEUTRAL CONDUCTOR SIZE	2/0	3/0	4/0	250	250	

EXAMPLES



NOTES

1. SCHEDULE IS BASED ON 3 CURRENT CARRYING CONDUCTORS IN RACEWAY, CABLE OR EARTH, AT AMBIENT AIR TEMPERATURE OF 30°C (86°F). CONDUIT SIZES BASED ON EMT.
2. MODIFY IF USE OF 600MCM CONDUCTORS ARE DESIRED CONFIRM LUG SIZES ARE AVAILABLE.

TRANSFORMER SCHEDULE

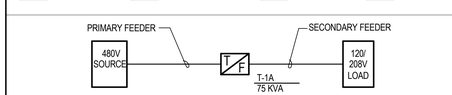
KVA	FEEDER AMPACITY			NEUTRAL GROUNDING ELECTRODE CONDUCTOR**
	PRIMARY 480V 3 PHASE-3 WIRE	SECONDARY 120/208V 3 PHASE-4 WIRE	SUPPLY SIDE BONDING JUMPER**	
3	15	15	#8	1/2"C-1#8
6	15	20	#8	1/2"C-1#8
9	15	30	#8	1/2"C-1#8
15	20	50	#8	1/2"C-1#8
30	50	100	#6	1/2"C-1#6
45	70	150	#6	1/2"C-1#6
75	110	250	#2	1/2"C-1#2
112 1/2	175	400	#1/0	3/4"C-1#3/0
150	225	500	#1/0	3/4"C-1#3/0
225	350	800	#2/0	3/4"C-1#3/0
300	450	1000	#2/0	3/4"C-1#3/0
500	800	1600	#4/0	3/4"C-1#3/0
750	1200	2500	#350	3/4"C-1#3/0

FEEDER KEY

TRANSFORMER IDENTIFICATION PREFIX	FEEDER CONFIGURATION	
	PRIMARY	SECONDARY
T	3 PHASE CONDUCTORS 1 GROUNDING CONDUCTOR (CIRCUIT SUBSCRIPT: G)	3 PHASE CONDUCTORS 1 NEUTRAL CONDUCTOR 1 GROUNDING CONDUCTOR (CIRCUIT SUBSCRIPT: NG***)
TK	3 PHASE CONDUCTORS 1 GROUNDING CONDUCTOR (CIRCUIT SUBSCRIPT: G)	3 PHASE CONDUCTORS 2 NEUTRAL CONDUCTORS 1 GROUNDING CONDUCTOR 1 ISOLATED GROUNDING CONDUCTOR (CIRCUIT SUBSCRIPT: NNGI***)

** = CONDUCTOR SIZES ARE BASED ON COPPER CONDUCTORS
*** = SUBSTITUTE GND/G CONDUCTOR FROM FEEDER SCHEDULE WITH SUPPLY SIDE BONDING JUMPER NOTED ABOVE

EXAMPLES



UNDERGROUND FEEDER CONDUIT SCHEDULE

TAG DESIGNATION	TO	FROM	QUANTITY	SIZE	SPARE	DESIGN FEEDER	ESTIMATED LENGTH	VOLT DROP (%)	BUILDING PACKAGE	REMARKS
F00	PG&E P/B	STREET	2	5"		PER PG&E	66'	N/A	1	
F01	PG&E TRANSF	PG&E P/B	2	5"		PER PG&E	208'	N/A	1	
F02	MS-B1A	PG&E TRANSF	7	5"		PER PG&E	40'	0.60	1	
F03	DPH-B1A	MS-B1A	1	2.5"		225NG	57'	0.12	1	
F04	FP-B1	MS-B1A	1	2.5"		70G	54'	0.29	1	LRA = 302.8A, VD_{dp}=1.7%
F05	ATS-E1B	MS-B1A	1	2"		100NG	31'	0.39	1	
F06	FP-B1	EDSH-B1A	1	2.5"		70G	138'	1.24	1	INCLUDE 1"C TO GENERATOR FOR GEN START LRA = 302.8A, VD_{dp}=6.4%
F07	ATS-E1A	MS-B1A	1	2"		150NG	33'	0.52	1	
F08	ATS-E1C	MS-B1A	2	3"		500NG	34'	0.47	1	
F09	HBI-B1	MS-B1A	1	4"	2"	300G	60'	0.35	1	
F10	CH-1	EDPH-B1A	1	2.5"		ECS	67'	0.26	1	
F11	ELEV-1	EDPH-B1A	1	1"		ECS	101'	0.18	1	
F12	FUEL	ELP-B1A	1	2"		100NG	102'	0.56	1	
F13	DPH-PV	HBI-B1	1	4"	2"	300G	77'	0.44	1	
F14	PULLBOX	MS-B1A			(2) 4"	37'	37'	N/A	1	SPARE FOR FUTURE USE
F15										NOT USED
F16										NOT USED
F17										NOT USED
F18										NOT USED
F19										NOT USED
F20	LPH-B2A	MS-B1A	2	2.5"	(2) 2.5"	400G	358'	0.86	1 / 2	
F30										NOT USED
F40	LP-B4A	DPL-B2A	1	3"	(1) 2"	250NG	150'	1.85	4	FEEDER OVERSIZED FOR VOLTAGE DROP
F50										NOT USED
F60	LP-B6A	DPL-B9A	1	2.5"		200NG	413'	1.54	6	
F70	LP-B7A	DPL-B9A	2	2.5"	(1) 2.5"	400NG	318'	0.77	7	
F80	LP-B8A	DPL-B9A	2	2.5"	(1) 2.5"	400NG	362'	1.06	8	
F81	LP-B8B	DPL-B9A	2	2.5"	(1) 2.5"	400NG	449'	0.84	8	
F90	LPH-B9A	MS-B1A	2	3.5"	(2) 2.5"	600G	515'	0.66	1 / 9	
F91	T-B9A	LPH-B9A	2	2.5"		450G	22'	0.04	9	
F92	DPL-B9A	T-B9A	3	3.5"		1000NG	10'	0.04	9	
F93	LP-B9A	DPL-B9A	1	2.5"		225NG	17'	0.02	9	
F94	LP-B9B	DPL-B9A	1	2.5"	(1) 2.5"	175NG	19'	0.07	9	
FE1	EDSH-B1A	GEN-B1	2	4"		700NG	20'	0.05	1	
FE2	ATS-E1A	EDSH-B1A	1	2"		150NG	100'	0.61	1	INCLUDE 1"C TO GENERATOR FOR GEN START
FE3	ATS-E1C	EDSH-B1A	2	3"		500NG	102'	0.18	1	INCLUDE 1"C TO GENERATOR FOR GEN START
FE4	ELPH-B1A	ATS-E1A	1	2"		150NG	40'	0.24	1	
FE5	EDPH-B1A	ATS-E1C	2	4"		600NG	29'	0.04	1	
FE6	UPS-B1A	ELPH-B1A	1	1.5"		70NG	70'	0.14	1	
FE7	ELP-B1A	ET-B1A	2	2.5"		400NG	69'	1.15	1	
FE8	ULP-B1A	UPS-B1A	1	1.5"		50NNGI	97'	0.25	1	
FE9	ATS-E1B	EDSH-B1A	1	2"		100NG	90'	0.04	1	INCLUDE 1"C TO GENERATOR FOR GEN START
FE10	ELPH-B1B	ATS-E1B	1	2"		100NG	56'	0.02	1	
FE11	PULLBOX	EDSH-B1A			(1) 4"			N/A	1	SPARE FOR FUTURE USE
FE12	ELPH-B2A	ELPH-B1B	1	2"		100NG	350'	0.08	2	

SHEET NOTES

A. CONFIRM AND COORDINATE ALL PG&E UTILITY ROUTING WITH PG&E PER PG&E STANDARDS AND REQUIREMENTS.

B. REFER TO "0" SERIES OF DRAWINGS FOR SITE UTILITY AND INFRASTRUCTURE INFORMATION.

C. ALL OUTDOOR EQUIPMENT SHALL BE RATED NEMA 4X, UON.

D. ALL OVERCURRENT PROTECTIVE DEVICES ASSOCIATED WITH COPS SHALL BE SELECTIVELY COORDINATED.

E. RUN IN-GROUND CONDUIT 24" BELOW GRADE, MINIMUM .

F. WIRING FROM AN EMERGENCY SOURCE OR EMERGENCY SOURCE DISTRIBUTION OVERCURRENT PROTECTION TO EMERGENCY LOADS SHALL BE KEPT ENTIRELY INDEPENDENT OF ALL OTHER WIRING AND EQUIPMENT PER CEC ARTICLE 700.10.

G. ARC ENERGY REDUCTION PER CEC ARTICLE 240.87 WITH RESPECT TO DOCUMENTATION & METHOD TO REDUCE CLEARING TIES IS APPLICABLE.

NUMBERED NOTES

1. EQUIPMENT TO SERVE ELECTRIC VEHICLE CHARGERS. PROVIDE PROGRAMMABLE ELECTRONIC CIRCUIT BREAKER LEVEL SUB-METERS FOR OWNER THIRD PARTY MEASUREMENT/METERING IN THIS PANEL. CONNECT WITH 3/4"C TO NEAREST TELECOM ROOM.
2. PROVIDE 2-HR FIRE RATED ASSEMBLY FOR FEEDERS.
3. PROVIDE 2-SOCKET PG&E UTILITY METER, WITH NET METER CAPABILITY PER PG&E REQUIREMENTS.
4. REFER TO HYBRID POWER SYSTEM DRAWINGS FOR MORE INFORMATION.
5. REFER TO PHOTOVOLTAIC SYSTEM DRAWINGS FOR MORE INFORMATION.
6. PROVIDE SURGE PROTECTION DEVICE PER NEC ARTICLE 708.
7. FLOOR MOUNTED UPS WITH INTEGRAL TRANSFORMER. APC OR APPROVED EQUAL.
   INPUT VOLTAGE: 480V, 3Ø, 3W
   OUTPUT VOLTAGE: 120/208V, 3Ø, 4W
   BATTERY RUN TIME (MINIMUM): 20 MINUTES
8. PROTECT FEEDER SERVING DESIGNATED CRITICAL OPERATIONS AREA (DCOA) EQUIPMENT AS REQUIRED BY NEC ARTICLE 708.
9. PROVIDE GROUND FAULT PROTECTION FOR ALL NEXT LEVEL FEEDER DISCONNECTING MEANS IN COMPLIANCE WITH NEC ARTICLE 708.
10. GROUND FAULT INDICATION ONLY.
11. FEEDER OVERSIZED FOR VOLTAGE DROP.
12. SERVICE ENTRANCE SECTION FOR FIRE PUMP CONNECTION.
13. PROVIDE SURGE PROTECTION DEVICE PER NEC 700.
14. PROVIDE WEATHERPROOF SOUND ATTENUATING ENCLOSURE.
15. EQUIP SWITCHBOARD WITH CAM LOCK TYPE CONNECTORS FOR CONNECTION TO PORTABLE GENERATOR. 700A, 277/480V, 3Ø, 4W.
16. PROVIDE SEPARATE SECTIONS FOR BREAKERS SERVING DIFFERENT BRANCHES OF EMERGENCY POWER PER NEC.
17. PROVIDE THE FOLLOWING PROTECTIVE RELAYS:
    UNDER VOLTAGE
    PHASE ROTATION
18. PROVIDE FULLY RATED LSI BREAKER.
19. PROVIDE THE FOLLOWING RELAYS:
    SYNC CHECK
    UNDER VOLTAGE
    OVER VOLTAGE
    LOSS-OF-PHASE
20. PANEL PROVIDED UNDER BUILDING 2 SCOPE OF WORK.

RossDrulisCusenbery
ARCHITECTURE
18294 Sonoma Highway Sonoma CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	INC 01_ADD_01_V1	12/06/2019

REGISTERED PROFESSIONAL ENGINEER
AMANDA J. BROWNLEE
No. E17287
ELECTRICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

ELECTRICAL RISER DIAGRAM

Drawn By: ELW
Checked By: AJB

Scale: **NTS**

Date: **October 4, 2019**

Project No. B17.07369

1-E5.01
Drawing No.

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SHEET NOTES

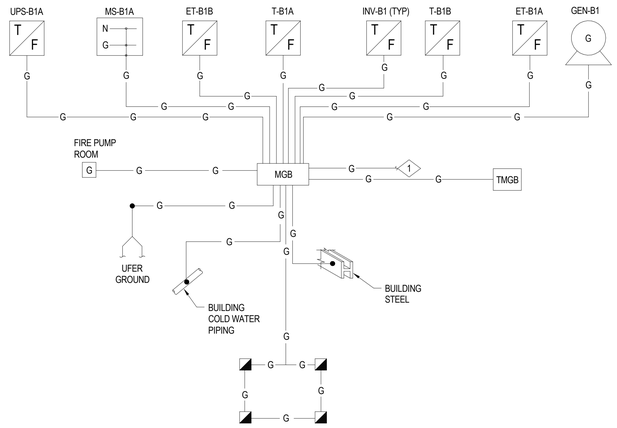
A. REFER SHEET E5.01 FOR TRANSFORMER SCHEDULE AND GROUNDING REQUIREMENTS.

B. CONTRACTOR TO COORDINATE EXACT LOCATION OF CONNECTIONS BETWEEN DIFFERENT CONSTRUCTION PACKAGES AND DIVISION OF WORK BETWEEN SUBCONTRACTORS.

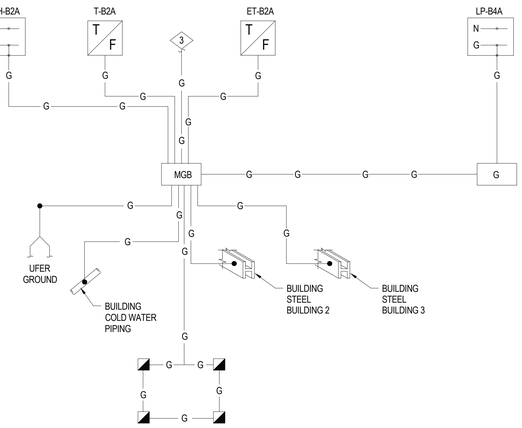
NUMBERED NOTES

1. PROVIDE CONNECTION TO HYBRID POWER SYSTEM. REFER TO SHEET 1-H5.01.
2. DIAGRAM IS FOR ILLUSTRATION OF OVERALL GROUNDING ELECTRODE SYSTEM. SEE RISER DIAGRAMS, GROUND BUS DETAILS AND SPECIFICATIONS FOR ADDITIONAL GROUNDING CONNECTIONS AND REQUIREMENTS.
3. PROVIDE CONNECTION TO PV SYSTEM. REFER TO SHEETS 2-PV5.01 AND 3-PV5.01.
4. PROVIDE CONNECTION TO PV SYSTEM. REFER TO SHEETS 6-PV5.01 AND 9-PV5.01.
5. DO NOT BOND NEUTRAL.

BUILDING 1

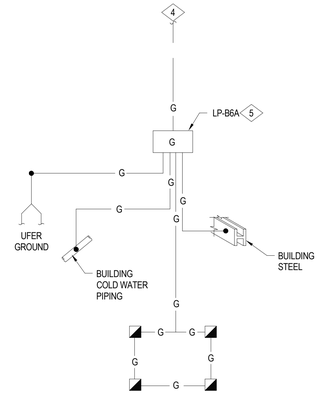


BUILDING 2

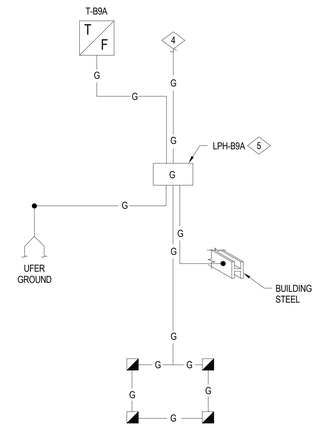


BUILDING 4

BUILDING 6



BUILDING 9



1 GROUNDING RISER DIAGRAM 2
NTS

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DATE: 11/12/2019

Ross Drulis Cusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION	
DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

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425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER
AMANDA J. BROWNLEE
No. E17287
ELECTRICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

ELECTRICAL GROUNDING DIAGRAM

Drawn By: ELW Checked By: AJB

Scale: **NTS**

Date: **October 4, 2019**

Project No. B17.07369

1-E5.02
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SHEET NOTES

A. THIS DIAGRAM IS SCHEMATIC AND REPRESENTS GENERAL DIMMING SYSTEM CONCEPTS AND COMPONENTS. REFER TO FLOOR PLANS FOR EXACT LIGHTING FIXTURE TYPES AND CIRCUITRY. REFER TO PLANS FOR ZONE QUANTITY PER ROOM AND PROVIDE INTERFACES AS REQUIRED TO MEET ZONING INTENT.

B. DEVICE COLOR BY ARCHITECT.

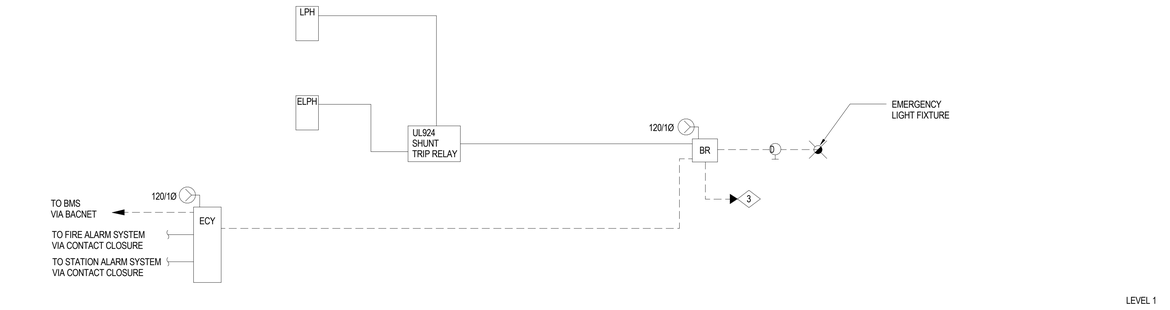
C. PROVIDE INTERFACE(S) AS REQUIRED FOR EMERGENCY LIGHTING TO RETURN TO FULL BRIGHTNESS UPON RECEIPT OF FIRE ALARM SIGNAL, STATION ALARM SIGNAL OR LOSS OF POWER. REFER TO FLOOR PLANS FOR ADDITIONAL INFORMATION.

D. PROVIDE CONDUIT AND WIRE PER MANUFACTURER'S REQUIREMENTS/RECOMMENDATION.

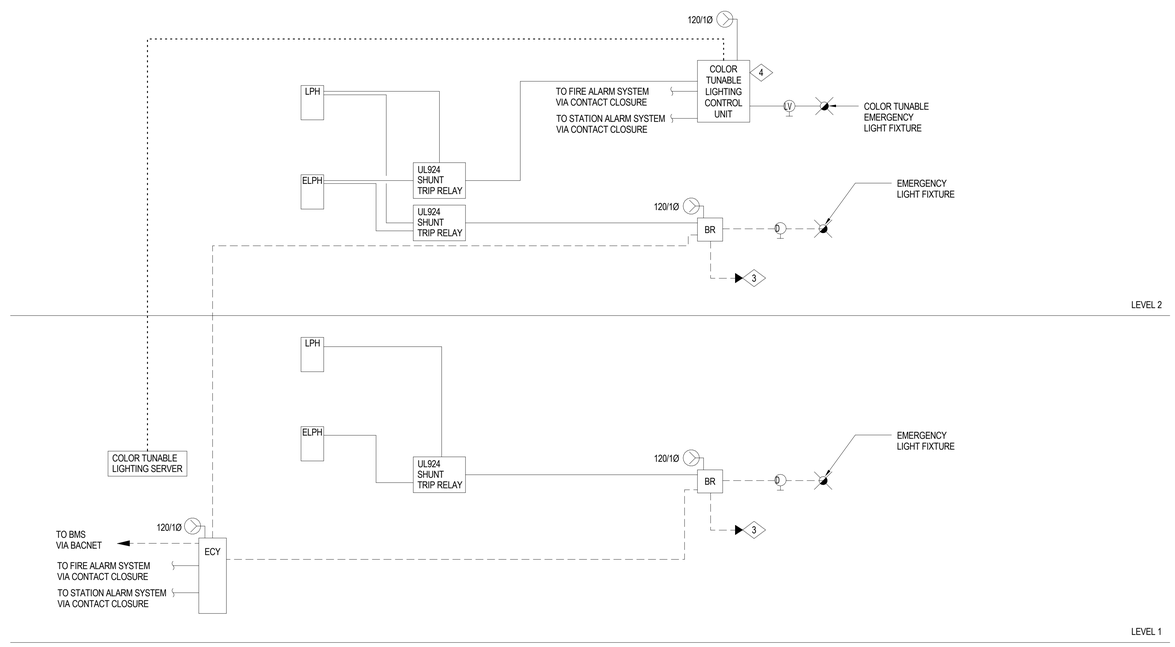
E. QUANTITIES OF SPECIFIC SYSTEM COMPONENTS BY MANUFACTURER.

NUMBERED NOTES

1. nLIGHT ECLYPSE.
2. nLIGHT NBRG 8 KIT.
3. TO DEVICES SHOWN ON SHEETS E2 SERIES SHEET.
4. COLOR TUNABLE LIGHTING PRESET BUTTONS ON KETRA X2 KEYPAD TO BE FIELD PROGRAMMED AND FIELD CONFIRMED BY USERS PRIOR TO TURNOVER OF SPACE TO OWNER. EXAMPLES OF TYPICAL SCENES ARE: NATURAL, ENERGIZE, RELAX, AND READING.



2 BUILDING 2 - LIGHTING CONTROL
NTS



1 BUILDING 1 - LIGHTING CONTROL
NTS

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DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

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HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: **KATHY GARCIA** DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
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1401 W. WINTON AVE.
HAYWARD, CA 94545

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REGISTERED PROFESSIONAL ENGINEER
AMANDA J. BROWN, CE
No. E17287
ELECTRICAL
STATE OF CALIFORNIA

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ELECTRICAL LIGHTING CONTROL SINGLE LINE DIAGRAM

Drawn By: ELW Checked By: AJB

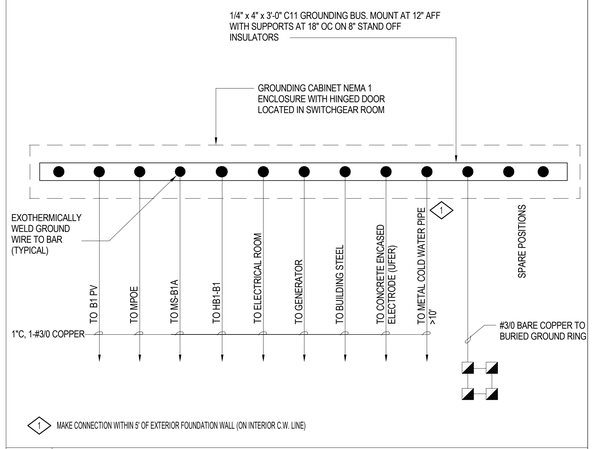
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NTS

Date:
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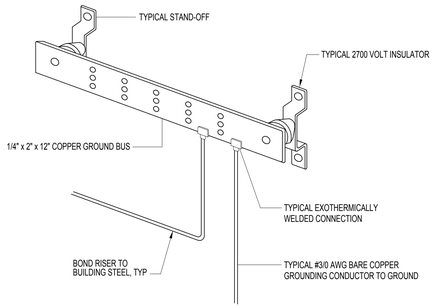
Project No. B17.07369

1-E5.03
Drawing No.

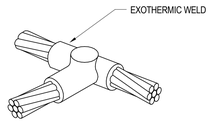
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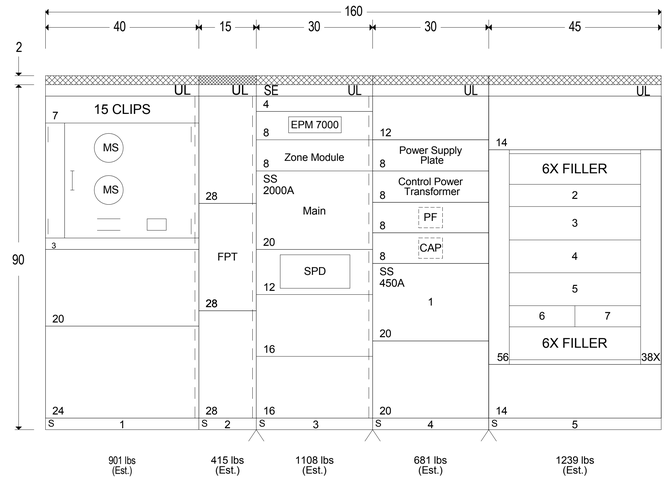
3 MAIN GROUND BUS BAR — MGB — NO SCALE



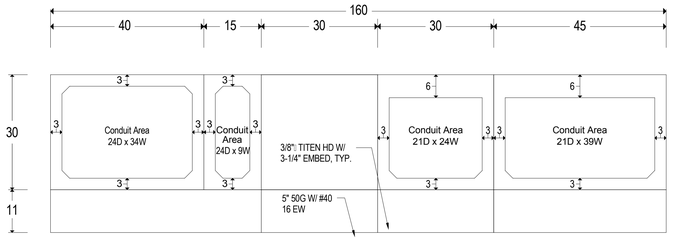
4 WALL MOUNTED GROUND BUS DETAIL — G — NO SCALE



5 GROUNDING ELECTRODE CONDUCTOR TAP DETAIL (TYP) — NO SCALE

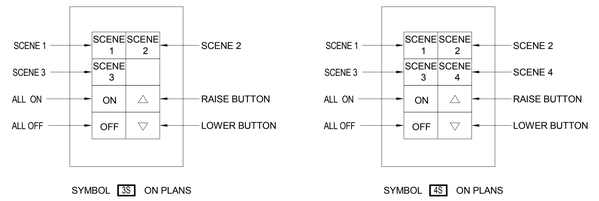


FRONT VIEW



PLAN VIEW

1 MS-B1A ELEVATION DETAIL — NO SCALE



LOW VOLTAGE SCENE CONTROL DETAILS
NTS

DETAIL NOTES

A. WHERE DEVICES ARE LOCATED NEXT TO EACH OTHER ON PLANS, COMBINE UNDER COMMON COVER PLATE.

B. REFER TO SHEET E0.10 FOR ADDITIONAL INFORMATION.

2 LIGHTING KEYPAD ELEVATIONS — NO SCALE

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RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

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HAYWARD, CA 94545

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REGISTERED PROFESSIONAL ENGINEER
AMISHA J. BRONNLEE
No. E17287
ELECTRICAL
STATE OF CALIFORNIA

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Sheet Title

ELECTRICAL DETAILS

Drawn By: ELW Checked By: AJB

Scale: **NTS**

Date: **October 4, 2019**

Project No. B17.07369

1-E6.01
Drawing No.

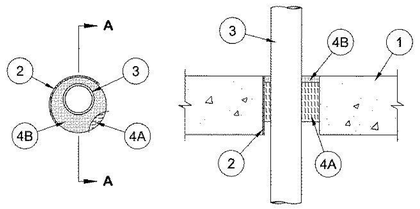
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System No. C-AJ-2292

November 26, 2003

F Rating — 2 Hr

T Ratings — 1 and 2 Hr (See Item 2)



Section A-A

1. **Floor or Wall Assembly —** Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100–150 pcf or 1600-2400 kg/m^3) concrete floor. Floor may also be constructed of any min 6 in. thick hollow-core **Precast Concrete Units***. Wall may also be constructed of any UL Classified **Concrete Blocks***. Max diam of opening is 4 in. (102 mm).

See **Concrete Blocks** (CAZT) or **Precast Concrete Units** (CFTV) categories in the Fire Resistance Directory for names of manufacturers.

2. **Steel Sleeve —** Nom 4 in. (102 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe cast or grouted into floor or wall assembly, flush with floor or wall surfaces. **When steel sleeve is used, T Rating is 1 hr. When steel sleeve is not used, T Rating is 2 hr.**

3. **Through Penetrant —** One nonmetallic pipe, conduit or tube to be installed eccentrically or concentrically within the firestop system. The annular space between the pipe, conduit or tube and the periphery of the opening shall be min 0 in. (0 mm or point contact) to max 1-5/8 in. (41 mm). When steel sleeve is used, min space between the pipe, conduit or tube and the steel sleeve is 1/2 in. (13 mm). Pipe, conduit or tube to be rigidly supported on both sides of the floor or wall assembly. The following types and sizes of nonmetallic pipes, conduits and tubes may be used:

A. **Polyvinyl Chloride (PVC) Pipe —** Nom 2 in. (51 mm) diam (or smaller) Schedule 40 polyvinyl chloride (PVC) pipe for use in closed (process or supply) piping systems.

B. **Chlorinated Polyvinyl Chloride (CPVC) Pipe —** Nom 2 in. (51 mm) diam (or smaller) SDR17 chlorinated polyvinyl chloride (CPVC) pipe for use in closed (process or supply) piping systems.

C. **Rigid Nonmetallic Conduit+ —** Nom 2 in. (51 mm) diam (or smaller) Schedule 40 PVC conduit installed in accordance with Article 347 of the National Electrical Code (NFPA 70).

D. **Electrical Nonmetallic Tubing+ —** Nom 2 in. (51 mm) diam (or smaller) PVC tubing installed in accordance with Article 331 of the National Electrical Code (NFPA 70).

E. **Optical Fiber Raceway+ —** Nom 2 in. (51 mm) diam (or smaller) optical fibner raceway (innerduct). Optical fiber raceway installed in accordance with Article 770 of the National Electrical Code (NFPA 70).

4. **Firestop System —** The firestop system shall consist of the following:

A. **Packing Material —** Min 3 in. (76 mm) thickness of min 4 pcf (64 kg/m^3) mineral wool batt insulation compressed and tightly packed into opening. Packing material recessed from top surface of floor or both surfaces of wall or precast concrete units. When pipe is in contact with periphery of opening, min packing material thickness is 4 in. (102 mm).

B. **Fill, Void or Cavity Material* — Sealant —** Min 1/2 in. (13 mm) thickness of fill material installed within annulus, flush with top surface of floor or both surfaces of wall assembly. In floors constructed of precast hollow core units, fill material installed to min 1/2 in. (13 mm) depth flush with each surface of the floor. At point contact location, apply min 1/4 in. (6 mm) diam bead of fill material at pipe/concrete interface on top surface of floor or both surfaces of wall or precast concrete units.
SPECIFIED TECHNOLOGIES INC — SpecSeal LCI Sealant

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

+Bearing the UL Listing Mark

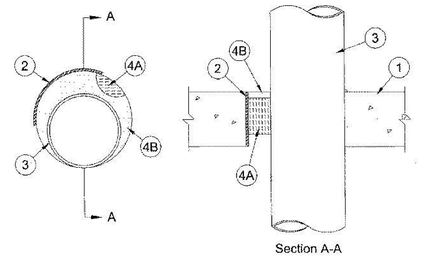
Last Updated on 2003-11-26

4 CONCRETE FLOOR/WALL PENETRATIONS C-AJ-2292 — NO SCALE

System No. C-AJ-1353

August 18, 2011

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Rating - 3 Hr	F Rating - 3 Hr
T Rating - 0 Hr	FT Rating - 0 Hr
L Rating At Ambient - Less Than 1 CFM/sq ft	FH Rating - 3 Hr
L Rating At 400 F - Less Than 1 CFM/sq ft	FTH Rating - 0 Hr
	L Rating At Ambient - Less Than 1 CFM/sq ft
	L Rating At 400 F - Less Than 1 CFM/sq ft



Section A-A

1. **Floor or Wall Assembly —** Lightweight or normal weight (100-150 pcf or 1600-2400 kg/m^3) concrete floor or wall. Min thickness of concrete is shown in table in Item 4B. Floor may also be constructed of any min 6 in. (152 mm) thick hollow-core **Precast Concrete Units***. Wall may also be constructed of any UL Classified **Concrete Blocks***. Max diam of opening is 14 in. (356 mm). Max diam of opening in floors constructed of hollow-core is 7 in. (178 mm).

See **Concrete Blocks** (CAZT) or **Precast Concrete Units** (CFTV) categories in the Fire Resistance Directory for names of manufacturers.

2. **Steel Sleeve —** (Optional) — Nom 14 in. (356 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe or No. 26 ga (0.022 in. or 0.56 mm thick) sheet steel sleeve with square anchor flange spot welded to the sleeve at approx mid-height. Sleeve cast or grouted in place flush with floor or wall surfaces. Steel pipe sleeve may project a max of 2 in. (51 mm) beyond the floor or wall surfaces.

3. **Through Penetrant —** One metallic pipe, conduit or tube to be installed eccentrically or concentrically within the firestop system. The annular space between the pipe, conduit or tube and the periphery of the opening shall be min 0 in. (point contact). The max annular space is 1 in. or 2 in. (25 or 51 mm) as shown in the table in Item 4B . Pipe, conduit or tube to be rigidly supported on both sides of the floor or wall assembly. The following types and sizes of metallic pipes, conduits and tubes may be used:

A. **Steel Pipe —** Nom 12 in. (305 mm) diam (or smaller) Schedule 5 (or heavier) steel pipe.

B. **Iron Pipe —** Nom 12 in. (305 mm) diam (or smaller) cast or ductile iron pipe.

C. **Conduit —** Nom 6 in. (152 mm) diam (or smaller) rigid steel conduit, nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing (EMT) or nom 4 in. (102 mm) diam (or smaller) flexible steel conduit.

D. **Copper Pipe —** Nom 4 in. (102 mm) diam (or smaller) Regular (or heavier) copper pipe.

E. **Copper Tube —** Nom 4 in. (102 mm) diam (or smaller) Regular L (or heavier) copper tube.

3A. **Through Penetrating Product* — Flexible Metal Piping —** As an alternate to Item 3, one nom 2 in. (51 mm) diam (or smaller) flexible steel pipe (with or without plastic jacketing) to be installed either concentrically or eccentrically within the firestop system. The annular space between the pipe, conduit or tube and the periphery of the opening shall be min 0 in. (0 mm or point contact). The max annular space is 1 or 2 in. (25 or 51 mm) as shown in the table in Item 4B. Pipe to be rigidly supported on both sides of the floor or wall assembly.
OMEGA FLEX INC

GASTITE, DIV OF TITEFLEX

WARD MFG L L C

4. **Firestop System —** The firestop system shall consist of the following:

A. **Packing Material —** When required as shown in the table in Item 4B, min 4 pcf (64 kg/m^3) mineral wool batt insulation compressed and tightly packed to min 2-1/4 in. (57 mm) thickness. Packing material recessed from top surface of floor or both surfaces of wall as required to accommodate fill material (Item 4B). When packing material is shown as being optional, mineral wool or glass fiber insulation or polyethylene foam backer rod may be used as a permanent form to facilitate installation of the fill material. In floors constructed of hollow-core precast concrete units, packing material to be recessed from both top and bottom surfaces of floor, as required to accommodate fill material (Item 4B). When steel sleeve projects from top of floor or from both sides of wall, the thickness of mineral wool batt packing material should be increased by an amount equal to the distance that the sleeve extends past the floor or wall surface.

B. **Fill, Void or Cavity Material* — Sealant —** Fill material applied within annulus, flush with top surface of floor assembly or top edge of steel sleeve. In walls and in floors constructed from hollow core precast concrete units, fill material applied symmetrically on both sides of assembly flush with wall/floor surfaces or both ends of steel sleeve. At point contact location, apply min 1/4 in. (6 mm) diam bead of fill material at pipe/concrete interface or pipe/steel sleeve interface on top surface of floor or both surfaces of wall or precast concrete units. The fill material thickness shall be as specified in the following table:

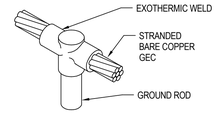
Min Concrete Thickness, in. (mm)	Steel Sleeve	Max Annular Space, in. (mm)	Packing Material	Min Fill Material Thickness in. (mm)	F Rating
2-1/2 (64)	Optional	2 (51)	Required	1/4 (6)	3 hr
4-1/2 (114)	Optional	1 (25)	Optional	1/2 (13)	2 hr

SPECIFIED TECHNOLOGIES INC — SpecSeal LCI Sealant

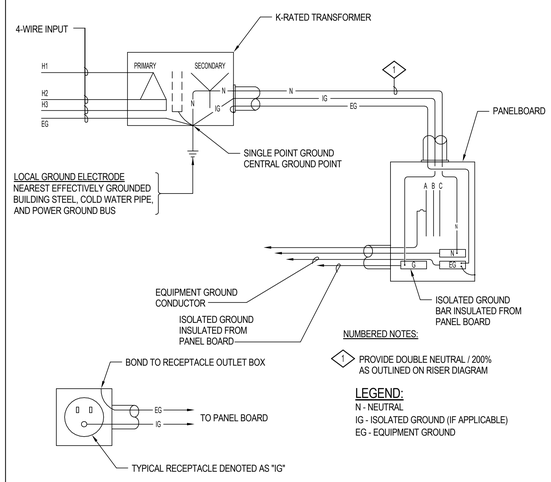
*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

Last Updated on 2011-08-18

3 CONCRETE FLOOR/WALL PENETRATIONS C-AJ-1353 — NO SCALE



1 GROUNDING ELECTRODE CONDUCTOR TAP DETAIL (TYP) — NO SCALE



2 TRANSFORMER/PANELBOARD GROUNDING DETAIL — NO SCALE

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER
MARSHA J. BROWNLEE
No. E17287
ELECTRICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

ELECTRICAL DETAILS

Drawn By: ELW — Checked By: AJB

Scale: **NTS**

Date: **October 4, 2019**

Project No. B17.07369

1-E6.02
Drawing No.

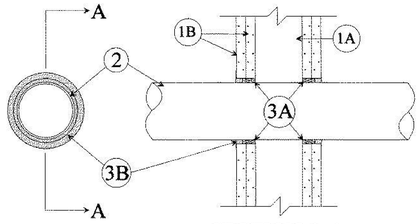
If this drawing is not 30" x 42", it is a reduced print - scale accordingly. All rights reserved. Material may not be reproduced in any form without permission from RossDrulisCusenbery Architecture, Inc.

System No. W-L-1089

January 08, 2010

F Ratings — 1 and 2 Hr (See Item 1)

T Rating — 0 Hr



SECTION A-A

1. **Wall Assembly —** The fire-rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner described in the individual U300 or U400 Series Wall or Partition Design in the UL Fire Resistance Directory and shall include the following construction features:

A. **Studs —** Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 in. OC. Steel studs to be min 2-1/2 in. wide and spaced max 24 in. OC. When steel studs are used and the diam of opening exceeds the width of stud cavity, the opening shall be framed on all sides using lengths of steel stud installed in the opening, a 2 to 3 in. clearance is present between the penetrating item and the framing in all four sides.

B. **Gypsum Board* —** 5/8 in. thick, 4 ft wide with square or tapered edges. The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300 or U400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 24-5/8 in. for steel stud walls. Max diam of opening is 14-1/2 in. for wood stud walls.
The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.

2. **Through Penetrant —** One metallic pipe, conduit or tubing to be installed either concentrically or eccentrically within the firestop system. The annular space between pipe, conduit or tubing and the periphery of opening shall be min 1/8 in. to max 1/2 in. Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:

A. **Steel Pipe —** Nom 24 in diam (or smaller) Schedule 10 (or heavier) steel pipe.

B. **Iron Pipe —** Nom 24 in. diam (or smaller) cast or ductile iron pipe.

C. **Conduit —** Nom 4 in. diam (or smaller) steel electrical metallic tubing or 6 in. diam steel conduit.

D. **Copper Tubing —** Nom 6 in. diam (or smaller) Type L (or heavier) copper tubing.

E. **Copper Pipe —** Nom 6 in. diam (or smaller) Regular (or heavier) copper pipe.

3. **Firestop System —** The firestop system shall consist of the following:

A. **Packing Material —** In 2 hr fire-rated assemblies, min 2 in. thickness of min 4 pcf mineral wool batt insulation firmly packed into opening as a permanent form on both sides of wall. Packing material to be recessed from both surfaces of the wall as required to accommodate the required thickness of fill material. In 1 hr fire-rated assemblies, min 3-3/4 in. thickness of min 4 pcf mineral wool batt insulation firmly packed into opening as a permanent form. Packing material to be flush with both surfaces of the wall.

B. **Fill, Void or Cavity Material* — Sealant —** In 2 hr fire-rated assemblies, 1/4 in. thickness of fill material applied within the annulus on both surfaces of wall. Additional fill material to be installed such that a min 1-1/4 in. thick crown is formed around the penetrating item and lapping a min 1/4 in. beyond the periphery of the opening. In 1 hr fire-rated assemblies, a min 1/2 in. thick crown is formed around the penetrating item and lapping a min 1/2 in. beyond the periphery of the opening on both surfaces of wall.
RECTORSEAL — FS 1900 Sealant

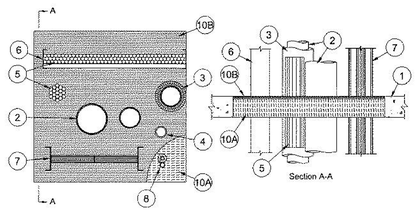
*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

Last Updated on 2010-01-08

System No. C-AJ-8113

May 11, 2017

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Rating - 2 Hr	F Rating - 2 Hr
T Rating - 0, 1/4, 1/2, 3/4 and 2 Hr (See Items 2 through 9)	FT Rating - 0, 1/4, 1/2, 3/4 and 2 Hr (See Items 2 through 9)
	FH Rating - 2 Hr
	FTH Rating - 0, 1/4, 1/2, 3/4 and 2 Hr (See Items 2 through 9)



1. **Floor or Wall Assembly —** Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m^3) concrete. Wall may also be constructed of any UL Classified **Concrete Blocks***. Max area of opening is 1024 sq in. (0.66 m^2) with a max height of 32 in. (813 mm) when installed in a wall or a max width of 32 in. (813 mm) when installed in a floor.

See **Concrete Blocks** (CAZT) category in the Fire Resistance Directory for names of manufacturers.

2. **Metallic Penetrants —** One or more metallic pipes, conduits or tubes to be installed within the opening. Annulus between penetrants is min 0 in. (point contact) to max 24 in. (609 mm). Annulus between penetrants and periphery of opening is 0 in. (point contact) to max 24 in. (609 mm). Penetrants rigidly supported on both sides of floor or wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:

A. **Steel Pipe —** Nom 12 in. (305 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.

B. **Iron Pipe —** Nom 12 in. (305 mm) diam (or smaller) cast or ductile iron pipe.

C. **Conduit —** Nom 6 in. (152 mm) diam (or smaller) rigid steel conduit, nom 4 in. (102 mm) diam (or smaller) electrical metallic tubing (EMT), or nom 4 in. (102 mm) diam (or smaller) steel Flexible Metal Conduit#.

D. **Copper Pipe or Tube —** Nom 6 in. (152 mm) diam (or smaller) Regular (or heavier) copper pipe or Type M (or heavier) copper tube.

Type of Metallic Penetrant	Max Diam of Through Penetrant, in. (mm)	T Rating, Hr
Steel or Iron Pipe, Conduit	12 (305)	0
Copper Pipe or Tube	6 (152)	0
Steel or Iron Pipe, Conduit or EMT	4 (102)	1/4
Steel or Iron Pipe, Conduit or EMT	2 (51)	1/2
Steel or Iron Pipe, Conduit or EMT	1 (25)	3/4

3. **Pipe Insulation —** One or more max 4 in. (102 mm) metallic pipes or tubes may be insulated. Annulus between penetrants is min 0 in. (point contact) to max 24 in. (609 mm). Annulus between penetrants and periphery of opening is 0 in. (point contact) to max 24 in. (609 mm). The annular space between metallic pipes, conduit and tubes and insulated pipes and tubes shall be a min 1/2 in. (13 mm) to max 24 in. (609 mm). Penetrants rigidly supported on both sides of floor or wall assembly. The following types of pipe insulation may be used:

A. **Pipe and Equipment Covering Materials* —** Nom 1 in. (25 mm) thick hollow cylindrical heavy density (min 3.5 pcf or 56 kg/m^3) glass fiber units jacketed on the outside with an all service jacket. Longitudinal joints sealed with metal fasteners or factory-applied self-sealing lap tape. Transverse joints secured with metal fasteners or with butt tape supplied with the product. **When Item 3A is used, T Rating is 3/4 Hr.**
See Pipe and Equipment Covering Materials (BRGU) category in the Building Materials Directory for names of manufacturers. Any pipe covering meeting the above specifications and bearing the UL Classification Marking with a Flame Spread Index of 25 or less and a Smoke Developed Index of 50 or less may be used.

B. **Pipe Covering Materials* —** Nom 2 in. (51 mm) thick unfaced mineral fiber pipe insulation having a nom density of 3.5 pcf (56 kg/m^3) (or heavier) and sized to the outside diam of the pipe or tube. Pipe insulation secured with min 8 AWG steel wire spaced max 12 in. (305 mm) OC. When **Item 3B is used, T Rating is 2 Hr.**
INDUSTRIAL INSULATION GROUP L L C — High Temperature Pipe Insulation 1200, High Temperature Pipe Insulation BWT and High Temperature Pipe Insulation Thermaloc

C. **Sheathing Material* —** Use in conjunction with Item 3B. Foil-scrim-kraft or all service jacket material shall be wrapped around the outer circumference of the pipe insulation (Item 3B) with the kraft side exposed. Longitudinal and transverse joints sealed with metal fasteners or butt tape.
See **Sheathing Materials** (BVDV) category in the Building Materials Directory for names of manufacturers. Any sheathing material meeting the above specifications and bearing the UL Classification Marking with a Flame Spread Index of 25 or less and a Smoke Developed Index of 50 or less may be used.

D. **Tube Insulation-Plastics## —** Nom 3/4 in. (19 mm) thick acrylonitrile butadiene/polyvinyl chloride (AB/PVC) flexible foam furnished in the form of tubing. **When Item 3D is used, T Rating is 1/2 Hr.**
See **Plastics** (QMFZ2) category in the Plastics Recognized Component Directory for names of manufacturers. Any Recognized Component tube insulation meeting the above specifications and having a UL 94 Flammability Classification of 94-5VA may be used.

E. **Pipe Covering Materials* — Cellular Glass Insulation —** Nom 2 to 3 in. (51 to 76 mm) thick cellular glass units sized to the outside diam of the pipe or tube and supplied in nom 24 in. (610 mm) long half sections or nom 18 in.(457 mm) long segments. Pipe insulation installed on pipe in accordance with the manufacturer's instructions. **When Item 3E is used, T Rating is 2 Hr.**

F. **Metal Jacket —** Used in conjunction with Item 3E. Min 12 in. (305 mm) long jacket formed from min 0.010 in. (0.25 mm) thick aluminum sheet cut to wrap tightly around the pipe insulation with a min 2 in. (51 mm) lap and secured using bands and seals of a similar material or min No. 18 AWG steel tie wire. Bands or steel tie wire to be located within 2 in. (51 mm) of each end of the jacket and spaced max 10 in. (254 mm) OC. Jacket installed with edge abutting surface of fill material (Item 9A) on top surface of floor or both surfaces of wall. Metal jacket to be used in addition to any other jacketing material which may be required on the pipe covering.

G. **Pipe and Equipment Covering Materials* —** Nom 2 to 3 in. (51 to 76 mm) thick hollow cylindrical calcium silicate (min 14 pcf or 224 kg/m3) units sized to the outside diam of the pipe or tube. Pipe insulation secured with stainless steel bands or min 8 AWG stainless steel wire spaced max 12 in. (305 mm) OC. **When Item 3G is used, T Rating is 2 Hr.**

4. **Nonmetallic Penetrants —** One or more nonmetallic pipes, conduits or tubes to be installed within the opening. Annulus between penetrants and periphery of opening is min 1 in. (25 mm) to max 24 in. (609 mm). Separation between metallic and nonmetallic penetrants is min 6 in. (152 mm). Penetrants rigidly supported on both sides of floor or wall assembly. The following types and sizes of nonmetallic pipes, conduits or tubing may be used:

A. **Polyvinyl Chloride (PVC) Pipe —** Nom 2 in. (51 mm) diam (or smaller) solid or cellular core Schedule 40 PVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.

B. **Chlorinated Polyvinyl Chloride (CPVC) Pipe —** Nom 2 in. (51 mm) diam (or smaller) SDR13.5 CPVC pipe for use in closed (process or supply) piping systems.

C. **Rigid Nonmetallic Conduit+ —** Nom 2 in. (51 mm) diam (or smaller) Schedule 40 PVC conduit installed in accordance with the National Electrical Code (NFPA 70).

D. **Electrical Nonmetallic Tubing (ENT)+ —** Nom 2 in. (51 mm) diam (or smaller) corrugated wall ENT formed of polyvinyl chloride (PVC) installed in accordance with the National Electrical Code (NFPA 70).

E. **Optical Fiber Raceway+ —** Nom 2 in. (51 mm) diam (or smaller) optical fibner raceway (innerduct). Optical fiber raceway installed in accordance with Article 770 of the National Electrical Code (NFPA 70).
When Item 4 is used, the T Rating of the firestop system is 2 hr.

5. **Cables —** Nom 4 in. (102 mm) diam (or smaller) tight bundle of cables. Annulus between cable bundle and periphery of opening is min 0 in. (point contact) to max 24 in. (609 mm). Separation between cable bundle and metallic or nonmetallic penetrants shall be min 6 in. (152 mm). Cable bundle rigidly supported on both sides of floor or wall assembly. The following types and sizes of cables may be used:

A. Max 1/C - 1000 kcmil cable with polyvinyl chloride (PVC) or cross-linked polyethylene (XLPE) insulation and jacket.

B. Max 7/C - No. 12 AWG cable with PVC-nylon insulation and PVC jacket.

C. Max 400 pair - No. 24 AWG copper conductor telephone cable with PVC insulation and jacket.

D. Max RG/U coaxial cables with fluorinated ethylene jacket and insulation.

E. Multiple fiber optic cables with PVC insulation.

F. **Through Penetrating Products* —** Max 4/C with ground No. 2/O AWG
Metal-Clad Cable+.
AFC CABLE SYSTEMS INC

When cables are used, T Rating is 1/2 hr.

6. **Cable Tray —** Max 30 in. (762 mm) wide by max 6 in. (152 mm) deep open ladder cable tray with channel-shaped side rails formed from min 0.060 in. (1.5 mm) thick (No. 16 MSG) galv steel or min 0.060 in. (1.5 mm) thick aluminum with rungs spaced max 9 in. (229 mm) OC. A max of two cable trays may be installed within the opening with a min vertical separation of 4 in. (102 mm) and a min horizontal separation of 1/4 in. (6 mm) between trays. Max vertical or horizontal separation is 24 in. (609 mm). Annulus between the cable tray and the periphery of the opening is min 0 in. (point contact) to max 24 in. (609 mm). Separation between cable tray and metallic or nonmetallic penetrants is min 6 in. (152 mm). Cable trays to be rigidly supported on both sides of the floor or wall assembly. Aggregate cross-sectional area of cables in cable tray not to exceed 40 percent of the cross-sectional area of the cable tray based on a max 3 in. (76 mm) cable loading depth within tray. Any combination of the cable types specified in Item 5 may be used. **When cable tray is used, T Rating is 1/2 hr.**

7. **Busway+ —** Nom 19 in. (483 mm) wide (or smaller) by 6 in. (152 mm) deep "I" shaped aluminum enclosure containing factory-mounted copper bars rated for 600 V, 5000 A or max 26 in. (660 mm) wide by max 6 in. (152 mm) deep "I" shaped aluminum enclosure containing factory-mounted aluminum bars rated for 600 V, 4000 A. A max of two busways may be installed within the opening with a min separation of 1 in. (25 mm) to max 24 in. (609 mm). The annular space between the busway and the periphery of the opening shall be a min 0 in. (point contact) to a max 24 in. (609 mm). Busways spaced min 6 in. (152 mm) from all other penetrants. Busway to be rigidly supported on both sides of floor or wall assembly. The busway shall bear the UL Listing Mark and shall be installed in accordance with all provisions of the National Electrical Code, NFPA 70. **When busway is used, the T Rating is 1/4 hr.**

8. **Air Conditioning (AC) Line Set —** One or more AC line sets installed within opening. Each AC line set consists of two pipes or tubes (Item 8A), tubing insulation (Item 8B) and a thermostat cable (Item 8C). The space between the AC line sets shall be min 2 in. (51 mm). The space between the AC line sets and the periphery of the opening shall be min 0 in. (point contact) to max 24 in. (609 mm). The AC line sets shall be spaced min 6 in. from uninsulated metallic penetrants and shall be rigidly supported on both sides of the floor or wall assembly.

8A. **Through Penetrant —** A max of two pipes or tubes to be installed in each AC line set. Of the two pipes or tubes, only one may have a nom diam greater than 1/2 in. (13 mm). The following types and sizes of through penetrants may be used:

A. **Steel Pipe —** Nom 1 in. (25 mm) diam (or smaller) Schedule 5 (or heavier) steel pipe.

B. **Iron Pipe —** Nom 1 in. (25 mm) diam (or smaller) cast or ductile iron pipe.

C. **Copper Pipe —** Nom 1 in. (25 mm) diam (or smaller) Regular (or heavier) copper pipe.

D. **Copper Tube —** Nom 1 in. (25 mm) diam (or smaller) Type L (or heavier) copper tube.

8B. **Tube Insulation — Plastics# —** Nom 3/4 in. (19 mm) thick acrylonitrile butadiene/polyvinyl chloride (AB/PVC) flexible foam furnished in the form of tubing. The tube insulation may be installed on one max 3/4 in. (19 mm) diam pipe or tube in each AC line set. The space between the insulated and uninsulated pipes or tubes within each AC line set shall be 0 in. (point contact).
See **Plastics** (QMFZ2) category in the Plastics Recognized Component Directory for names of manufacturers. Any Recognized Component tube insulation meeting the above specifications and having a UL 94 Flammability Classification of 945VA may be used.

8C. **Cable —** One 4 pair No. 18 AWG (or smaller) thermostat cable with polyvinyl chloride (PVC) insulation and jacket materials may be installed with each AC line set.
When Item 8 is used, the T Rating of the firestop system is 1/4 hr.

9. **Steel Duct —** (Not Shown) Nom 12 in. (305 mm) diameter (or smaller) No. 30 GA (or heavier) steel duct installed within opening when opening contains no cables or cable tray. A max of two steel ducts may be installed within the through-opening. Ducts to be spaced min 4 in. (102 mm) apart and min 8 in. (203 mm) from insulated penetrants and nonmetallic penetrants. Annulus between the steel duct and the periphery of the opening shall be min 0 in. (point contact) to max 24 in. (0 to 609 mm). Steel ducts to be rigidly supported on both sides of floor or wall assembly. **When steel duct is used, the T Rating is 0 hr.**

10. **Firestop System —** The firestop system shall consist of the following items:

A. **Packing Material —** Min 4 in. (102 mm) thickness of min 4 pcf (64 kg/m^3) mineral wool batt insulation tightly packed into opening. Packing material

recessed from top surface of floor assembly or from both surfaces of wall or precast concrete units to accommodate the required thickness of fill material.

B. **Fill, Void or Cavity Materials* — Sealant —** Min 1/2 in. (13 mm) depth of fill material applied within the annulus, flush with top surface of floor assembly or with both surfaces of the wall assembly. Additional fill material forced into interstices of grouped cables and grouped cables within cable trays. At point contact location between through penetrant and concrete, a min 3/8 in. (9.6 mm) diam of fill material shall be applied at through penetrant/concrete interface on top surface of floor or both surfaces of the wall.
SPECIFIED TECHNOLOGIES INC — SpecSeal Series SSS Sealant or SpecSeal LCI Sealant

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

#Bearing the UL Recognized Components Mark

+Bearing the UL Listing Mark

Last Updated on 2017-05-11

2 GYPSUM WALL PENETRATIONS W-L-1089 — NO SCALE

1 UL FIRESTOP SYSTEM C-AJ-8113 — NO SCALE

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER
AMISHA J. BROWNLEE
No. E17287
ELECTRICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

ELECTRICAL DETAILS

Drawn By: ELW Checked By: AJB

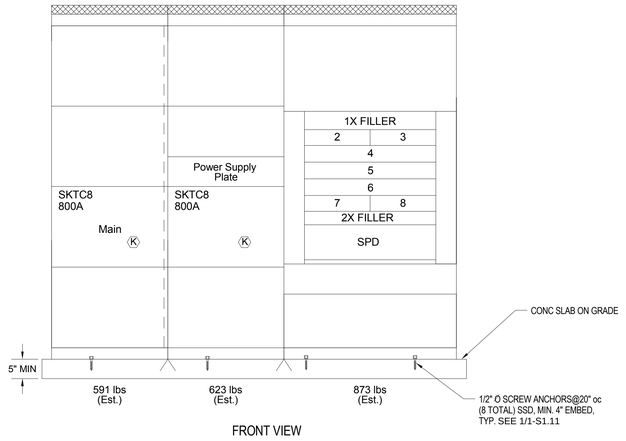
Scale: **NTS**

Date: **October 4, 2019**

Project No. B17.07369

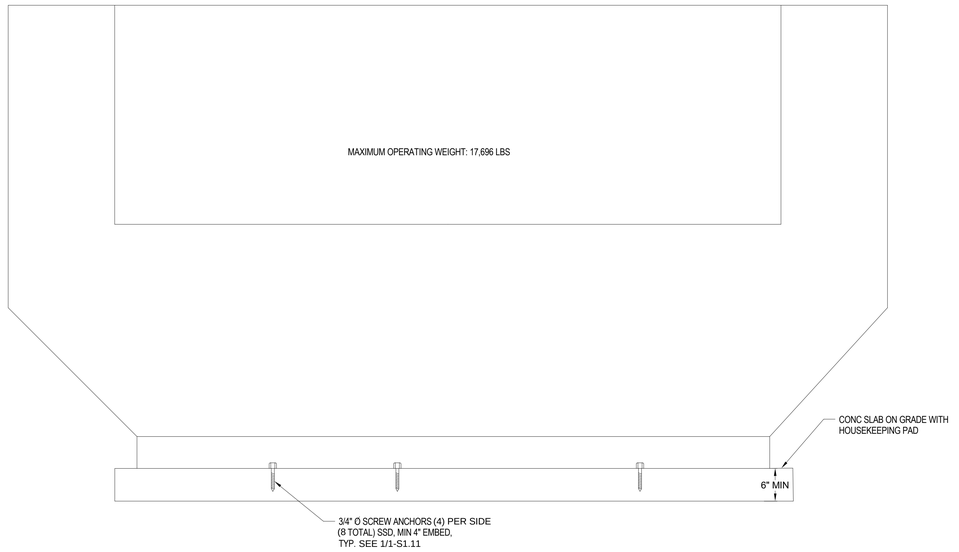
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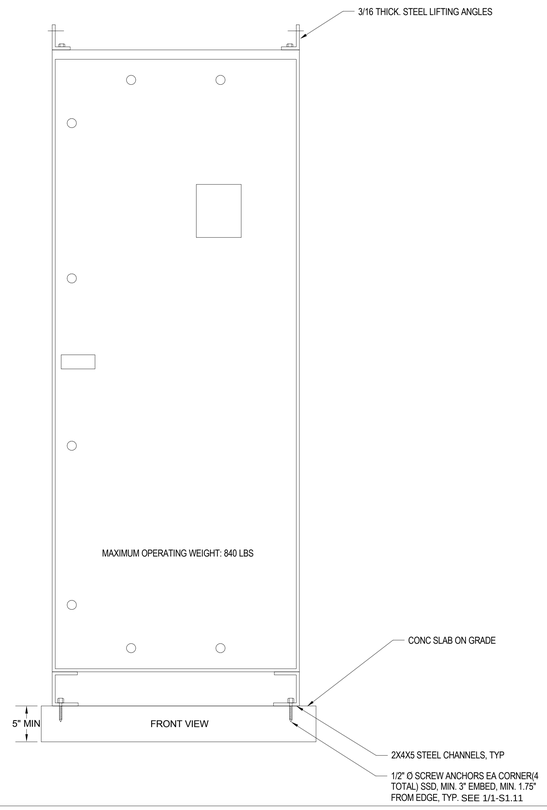


FRONT VIEW

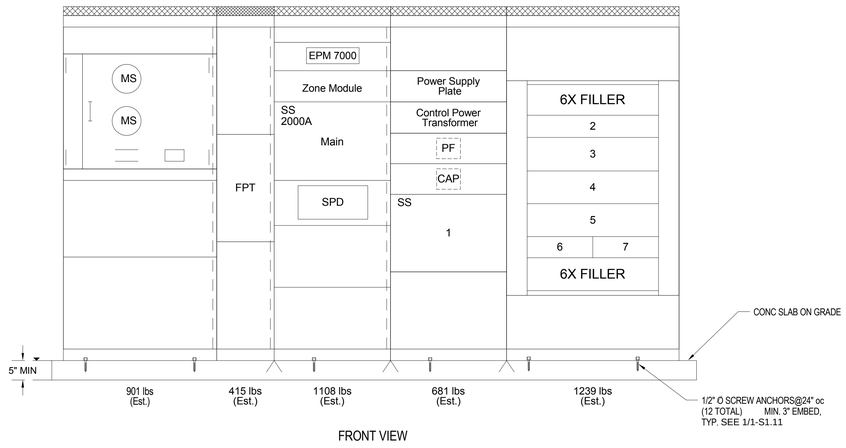
3 EDSH-B1A ANCHORAGE DETAIL — NO SCALE



1 GENERATOR GEN-B1 DETAIL — NO SCALE



4 ATS-E1A, ATS-E1B ANCHORAGE DETAIL — NO SCALE



FRONT VIEW

2 MS-B1A ANCHORAGE DETAIL — NO SCALE

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY:	
KATHY GARCIA DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER
AMANDA J. BROWN, CE
No. E17287
ELECTRICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

ELECTRICAL DETAILS

Drawn By: Author — Checked By: Checker

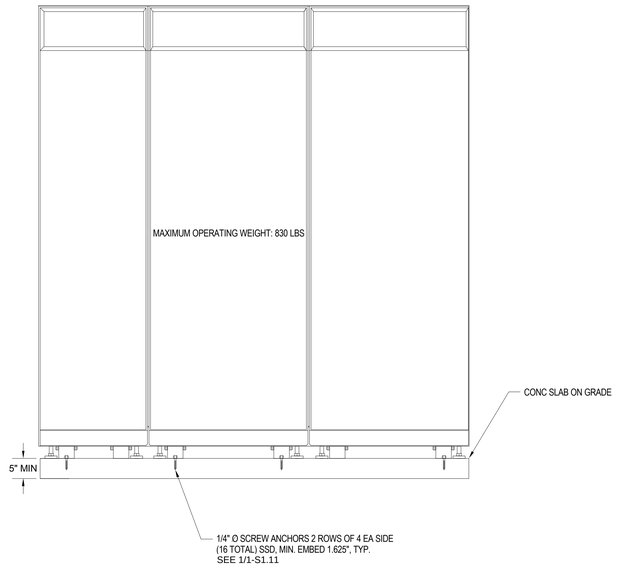
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Date: **October 4, 2019**

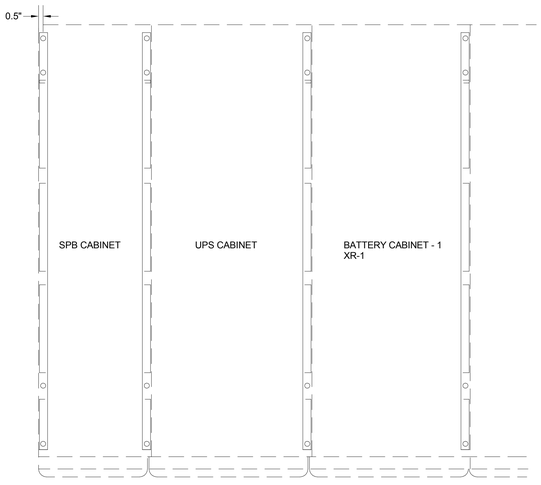
Project No. B17.07369

1-E6.04
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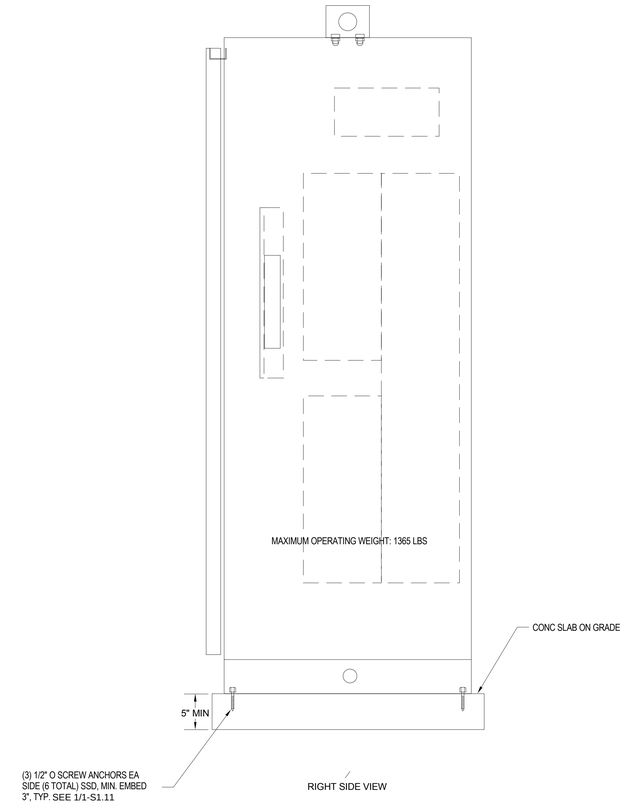


ELEVATION VIEW ANCHORING DETAILS

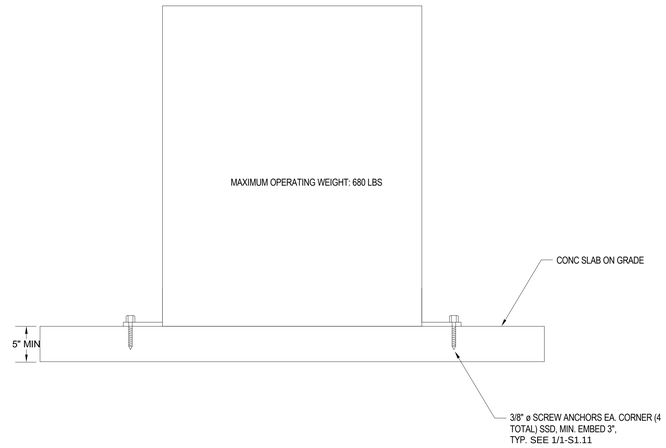


PLAN VIEW ANCHORING DETAILS

3 UPS-B1A ANCHORAGE
DETAIL — NO SCALE



1 ATS-E1C ANCHORAGE
DETAIL — NO SCALE



2 ET-B1A ANCHORAGE
DETAIL — NO SCALE

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
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SS ☑ FLS ☑ ACS ☑
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ARCHITECTURE
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Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

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HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

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HAYWARD, CA 94545

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER
AMANDA J. BROWNLEE
No. E17387
ELECTRICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

ELECTRICAL DETAILS

Drawn By: Author
Checked By: Checker

Scale: **NTS**

Date: **October 4, 2019**

Project No. B17.07369

1-E6.05
Drawing No.

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FORELL/ELSESSER ENGINEERS, INC.
Structural Engineers

July 21, 2016

Sirjan Xhurxhi
Design Engineer
General Electric
41 Woodford Avenue
Plainville, CT 06062

Re: GE LV Transformers
ASCE 7-10, 2015 IBC, 2016 CBC, and IEEE-693-2005 Seismic and Special Seismic Certification

Forell/Elsesser has reviewed shake table test reports 6982, 8036, 8428, and 2665-R prepared by Clark Testing Laboratory, which summarizes testing for the GE Low Voltage Transformers. The testing was performed according to both the requirements of ICC-ES AC156 and IEEE-693-2005 and demonstrated that the equipment satisfied testing requirements for Ip=1.5, Site Class D, ap=1.0, Rp=2.5, and Z/h = 1.0. In accordance with ASCE 7-10, which contains the seismic provisions of the 2015 International Building Code [IBC] and 2016 California Building Code [CBC], AC156 is an acceptable test procedure for determining the seismic certification of equipment. ASCE 7-10, Section 13.2.1.2.b allows for testing alone to be used to satisfy IBC and CBC seismic qualification requirements for electrical equipment.

Using AC156 procedures, F/E determined that the test results demonstrate the adequacy of the GE Low Voltage Transformers up to the peak ground seismicity (S_{DS}) in the table below. Therefore, F/E concludes that the test data demonstrates that the GE Low Voltage Transformers are certified for installation in accordance with the seismic provisions of the 2015 IBC and 2016 CBC for any site with a site-specific S_{DS} equal or less than the attached S_{DS} table and at any location within a building.

Enclosure Type & Product Names	Mounting	NEMA Rating	kVA	Width	Depth	Height	Weight	S_{DS} (g)	IEEE-693 Seismic Level
Vented/Non-Vented QL, QF, FC Transformore	Floor	1, 2	11-1000	19"-48"	16"-40"	27"-58"	50 - 4,290 lbs	2.19	High
	Wall Bracket	1, 2	11-112.5	19"-32"	17"-28"	27"-33"	50 - 800 lbs	2.08	High
							800 - 1,018 lbs	1.16	High
Encapsulated & Enclosed Servicenter	Floor	1, 2, 3R	5-30	11"-35"	11"-35"	27"-33"	50 - 500 lbs	2.42	High
	Wall Bracket	1, 2, 3R	5-30	11"-27"	11"-25"	27"-33"	50 - 500 lbs	2.5	High
Control Power IP	Floor	1, 2	0.05-3	3"-9"	3"-7"	3"-6"	2.5 - 50 lbs	2.31	High
	Wall	1, 2	0.05-3	3"-9"	3"-7"	3"-6"	2.5 - 50 lbs	1.91	High

Notes:
1. Rigid wall-bracket mounted refers to a transformer mounted to the wall via the wall bracket mounting kits. Rigid wall mounted refers to a transformer mounted directly to the wall without a wall bracket mounting kit.

Should you any questions or need further information please do not hesitate to contact us.

Thank you.

Sincerely,

FORELL/ELSESSER ENGINEERS, INC.

Marco Scanu, SE #4454,Principal

REGISTERED PROFESSIONAL ENGINEER MARCO SCANU No. S4454 Exp. 12/31/16 STRUCTURAL STATE OF CALIFORNIA

160 Pine Street San Francisco, California, 94111
Telephone: 415/837-0700 Fax: 415/837-0800 www.forell.com

THE VMC GROUP
The Power of Together™

Cummins Power Generation

CERTIFICATE OF COMPLIANCE

SEISMIC DESIGN OF NONSTRUCTURAL COMPONENTS AND SYSTEMS

Certified Product Table:

Series	Model Family	Max Rating [kW]	Max Package Dimensions [in]			S_{DS} Level [g]		Tank Range [gal]	Enclosure	Mounting Configurations
			Length	Width	Height	z/h=0.0	z/h=1.0			
DFEx (QSX15)	J, K	450, 500	366	86	128	1.94	0.64	270-2525	F183, F200, F201, F202, F203, F204, F205	Rigid mounting from unit base to rigid structure / fuel tank
DQDAx (QSL9-G7)	A, B, C	250, 275, 300	266	90	134	2.48	2.00	270-2050		External isolation mounting from unit base to rigid structure / fuel tank
DQHAx (QSM11)	A, B	275, 300	226	80	128	2.28	2.28	270-1700		
DSHAx (QSL9-G2)	D	230	143	42	110	2.28	2.28	282-1296	F172, F173, F182, F216, F217	
DSGAx (QSB7)	A, B, C, D, E	100, 125, 150, 175, 200	184	44	114	2.48	2.00	309-1140	F173, F182, F216, F217, F232, F233	Rigid mounting from unit base to rigid structure / fuel tank

This certification **includes** the open generator set and the enclosed generator set when installed with or without the sub-base tank. The generator set and included options shall be a catalogue design and factory supplied. The generator set and applicable options shall be installed and attached to the building structure per the manufacturer supplied seismic installation instructions. This certification **excludes** After Treatment Units (ATUs), all non-factory supplied accessories, including but not limited to mufflers, isolation/restraint devices, remote control panels, remote radiators, pumps and other electrical/mechanical components.

VMA-50957-01C (Revision 6)
Issue Date: March 02, 2017
Revision Date: October 11, 2017
Expiration Date: June 30, 2020

FORELL/ELSESSER ENGINEERS, INC.
Structural Engineers

July 21, 2016

Sirjan Xhurxhi
Design Engineer
General Electric
41 Woodford Avenue
Plainville, CT 06062

Re: GE Low Voltage Switchboards
ASCE 7-10, 2015 IBC, 2016 CBC and IEEE-693-2005 Seismic and Special Seismic Certification

Forell/Elsesser has reviewed shake table test reports 2346A rev.1, 10164, 10154, 10155, 8101, 8055, 8480, and 8916 prepared by Clark Testing Laboratory and test report 53022-1 prepared by Wyle Laboratories, which summarizes testing for the GE Low Voltage Switchboards. The testing was performed according to both the requirements of ICC-ES AC156 and IEEE-693-2005 and demonstrated that the equipment satisfied testing requirements for Ip=1.5, Site Class D, ap=2.5, Rp=6.0, and Z/h = 1.0. In accordance with ASCE 7-10, which contains the seismic provisions of the 2015 International Building Code [IBC] and 2016 California Building Code [CBC], AC156 is an acceptable test procedure for determining the seismic certification of equipment. ASCE 7-10, Section 13.2.1.2.b allows for testing alone to be used to satisfy IBC and CBC seismic qualification requirements for electrical equipment.

Using AC156 procedures, F/E determined that the test results demonstrate the adequacy of the GE Low Voltage Switchboards up to the peak ground seismicity (S_{DS}) in the table below. Therefore, F/E concludes that the test data demonstrates that the GE Low Voltage Switchboards are certified for installation in accordance with the seismic provisions of the 2015 IBC and 2016 CBC for any site with a site-specific S_{DS} equal or less than the attached S_{DS} table and at any location within a building.

Spectra & Jiffy, Integrated, GenTower, Evolution, & Commercial Metering Switchboards					
Width	**Depth**	**Height**	**Weight**	**S_{DS}(g)**	**IEEE-693 Seismic Level**
15"-60"	15"-60"	90"-93"	1,852 lbs max.	2.50	High
			1,853-4,463 lbs	1.56	High

PowerBreak II, AV3 & AKD10/20 Switchboards					
Width	**Depth**	**Height**	**Weight**	**S_{DS}(g)**	**IEEE-693 Seismic Level**
15"-50"	50"-80"	90"-92"	2,129 lbs max.	1.67	High
			2,130-2,435 lbs	1.46	High
			2,436-5,260 lbs	1.33	High

Notes:
1. Enclosures are indoor (NEMA-1) or outdoor (NEMA-3R) enclosures
2. Dimensions are for individual sections. Sections may be installed alone or bayed together.
3. Maximum depth does not include NEMA-3R extensions
4. Maximum height does not include 34"-high top feeder or 12"-high drip roof
5. All enclosures are rigid floor mounted.

Should you any questions or need further information please do not hesitate to contact us.

Thank you.

Sincerely,

FORELL/ELSESSER ENGINEERS, INC.

Marco Scanu, SE #4454, Principal

REGISTERED PROFESSIONAL ENGINEER MARCO SCANU No. S4454 Exp. 12/31/16 STRUCTURAL STATE OF CALIFORNIA

160 Pine Street San Francisco, California, 94111
Telephone: 415/837-0700 Fax: 415/837-0800 www.forell.com

FORELL/ELSESSER ENGINEERS, INC.
Structural Engineers

July 21, 2016

Sirjan Xhurxhi
Design Engineer
General Electric
41 Woodford Avenue
Plainville, CT 06062

Re: GE Panelboards
ASCE 7-10, 2015 IBC, 2016 CBC and IEEE-693-2005 Seismic and Special Seismic Certification

Forell/Elsesser has reviewed shake table test reports 10276, and 2346B-R Rev. 2 prepared by Clark Testing Laboratory and test report 46922-1 and 52868-1 prepared by Wyle Laboratories, which summarizes testing for the GE Panelboards. The testing was performed according to both the requirements of ICC-ES AC156 and IEEE-693-2005 and demonstrated that the equipment satisfied testing requirements for Ip=1.5, Site Class D, ap=2.5, Rp=6.0, and Z/h = 1.0. In accordance with ASCE 7-10, which contains the seismic provisions of the 2015 International Building Code [IBC] and 2016 California Building Code [CBC], AC156 is an acceptable test procedure for determining the seismic certification of equipment. ASCE 7-10, Section 13.2.1.2.b allows for testing alone to be used to satisfy IBC and CBC seismic qualification requirements for electrical equipment.

Using AC156 procedures, F/E determined that the test results demonstrate the adequacy of the GE Panelboards up to the peak ground seismicity (S_{DS}) in the table below. Therefore, F/E concludes that the test data demonstrates that the GE Panelboards are certified for installation in accordance with the seismic provisions of the 2015 IBC and 2016 CBC for any site with a site-specific S_{DS} equal or less than the attached S_{DS} table and at any location within a building.

A-Series Lighting Panelboards						
Width	**Ampacity**	**Depth**	**Height**	**Weight**	**S_{DS}(g)**	**IEEE-693 Seismic Level**
8.75"-30"	100A-800A	5"-8"	25"-77"	266 lbs max.	2.50	High
6.5"-30"	100A-800A	5"-8"	25"-89"	310 lbs max.	2.15	High
6.5"-30"	100A-800A	5"-8"	25"-89"	368 lbs max.	1.54	High

Spectra, Integrated Submetering, & Gentower						
Width	**Ampacity**	**Depth**	**Height**	**Weight**	**S_{DS}(g)**	**IEEE-693 Seismic Level**
27"-44"	100A-1200A	11.5"-20"	65"-96"	800 lbs max.	2.50	High

Notes:
1. All enclosures are indoor (NEMA 1 and 2) or outdoor (NEMA 3R, 4, 12, 4X) enclosures.
2. All enclosures are rigid wall mounted.

Should you any questions or need further information please do not hesitate to contact us.

Thank you.

Sincerely,

FORELL/ELSESSER ENGINEERS, INC.

Marco Scanu, SE #4454
Principal

REGISTERED PROFESSIONAL ENGINEER MARCO SCANU No. S4454 Exp. 12/31/16 STRUCTURAL STATE OF CALIFORNIA

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THE VMC GROUP
The Power of Together™

Cummins Power Generation

CERTIFICATE OF COMPLIANCE

SEISMIC DESIGN OF NONSTRUCTURAL COMPONENTS AND SYSTEMS

Notes and Comments:

1. All equipment listed herein successfully passed the seismic acceptance criteria for shake testing non-structural components and systems as set forth in the ICC AC-156. The Test Response Spectrum (TRS) enveloped the Required Response Spectrum (RRS) for all units tested. The units cited in this certification were representative sample(s) of a contingent of models and all remained captive and structurally sound after the seismic shake simulation. The units also remained functionally operational after the simulation testing as functional testing was completed by the equipment manufacturer before and after the seismic simulations. Although a seismic qualified unit inherently contains some wind resisting capacity, that capacity is undetermined and is excluded from this certification. Snow/ IBC 2006 – referencing ASCE7-05 and ICC AC-156
2. The following building codes are addressed under this certification:
   IBC 2015 – referencing ASCE7-10 and ICC AC-156
   IBC 2012 – referencing ASCE7-10 and ICC AC-156
   IBC 2009 – referencing ASCE7-05 and ICC AC-156
   IBC 2006 – referencing ASCE7-05 and ICC AC-156
3. Refer to the manufacturer supplied installation drawings for anchor requirements and mounting considerations for seismic applications. 2. Required anchor locations, size, style, and load capacities (tension and shear) may be specified on the installation drawings or specified by a 3rd party. Mounting requirement details such as anchor brand, type, embedment depth, edge spacing, anchor-to-anchor spacing, concrete strength, special inspection, wall design, and attachment to non-building structures must be outlined and approved by the Engineer of Record for the project or building. Structural walls, structural floors, and housekeeping pads must also be seismically designed and approved by the project or building Structural Engineer of Record to withstand the seismic anchor loads as defined on the installation drawings. The installing contractor is responsible for observing the installation detailed in the seismic installation drawings and the proper installation of all anchors and mounting hardware.
4. For this certificate and certification to remain valid, this certificate must correspond to the "Seismic Certification Label" found affixed to the unit by the factory. The label ensures the manufacturer built the unit in conformance to the IBC seismic design criteria set forth by the Certified Seismic Qualification Agency, The VMC Group, and meets the seismic design levels claimed by this certificate.
5. Mechanical, Electrical, and Plumbing connections to the equipment must be flexibly attached as to not transfer load through the connection. The structural integrity of any conduit, cable trays, piping, ductwork and/or flexible connections is the responsibility of others. This certification does not guarantee the equipment will remain compliant to NEMA, IP, UL, or CSA standards after a seismic event.
6. This certificate applies to units manufactured at:
   Cummins Power Generation, 1400 73rd Ave NE, Minneapolis, MN 55432
7. This project follows The VMC Group's ISO-17065 Scheme for Product Certification of Nonstructural Components.
8. The qualified seismic design level stated is the lowest for all series this certificate covers, for more detailed ranges of qualified seismic design levels, see the certified product tables.
9. The certified seismic installation methods stated are a summary for all series this certificate covers, for more detailed information on the certified seismic installation methods, see the certified product tables.

John P. Giuliano, PE
President, The VMC Group

VMA-50957-01C (Revision 6)
Issue Date: March 02, 2017
Revision Date: October 11, 2017
Expiration Date: June 30, 2020

THE VMC GROUP
The Power of Together™

Cummins Power Generation

CERTIFICATE OF COMPLIANCE

SEISMIC DESIGN OF NONSTRUCTURAL COMPONENTS AND SYSTEMS

Certification No.

VMA-50957-01C (Revision 06)

Expiration Date: 06/30/2020

Certification Parameters:

The nonstructural products (mechanical and/or electrical components) listed on this certificate are CERTIFIED[7] FOR SEISMIC APPLICATIONS in accordance with the following building code[8] releases.

IBC 2006, 2009, 2012, 2015

The following model designations, options, and accessories are included in this certification. Reference report number **VMA-50957-01** as issued by The VMC Group for a complete list of certified models, included accessories/options, and certified installation methods.

Cummins Power Generation Diesel Generator Sets
DSGAA-E, DSHAD, DQDAA-C, DQHAA-B, DFEJ-K 100kW - 500kW

The above referenced equipment is **APPROVED** for seismic application when properly installed[7], used as intended, and contains a Seismic Certification Label referencing this Certificate of Compliance[7]. As limited by the tabulated values, below grade, grade, and roof-level installations, installations in essential facilities, for life safety applications, and/or of equipment containing hazardous contents are permitted and included in this certification with an Equipment Importance Factor assigned as I_p=1.5. The equipment is qualified by successful seismic shake table testing at the nationally recognized University of California Berkley Pacific Earthquake Engineering Research Center under the review of the ISO Accredited Product Certification Agency, The VMC Group.

Certified Seismic Design Levels[8]			
Certified IBC	**Importance $I_P \le 1.5$** Soil Classes A-E Risk Categories I-IV Design Categories A-F	**$S_{DS} \le 1.940$ g** **z/h = 0.0**	**$S_{DS} \le .647$ g** **z/h ≤ 1.0**
		Horizontal Design[4] $\frac{F_p}{W_p} = 0.4 S_{DS} I_p \frac{a_p}{R_p}\left(1 + 2\frac{z}{h}\right) \le$	**1.455 g**
Test Datum AC156	ISO 17025 Laboratory Pre/Post-Shake Functionality Tri-axial, 5% Damping SRS	$A_{FLEX-H} \le 1.940$ g	$A_{FLEX-V} \le 1.293$ g
		$A_{RIG-H} \le 0.776$ g	$A_{RIG-V} \le 0.518$ g
		$ZPA_H \le 0.698$ g	$ZPA_V \le 0.466$ g

Certified Seismic Installation Methods[9]	
Rigid mounting from unit base to rigid structure	External isolation mounting from unit base to rigid structure
Rigid mounting from unit base to fuel tank	External isolation mounting from unit base to fuel tank

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
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DATE: 11/12/2019

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TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY:	
KATHY GARCIA DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

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wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER AMANDA J. BROWN-LEE No. E17287 ELECTRICAL STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

ELECTRICAL DETAILS

Drawn By: Author Checked By: Checker

Scale:
NTS

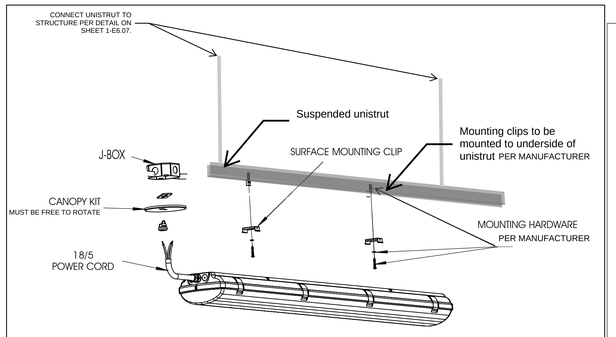
Date:
October 4, 2019

Project No. B17.07369

1-E6.06

Drawing No.

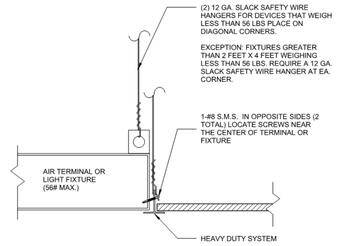
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NOTES:
-IF SWINGING FIXTURE CAN CAUSE CONTACT WITH OTHER ITEMS, PROVIDE DIAGONAL WIRES OR BRACING TO RESTRAIN MOVEMENT.
-UNISTRUT TO BE SUPPORTED AND BRACED PER OPM F2.12

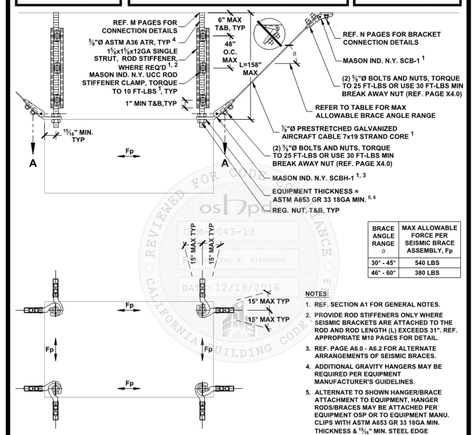
LIGHT FIXTURE MOUNTING TO UNISTRUT AT APPARATUS BAY

2/10/2016 10:42:51 AM



Basis Document : **DSA IR 25-2.13**			Sheet No:
Sheet Title : **SUSPENDED ACOUSTICAL CEILING - LIGHT FIXTURES/ AIR TERMINAL SUPPORT DETAIL**	rev.	09-21-15	2.80
	rev.	02-10-16	

HANGER ROD DIAMETER = $\frac{5}{8}$"	SUSPENDED EQUIPMENT SEISMIC CABLE BRACING SYSTEM 750 LB MAX VERTICAL LOAD PER HANGER	KIT OPTIONS C1SE



BRACE ANGLE RANGE ∂	MAX ALLOWABLE FORCE PER SEISMIC BRACE ASSEMBLY, Fp
30° - 45°	540 LBS
46° - 60°	380 LBS

NOTES:
1. REF. SECTION A1 FOR GENERAL NOTES.
2. PROVIDE ROD STIFFENERS ONLY WHERE SEISMIC BRACKETS ARE ATTACHED TO THE ROD AND ROD LENGTH (L) EXCEEDS 31". REF. APPROPRIATE M10 PAGES FOR DETAIL.
3. REF. PAGE A6.0 - A6.2 FOR ALTERNATE ARRANGEMENTS OF SEISMIC BRACES.
4. ADDITIONAL GRAVITY HANGERS MAY BE REQUIRED PER EQUIPMENT MANUFACTURER'S GUIDELINES.
5. ALTERNATE TO SHOWN HANGER/BRACE ATTACHMENT TO EQUIPMENT, HANGER RODS/BRACES MAY BE ATTACHED PER EQUIPMENT OSP OR TO EQUIPMENT MANU. CLIPS WITH ASTM A653 GR 33 18GA MIN. THICKNESS & 7/16" MIN. STEEL EDGE DISTANCE.
6. ATTACHMENT TO THE EQUIPMENT SHALL BE DESIGNED AND SUBMITTED TO OSHPD FOR APPROVAL.

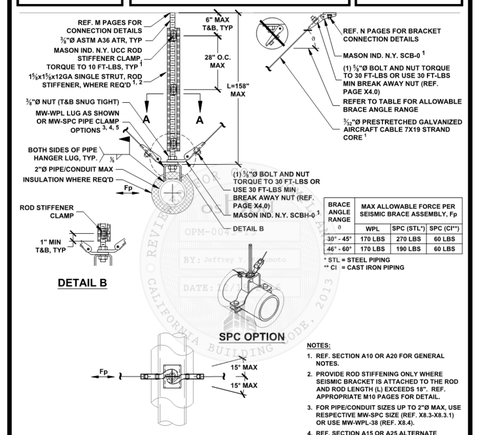
VIEW A-A

MASON WEST, INC.
1601 E. Miraloma Ave. Placentia, CA 92870
TEL (714) 630 - 0701, www.masonwest.com

Jiefu "Jeff" Zhang, SE
California SE No. S5270

PAGE **D12.12**

HANGER ROD DIAMETER = $\frac{3}{8}$"	PIPING/CONDUIT TRANSVERSE SEISMIC CABLE BRACING SYSTEM 2"Ø PIPE/CONDUIT MAX	KIT OPTIONS C0T



BRACE ANGLE RANGE ∂	MAX ALLOWABLE FORCE PER SEISMIC BRACE ASSEMBLY, Fp	
	WPL	SPC (STL*) SPC (CI**)
30° - 45°	170 LBS	270 LBS 60 LBS
46° - 60°	170 LBS	190 LBS 60 LBS

* STL = STEEL PIPING
** CI = CAST IRON PIPING

DETAIL B

SPC OPTION

NOTES:
1. REF. SECTION A10 OR A20 FOR GENERAL NOTES.
2. PROVIDE ROD STIFFENING ONLY WHERE SEISMIC BRACKET IS ATTACHED TO THE ROD AND ROD LENGTH (L) EXCEEDS 18". REF. APPROPRIATE M10 PAGES FOR DETAIL.
3. FOR PIPE/CONDUIT SIZES UP TO 2"Ø MAX, USE RESPECTIVE MW-SPC SIZE (REF. X8.3-X8.3.1) OR USE MW-WPL-38 (REF. X8.4).
4. REF. SECTION A15 OR A25 ALTERNATE ARRANGEMENTS OF SEISMIC BRACES.
5. REF. PAGE A19.1 OR A28.1 FOR PIPE/CONDUIT CLAMP OPTION.

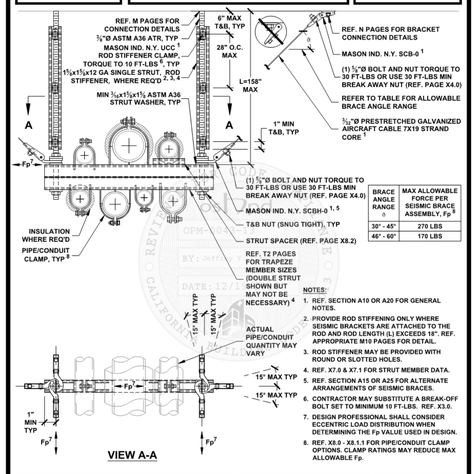
VIEW A-A

MASON WEST, INC.
1601 E. Miraloma Ave. Placentia, CA 92870
TEL (714) 630 - 0701, www.masonwest.com

Jiefu "Jeff" Zhang, SE
California SE No. S5270

PAGE **C2.10**

HANGER ROD DIAMETER = $\frac{3}{8}$"	PIPING/CONDUIT ALL-DIRECTIONAL TRAPEZE SEISMIC CABLE BRACING SYSTEM 30 PLF MAX	KIT OPTIONS TC0A



BRACE ANGLE RANGE ∂	MAX ALLOWABLE FORCE PER SEISMIC BRACE ASSEMBLY, Fp 9
30° - 45°	270 LBS
46° - 60°	170 LBS

NOTES:
1. REF. SECTION A10 OR A20 FOR GENERAL NOTES.
2. PROVIDE ROD STIFFENING ONLY WHERE SEISMIC BRACKETS ARE ATTACHED TO THE ROD AND ROD LENGTH (L) EXCEEDS 18". REF. APPROPRIATE M10 PAGES FOR DETAIL.
3. ROD STIFFENER MAY BE PROVIDED WITH ROUND OR SLOTTED HOLES.
4. REF. X7.0 & X7.1 FOR STRUT MEMBER DATA.
5. REF. SECTION A15 OR A25 FOR ALTERNATE ARRANGEMENTS OF SEISMIC BRACES.
6. CONTRACTOR MAY SUBSTITUTE A BREAK-OFF BOLT SET TO MINIMUM 10 FT-LBS. REF. X3.0.
7. DESIGN PROFESSIONAL SHALL CONSIDER ECCENTRIC LOAD DISTRIBUTION WHEN DETERMINING THE Fp VALUE USED IN DESIGN.
8. REF. X8.0 - X8.1.1 FOR PIPE/CONDUIT CLAMP OPTIONS. CLAMP RATINGS MAY REDUCE MAX ALLOWABLE Fp.

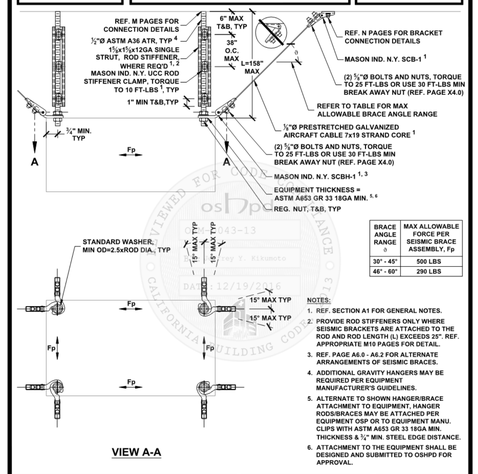
VIEW A-A

MASON WEST, INC.
1601 E. Miraloma Ave. Placentia, CA 92870
TEL (714) 630 - 0701, www.masonwest.com

Jiefu "Jeff" Zhang, SE
California SE No. S5270

PAGE **F2.12**

HANGER ROD DIAMETER = $\frac{1}{2}$"	SUSPENDED EQUIPMENT SEISMIC CABLE BRACING SYSTEM 375 LB MAX VERTICAL LOAD PER HANGER	KIT OPTIONS C1SE



BRACE ANGLE RANGE ∂	MAX ALLOWABLE FORCE PER SEISMIC BRACE ASSEMBLY, Fp
30° - 45°	500 LBS
46° - 60°	290 LBS

NOTES:
1. REF. SECTION A1 FOR GENERAL NOTES.
2. PROVIDE ROD STIFFENERS ONLY WHERE SEISMIC BRACKETS ARE ATTACHED TO THE ROD AND ROD LENGTH (L) EXCEEDS 25". REF. APPROPRIATE M10 PAGES FOR DETAIL.
3. REF. PAGE A6.0 - A6.2 FOR ALTERNATE ARRANGEMENTS OF SEISMIC BRACES.
4. ADDITIONAL GRAVITY HANGERS MAY BE REQUIRED PER EQUIPMENT MANUFACTURER'S GUIDELINES.
5. ALTERNATE TO SHOWN HANGER/BRACE ATTACHMENT TO EQUIPMENT, HANGER RODS/BRACES MAY BE ATTACHED PER EQUIPMENT OSP OR TO EQUIPMENT MANU. CLIPS WITH ASTM A653 GR 33 18GA MIN. THICKNESS & ½" MIN. STEEL EDGE DISTANCE.
6. ATTACHMENT TO THE EQUIPMENT SHALL BE DESIGNED AND SUBMITTED TO OSHPD FOR APPROVAL.

VIEW A-A

MASON WEST, INC.
1601 E. Miraloma Ave. Placentia, CA 92870
TEL (714) 630 - 0701, www.masonwest.com

Jiefu "Jeff" Zhang, SE
California SE No. S5270

PAGE **D12.11**

NOTE: REFER TO MASON OPM'S PER THE FOLLOWING:

M-ATR VERTICAL HANGARS
- CONCRETE FILLED DECK - M2.10, M2.11, M2.12, M2.20, M2.21.1, M2.23, M2.70 - DO NOT SPACE CLOSER THAN 5' OC EW
- WIDE FLANGED STEEL - M3.10 - MAX 1 CON PER BEAM UNLESS SPACED 13' OC
- COLD FORMED STEEL – M6.10, 3/1-S4.31 - DO NOT SPACE CLOSER THAN 9'6" OC EW
- BARE METAL DECK - M7.10, M7.11, M7.12 - DO NOT SPACE CLOSER THAN 2' OC EW

N-SEISMIC BRACKET
- CONCRETE FILLED DECK - N2.10, N2.11, N2.12, N2.20, N2.21 - DO NOT SPACE CLOSER THAN 3' OC EW
- WIDE FLANGED STEEL - N3.11, N3.15 - MAX 1 CON PER BEAM UNLESS SPACED 12' OC
- COLD FORMED STEEL – 4/1-S4.31 - DO NOT SPACE CLOSER THAN 10' OC EW
- BARE METAL DECK - N7.10 - DO NOT SPACE CLOSER THAN 1'6" OC EW

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY
DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY:	
KATHY GARCIA DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER
AMANDA J. BROWNLEE
No. E17287
ELECTRICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

ELECTRICAL DETAILS

Drawn By: Author Checked By: Checker

Scale: **NTS**

Date: **October 4, 2019**

Project No. B17.07369

1-E6.07

Drawing No.

If this drawing is not 30" x 42", it is a reduced print - scale accordingly. All rights reserved. Material may not be reproduced in any form without permission from RossDrulisCusenbery Architecture, Inc.

Fire Alarm System

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER
BUILDING #1
1401 W. WINTON AVE.
HAYWARD, CA 94545
INCREMENT 2

SHEET SCHEDULE

SHEET NO.	TITLE
1-FA0.01	FIRE ALARM COVER SHEET
1-FA1.00	FIRE ALARM SITE PLAN
1-FA1.01	BUILDING 1 FIRST LEVEL FIRE ALARM PLAN
1-FA1.02	BUILDING 1 SECOND LEVEL FIRE ALARM PLANS
1-FA1.03	BUILDINGS 2 AND 6 FIRE ALARM PLAN
FA-2.01	FIRE ALARM RISER DIAGRAM
FA-3.01	FIRE ALARM CALCULATIONS
FA-4.01	FIRE ALARM FACU AND ANNUNCIATOR DETAILS
FA-4.02	FIRE ALARM FIELD DEVICE WIRING DETAILS
FA-4.03	FIRE ALARM FIELD DEVICE WIRING DETAILS

PROJECT INFORMATION

BUILDING OWNER:
CITY OF HAYWARD
PUBLIC WORK DEPARTMENT
777 B STREET
HAYWARD, CA 94541
510-583-4752

BUILDING 1

PROJECT TYPE:
FIRE STATION, CLASSROOMS, ADMINISTRATIVE OFFICES, & EMERGENCY OPERATIONS CENTER

OCCUPANCY:
A-3, B, R-2, S-2

CONSTRUCTION TYPE:
II-B, FULLY SPRINKLERED

GROSS FLOOR AREA:
20,678 G.S.F.

CENTRAL STATION
MONITORING INFORMATION
RAPID RESPONSE MONITORING SERVICES
400 E RINCON
CORONA, CA 92879
(800) 544-5746
UUFX.S3282-3

ALARM SERVICE COMPANY
CONVERGINT TECHNOLOGIES
5860 W LAS POSITAS BLVD. SUITE #7
PLEASANTON, CA 94588
(510) 300-2800

CODE COMPLIANCE

PARTIAL LIST OF APPLICABLE CODES AS OF January 1, 2017*
2016 California Administrative Code (CAC), Part 1, Title 24 CCR*
2016 California Building Code (CBC), Part 2, Title 24 CCR
(2015 International Building Code, Vol. 1 & 2, and 2016 California amendments)
2016 California Electrical Code (CEC), Part 3, Title 24 CCR
(2014 National Electrical Code and 2016 California Amendments)
2016 California Mechanical Code (CMC), Part 4, Title 24 CCR
(2015 IAPMO Uniform Mechanical Code and 2016 California amendments)
2016 California Plumbing Code (CPC), Part 5, Title 24 CCR
(2015 IAPMO Uniform Plumbing Code and 2016 California amendments)
2016 California Energy Code (CEC), Part 6, Title 24 CCR
2016 California Fire Code (CFC), Part 9, Title 24 CCR
(2015 International Fire Code and 2016 California Amendments)
2016 California Existing Building Code (CEBC), Part 10, Title 24 CCR
(2015 International Existing Building Code and 2016 California Amendments)
2016 California Green Building Standards Code (CALGreen), Part 11, Title 24 CCR
2016 California Referenced Standards Code, Part 12, Title 24 CCR
Title 19 CCR, Public Safety, State Fire Marshal Regulations
2013 ASME A17.1/CSA B44-13 Safety Code for Elevators and Escalators
PARTIAL LIST OF APPLICABLE STANDARDSNFPA 1

3 Standard for the Installation of Sprinkler Systems (CA amended)	2016 EditionNFPA 14
Standard for the Installation of Standpipe and Hose Systems	2013 EditionNFPA 17
Standard for Dry Chemical Extinguishing Systems	2013 EditionNFPA
17AStandard for Wet Chemical Extinguishing Systems	2013 EditionNFPA 20
Standard for the Installation of Stationary Pumps for Fire Protection	2016 EditionNFPA 22
Standard for Water Tanks for Private Fire Protection	2013 EditionNFPA 24
Standard for the Installation of Private Fire Service Mains and Their Appurtenances2016 Edition	
NFPA 72National Fire Alarm and Signaling Code (CA amended);	2016 Edition
NFPA 80 Standard for Fire Doors and Other Opening Protectives	2016 Edition
NFPA 2001 Standard on Clean Agent Fire Extinguishing Systems	2015 Edition
UL 300 Standard for Fire Testing of Fire Extinguishing Systems for Protection of Commercial Cooking Equipment	2005 (R2010)

SCOPE OF WORK

THE SCOPE OF WORK IS TO PROVIDE A NEW FIRE ALARM SYSTEM FOR THREE NEW BUILDINGS AT 1401 W. WINTON AVE. HAYWARD, CA 94545

THIS SYSTEM WILL INCLUDE:

1. FIRE ALARM CONTROL UNIT AT BUILDING 1.
2. REMOTE ANNUNCIATOR.
3. MANUAL PULL STATIONS AT ALL EXITS.
4. MODULES AND DETECTORS FOR ELEVATOR CONTROL.
5. MODULES AND DETECTORS FOR FAN CONTROL AND SUPERVISION.
6. MODULES AND DETECTORS FOR FIRE/SMOKE DAMPER CONTROL AND SUPERVISION.
7. MONITOR MODULES FOR FIRE PUMP AND SPRINKLER SYSTEM SUPERVISION.
8. AUTOMATIC DEVICES AS REQUIRED PER CODE.
9. AUDIBLE / VISUAL NOTIFICATION APPLIANCES ACTIVATED VIA NEW BOOSTER POWER SUPPLIES.

SEE FIRE ALARM OPERATIONAL MATRIX THIS SHEET FOR ADDITIONAL INFORMATION.

GENERAL NOTES

1. ALL DEVICE LOCATIONS, WIRING, CONDUITS SHOWN ON DRAWINGS ARE SUBJECT TO FIELD VERIFICATION. ANY DEVIATION MUST BE APPROVED BY THE FIRE ALARM CONTRACTOR AND MUST COMPLY WITH THE NATIONAL AND LOCAL CODES LISTED ON THIS SHEET.
2. 120VAC PRIMARY POWER SOURCE TO FIRE ALARM PANELS AND POWER SUPPLIES MUST BE ON A MECHANICALLY PROTECTED DEDICATED BRANCH CIRCUIT WITH DISCONNECTING MEANS PERMANENTLY IDENTIFIED AT THE CONTROL UNIT. DISCONNECTING MEANS TO BE IDENTIFIED AS "FIRE ALARM CIRCUIT" IN RED MARKING AND ACCESSIBLE ONLY TO AN AUTHORIZED PERSONNEL.
3. 120VAC AND FIRE ALARM CIRCUITS MUST MAINTAIN A 1/4" SEPARATION. NEVER RUN IN SAME CONDUIT.
4. AFTER COMPLETION OF WORK, ELECTRICAL CONTRACTOR MUST PROVIDE TO THE FIRE ALARM CONTRACTOR A COMPLETE SET OF "RECORD DRAWINGS" SHOWING ALL DEVICE LOCATIONS, DEVICE ADDRESSES, CIRCUIT NUMBERS AND WIRING (IF APPLICABLE).
5. SEE DETAIL SHEETS FOR DEVICE MOUNTING HEIGHTS AND INSTALLATION INFORMATION. ANY DEVIATION MUST BE APPROVED BY THE FIRE ALARM CONTRACTOR AND MUST COMPLY WITH THE NATIONAL AND LOCAL CODES LISTED ON THIS SHEET.
6. BACKBOXES, JUNCTION BOXES AND TERMINAL CABINETS TO BE PROVIDED BY THE ELECTRICAL CONTRACTOR. TERMINAL CABINETS FOR FIRE ALARM USE MUST BE LABELED "FATC" AND JUNCTION BOXES TO HAVE RED COVERS.
7. AUDIBLE DEVICES TO BE AT LEAST 15 DBA ABOVE THE AVERAGE AMBIENT SOUND LEVEL BUT NOT LESS THAN 75 DBA AT 10 FEET OR MORE THAN 110 DBA AT THE MIN. HEARING DISTANCE. SOUND LEVEL SHALL BE MAINTAINED FOR DURATION OF AT LEAST 60 SECONDS AND 15 DBA MUST BE MAINTAINED.
8. VISUAL DEVICES SHOULD NOT EXCEED 2 FLASHES PER SECOND AND SHOULD NOT BE SLOWER THAN 1 FLASH EVERY SECOND. THE DEVICE SHALL HAVE A PULSING LIGHT SOURCE NOT LESS THAN 15 CANDELA. ALL VISUAL DEVICES SHALL BE SYNCHRONIZED PER FLOOR.
9. AUDIBLE DEVICES SHALL BE SYNCHRONIZED TEMPORAL CODE 3 PATTERN.
10. ALL EQUIPMENT AND COMPONENTS HAVE BEEN TESTED AS A SYSTEM AND MEET ALL REQUIREMENTS IN THE SPECIFICATION AND IN NFPA 72.
11. EACH CONDUCTOR SHALL BE NUMBERED AT EVERY JUNCTION POINT WITH IDENTIFICATION OF ORIGINATION AND TERMINATION POINTS.

FIRESTOPPING

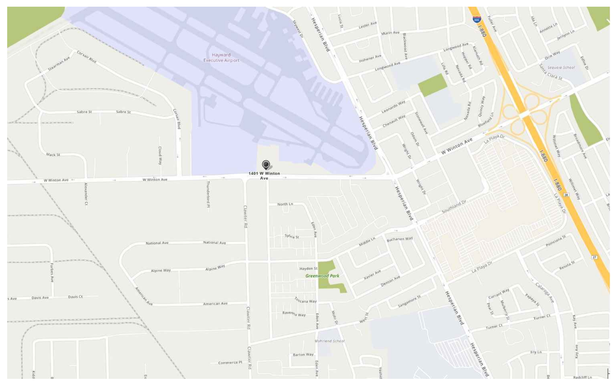
PENETRATIONS THRU WALLS REQUIRING PROTECTED OPENINGS SHALL BE FIRE STOPPED. FIRE STOP MATERIAL SHALL BE A UL LISTED ASSEMBLY INSTALLED ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS. SEE DRAWING FA4.10 AND "THROUGH PENETRATIONS FIRESTOP" BINDER FOR INFORMATION AND DETAILS

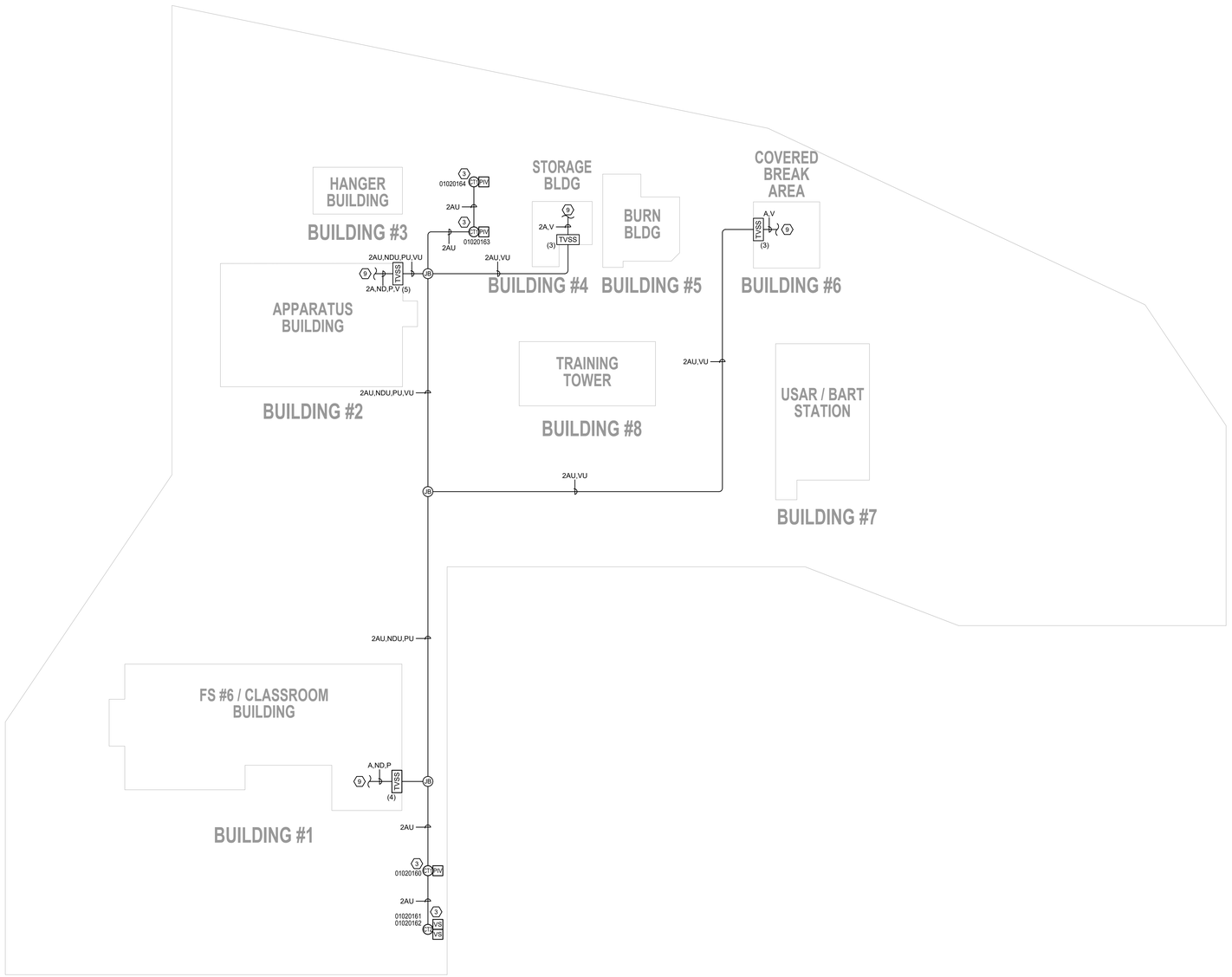
EQUIPMENT LIST

SYMBOL LEGEND

SYM.	MFG.	MODEL #	TOTAL QTY.	BLDG. #1	BLDG. #2	BLDG. #6	DESCRIPTION	BACKBOX	CSFM
FACU	EST	EST-3	-	-			FIRE ALARM CONTROL PANEL	3-CAB7B	7165-1657:0186
		3-CPU3	1	1			CENTRAL PROCESSING UNIT MODULE	3-CAB7B	7165-1657:0186
		3-RS485A	1	1			NETWORK COMMUNICATIONS CARD	3-CAB7B	7165-1657:0186
		3-PPS/M	1	1			PRIMARY POWER SUPPLY WITH LOCAL RAIL MODULE	3-CAB7B	7165-1657:0186
		3-MODCOM	1	1			MODEM/DIALER (DACT)	3-CAB7B	7165-1657:0186
		3-SSDC1	1	1			SINGLE SIGNATURE DRIVER CONTROLLER	3-CAB7B	7165-1657:0186
		3-LCD	1	1			LIQUID CRYSTAL DISPLAY MODULE	3-CAB7B	7165-1657:0186
		3-FP	5	5			FILLER PLATE	3-CAB7B	7165-1657:0186
		3-CHAS7	1	1			CHASSIS ASSEMBLY - 7 LOCAL RAIL MODULE SPACES	3-CAB7B	7165-1657:0186
		3-CAB7B	1	1			WALLBOX	INCLUDED	7165-1657:0186
		3-CAB7D	1	1			INNER & OUTER DOORS FOR WALLBOX	3-CAB7B	7165-1657:0186
BATT	EST	BC-1	1	1			BATTERY CABINET	INCLUDED	-
	POWER SONIC	PS-12260	2	2			26AH BATTERY	BC-1	-
	BY OTHERS	RJ31X	1	1			ALARM SYSTEM JACK	BC-1	-
	BUSSMAN	5775	1	1			AEC 7.5 AMP TIME FUSE	BC-1	-
	COLE HERSEE	5415M	1	1			FUSE BLOCK HOLDER	BC-1	-
FAA	EST	3-LCDANN	2	2			REMOTE LCD ANNUNCIATOR	RLCM/B	7120-1657:0193
		RLCM/B	2	2			FLUSH MOUNT LCD WALLBOX	-	7120-1657:0193
P	EST	SIGA-278	11	10	1		DUAL ACTION MANUAL PULL STATION	4" SQ. DEEP BOX WITH 1 GANG RING	7150-1657:0129
P WP	EST	MPSR1-D45W-GE	1			1	WEATHERPROOF DOUBLE ACTION MANUAL PULL STATION	INCLUDED	7150-1657:0236
CC	EST	SIGA-CC1	4	2	2		SIGNAL MODULE	4" SQ. DEEP BOX WITH 2 GANG RING	7300-1657:0121
CR	EST	SIGA-CR	11	9	2		CONTROL RELAY	4" SQ. DEEP BOX WITH 1 GANG RING	7300-1657:0121
CT1	EST	SIGA-CT1	4	1	2	1	SINGLE INPUT MODULE	4" SQ. DEEP BOX WITH 1 GANG RING	7300-1657:0121
CT2	EST	SIGA-CT2	7	6	1		DUAL INPUT MODULE	4" SQ. DEEP BOX WITH 1 GANG RING	7300-1657:0121
IM	EST	SIGA-IM	4	2	1	1	ISOLATOR MODULE	4" SQ. DEEP BOX WITH 2 GANG RING	7300-1657:0121
RM	EST	SIGA-RM1	1	1			RISER MODULE	4" SQ. DEEP BOX WITH 1 GANG RING	7300-1657:0210
R	SYSTEM SENSOR	PR-1	3	2	1		MULTI-VOLTAGE RELAY	4" SQ. DEEP BOX WITH 1 GANG RING	7300-1653:0172
	EST	SIGA-SD	2	2			DUCT SMOKE DETECTOR	INCLUDED	3242-1657:0223
		SD-T42	2	2			SAMPLING TUBE	-	
TD	EST	SIGA-TCDR	1	1			TEMPORAL CODE GENERATOR	4" SQ. DEEP BOX WITH 1 GANG RING	7300-1657:0308
	EST	SIGA-PD	8	4	1	3	PHOTO SMOKE DETECTOR	SIGA-SB4	7272-1657:0331
		SIGA-SB4	8	4	1	3	4" DETECTOR MOUNTING BASE	4" OCTAGON BOX	7300-1657:0120
AD CO	EST	SIGA-PD	8	8			PHOTO SMOKE DETECTOR	SIGA-AB4GT	7272-1657:0331
		SIGA-AB4GT-LF	8	8			LOW FREQUENCY AUDIBLE BASE	4" SQ. DEEP BOX	7300-1657:0322
DMP	EST	SIGA-PD	4	4			PHOTO SMOKE DETECTOR	SIGA-SB4	7272-1657:0331
		SIGA-DMP	4	4			DETECTOR MOUNTING PLATE	INCLUDED	-
		SIGA-SB	4	4			DETECTOR MOUNTING BASE	SIGA-DMP	7300-1657:0120
BPS6A	EST	BPS6A	3	2	1		6.5 AMP BOOSTER POWER SUPPLY	INCLUDED	7300-1657:0229
	POWER SONIC	PS-1270	6	4	2		7AH BATTERY		
XXCD LF	WHEELOCK	LFHSHW3	4	4			LOW FREQUENCY SOUNDER STROBE	SINGLE GANG	7125-0785:0500
XXCD	WHEELOCK	LHTW3	11	6	5		WALL MOUNT HORN-STROBE (15, 30, 75, 110 SELECTABLE CANDELA OUTPUT)	SINGLE GANG	7125-0785:0501
XXCD	WHEELOCK	LHTWC3	25	18	5	2	CEILING MOUNT HORN-STROBE (15, 30, 75, 95 SELECTABLE CANDELA OUTPUT)	SINGLE GANG	7125-0785:0501
110CD WP	WHEELOCK	ASWP-2475W-FR	6	4	1	1	WEATHERPROOF WALL MOUNT HORN-STROBE 30CD (180 ON AXIS)	WPBB	7125-0785:0131
		WPBB	6	4	1	1	WEATHERPROOF BOX	-	-
XXCD	WHEELOCK	LSTW3	1	1	0	0	WALL MOUNT STROBE (15, 30, 75, 110 SELECTABLE CANDELA OUTPUT)	SINGLE GANG	7125-0785:0501
XXCD	WHEELOCK	LSTWC3	19	18	1	0	CEILING MOUNT STROBE (15, 30, 75, 95 SELECTABLE CANDELA OUTPUT)	SINGLE GANG	7125-0785:0501
15CD WP	WHEELOCK	RSSWP-2475C-FW	3	1	2	0	WEATHERPROOF CEILING MOUNT STROBE 30CD (180 ON AXIS)	WPSBB	7300-0785:0154
		WPSBB	3	1	2	0	WEATHERPROOF BOX	-	-
DSM	WHEELOCK	DSM	5	3	2		DUAL SYNCHRONIZATION MODULE	4-11/16" DEEP BOX W/ EXT. RING	7300-0785:0132
DOC	SPACE AGE	FAD ACE-11	1	1			SSU00685 FIRE ALARM DOCUMENTS CABINET	INCLUDED	7300-0553:0110
TVSS	BY OTHERS	-	12	4	5	3	TRANSIT VOLTAGE SURGE SUPPRESSOR (BY OTHERS)	-	-
FATC	BY OTHERS	-	3	1	1	1	FIRE ALARM TERMINAL CABINET	-	-
FD	BY OTHERS	-	4	4			FIRE/SMOKE DAMPER	-	-
WF	BY OTHERS	-	3	2	1		WATERFLOW SWITCH	-	-
VS	BY OTHERS	-	5	4	1		VALVE TAMPER SWITCH	-	-
PIV	BY OTHERS	-	3	1	2		POST INDICATOR VALVE	-	-

VICINITY MAP


Hayward Executive Airport
1401 W Winton Ave
W Winton Ave
Winton Ave
Sabre St
Mack St
Depot Rd
Hesperian Blvd
Lancelot Ave
Merlin Ave
Lexington Ave
Chadwick Ave
Chadwick Ct
Chadwick Cir
Cypress Ave
Cypress Cir
Cypress Ct
Cypress Pl
Cypress Ln
Cypress Way
Cypress Pkwy
Cypress Rd
Cypress Dr
Cypress Ter
Cypress Loop
Cypress Ramp
Cypress Ramp Rd
Cypress Ramp Ln
Cypress Ramp Pl
Cypress Ramp Ct
Cypress Ramp Cir
Cypress Ramp Dr
Cypress Ramp Ter
Cypress Ramp Loop
Cypress Ramp Pkwy
Cypress Ramp Way
Cypress Ramp Ave
Cypress Ramp Blvd



KEYED SHEET NOTES

1. RELAY MODULE FOR CEILING FAN SHUTDOWN (@ CONTROL PANEL)
2. *RELAY FOR FAN SHUTDOWN.
3. IF DEVICES ARE EXPOSED TO THE ENVIRONMENT, MOUNT DEVICES IN A NEMA 250, TYPE 4X ENCLOSURE (PROVIDED BY OTHERS)
4. *MODULES FOR ELEVATOR CONTROL.
   -RECALL
   -ALTERNATE FLOOR RECALL
   - FIREFIGHTER'S HAT SIGNAL
5. SEE SITE PLAN ON SHEET 1-FA1.00 FOR CONTINUATION OF CIRCUIT
6. MODULES FOR FIRE PUMP SUPERVISION.
   - RUNNING - PHASE REVERSAL
   - TROUBLE - ALTERNATE POWER
7. CONTROL RELAY FOR SECURITY INTERFACE.
8. *CONTROL RELAYS FOR FIRE/SMOKE DAMPER CONTROL. ELECTRICAL CIRCUIT # ELP-B18.9
9. SEE FLOOR PLANS ON SHEET 1-FA1.01 AND 1-FA1.03 FOR CONTINUATION OF CIRCUIT.
10. CONTROL RELAY FOR A/V SHUTDOWN.
11. SIGNAL MODULE FOR POWER SUPPLY ACTIVATION AND SUPERVISION.
12. SIGNAL MODULE AND TEMPORAL PATTERN GENERATOR FOR SOUNDER BASES LOCATED ON SECOND FLOOR. BASES SHALL ACTIVATE IN TANDEM. A FIRE ALARM SHALL OVERRIDE A CO ALARM.
13. NOT USED.
14. MOUNT REMOTE LED INDICATOR AT AN ACCESSIBLE AND VISIBLE LOCATION.
15. RISER MONITOR MODULE FOR AUDIBLE BASE CIRCUIT. (CIRCUIT FOR AUDIBLE BASES MAY NOT BE T-TAPPED)

* FIRE ALARM RELAY MODULE USED TO INITIATE CONTROL FUNCTIONS SHALL BE LOCATED WITHIN 3 FEET OF THE CONTROLLED CIRCUIT OR APPLIANCE.

CABLE LEGEND

(NON-PLENUM) CABLE PROVIDED BY OTHERS
CLASS B WIRING

SYM.	AWG/CONDUCTOR/ STYLE/TYPE	T-TAPS	WIRING CLASS
A	DATA CABLE (NON-PLENUM) #16 AWG TWISTED PAIR FPL 3,900 FEET MAXIMUM DISTANCE .33µF MAXIMUM CAPACITANCE 79 OHMS MAXIMUM RESISTANCE MAXIMUM 124 T-TAPS.	YES	CLASS B
AU	UNDERGROUND RATED DATA CABLE	YES	CLASS B
ND	NETWORK DATA RISER CABLE #16 AWG FPL TWISTED PAIR SOLID NO T-TAPS ALLOWED	NO	CLASS B
NDU	UNDERGROUND RATED NETWORK DATA RISER CABLE	NO	CLASS B
P	24V AC/DC POWER CABLE #12 AWG FPL TWISTED PAIR SOLID T-TAPS ALLOWED	YES	CLASS B
PU	UNDERGROUND RATED POWER CABLE	YES	CLASS B
V	STROBE CIRCUIT CABLE #12 AWG FPL TWISTED PAIR SOLID NO T-TAPS ALLOWED	NO	CLASS B
VU	UNDERGROUND RATED STROBE CIRCUIT CABLE	NO	CLASS B

GENERAL SHEET NOTES

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SYMBOL LEGEND

SYMBOL	DESCRIPTION
FACU	FIRE ALARM CONTROL UNIT
FAA	FIRE ALARM LED ANNUNCIATOR
P	PULL STATION
P WP	WEATHERPROOF PULL STATION
SC	SIGNAL MODULE
CR	CONTROL RELAY
IT	SINGLE INPUT MODULE
IT2	DUAL INPUT MODULE
IM	ISOLATION MODULE
RM	RISER MONITOR MODULE
R	MULTI VOLT RELAY
TG	TEMPORAL PATTERN GENERATOR
?	SMOKE DETECTOR (CEILING / WALL MOUNT)
?	DUCT SMOKE DETECTOR
? DMP	SMOKE DETECTOR WITH DUCT MOUNTING PLATE
LED	REMOTE LED INDICATOR
AB ? CO	COMBINATION SMOKE / CO DETECTOR WITH AUDIBLE BASE
BP6A	6.5 AMP BOOSTER POWER SUPPLY
DSM	DUAL SYNCHRONIZATION MODULE
LF XXCD	LOW FREQUENCY SOUNDER STROBE XXCD = CANDELA
XXCD	HORN-STROBE XXCD = CANDELA
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WP XXCD	WEATHERPROOF WALL HORN-STROBE XXCD = CANDELA
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XXCD	CEILING MOUNT STROBE XXCD = CANDELA
WP 75CD	WEATHERPROOF CEILING MOUNT STROBE XXCD = CANDELA
TVSS	TRANSIT VOLTAGE SURGE SUPPRESSOR (BY OTHERS)
FATC	FIRE ALARM TERMINAL CABINET (BY OTHERS)
DOC	FIRE ALARM DOCUMENTS CABINET
WF	WATER FLOW SWITCH (BY OTHERS)
VS	VALVE TAMPER SWITCH (BY OTHERS)
PIV	POST INDICATOR VALVE (BY OTHERS)
FD	FIRE/SMOKE DAMPER (BY OTHERS)
JB	JUNCTION BOX (BY OTHERS)

ADDRESS CIRCUIT LEGEND

LRM CARD# / PANEL# — DEVICE ADDRESS#
PPCCDDDD

STROBE CIRCUIT LEGEND

STROBE — POWER SUPPLY # / CIRCUIT # / DEVICE #
VX.X-#

N

0 16' 32' 64'
SCALE: 1/32" = 1'-0"

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542
ARCHITECTURE

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY: RA	CHECKED BY:
DRAWN BY: RA	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, DIR. OF PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3 - INCREMENT #1

Sheet Title

FIRE ALARM SITE PLAN

Drawn By: RA Checked By: BK

Scale:
AS NOTED

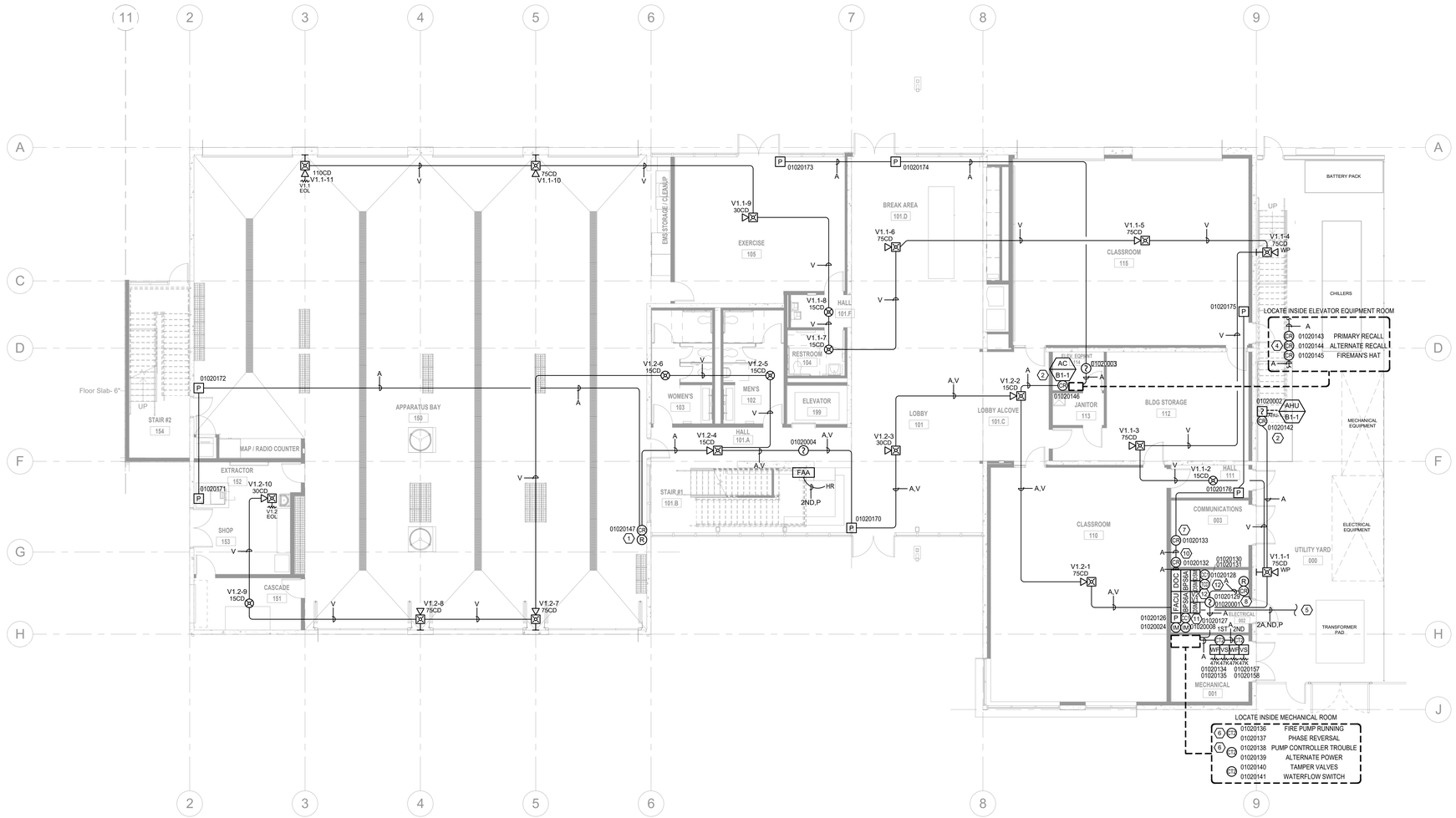
Date:
October 4, 2019

Project No. 2016039

1-FA1.00

Drawing No.

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ND	NETWORK DATA RISER CABLE #16 AWG FPL TWISTED PAIR SOLID NO T-TAPS ALLOWED	NO	CLASS B
NDU	UNDERGROUND RATED NETWORK DATA RISER CABLE	NO	CLASS B
P	24V AC/DC POWER CABLE #12 AWG FPL TWISTED PAIR SOLID T-TAPS ALLOWED	YES	CLASS B
PU	UNDERGROUND RATED POWER CABLE	YES	CLASS B
V	STROBE CIRCUIT CABLE #12 AWG FPL TWISTED PAIR SOLID NO T-TAPS ALLOWED	NO	CLASS B
VU	UNDERGROUND RATED STROBE CIRCUIT CABLE	NO	CLASS B

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RM	RISER MONITOR MODULE
R	MULTI VOLT RELAY
TCD	TEMPORAL PATTERN GENERATOR
S	SMOKE DETECTOR (CEILING / WALL MOUNT)
S	DUCT SMOKE DETECTOR
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WF	WATER FLOW SWITCH (BY OTHERS)
VS	VALVE TAMPER SWITCH (BY OTHERS)
PIV	POST INDICATOR VALVE (BY OTHERS)
FM	FIRE/SMOKE DAMPER (BY OTHERS)
JB	JUNCTION BOX (BY OTHERS)

ADDRESS CIRCUIT LEGEND

LRM CARD# / PANEL# — DEVICE ADDRESS#
PPCCDDDD

STROBE CIRCUIT LEGEND

STROBE — POWER SUPPLY # / CIRCUIT # / DEVICE #
VX.X-#

N

0 4' 8' 16'
SCALE: 1/8" = 1'-0"

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
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CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY: RA	CHECKED BY:
DRAWN BY: RA	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, DIR. OF PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3 - INCREMENT #1

Sheet Title

BUILDING 1 FIRST LEVEL FIRE ALARM PLAN

Drawn By: RA Checked By: BK

Scale: **AS NOTED**

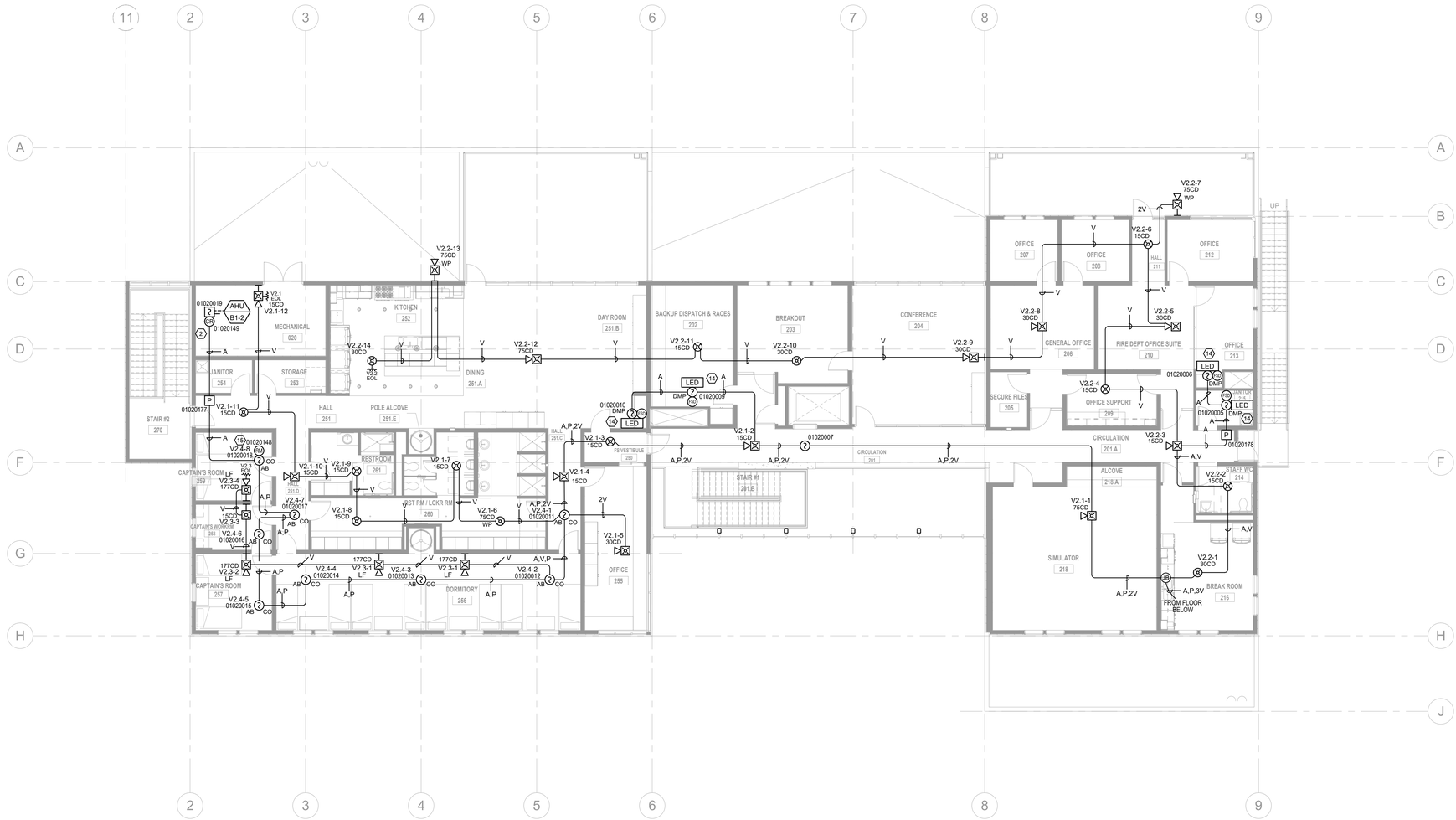
Date: **October 4, 2019**

Project No. 2016039

1-FA1.01

Drawing No.

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CABLE LEGEND

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ND	NETWORK DATA RISER CABLE #16 AWG FPL TWISTED PAIR SOLID NO T-TAPS ALLOWED	NO	CLASS B
NDU	UNDERGROUND RATED NETWORK DATA RISER CABLE	NO	CLASS B
P	24V AC/DC POWER CABLE #12 AWG FPL TWISTED PAIR SOLID T-TAPS ALLOWED	YES	CLASS B
PU	UNDERGROUND RATED POWER CABLE	YES	CLASS B
V	STROBE CIRCUIT CABLE #12 AWG FPL TWISTED PAIR SOLID NO T-TAPS ALLOWED	NO	CLASS B
VU	UNDERGROUND RATED STROBE CIRCUIT CABLE	NO	CLASS B

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FAA	FIRE ALARM LED ANNUNCIATOR
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P WP	WEATHERPROOF PULL STATION
(M)	SIGNAL MODULE
(CR)	CONTROL RELAY
(IM)	SINGLE INPUT MODULE
(2IM)	DUAL INPUT MODULE
(IM)	ISOLATION MODULE
(RM)	RISER MONITOR MODULE
(R)	MULTI VOLT RELAY
(TG)	TEMPORAL PATTERN GENERATOR
?	SMOKE DETECTOR (CEILING / WALL MOUNT)
?	DUCT SMOKE DETECTOR
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A/B ? CO	COMBINATION SMOKE / CO DETECTOR WITH AUDIBLE BASE
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FATC	FIRE ALARM TERMINAL CABINET (BY OTHERS)
DOC	FIRE ALARM DOCUMENTS CABINET
WF	WATER FLOW SWITCH (BY OTHERS)
VS	VALVE TAMPER SWITCH (BY OTHERS)
PIV	POST INDICATOR VALVE (BY OTHERS)
(FD)	FIRE/SMOKE DAMPER (BY OTHERS)
JB	JUNCTION BOX (BY OTHERS)

ADDRESS CIRCUIT LEGEND

LRM CARD#
PANEL#
DEVICE ADDRESS#
PPCCDDDD

STROBE CIRCUIT LEGEND

STROBE — POWER SUPPLY #
CIRCUIT #
DEVICE #
VX.X-#

N

0 4' 8' 16'
SCALE: 1/8" = 1'-0"

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HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3 - INCREMENT #1

Sheet Title

BUILDING 1 SECOND LEVEL FIRE ALARM PLAN

Drawn By: RA Checked By: BK

Scale:
AS NOTED

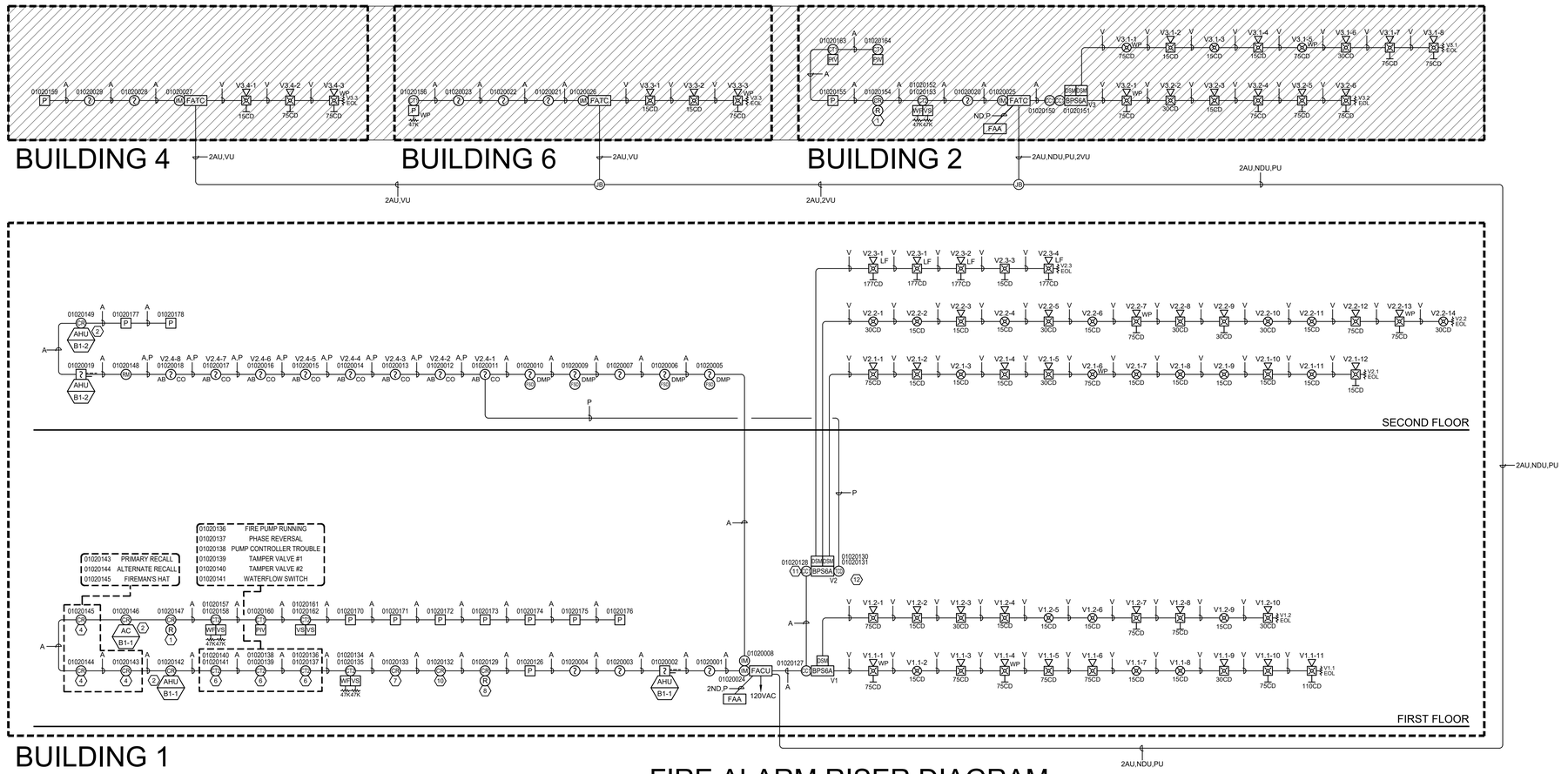
Date:
October 4, 2019

Project No. 2016039

1-FA1.02

Drawing No.

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FIRE ALARM RISER DIAGRAM

KEYED SHEET NOTES

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DOC	FIRE ALARM DOCUMENTS CABINET
WF	WATER FLOW SWITCH (BY OTHERS)
VS	VALVE TAMPER SWITCH (BY OTHERS)
PIV	POST INDICATOR VALVE (BY OTHERS)
FM	FIRE/SMOKE DAMPER (BY OTHERS)
JB	JUNCTION BOX (BY OTHERS)

ADDRESS CIRCUIT LEGEND

LRM CARD# / PANEL# — DEVICE ADDRESS#
PPCCDDDD

STROBE CIRCUIT LEGEND

STROBE — POWER SUPPLY # / CIRCUIT # / DEVICE #
VX.X-#

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY: RA	CHECKED BY:
DRAWN BY: RA	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, DIR. OF PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3 - INCREMENT #1

Sheet Title

FIRE ALARM RISER DIAGRAM

Drawn By: RA — Checked By: BK

Scale: **AS NOTED**

Date: **October 4, 2019**

Project No. 2016039

1-FA2.01
Drawing No.

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QTY	MODEL #	DESCRIPTION	ALARM CURRENT		STANDBY CURRENT	
1	3-CPU3 / 3-PPS/M	CPU and Power Supply	0.1650	0.165	0.1550	0.155
1	3-RS485B	Network Communicator Card	0.0980	0.098	0.0980	0.098
1	3-MODCOM	Modem Communicator	0.0950	0.095	0.0600	0.06
1	3-SSDC1	Single Data Card - Maximum Device Load	0.2040	0.204	0.1440	0.144
1	3-LCD	Liquid Crystal Display Module	0.0420	0.042	0.0400	0.04
1	3-ANNCPU3	Annunciator Cpu	0.1440	0.144	0.1440	0.144
1	3-LCD	Annunciator LCD	0.0420	0.042	0.0400	0.04
			TOTAL	0.79	TOTAL	0.681

BUILDING 1 1ST FLOOR

EST3

FIRE ALARM CONTROL PANEL BATTERY CALCULATIONS

Total Alarm Current (A)	0.79
Hours of Alarm - 5 Minutes (B)	0.084
Total for Alarm (A) X (B)	0.06636
Total Standby Current (A)	0.681
Standby Hours (B)	24
Total for Standby (A) X (B)	16.344
Alarm Current + Standby Current (C)	16.410
20% Safety Margin (D)	1.200
Battery Total (C) X (D)	19.692
Battery Size	**28AH**

A FACU BATTERY CALCULATIONS

QTY	MODEL #	DESCRIPTION	ALARM CURRENT		STANDBY CURRENT	
1	FCPS-24FS6	Auxiliary Power Supply	0.1450	0.145	0.0650	0.065
0	LSTW3	Wall Strobe 15CD	0.0300			
6	LSTWC3	Ceiling Strobe 15CD	0.0530	0.318		
0	LSTWC3	Ceiling Strobe 30CD	0.1550			
0	LHTW3	Wall Horn-Strobe 15CD	0.0340			
0	LHTW3	Wall Horn-Strobe 30CD	0.0460			
3	LHTW3	Wall Horn-Strobe 75CD	0.1050	0.315		
1	LHTW3	Wall Horn-Strobe 110CD	0.1970	0.197		
2	LHTWC3	Ceiling Horn-Strobe 15CD	0.0440	0.088		
3	LHTWC3	Ceiling Horn-Strobe 30CD	0.0610	0.183		
4	LHTWC3	Ceiling Horn-Strobe 75CD	0.1690	0.676		
0	LFHSHW3	Wall LF Horn-Strobe 177CD	0.3440			
2	ASWP-2475W	Wall WP Horn-Strobe 75CD	0.1680	0.336		
0	RSSWP-2475C	Ceiling WP Strobe 75CD	0.1380			
0	SIGA-AB4G-LF	Ceiling Sounder Base N/A	0.1500			
1	DSM	- Dual Synchronization module (hs only)	0.0430	0.043		
			TOTAL	2.301	TOTAL	0.065

BLDG 1 - LEVEL1

BPS6A #V1

BATTERY CALCULATIONS

CIRCUITS:

V1.1, V1.2, V1.3, V1.4

Total Alarm Current (A)	2.301
Hours of Alarm - 5 Minutes (B)	0.084
Total for Alarm (A) X (B)	0.193284
Total Standby Current (A)	0.065
Standby Hours (B)	24
Total for Standby (A) X (B)	1.56
Alarm Current + Standby Current (C)	1.753
20% Safety Margin (D)	1.200
Battery Total (C) X (D)	2.104
Battery Size	**7AH**

QTY	MODEL #	DESCRIPTION	ALARM CURRENT		STANDBY CURRENT	
1	FCPS-24FS6	Auxiliary Power Supply	0.1450	0.145	0.0650	0.065
1	LSTW3	Wall Strobe 15CD	0.0300	0.03	0.0000	
9	LSTWC3	Ceiling Strobe 15CD	0.0530	0.477	0.0000	
3	LSTWC3	Ceiling Strobe 30CD	0.1550	0.465	0.0000	
1	LHTW3	Wall Horn-Strobe 15CD	0.0340	0.034	0.0000	
1	LHTW3	Wall Horn-Strobe 30CD	0.0460	0.046	0.0000	
0	LHTW3	Wall Horn-Strobe 75CD	0.1050		0.0000	
0	LHTW3	Wall Horn-Strobe 110CD	0.1970		0.0000	
4	LHTWC3	Ceiling Horn-Strobe 15CD	0.0440	0.176	0.0000	
3	LHTWC3	Ceiling Horn-Strobe 30CD	0.0610	0.183	0.0000	
2	LHTWC3	Ceiling Horn-Strobe 75CD	0.1690	0.338	0.0000	
4	LFHSHW3	Wall LF Horn-Strobe 177CD	0.3440	1.376	0.0000	
2	ASWP-2475W	Wall WP Horn-Strobe 75CD	0.1680	0.336	0.0000	
1	RSSWP-2475C	Ceiling WP Strobe 75CD	0.1380	0.138	0.0000	
8	SIGA-AB4G-LF	Ceiling Sounder Base N/A	0.1500	1.2	0.0000	
2	DSM	- Dual Synchronization module (hs only)	0.0430	0.086	0.0000	
			TOTAL	5.03	TOTAL	0.065

BLDG 1 - LEVEL 1

BPS6A #V2

BATTERY CALCULATIONS

CIRCUITS:

V2.1, V2.2, V2.3, V2.4

Total Alarm Current (A)	5.03
Hours of Alarm - 5 Minutes (B)	0.084
Total for Alarm (A) X (B)	0.42252
Total Standby Current (A)	0.065
Standby Hours (B)	24
Total for Standby (A) X (B)	1.56
Alarm Current + Standby Current (C)	1.983
20% Safety Margin (D)	1.200
Battery Total (C) X (D)	2.379
Battery Size	**7AH**

QTY	MODEL #	DESCRIPTION	ALARM CURRENT		STANDBY CURRENT	
1	FCPS-24FS6	Auxiliary Power Supply	0.1450	0.145	0.0650	0.065
0	LSTW3	Wall Strobe 15CD	0.0300		0.0000	
1	LSTWC3	Ceiling Strobe 15CD	0.0530	0.053	0.0000	
0	LSTWC3	Ceiling Strobe 30CD	0.1550		0.0000	
0	LHTW3	Wall Horn-Strobe 15CD	0.0340		0.0000	
0	LHTW3	Wall Horn-Strobe 30CD	0.0480		0.0000	
5	LHTW3	Wall Horn-Strobe 75CD	0.1080	0.525	0.0000	
0	LHTW3	Wall Horn-Strobe 110CD	0.1970		0.0000	
5	LHTWC3	Ceiling Horn-Strobe 15CD	0.0440	0.22	0.0000	
2	LHTWC3	Ceiling Horn-Strobe 30CD	0.0610	0.122	0.0000	
0	LHTWC3	Ceiling Horn-Strobe 75CD	0.1690		0.0000	
0	LFHSHW3	Wall LF Horn-Strobe 177CD	0.3440		0.0000	
2	ASWP-2475W	Wall WP Horn-Strobe 75CD	0.1680	0.336	0.0000	
2	RSSWP-2475C	Ceiling WP Strobe 75CD	0.1380	0.276	0.0000	
0	SIGA-AB4G-LF	Ceiling Sounder Base N/A	0.1500		0.0000	
2	DSM	- Dual Synchronization module (hs only)	0.0430	0.086	0.0000	
			TOTAL	1.763	TOTAL	0.065

BLDG 2

BPS6A #V3

BATTERY CALCULATIONS

CIRCUITS:

V3.1, V3.2, V3.3, V3.4

Total Alarm Current (A)	1.763
Hours of Alarm - 5 Minutes (B)	0.084
Total for Alarm (A) X (B)	0.148092
Total Standby Current (A)	0.065
Standby Hours (B)	24
Total for Standby (A) X (B)	1.56
Alarm Current + Standby Current (C)	1.708
20% Safety Margin (D)	1.200
Battery Total (C) X (D)	2.050
Battery Size	**7AH**

B BPS BATTERY CALCULATIONS

VOLTAGE DROP CALCULATIONS

				MODEL	LSTW3	LSTW3	LSTW3	LSTW3	LSTWC3	LSTWC3	LSTWC3	LSTWC3	LHTW3	LHTW3	LHTW3	LHTW3	LHTWC3	LHTWC3	LHTWC3	LHTWC3	LFHSHW3	ASWP-2475W	RSSWP-2475C	SIGA-AB4G-LF	DSM					
					FA-STB-15	FA-STB-30	FA-STB-75	FA-STB-110	FA-STBC-15	FA-STBC-30	FA-STBC-75	FA-STBC-95	FA-HS-15	FA-HS-30	FA-HS-75	FA-HS-110	FA-HSC-15	FA-HSC-30	FA-HSC-75	FA-HSC-95	LFFA-HS-177	FA-HSWP-75	FA-STBCWP-75	FA-SB	-					
				TYPE	STB	STB	STB	STB	STB	STB	STB	STB	HS	HS	HS	HS	HS	HS	HS	HS	HSLF	HS-WP	STB-WP	SB	DSM	TOTAL DEVICES	(A) TOTAL CKT. LOAD	(B) CIRCUIT DISTANCE (FEET)	(C) WIRE RESISTANCE 12AWG	(A) X (B) X (C) VOLTS DROPPED (VD)	(D) SUPPLY VOLTAGE	((VD) / (D)) X 100 VOLTAGE DROP %
					Wall	Wall	Wall	Wall	Ceiling	Ceiling	Ceiling	Ceiling	Wall	Wall	Wall	Wall	Ceiling	Ceiling	Ceiling	Ceiling	Wall	Wall	Ceiling	Ceiling	-						
				CANDELA	15CD	30CD	75CD	110CD	15CD	30CD	75CD	95CD	15CD	30CD	75CD	110CD	15CD	30CD	75CD	95CD	177CD	75CD	75CD	N/A	0						
				CURRENT DRAW	0.0300	0.0400	0.1000	0.0400	0.0530	0.1550	0.2480	0.1940	0.0340	0.0460	0.1050	0.1970	0.0440	0.0610	0.1690	0.2670	0.3440	0.1680	0.1380	0.1500	0.0430						
POWER SOURCE	POWER SOURCE LOCATION	CIRCUIT ID	FLOOR SERVED																											
BPS6A #V1	BLDG 1 - LEVEL1	V1.1	B1 LEVEL 1						3						1	1		1	3			2			1	11	1.408	325	0.0032	1.46432	20.4	7.1780
		V1.2	B1 LEVEL 1						3						2		2	2	1						1	10	0.791	300	0.0032	0.75936	20.4	3.7224
		V1.3	SPARE																										0.0032		20.4	
		V1.4	SPARE																										0.0032		20.4	
BPS6A #V2	BLDG 1 - LEVEL 1	V2.1	B1 LEVEL 2						5				1				3	1	1				1		1	12	0.842	270	0.0032	0.727488	20.4	3.5661
		V2.2	B1 LEVEL 2						4	3				1			1	2	1			2			1	14	1.437	310	0.0032	1.425504	20.4	6.9878
		V2.3	B1 LEVEL 2	1																	4				1	5	1.449	325	0.0032	1.50696	20.4	7.3871
		V2.4	B1 LEVEL 2																					8		8	1.200	350	0.0032	1.344	20.4	6.5882
BPS6A #V3	BLDG 2	V3.1	B2												3		1	1				1			1	6	0.631	150	0.0032	0.30288	20.4	1.4847
		V3.2	B2						1						2		2	1					2		1	8	0.731	200	0.0032	0.46784	20.4	2.2933
		V3.3	B6														2					1			1	3	0.299	600	0.0032	0.57408	20.4	2.8141
		V3.4	SPARE																										0.0032		20.4	

C BPS VOLTAGE VOLTAGE DROPS

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RossDrulisCusenbery
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542
ARCHITECTURE

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HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY: RA	CHECKED BY:
DRAWN BY: RA	APPROVAL REC'D:
APPROVED BY:	
KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, DIR. OF PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3 - INCREMENT #1

Sheet Title

FIRE ALARM CALCULATIONS

Drawn By: RA Checked By: BK

Scale: **AS NOTED**

Date: **October 4, 2019**

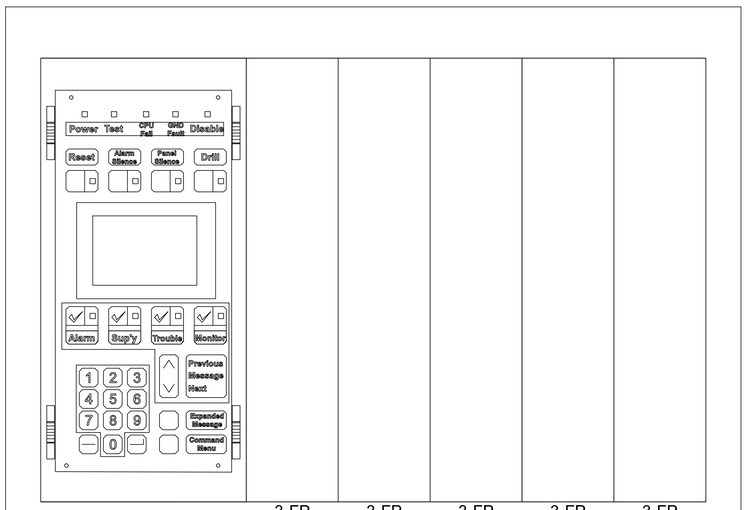
Project No. 2016039

1-FA3.01

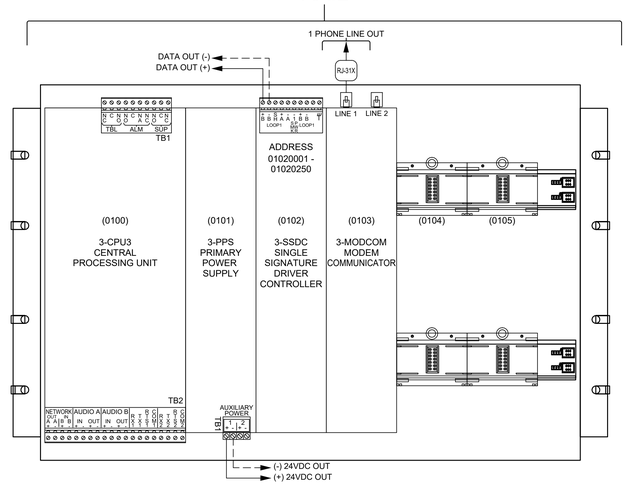
Drawing No.

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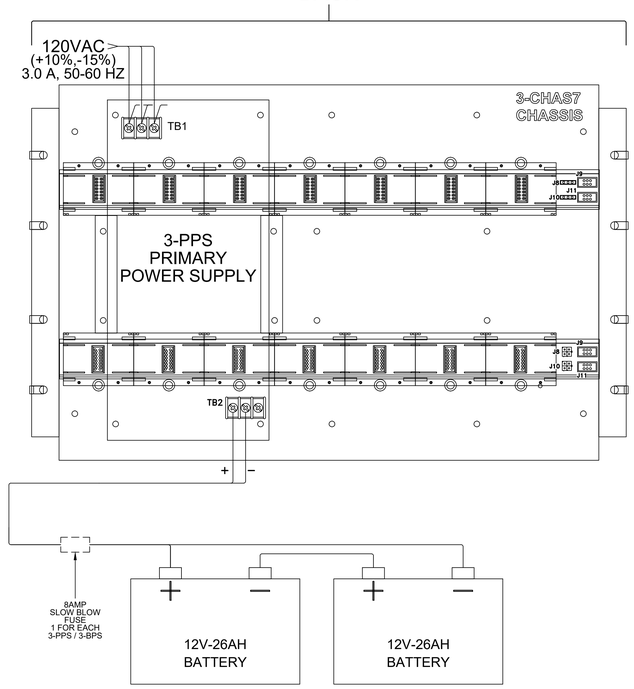
FACE PLATE



RAIL



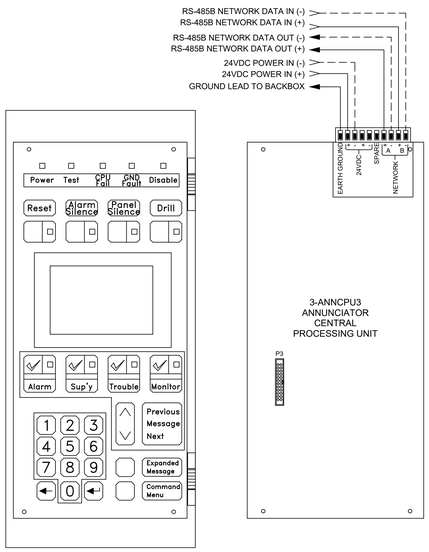
BACK



CAB SERIES CABINET DIMENSIONS
FOR ROUGH-IN: ADD 1/4" TO HEIGHT AND WIDTH TO ALLOW FOR KNOCKOUTS WHEN FRAMING IN BACKBOX FOR SEMI-FLUSH MOUNTING 3-CAB7B ROUGH-IN: 23.25"H X 24.12"W X 3.86"D FINISHED SURFACE MOUNT: 25.25"H X 27.34"W X 5.51"D

MOUNTING
72" FROM FINISHED FLOOR TO TOP OF FACP.

A EST-3 FIRE ALARM CONTROL PANEL DETAILS



FRONT REAR

WALLBOX DIMENSION
RLCM/B - FLUSH MOUNTING ROUGH-IN: 12.07"H X 6.12"W X 2.75"D OVERALL: 12.95"H X 7.6"W X 2.75"D

MOUNTING
60" FROM FINISHED FLOOR TO TOP OF ANNUNCIATOR.

B 3-LCDANN REMOTE LCD ANNUNCIATOR

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ARCHITECTURE
18294
Sonoma Highway
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TEL 707 996 8448
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PERMIT SUBMITTAL V3 - INCREMENT #1

Sheet Title

FIRE ALARM FACU AND ANNUNCIATOR DETAILS

Drawn By: RA Checked By: BK

Scale: **AS NOTED**

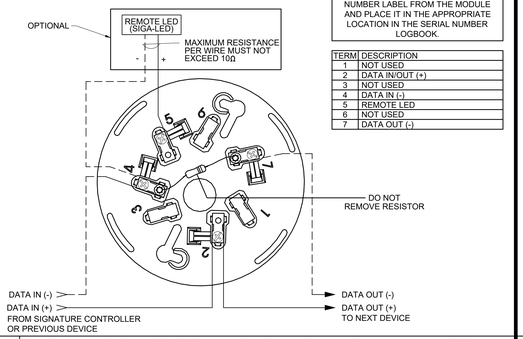
Date: **October 4, 2019**

Project No. 2016039

1-FA4.01

Drawing No.

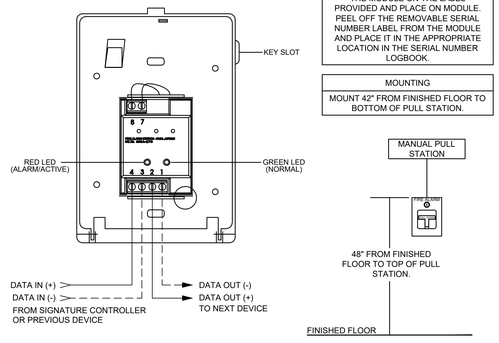
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BARCODE LABELS
WRITE THE ADDRESS ASSIGNED TO THE MODULE ON THE LABEL PROVIDED AND PLACE ON MODULE. PEEL OFF THE REMOVABLE SERIAL NUMBER LABEL FROM THE MODULE AND PLACE IT IN THE APPROPRIATE LOCATION IN THE SERIAL NUMBER LOGBOOK.

TERM	DESCRIPTION
1	NOT USED
2	DATA IN/OUT (+)
3	NOT USED
4	DATA IN (-)
5	REMOTE LED
6	NOT USED
7	DATA OUT (-)

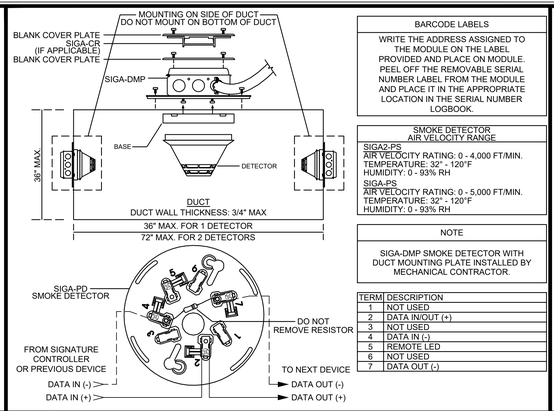
A SMOKE / HEAT DETECTOR WITH SIGA-SB4 BASE AND REMOTE LED WIRING DETAIL



BARCODE LABELS
WRITE THE ADDRESS ASSIGNED TO THE MODULE ON THE LABEL PROVIDED AND PLACE ON MODULE. PEEL OFF THE REMOVABLE SERIAL NUMBER LABEL FROM THE MODULE AND PLACE IT IN THE APPROPRIATE LOCATION IN THE SERIAL NUMBER LOGBOOK.

MOUNTING
MOUNT 42" FROM FINISHED FLOOR TO BOTTOM OF PULL STATION.

B SIGA-278 DUAL ACTION MANUAL PULL STATION WIRING DETAIL



BARCODE LABELS
WRITE THE ADDRESS ASSIGNED TO THE MODULE ON THE LABEL PROVIDED AND PLACE ON MODULE. PEEL OFF THE REMOVABLE SERIAL NUMBER LABEL FROM THE MODULE AND PLACE IT IN THE APPROPRIATE LOCATION IN THE SERIAL NUMBER LOGBOOK.

SMOKE DETECTOR AIR VELOCITY RANGE
SIGA2-PS AIR VELOCITY RATING: 0 - 4,000 FT/MIN. TEMPERATURE: 32° - 120°F HUMIDITY: 0 - 93% RH SIGA-PS AIR VELOCITY RATING: 0 - 5,000 FT/MIN. TEMPERATURE: 32° - 120°F HUMIDITY: 0 - 93% RH

NOTE
SIGA-DMP SMOKE DETECTOR WITH DUCT MOUNTING PLATE INSTALLED BY MECHANICAL CONTRACTOR.

TERM	DESCRIPTION
1	NOT USED
2	DATA IN/OUT (+)
3	NOT USED
4	DATA IN (-)
5	REMOTE LED
6	NOT USED
7	DATA OUT (-)

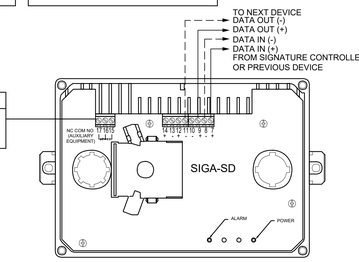
C SIGA-DMP SMOKE DETECTOR WITH DUCT MOUNTING PLATE WIRING DETAIL

BARCODE LABELS
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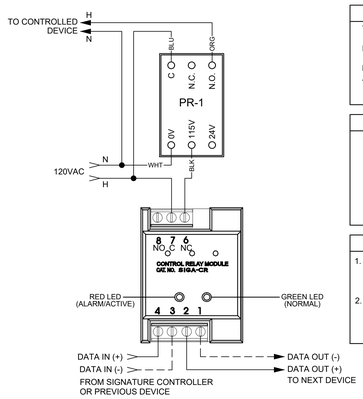
SIGA-SD SPECIFICATIONS
DIMENSION: 8.7W X 5.45H X *1.9D PRESSURE: 0.005 TO 1.0 INCHES OF WATER AIR VELOCITY RATING: 100 TO 4,000 FT/MIN TEMPERATURE: -20 TO 158°F HUMIDITY: 93% RH, NON-CONDENSING

NOTE
DUCT DETECTOR INSTALLED BY MECHANICAL CONTRACTOR.

CONTACT RATINGS
FORM "C" 2.0 AMPS AT 30VDC RESISTIVE



D SIGA-SD DUCT SMOKE DETECTOR WIRING DETAIL

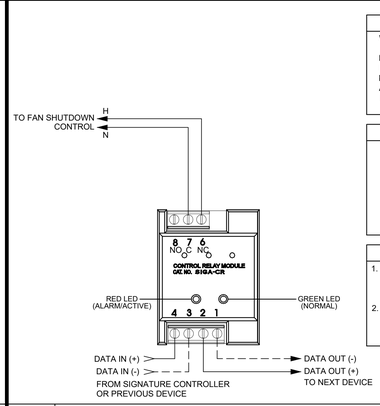


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CONTACT RATINGS
SIGA-CR FORM "C" 24 VDC: 2 amps (pilot duty) 120 VAC: 0.5 amps PR-1 FORM "C" 24 VDC: 7 amps with L/R = 5 mS 120 Vac = 7 amps max. (0.35 pf)

NOTES
1. SIGA-CR TO BE MOUNTED WITHIN 3 FEET OF CONTROLLED CIRCUIT OR APPLIANCE. 2. 120VAC AND FIRE ALARM CIRCUITS MUST MAINTAIN A 1/4" SEPARATION. NEVER RUN IN SAME RACEWAY.

E SIGA-CR CONTROL RELAY WITH PR-1 MULTI-VOLTAGE RELAY FOR FSD CONTROL WIRING DETAIL

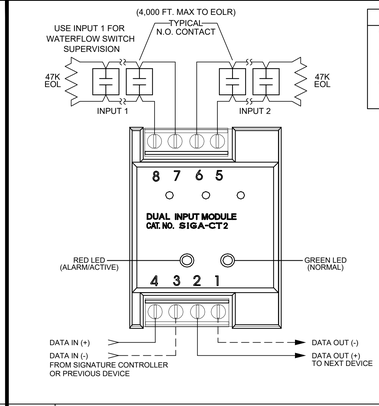


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WRITE THE ADDRESS ASSIGNED TO THE MODULE ON THE LABEL PROVIDED AND PLACE ON MODULE. PEEL OFF THE REMOVABLE SERIAL NUMBER LABEL FROM THE MODULE AND PLACE IT IN THE APPROPRIATE LOCATION IN THE SERIAL NUMBER LOGBOOK.

CONTACT RATINGS
SIGA-CR FORM "C" 24 VDC: 2 amps (pilot duty) 120 VAC: 0.5 amps PR-1 FORM "C" 24 VDC: 7 amps with L/R = 5 mS 120 Vac = 7 amps max. (0.35 pf)

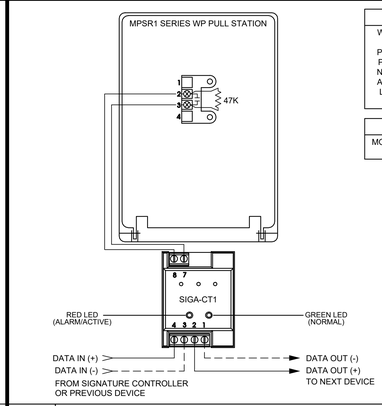
NOTES
1. SIGA-CR TO BE MOUNTED WITHIN 3 FEET OF CONTROLLED CIRCUIT OR APPLIANCE. 2. 120VAC AND FIRE ALARM CIRCUITS MUST MAINTAIN A 1/4" SEPARATION. NEVER RUN IN SAME RACEWAY.

F SIGA-CR CONTROL RELAY FOR FAN SHUTDOWN WIRING DETAIL



BARCODE LABELS
WRITE THE ADDRESS ASSIGNED TO THE MODULE ON THE LABEL PROVIDED AND PLACE ON MODULE. PEEL OFF THE REMOVABLE SERIAL NUMBER LABEL FROM THE MODULE AND PLACE IT IN THE APPROPRIATE LOCATION IN THE SERIAL NUMBER LOGBOOK.

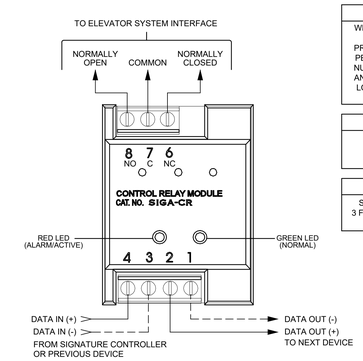
G SIGA-CT2 DUAL INPUT MONITOR MODULE TO WATERFLOW AND TAMPER SWITCH WIRING DETAIL



BARCODE LABELS
WRITE THE ADDRESS ASSIGNED TO THE MODULE ON THE LABEL PROVIDED AND PLACE ON MODULE. PEEL OFF THE REMOVABLE SERIAL NUMBER LABEL FROM THE MODULE AND PLACE IT IN THE APPROPRIATE LOCATION IN THE SERIAL NUMBER LOGBOOK.

MOUNTING
MOUNT 42" FROM FINISHED FLOOR TO BOTTOM OF PULL STATION.

H MPSR1 SERIES SINGLE ACTION WEATHERPROOF MANUAL PULL STATION WITH SIGA-CT1 WIRING DETAIL

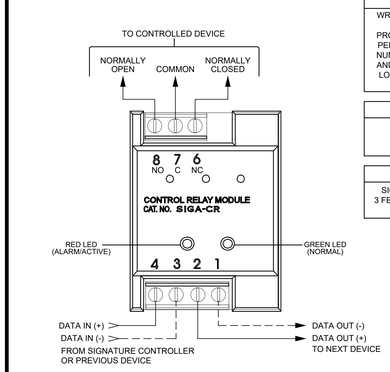


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CONTACT RATINGS
FORM "C" 24 VDC: 2 amps (pilot duty) 120 VAC: 0.5 amps

NOTE
SIGA-CR TO BE MOUNTED WITHIN 3 FEET OF CONTROLLED CIRCUIT OR APPLIANCE.

I SIGA-CR CONTROL RELAY WIRING DETAIL FOR ELEVATOR RECALL, ALTERNATE RECALL AND ECR/HOISTWAY SIGNAL

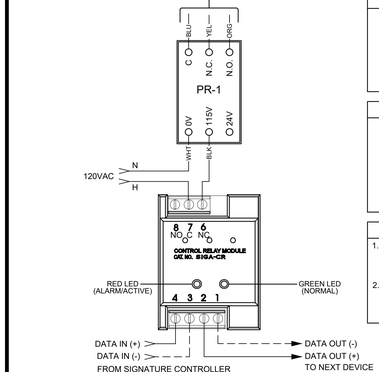


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FORM "C" 24 VDC: 2 amps (pilot duty) 120 VAC: 0.5 amps

NOTE
SIGA-CR TO BE MOUNTED WITHIN 3 FEET OF CONTROLLED CIRCUIT OR APPLIANCE.

J SIGA-CR CONTROL RELAY WIRING DETAIL

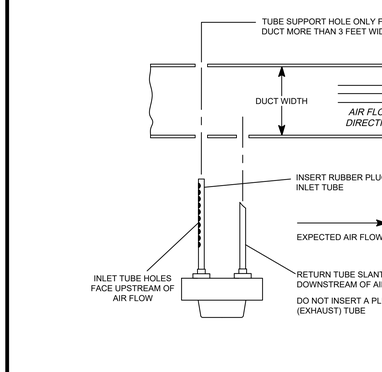


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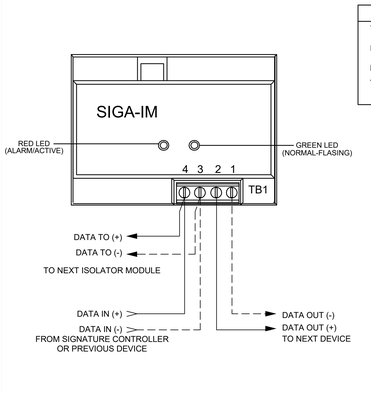
CONTACT RATINGS
SIGA-CR FORM "C" 24 VDC: 2 amps (pilot duty) 120 VAC: 0.5 amps PR-1 FORM "C" 24 VDC: 7 amps with L/R = 5 mS 120 Vac = 7 amps max. (0.35 pf)

NOTES
1. SIGA-CR TO BE MOUNTED WITHIN 3 FEET OF CONTROLLED CIRCUIT OR APPLIANCE. 2. 120VAC AND FIRE ALARM CIRCUITS MUST MAINTAIN A 1/4" SEPARATION. NEVER RUN IN SAME RACEWAY.

K SIGA-CR CONTROL RELAY WITH PR-1 MULTI-VOLTAGE RELAY FOR MISCELLANEOUS CONTROL WIRING DETAIL

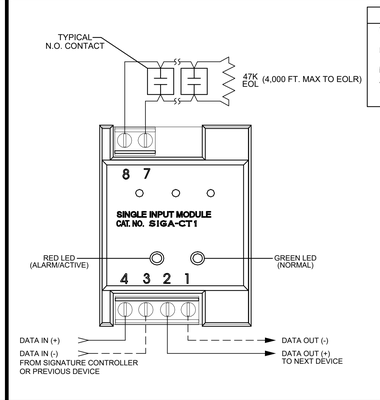


L DUCT SMOKE DETECTOR INSTALLATION DETAIL



BARCODE LABELS
WRITE THE ADDRESS ASSIGNED TO THE MODULE ON THE LABEL PROVIDED AND PLACE ON MODULE. PEEL OFF THE REMOVABLE SERIAL NUMBER LABEL FROM THE MODULE AND PLACE IT IN THE APPROPRIATE LOCATION IN THE SERIAL NUMBER LOGBOOK.

M SIGA-IM ISOLATOR MODULE WIRING DETAIL



BARCODE LABELS
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N SIGA-CT1 SINGLE INPUT MONITOR MODULE WIRING DETAIL

O PROPER METHOD FOR T-TAPS

P WIRE STRIPPING GUIDE

Q DUCT SMOKE DETECTOR AT FSD INSTALLATION DETAIL

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY: RA	CHECKED BY:
DRAWN BY: RA	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, DIR. OF PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3 - INCREMENT #1

Sheet Title

FIRE ALARM FIELD DEVICE WIRING DETAILS

Drawn By: RA Checked By: BK

Scale: **AS NOTED**

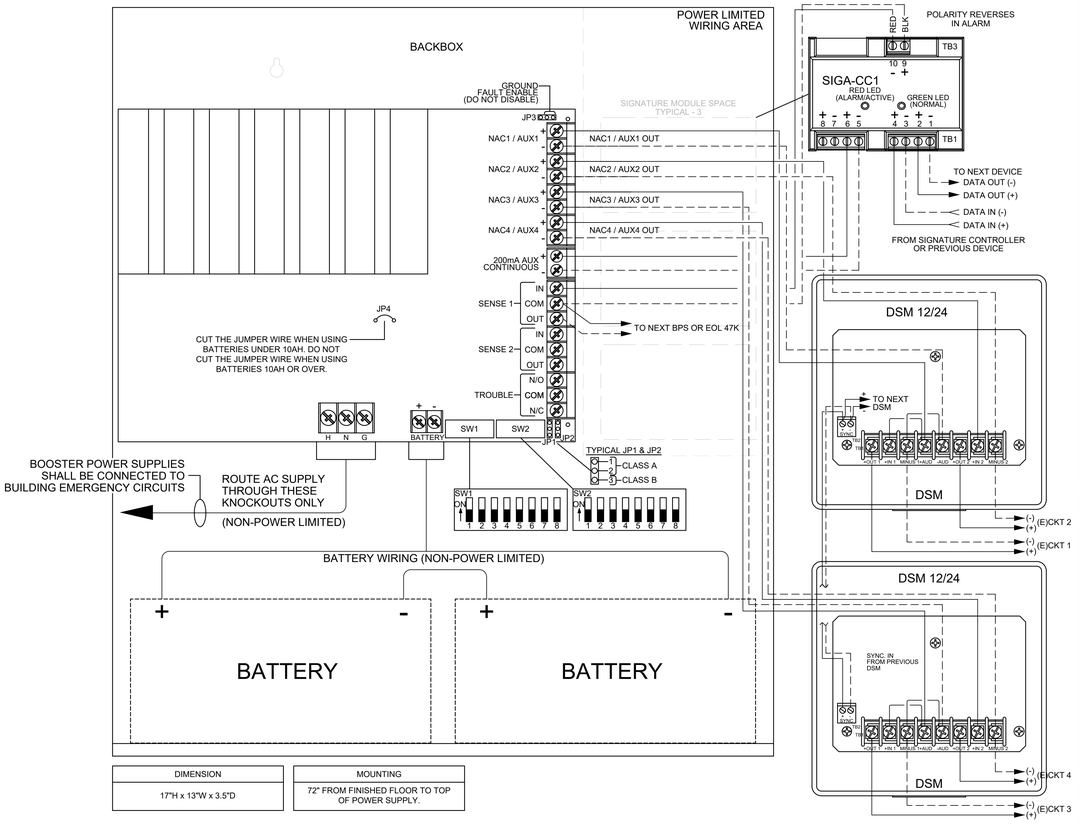
Date: **October 4, 2019**

Project No. 2016039

1-FA4.02

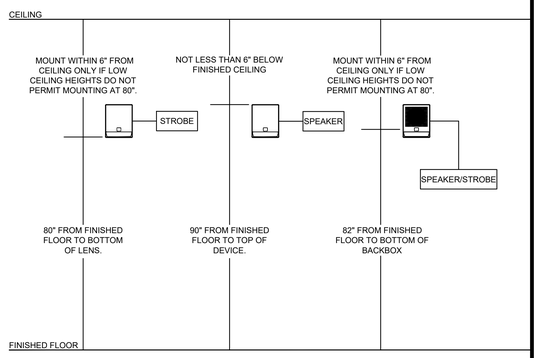
Drawing No.

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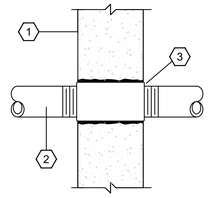


DIMENSION	MOUNTING
17"H x 13"W x 3.5"D	72" FROM FINISHED FLOOR TO TOP OF POWER SUPPLY.

A BPS6A / BPS10A BOOSTER POWER SUPPLY WITH SIGA-CC1S SYNCHRONIZATION MODULE WIRING DETAIL



B ELEVATIONS

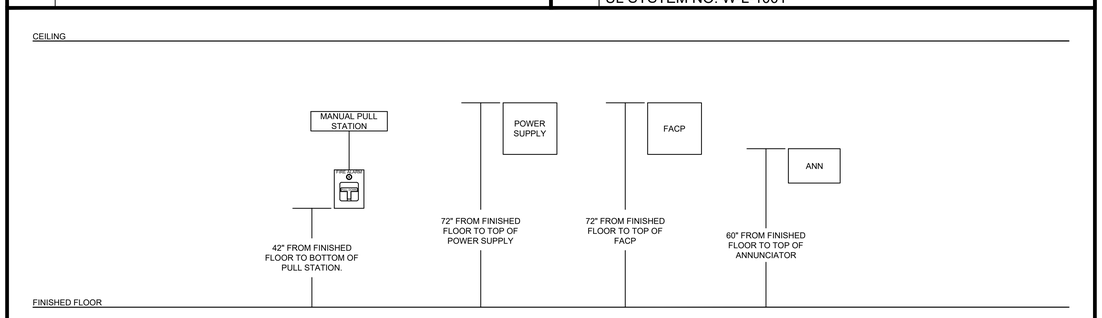


1. WALL ASSEMBLY - THE 1 OR 2 HR FIRE RATED GYPSUM BOARD/STUD WALL ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER DESCRIBED IN THE INDIVIDUAL U300, U400 OR V400 SERIES WALL AND PARTITION DESIGN IN THE UL FIRE RESISTANCE DIRECTORY.
2. THROUGH PENETRANTS - ONE METALLIC PIPE, CONDUIT, TUBING OR FLEXIBLE METAL PIPE INSTALLED CONCENTRICALLY OR ECCENTRICALLY WITHIN THE FIRESTOP SYSTEM. ANNULAR SPACE BETWEEN PENETRANT AND PERIPHERY OF OPENING TO BE MIN 0 IN. (0 MM POINT CONTACT) TO MAX 2 IN. (51 MM). PENETRANT TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF WALL ASSEMBLY.
3. FILL, VOID OR CAVITY MATERIAL (BEARING THE UL CLASSIFICATION MARK) - CAULK OR SEALANT (3M COMPANY - CP 25WB+ CAULK OR FB-3000 WT SEALANT) - MIN 5/8 IN. (16 MM) THICKNESS OF CAULK APPLIED WITHIN ANNULUS, FLUSH WITH BOTH SURFACES OF WALL. MIN 1/4 IN. (6 MM) DIAM BEAD OF CAULK APPLIED TO GYPSUM BOARD/PENETRANT INTERFACE AT POINT CONTACT LOCATION ON BOTH SIDES OF WALL, THE HOURLY F RATING OF THE FIRESTOP SYSTEM IS EQUAL TO THE HOURLY FIRE RATING OF THE WALL ASSEMBLY IN WHICH IT IS INSTALLED.

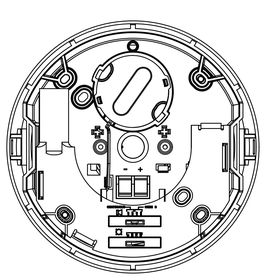
MAX PIPE OR CONDUIT DIAMETER (IN)	F RATING (HR)	T RATING (HR)	ANNULAR SPACE (IN)
1	1 OR 2	0+, 1 OR 2	0 TO 3/16
1	3 OR 4	3 OR 4	1/4 TO 1/2
4	1 OR 2	0	0 TO 1-1/2
6	3 OR 4	0	1/4 TO 1/2
12	1 OR 2	0	3/16 TO 3/8

NOTE:
PENETRATIONS THRU WALLS REQUIRING PROTECTED OPENINGS SHALL BE FIRE STOPPED. FIRE STOP MATERIAL SHALL BE A UL LISTED ASSEMBLY INSTALLED ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS. SEE DRAWING A9.0.01 AND "THROUGH PENETRATIONS FIRESTOP" BINDER FOR INFORMATION AND DETAILS

C THROUGH PENETRATION FIRESTOP DETAIL
UL SYSTEM NO. W-L-1001

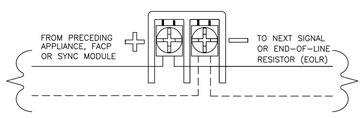


D ELEVATIONS

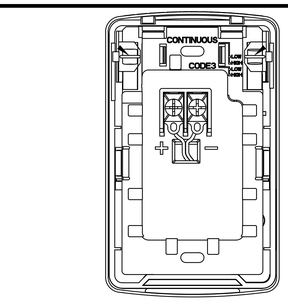


WARNING
TO PREVENT ELECTRIC SHOCK, DO NOT REMOVE THIS COVER. NO USER SERVICEABLE PARTS INSIDE. CANDELA SWITCH MUST BE FIELD SET TO THE REQUIRED CANDELA PRIOR TO INSTALLATION. MAKE CERTAIN IT "CLICKS" IN PLACE WHEN CHANGING THE SETTING.

Db SETTING
SET DEVICE AT 95Db SETTING



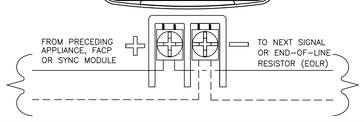
E EXCEDER LED SERIES CEILING MOUNT HORN/STROBES AND STROBES WIRING DETAIL



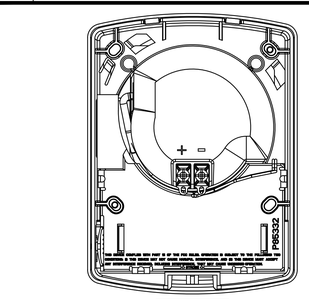
MOUNTING
MOUNT 80" FROM FINISHED FLOOR TO BOTTOM OF LENS.

WARNING
TO PREVENT ELECTRIC SHOCK, DO NOT REMOVE THIS COVER. NO USER SERVICEABLE PARTS INSIDE. CANDELA SWITCH MUST BE FIELD SET TO THE REQUIRED CANDELA PRIOR TO INSTALLATION. MAKE CERTAIN IT "CLICKS" IN PLACE WHEN CHANGING THE SETTING.

Db SETTING
SET DEVICE AT 95Db SETTING



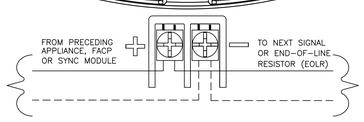
F EXCEDER LED SERIES WALL MOUNT HORN/STROBES AND STROBES WIRING DETAIL



MOUNTING
MOUNT 80" FROM FINISHED FLOOR TO BOTTOM OF LENS.

WARNING
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Db SETTING
SET DEVICE AT 95Db SETTING

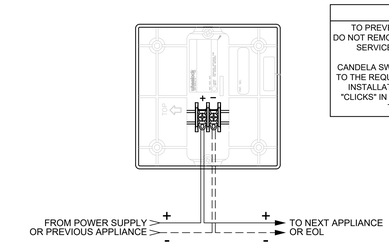


G EXCEDER LOW FREQUENCY LED SERIES WALL MOUNT SOUNDER STROBES AND STROBES WIRING DETAIL

BACKBOX
WPSBB-R WEATHERPROOF BACKBOX ONLY

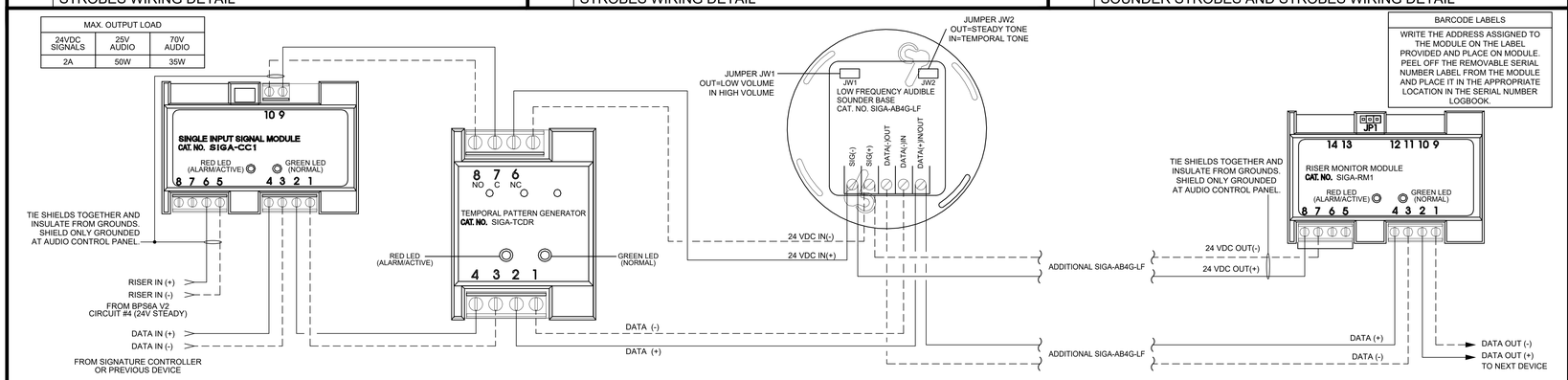
MOUNTING
MOUNT 80" FROM FINISHED FLOOR TO BOTTOM OF LENS.

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H RSSWP SERIES WEATHERPROOF STROBE WIRING DETAIL

MAX. OUTPUT LOAD		
24VDC SIGNALS	25V AUDIO	70V AUDIO
2A	50W	35W



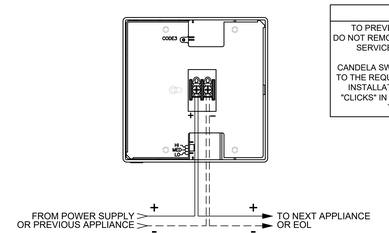
BARCODE LABELS
WRITE THE ADDRESS ASSIGNED TO THE MODULE ON THE LABEL PROVIDED AND PLACE ON MODULE. PEEL OFF THE REMOVABLE SERIAL NUMBER LABEL FROM THE MODULE AND PLACE IT IN THE APPROPRIATE LOCATION IN THE SERIAL NUMBER LOGBOOK.

I SIGA-CC1, SIGA-TCDR, SIGA-AB4G-LF, SIG-RM1
WIRING DETAIL FOR SLEEPING AREA NOTIFICATION

BACKBOX
WPBB-R WEATHERPROOF BACKBOX ONLY

MOUNTING
MOUNT 80" FROM FINISHED FLOOR TO BOTTOM LENS.

WARNING
TO PREVENT ELECTRIC SHOCK, DO NOT REMOVE THIS COVER. NO USER SERVICEABLE PARTS INSIDE. CANDELA SWITCH MUST BE FIELD SET TO THE REQUIRED CANDELA PRIOR TO INSTALLATION. MAKE CERTAIN IT "CLICKS" IN PLACE WHEN CHANGING THE SETTING.



J ASWP SERIES WEATHERPROOF HORN/STROBE WIRING DETAIL

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
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SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION	
DESIGNED BY: RA	CHECKED BY:
DRAWN BY: RA	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, DIR. OF PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3 - INCREMENT #1

Sheet Title

FIRE ALARM FIELD DEVICE WIRING DETAILS

Drawn By: RA Checked By: BK

Scale: **AS NOTED**

Date: **October 4, 2019**

Project No. 2016039

1-FA4.03

Drawing No.

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TECHNOLOGY LEGEND, ABBREVIATIONS AND DRAWING LIST

ABBREVIATIONS

AC	ABOVE COUNTER
ADA	AMERICANS WITH DISABILITIES ACT
AFC	ABOVE FINISHED CEILING
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
ALT	ALTERNATE
AMP, A	AMPERE
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
ATR	ALL THREADED ROD
AV	AUDIOVISUAL
AWG	AMERICAN WIRE GAUGE
BDA	BI-DIRECTIONAL ANTENNA
BFC	BELOW FINISHED CEILING
BFG	BELOW FINISHED GRADE
BICSI	BUILDING INDUSTRY CONSULTING SERVICES INTERNATIONAL
BMS	BUILDING MANAGEMENT SYSTEM
C	CONDUIT
CAT	CATEGORY
CATV	COMMUNITY ANTENNA TV (CABLE TV)
CLEC	COMPETITIVE LOCAL EXCHANGE CARRIER
CL	CLOSET
CLG	CEILING
CMP	COMMUNICATIONS PLENUM CABLE
CMR	COMMUNICATIONS RISER CABLE
CO	CENTRAL OFFICE
COAX	COAXIAL
CT	CABLE TRAY
DAS	DISTRIBUTED ANTENNA SYSTEM
DB	DECIBEL
DEMARC	DEMARCATION
DIA	DIAMETER
DWG	DRAWING
(E)	EXISTING TO REMAIN
E.G.	FOR EXAMPLE
EIA	ELECTRONICS INDUSTRY ALLIANCE
ELEC	ELECTRIC OR ELECTRICAL
ELEV	ELEVATOR
EMI	ELECTROMAGNETIC INTERFERENCE
EMT	ELECTRICAL METALLIC TUBING
EP	EXPLOSION PROOF
ERRCS	EMERGENCY RESPONDER RADIO COVERAGE SYSTEM
FACP	FIRE ALARM CONTROL PANEL
FBO	FURNISHED BY OTHERS
FCC	FEDERAL COMMUNICATIONS COMMISSION
FO	FIBER OPTIC
FR	FIRE RATED
FT	FOOT/FEET
GB	GIGABYTE
GBPS	GIGABITS PER SECOND
GC	GENERAL CONTRACTOR
GE	GROUNDING EQUALIZER
GMP	GUARANTEED MAXIMUM PRICE
GND	GROUND
GUI	GRAPHICAL USER INTERFACE
HC	HORIZONTAL CROSS-CONNECT
HVAC	HEATING, VENTILATING, AND AIR-CONDITIONING
ID	INSIDE DIAMETER
IDF	INTERMEDIATE DISTRIBUTION FRAME
IEC	INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEEE	INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC.
IG	ISOLATED GROUND
IMC	INTERMEDIATE METAL CONDUIT - SEE NEC ARTICLE 342
INT	INTERCOM
IP	INTERNET PROTOCOL
ISO	INTERNATIONAL ORGANIZATION OF STANDARDS
J-BOX, JB	JUNCTION BOX
KCMIL	THOUSANDS OF CIRCULAR MILLS
KM	KILOMETER
KVA	KILOVOLT AMPERES
KW	KILOWATT
LAN	LOCAL AREA NETWORK
LEC	LOCAL EXCHANGE CARRIER (OR SP)
LED	LIGHT-EMITTING DIODE
M	METER
MAG	MAGNETIC
MAN	METROPOLITAN AREA NETWORK
MAX	MAXIMUM
MB	MEGABYTE
MBPS	MEGABITS PER SECOND
MC	MAIN CROSS-CONNECT
MDF	MAIN DISTRIBUTION FRAME
MECH	MECHANICAL
MFR	MANUFACTURER
MH	MANHOLE
MI	MILE
MIN	MINIMUM
MM	MILLIMETER
MMFO	MULTIMODE FIBER OPTIC
MPOE	MAIN POINT OF ENTRY
NEC	NATIONAL ELECTRIC CODE - NFPA 70
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NIC	NETWORK INTERFACE CARD
NID	NETWORK INTERFACE DEVICE
NM	NANOMETER
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER

ABBREVIATIONS

OEM	ORIGINAL EQUIPMENT MANUFACTURER
OS	OPERATING SYSTEM
OSP	OUTSIDE PLANT
PA	PUBLIC ADDRESS
PABX	PRIVATE AUTOMATIC BRANCH EXCHANGE
PBX	PRIVATE BRANCH EXCHANGE
PB	PULL-BOX (SIZED PER BICSI TDMM)
PC	PERSONAL COMPUTER
PCN	PERSONAL COMMUNICATIONS NETWORK
PCS	PERSONAL COMMUNICATIONS SYSTEMS
PIR	PASSIVE INFRARED
POTS	PLAIN OLD TELEPHONE SERVICE
PR	PAIRS (NUMBER OF PAIRS IN COPPER CABLE)
PROX	PROXIMITY
PVC	POLYVINYL CHLORIDE
PWR	POWER
RCDD	REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER
RFI	RADIO FREQUENCY INTERFACE
RM	ROOM
RMC	RIGID METALLIC CONDUIT
RU	RACK UNIT; UNIT OF PATCH PANEL HEIGHT EQUAL TO 1.75 INCH
SCTP	SCREENED TWISTED PAIR
SMFO	SINGLEMODE FIBER OPTIC
SPOE	SECONDARY POINT OF ENTRY
SP	SERVICE PROVIDER
STD	STANDARD
STP	SHIELDED TWISTED PAIR
SW	SWITCH
TBB	TELECOMMUNICATIONS BONDING BACKBONE
TBD	TO BE DETERMINED
TCP/IP	TRANSMISSION CONTROL PROTOCOL W/ INTERNET PROTOCOL
TDMM	TELECOMMUNICATIONS DISTRIBUTION METHODS MANUAL
TEL	TELEPHONE
TELCO	TELEPHONE COMPANY (SP)
TELECOM	TELECOMMUNICATIONS
TEMP	TEMPERATURE
TGB	TELECOMMUNICATIONS GROUND BUS BAR
TIA	TELECOMMUNICATIONS INDUSTRY ASSOCIATION
TMGB	TELECOMMUNICATIONS MAIN GROUND BUS BAR
TR	TELECOMMUNICATIONS ROOM
TV	TELEVISION
TYP	TYPICAL
UC	UNDER COUNTER
UG	UNDERGROUND
UL	UNDERWRITER LABORATORIES
UON	UNLESS OTHERWISE NOTED
UPS	UNINTERRUPTIBLE POWER SUPPLY
UTP	UNSHIELDED TWISTED PAIR
V	VOLT
W	WATT
WAN	WIDE AREA NETWORK
WLAN	WIRELESS LOCAL AREA NETWORK
WP	WEATHERPROOF
(X)	EXISTING - TO BE DEMOLISHED

GENERAL SYMBOLS LEGEND

SYMBOL	DESCRIPTION
TC	TELECOMMUNICATIONS CONDUIT CONCEALED
TC	TELECOMMUNICATIONS CONDUIT SURFACE MOUNTED
TC	CONDUITS BELOW GRADE/SLAB OR EMBEDDED IN SLAB
J	J-HOOK PATHWAY
I	INNERDUCT PATHWAY
CAT	COPPER CATEGORY CABLE
FO	FIBER OPTIC CABLE
	CONDUIT UP
	CONDUIT DOWN
	CONDUIT CAPPED
	CONDUIT STUBBED OUT WITH BUSHING
	CONDUIT CROSS-SECTION
	TELECOMMUNICATIONS CABLE TRAY
	VERTICAL WALL MOUNTED CABLE LADDER
	TELECOMMUNICATIONS RACEWAY
	PULL-BOX
TGB	TELECOMMUNICATIONS GROUNDING BUSBAR
TMGB	TELECOMMUNICATIONS MAIN GROUNDING BUSBAR
	TELECOMMUNICATIONS GROUNDING BUSBAR (PLAN VIEW)
	CABLE SERVICE LOOP # DENOTES LENGTH
	COPPER CABLE SPLICE
	FIBER OPTIC CABLE SPLICE
	COPPER CABLE TERMINATION
	FIBER OPTIC CABLE TERMINATION
X / Y	DETAIL REFERENCE "X" DENOTES DETAIL NUMBER "Y" DENOTES DRAWING NUMBER
X / Y	SECTION REFERENCE "X" DENOTES DETAIL NUMBER "Y" DENOTES DRAWING NUMBER
#	NUMBERED NOTE IDENTIFIER

TELECOMMUNICATIONS DEVICE LEGEND

SYMBOL	DESCRIPTION
	WALL MOUNTED DATA DEVICE WITH (2) CAT.6A U.O.N
TV	TELEVISION LOCATION, (1) SERIES-6 COAX & (2) CAT.6A
	RECESSED MOUNTED MULTIMEDIA PANEL (MMP)
W	WALLPHONE OUTLET, (1) CAT.6A CABLE
# E	TELECOMMUNICATIONS OUTLET/ CONNECTIVITY TO ELEVATOR CONTROL PANEL, U.O.N # DENOTES QUANTITY OF CAT.6A CABLES
AP	WALL-MOUNTED WI-FI ACCESS POINT LOCATION , (2) CAT.6A CABLES
#	WALL-MOUNTED TELECOMMUNICATIONS OUTLET, # DENOTES NUMBER OF CAT.6A CABLES
#	WIREMOLD EVOLUTION 6AT RECESSED FLOOR BOX TELECOMMUNICATIONS OUTLET, # DENOTES NUMBER OF CAT.6A CABLES. USE AV FLOORBOX WHERE ADJACENT
#	CEILING-MOUNTED TELECOMMUNICATIONS OUTLET MOUNTED WITHIN CEILING SPACE , U.O.N. # DENOTES NUMBER OF CAT.6A CABLES
AP	CEILING-MOUNTED DATA OUTLET AT WI-FI ACCESS POINT LOCATION, (2) CAT.6A CABLES
#	FLOOR POKE-TRU TELECOM DATA OUTLET, # DENOTES NUMBER OF CAT.6A CABLES
P	CEILING-MOUNTED TELECOMMUNICATIONS CONSOLIDATION POINT PATCH PANEL
P	CABINET-MOUNTED TELECOMMUNICATIONS CONSOLIDATION POINT PATCH PANEL
P	WALL-MOUNTED TELECOMMUNICATIONS CONSOLIDATION POINT PATCH PANEL
P	FLOOR-MOUNTED TELECOMMUNICATIONS CONSOLIDATION POINT PATCH PANEL TO BE PLACED WITHIN RAISED ACCESS FLOOR U.O.N.
#	TELECOMMUNICATIONS EQUIPMENT CONNECTION
	RECESSED WALL-MOUNTED SYSTEMS FURNITURE FEEDPOINT
	RECESSED FLOOR BOX SYSTEMS FURNITURE FEEDPOINT
	CEILING-MOUNTED SYSTEMS FURNITURE FEEDPOINT
	POKE-THRU SYSTEMS FURNITURE FEEDPOINT
MH #	UNDERGROUND MANHOLE, (#) DENOTES IDENTIFIER
HH #	UNDERGROUND HANDHOLE, (#) DENOTES IDENTIFIER
P #	PEDESTAL, (#) DENOTES IDENTIFIER
U #	UNDERGROUND PULL BOX, (#) DENOTES IDENTIFIER
	THIS SYMBOL DENOTES A TELECOMMUNICATIONS OUTLET WITH (1) COPPER TWISTED PAIR CABLE.

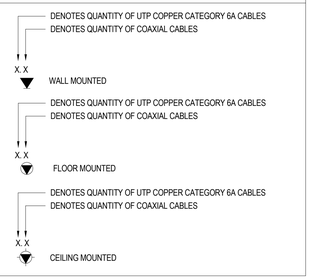
ELECTRONIC SECURITY DEVICE LEGEND

SYMBOL	DESCRIPTION
	FIXED SECURITY CAMERA
	PTZ SECURITY CAMERA
ACS	ACCESS CONTROL PANEL
GS	GUEST ENTRY PHONE
CR	CARD READER
DC	DOOR CONTACT
EL	ELECTRIFIED LOCK
IC	INTERCOM
IDM	INTERCOM MASTER
KP	KEY PAD
MON	LCD DISPLAY MONITOR
MS	MOTION SENSOR, ARROW INDICATES DIRECTION OF SENSOR
NVR	NETWORK VIDEO RECORDER
PB	PANIC BUTTON
PLC	PROGRAMMABLE LOGIC CONTROLLER
REX	REQUEST TO EXIT
RF	RADIO FREQUENCY VEHICLE GATE CONTROLLER
SS	SECURITY SERVER
WR	WIRELESS DURESS REPEATER SECURITY
WS	WORKSTATION

AUDIOVISUAL SYSTEM DEVICE LEGEND

SYMBOL	DESCRIPTION - SEE LINE DIAGRAMS FOR COORDINATION REQUIREMENTS
CP AV	WALL-MOUNT TOUCH PANEL BACKBOX: PROVIDE 2-GANG DEEP JUNCTION BOX AT PROJECT STANDARD SWITCH HEIGHT WITH (1) 1" CONDUIT TO "PJR" IN ROOM AND (1) 3/4" CONDUIT TO "LVC" IN ROOM
IO AV	WALL-MOUNTED AUDIOVISUAL INPUT/OUTPUT PLATE: PROVIDE 2-GANG DEEP JUNCTION BOX AT PROJECT STANDARD OUTLET HEIGHT WITH (1) 1" CONDUIT TO "LCD" JUNCTION BOX ABOVE
LCD AV	WALL-MOUNTED AUDIOVISUAL LCD DISPLAY BACKBOX: PROVIDE 4-GANG DEEP JUNCTION BOX AT 60" AFF. PROVIDE ADJACENT NETWORK DATA AND POWER (BY OTHER DIVISIONS)
IO AV	SHARED SERVICE AUDIOVISUAL FLOOR BOX: PROVIDE WIREMOLD EVOLUTION 8AT FLOOR BOX FLUSH WITH FINISHED FLOOR WITH (2) 1" CONDUIT TO "PJR" IN ROOM (CLASSROOMS), OR TO "LCD" IN ROOM (CONFERENCE ROOMS)
S	6" CEILING LOUDSPEAKER: PROVIDE 6" CEILING LOUDSPEAKER WITH LOUDSPEAKER CABLE VIA J-HOOK/CONDUIT PATHWAY TO ROOM EQUIPMENT HEADEND AS SHOWN. PROVIDE ACOUSTICAL LOUDSPEAKER ENCLOSURE. COORDINATE FINAL LOCATION WITH ARCHITECT.
PRJ AV	VIDEO PROJECTOR BACKBOX: PROVIDE 2-GANG JUNCTION BOX MOUNTED TO CEILING SURFACE. PROVIDE NETWORK DATA AND ADJACENT POWER (BY OTHER DIVISIONS)
LVC AV	PROJECTION SCREEN LOW-VOLTAGE CONTROLLER: PROVIDE HARD-WIRED AC POWER (BY OTHER DIVISIONS)

TELECOMMUNICATIONS OUTLET CABLING LEGEND



TECHNOLOGY GENERAL NOTES

1. THE LOCATIONS AND ELEVATIONS OF TECHNOLOGY DEVICES SHOWN ON THESE DRAWINGS ARE SCHEMATIC UNLESS ACTUAL DIMENSIONS ARE SHOWN ON THE DRAWINGS. REFER TO THE ARCHITECTURAL PLANS AND OBTAIN THE APPROVAL OF THE ARCHITECT FOR THE ACTUAL LOCATIONS AND ELEVATIONS OF ALL DEVICES.
2. CONTRACTOR SHALL ENSURE THAT ALL MOUNTING HEIGHTS COMPLY WITH CURRENT ADA REQUIREMENTS.
3. ABOVE COUNTER DEVICES SHALL BE MOUNTED 8" ABOVE COUNTER OR A MAXIMUM OF 44" AFF. (TO TOP OF DEVICE).
4. PROVIDE SUPPORTS AND ANCHORING FOR PIPING, CONDUIT, DUCTS, EQUIPMENT, AND OTHER NON-STRUCTURAL ELEMENTS. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
5. PROVIDE FIRE PUTTY PADS IN ALL BACK BOXES.
6. FIRESTOPPING: ALL PENETRATIONS THROUGH RATED WALLS AND FLOORS AND CONDUIT/SLEEVE OPENINGS SHALL BE SEALED WITH MATERIAL CAPABLE OF PREVENTING THE PASSAGE OF FLAMES, HOT GASSES AND SMOKE WHEN SUBJECTED TO THE REQUIREMENTS OF THE TEST STANDARD SPECIFIC FOR ALL APPLICABLE CODES.
7. ALL COMMUNICATIONS CONDUIT, CABLE TRAYS, LADDER RACKS AND EQUIPMENT RACKS SHALL BE BONDED TO BUILDING GROUND SYSTEM PER NEC 250 AND ANSI/TIA-607-B.
8. LABEL ALL CLOSETS, RACKS, FRAMES, CABINETS, TERMINATION BLOCKS, CABLES, TERMINATIONS, RACEWAYS, ETC. IN ACCORDANCE WITH ANSI/TIA-606-B.
9. ALL COMMUNICATIONS RACEWAYS AND PATHWAYS SHALL BE INSTALLED TO MINIMIZE UNNECESSARY CABLE LENGTHS AND MAINTAIN INDUSTRY STANDARD LENGTH LIMITATIONS FOR HORIZONTAL CABLE DISTRIBUTION (E.G. CAT.6A). BASIC LINK CABLE LENGTH SHALL NOT EXCEED 295-FT (90M) FOR UTP CABLE, 200-FT (60M) FOR SERIES-6 COAXIAL CABLE.
10. ALL COMMUNICATIONS CABLE SHALL BE PLENUM RATED (CMP), RISER RATED (CMR) AND UNDERGROUND RATED (WATERBLOCK) ACCORDING TO USE AND ENVIRONMENTAL CONDITIONS.
11. PROVIDE PROTECTIVE BUSHINGS ON ALL COMMUNICATIONS CONDUITS AND WHERE CABLING ROUTES THROUGH METAL STUDS.
12. ALL NON-ARMORED FIBER OPTIC CABLE SHALL BE INSTALLED IN APPROVED INNERDUCT.
13. ALWAYS INSTALL LOW-VOLTAGE CABLES IN CONDUITS, CABLE TRAYS, WIREWAYS OR OTHER APPROVED CABLE MANAGEMENT DEVICES OR SYSTEMS. NEVER INSTALL CABLES IN SUCH A MANNER THAT THEY ARE SUPPORTED BY CEILING SYSTEMS (CEILING TILE OR GRID, GYPSUM BOARD, LATH & PLASTER), HVAC DUCTS OR PIPES, LIGHTING FIXTURES, ELECTRICAL CONDUITS OR CABLES, PLUMBING/FIRE PROTECTION PIPES, OR ANY OTHER DEVICES NOT INTENDED FOR THE SUPPORT OF LOW-VOLTAGE CABLING.
14. PROVIDE WEATHERPROOF, IN-USE COVER FOR EXTERIOR DATA DEVICES.
15. ALL CABLE TRAY MOUNTING HEIGHTS INDICATED ON FLOOR PLANS ARE TO THE BOTTOM OF CABLE TRAY SUPPORTS.
16. SEISMIC BRACING FOR ALL CABLE TRAYS SHALL BE PROVIDED AS REQUIRED BY CODE, LOCAL GOVERNING JURISDICTION AND CABLE TRAY MANUFACTURER SPECIFICATIONS.
17. ALL CABLE TRAY ROUTING THROUGH ELECTRICAL ROOMS SHALL BE FULLY ENCLOSED. REFER TO CABLE TRAY DETAILS AND SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
18. REUSABLE VELCRO TIES SHALL BE USED TO BUNDLE OR MANAGE CABLES. PLASTIC ZIP TIES ARE NOT APPROVED FOR USE.
19. SIZE AND ORIENTATION OF ALL TELECOM PULL-BOXES SHALL MEET OR EXCEED THE PER THE SPECIFIED REQUIREMENTS.
20. PROVIDE PROTECTIVE BUSHINGS WHERE CABLING ROUTES THROUGH METAL STUDS.
21. ALL LOW-VOLTAGE CONDUIT LARGER THAN 2" SHALL HAVE A MINIMUM BEND RADIUS OF 10:1 OF THE INSIDE DIAMETER FOR ALL ELBOWS. ALL LOW-VOLTAGE CONDUIT 2" AND SMALLER SHALL HAVE A MINIMUM BEND RADIUS OF 6:1 OF THE INSIDE DIAMETER FOR ALL ELBOWS.
22. ALL CONDUITS SHALL BE INSTALLED WITH PULL-STRINGS.
23. TELECOMMUNICATIONS OUTLETS SHALL CONSIST OF A SSQ. RANDL TELECOMMUNICATIONS BACKBOX AND A 1-1/4" CONDUIT STUBBED TO THE ACCESSIBLE CEILING SPACE. THIS SHALL BE THE STANDARD PROVISIONING FOR ALL OUTLETS WITH 1-4 CABLES. FOR LOCATIONS THAT REQUIRE MORE THAN 4 CABLES, ADDITIONAL OUTLET BACKBOXES WILL BE PROVISIONED.

TECHNOLOGY BUILDING 1 DRAWING LIST

SHEET NUMBER	SHEET NAME	50% DD - 07/05/2017	100% DD - 08/25/2017
1-T0.01	TECHNOLOGY LEGEND, ABBREVIATIONS AND DRAWING LIST	X	X
1-T2.01	TECHNOLOGY FS#6/CLASSROOM FIRST FLOOR PLAN	X	X
1-T2.02	TECHNOLOGY FS#6/CLASSROOM SECOND FLOOR PLAN	X	X
1-T2.03	TECHNOLOGY FS#6/CLASSROOM ROOF PLAN	X	X
1-T4.01	TECHNOLOGY ENLARGED BDF PLAN		
1-T4.02	TECHNOLOGY ENLARGED IDF PLAN		
1-T5.01	TECHNOLOGY FUNCTIONAL DIAGRAMS		
1-T7.01	TECHNOLOGY DETAILS		
1-T7.02	TECHNOLOGY DETAILS		
1-T7.03	TECHNOLOGY DETAILS		
1-T7.04	TECHNOLOGY DETAILS		
1-T7.05	TECHNOLOGY DETAILS		
1-T7.06	SECURITY DETAILS		
1-T7.07	SECURITY DETAILS		

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

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San Francisco, CA 94105
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1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	INC 01_ADD_01_V1	12/06/2019

REGISTERED PROFESSIONAL ENGINEER
AMANDA J. BROWNLEE
No. E17287
ELECTRICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

TECHNOLOGY LEGEND, ABBREVIATIONS AND DRAWING LIST

Drawn By: Author
Checked By: Checker

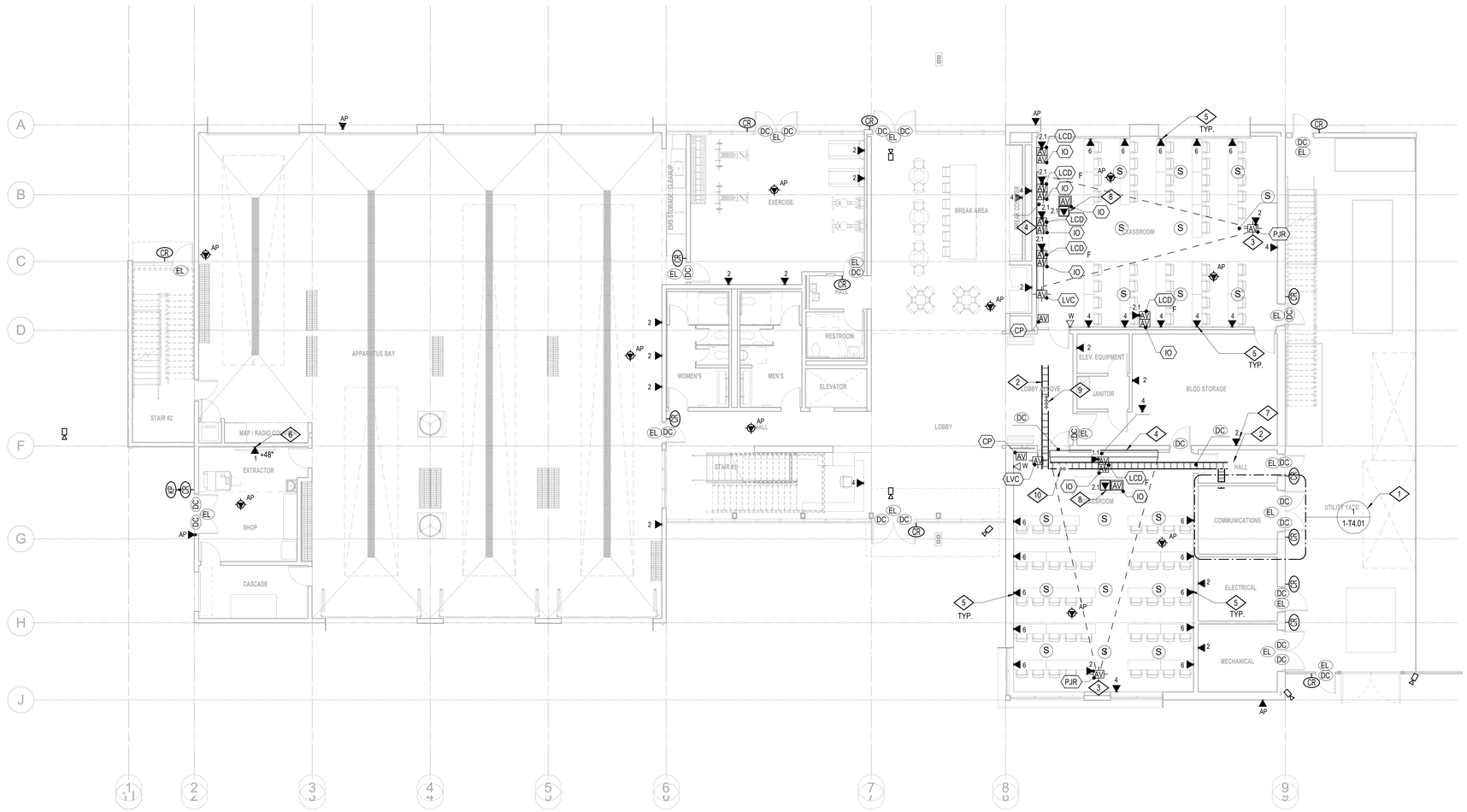
Scale:
12" = 1'-0"

Date:
October 4, 2019

Project No. B17.07369

1-T0.01
Drawing No.

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1 01-TECHNOLOGY - CLASS ROOM-FIRST FLOOR
1/8" = 1'-0"

NUMBERED NOTES:

1. MPOE/ MDF/ IDF ROOM
2. 18"W X 4"H CEILING MOUNTED CABLE TRAY SYSTEM SEE DETAIL E2.10 ON SHEET 1-T7.04
3. OVERHEAD PROJECTOR
4. MOTORIZED PROJECTION SCREEN
5. 5"SQ RECESSED MOUNTED TELELCOMMUNICATIONS BACKBOX WITH (1) 1-1/4"C TO 6" ABOVE ACCESSIBLE CEILING
6. DATA FOR ENVIRONMENTAL MONITORING
7. DATA FOR PV MONITORING UNIT
8. PROVIDE 2"C TO LCD WALL BOX FOR CLASSROOM FLOORBOX
9. (4) 4" CONDUIT STUBS FROM THE BDF
10. (2) 4" CONDUIT TO FLOOR ABOVE

SHEET NOTES:

A. PROVIDE 2"C FOR ALL WALL MOUNTED DATA OUTLET BACK BOXES TO 6" ABOVE CEILING UON

B. FOR SEISMIC MOUNTING DETAILS OF AV EQUIPMMENT SEE 1-T7.05

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION	
DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

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No.	Description	Date
1	INC 01_ADD_01_V1	12/06/2019

REGISTERED PROFESSIONAL ENGINEER
AMANDA J. BROWNLEE
No. E17287
ELECTRICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

TECHNOLOGY FS#6/CLASSROOM FIRST FLOOR PLAN

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Checked By: Checker

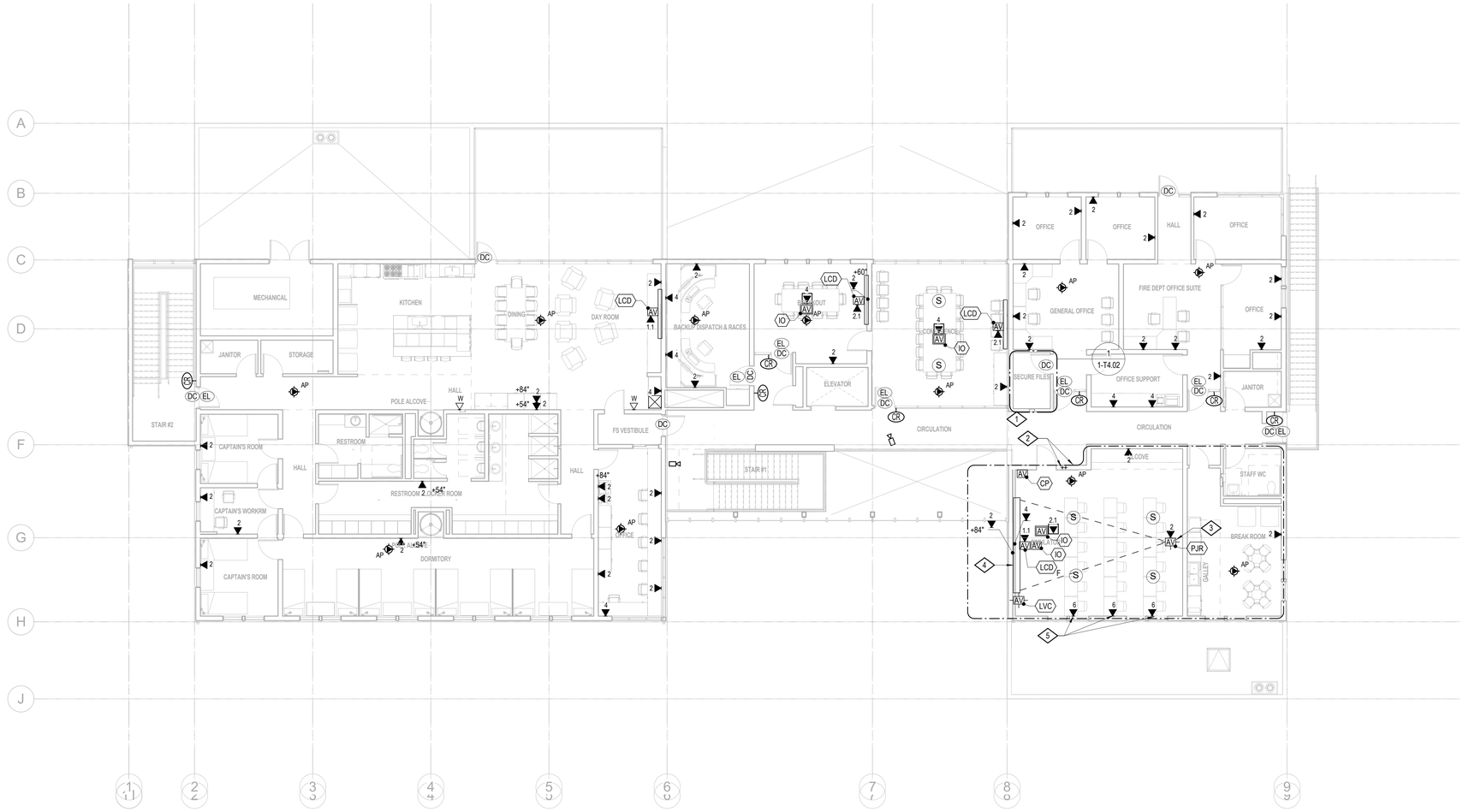
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Date: October 4, 2019

Project No. B17.07369

1-T2.01
Drawing No.

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1 01- TECHNOLOGY - CLASS ROOM-SECOND FLOOR
1/8" = 1'-0"

NUMBERED NOTES:

1. IDF ROOM
2. (2) 4" CONDUITS FROM FLOOR BELOW. ROUTE ALL CABLING IN THIS AREA TO THESE CONDUITS BACK TO THE IDF ON THIS FLOOR.
3. OVERHEAD PROJECTOR
4. MOTORIZED PROJECTION SCREEN
5. RECESSED MOUNTED BACKBOX WITH (1) 1"C TO 6" ABOVE ACCESSIBLE CEILING

SHEET NOTES:

A. PROVIDE 1"C FOR ALL WALL MOUNTED DATA OUTLET BACK BOXES TO 6" ABOVE CEILING TERMINATION IN BUSHING WITH GROUNDING LUG UON

B. PROVIDE 2"C FOR ALL FLOORBOXES TO THE NEAREST WALL TO POKE THROUGH AND ROUTE CABLES BACK TO THE SECOND FLOOR CEILING SPACE FOR TERMINATION IN THE SECOND FLOOR IDF

C. FOR SEISMIC MOUNTING DETAILS OF AV EQUIPMMENT SEE 1-T7.05

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ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

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HEART OF THE BAY

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APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
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No.	Description	Date
1	INC 01_ADD_01_V1	12/06/2019

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AMANDA J. BROWNLEE
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Sheet Title

TECHNOLOGY FS#6/CLASSROOM SECOND FLOOR PLAN

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Scale: 1/8" = 1'-0"

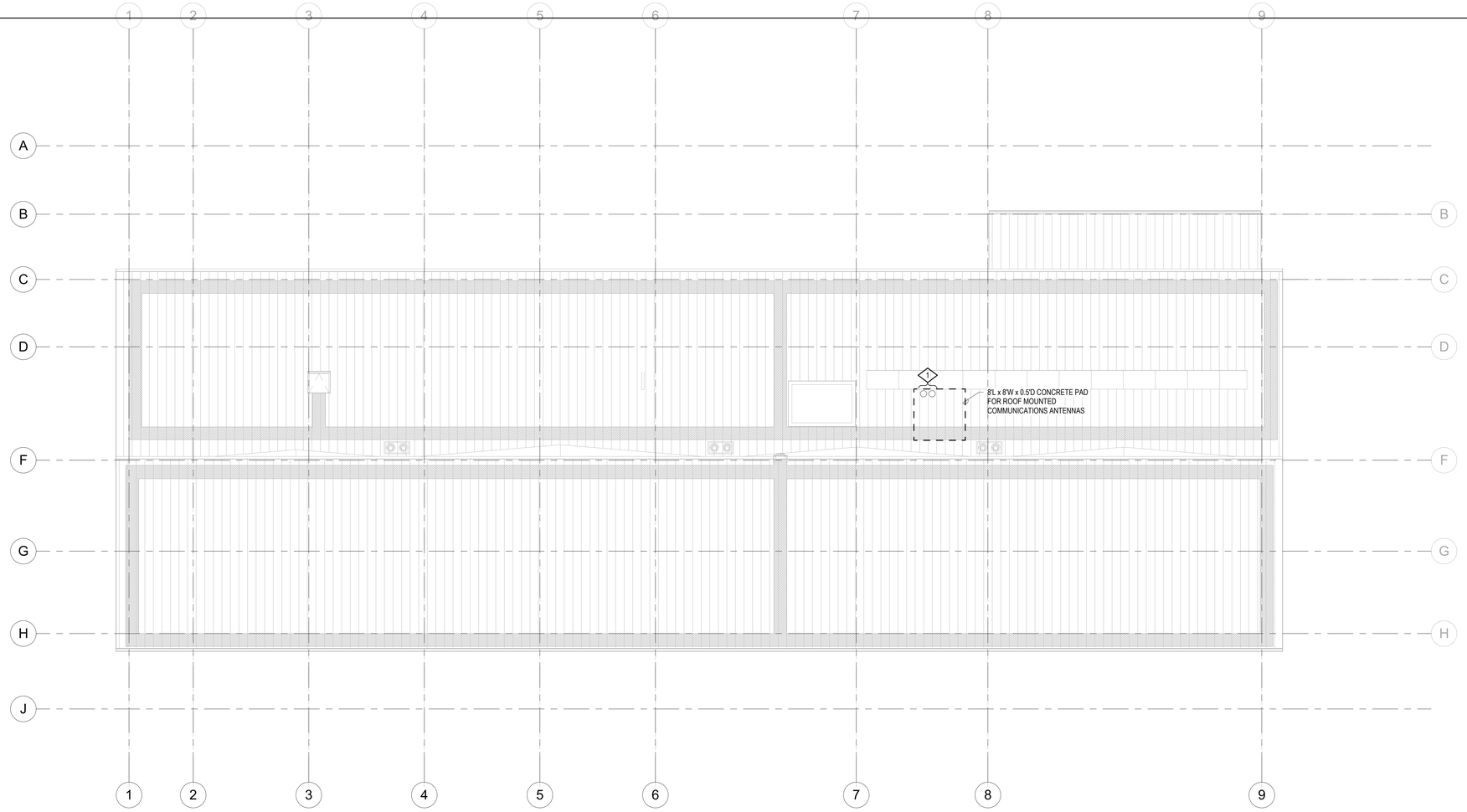
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1-T2.02

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1 01- TECHNOLOGY - CLASS ROOM-TOP PLATE
1/8" = 1'-0"

NUMBERED NOTES:

1. PROVIDE (2) 3"C FROM 2ND FLOOR IDF ROOM AND TERMINATE AT 6" ABOVE CONCRETE PAD.

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

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ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: **KATHY GARCIA** DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
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HAYWARD, CA 94545

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REGISTERED PROFESSIONAL ENGINEER
AMANDA J. BROMLEY
No. E17287
ELECTRICAL
STATE OF CALIFORNIA

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Sheet Title

TECHNOLOGY FS#6/CLASSROOM ROOF PLAN

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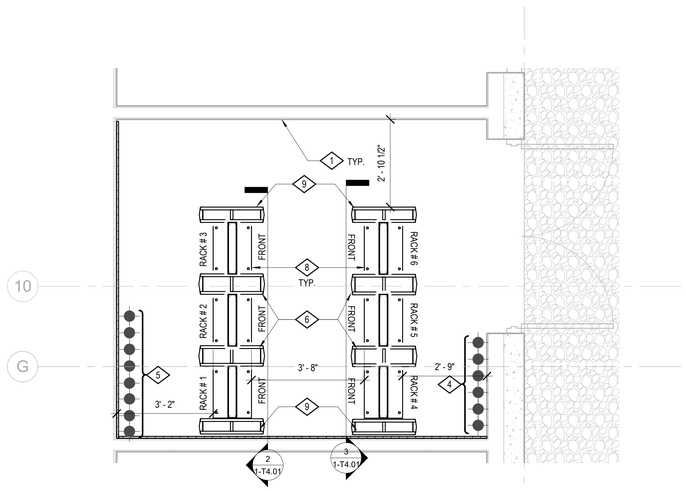
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1/8" = 1'-0"

Date:
October 4, 2019

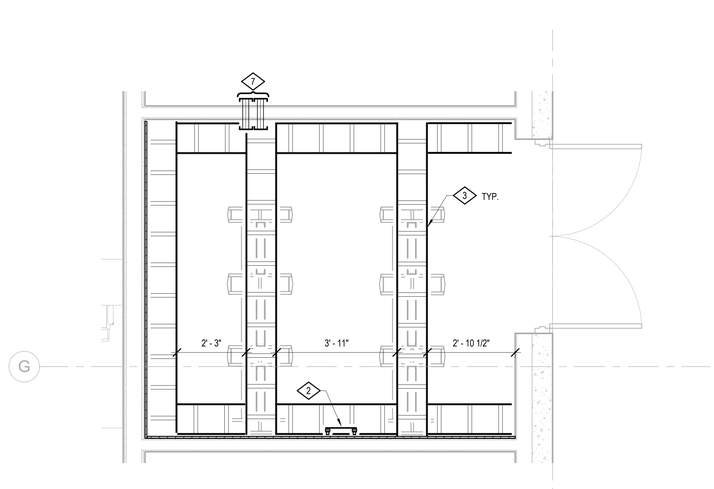
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1-T2.03
Drawing No.

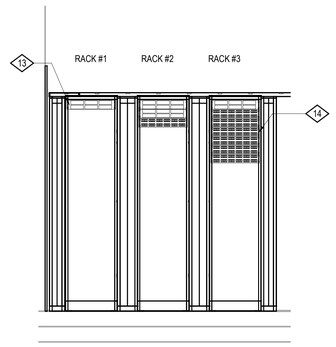
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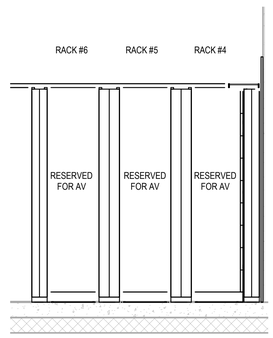
1 ENLARGED FLOOR PLAN - MPOE/MDF/IDF ROOM
1/2" = 1'-0"



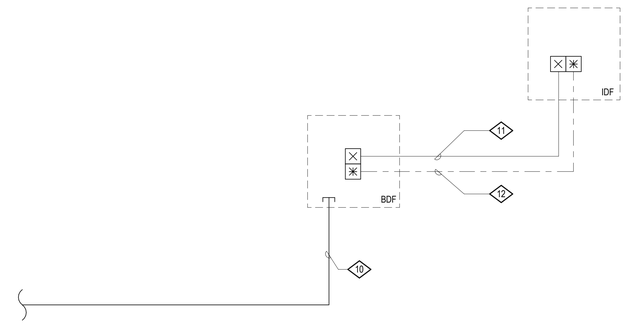
4 ENLARGED RCP - MPOE/MDF/IDF ROOM
1/2" = 1'-0"



2 BDF RACK #1-3 ELEVATIONS
1/2" = 1'-0"



3 BDF RACK #4-6 ELEVATIONS
1/2" = 1'-0"



5 FST#6 RISER DIAGRAM
NTS

DETAILS ON THIS SHEET ARE GENERIC. PLEASE REFER TO OPM DETAILS FOR HANGAR AND ANCHOR INFORMATION FOR ALL SUPPORTS AND CONNECTION INFORMATION NOT INDICATED

NUMBERED NOTES:

1. MOUNTALL ENCLOSURES, EQUIPMENT, TERMINATION BOARDS AND SPLITTERS ON WALLS WITH DETAIL 1 ON SHEET 1-T7.05
2. PROVIDE 12"L x 4"W x 1/4"THICK PRE-DRILLED COPPER GROUND BUSBAR AND MOUNT ON STAND OFF AT 7'-6" AFF
3. PROVIDE 18"W LADDER RUNWAY AND MOUNT AT 7'-0" AFF AS SHOWN
4. OSP RACEWAYS STUB UP THROUGH FLOOR SLAB TO 3" AFF FOR PRIVATE CAMPUS DISTRIBUTION AND ACCESS PROVIDERS SECONDARY ROUTE
5. OSP RACEWAY FOR AT&T SERVICE ENTRY RACEWAY (PRIMARY) THROUGH FLOOR SLABE TO 3" AFF
6. PROVIDE 8"W DOUBLE SIDED VERTICAL WIRE MANAGER
7. PROVIDE (6) 4"C SLEEVES THROUGH PARTITION WALL W/ LEGRAND WIREMOLD FLAMESTOPPER THRU-WALL FS4R, HILTI CP 653 BA, STI EZ-PATH SERIES 44+ OR EQUAL AND EXTEND TO THE CABLE TRAY SYSTEM
8. PROVIDE 19"W FLOOR MOUNTED OPEN BAY RACKS
9. PROVIDE 6"W DOUBLE SIDED VERTICAL WIRE MANAGER
10. INCOMING (6) 4"C
11. 48 SINGLEMODE OPTICAL FIBER FROM THE BDF TO THE IDF
12. 25-PAIR CAT.5E COPPER CABLING FROM THE BDF TO THE IDF
13. 2RU FIBER PANEL
14. 48-PORT PATCH PANEL

SHEET NOTES:

A. FOR THE PURPOSES OF STRUCTURAL CALCULATIONS, ASSUME A STATIC LOAD OF 1,500LBS FOR EACH EQUIPMENT CABINET OR RACK IN THE TECHONOLOGY ROOMS

B. CONTRACTOR WILL STAGE THE RACKS FOR OWNER INSPECTION. OWNER WILL APPROVE RACK PLACEMENT BEFORE FINAL INSTALLATION OF RACKING AND CABLE RUNWAY

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ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION	
DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

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San Francisco, CA 94105
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1401 W. WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	INC 01_ADD_01_V1	12/06/2019

REGISTERED PROFESSIONAL ENGINEER
J M BROWNREE
No. M39285
ELECTRICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

TECHNOLOGY ENLARGED BDF PLAN

Drawn By: Author
Checked By: Checker

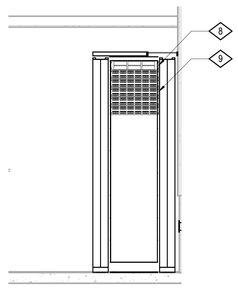
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Date:
October 4, 2019

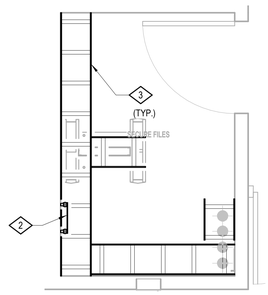
Project No. B17.07369

1-T4.01
Drawing No.

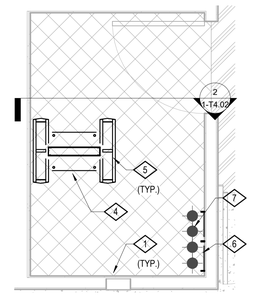
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2 LEVEL 2 IDF RACK ELEVATION
1/2" = 1'-0"



3 01- TECHNOLOGY - LEVEL 2 IDF CABLE RUNWAY PLAN
1/2" = 1'-0"



1 01- TECHNOLOGY - LEVEL 2 IDF FLOOR PLAN
1/2" = 1'-0"

NUMBERED NOTES:

1. MOUNTALL ENCLOSURES, EQUIPMENT, TERMINATION BOARDS AND SPLITTERS ON WALLS WITH DETAIL 1 ON SHEET 1-T7.05
2. PROVIDE 12"L x 4"W x 1/4"THICK PRE-DRILLED COPPER GROUND BUSBAR AND MOUNT ON STAND OFF AT 7'-6" AFF
3. PROVIDE 18"W LADDER RUNWAY AND MOUNT AT 7'-0" AFF AS SHOWN
4. PROVIDE 19"W FLOOR MOUNTED OPEN BAY RACKS
5. PROVIDE 6"W DOUBLE SIDED VERTICAL WIRE MANAGER
6. PROVIDE 24"W VERTICAL LADDER RUNWAY FROM GROUND TO THE HORIZONTAL LADDER RUNWAY
7. PROVIDE (4) 4" CONDUIT STUBS FROM LEVEL 1 CABLE TRAY. DEDICATE (3) CONDUITS FOR CABLING FROM THE BDF. DEDICATE (1) CONDUIT FOR CABLING TO SOUTH SECTION. SEE NUMBERED NOTE 2 ON 2-T2.01
8. 2RU FIBER PANEL
9. 48-PORT PATCH PANEL

SHEET NOTES:

A. FOR THE PURPOSES OF STRUCTURAL CALCULATIONS, ASSUME A STATIC LOAD OF 1,500LBS FOR EACH EQUIPMENT CABINET OR RACK IN THE TECHONOLOGY ROOMS

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ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY:	
KATHY GARCIA DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

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REVISIONS

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REGISTERED PROFESSIONAL ENGINEER
J M BROWNREE
No. M39285
ELECTRICAL
STATE OF CALIFORNIA

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TECHNOLOGY ENLARGED IDF PLAN

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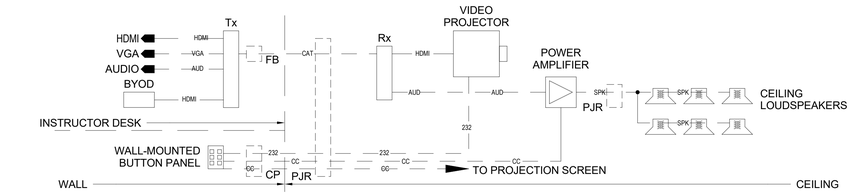
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Date:
October 4, 2019

Project No. B17.07369

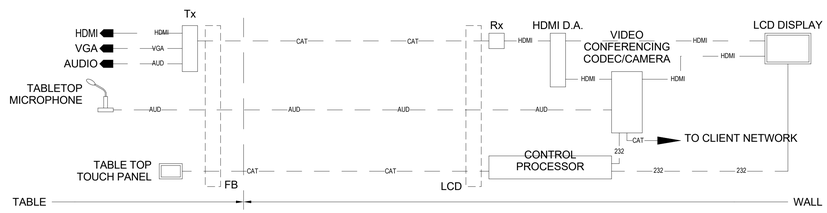
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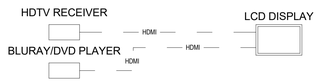
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NONE



2 AUDIOVISUAL FUNCTIONAL DIAGRAM - CONFERENCE ROOMS

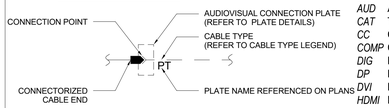
NONE



3 AUDIOVISUAL FUNCTIONAL DIAGRAM - CONFERENCE ROOMS

NONE

CABLE, CONNECTOR, AND PLATE TERMINATION LEGEND:



CABLE TYPE LEGEND:

232	SERIAL CONTROL (RS232, RS422, RS485)
AUD	AUDIO (LINE & MIC LEVELS)
CAT	TWISTED-PAIR
CC	CONTACT CLOSURE OR RELAY
COMP	COMPONENT VIDEO
DIG	DIGITAL AUDIO
DP	DISPLAY PORT
DVI	DVI-D OR DVI-I
HDMI	HDMI
IR	INFRARED
MMF	MULTI-MODE FIBER
RF	RADIO FREQUENCY
SDI	SDI, HD-SDI, 4G-SDI
SMF	SINGLE-MODE FIBER
SPK	LOUDSPEAKER AUDIO
SYNC	VIDEO SYNC SIGNAL
USB	USB
VGA	RGBHV / VGA
VID	COMPOSITE VIDEO

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
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ENGINEERING DIVISION

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DRAWN BY:	APPROVAL REC'D:
APPROVED BY:	
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REGISTERED PROFESSIONAL ENGINEER
AMANDA J. BROWN, CE
No. E17287
ELECTRICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

TECHNOLOGY FUNCTIONAL DIAGRAMS

Drawn By: Author Checked By: Checker

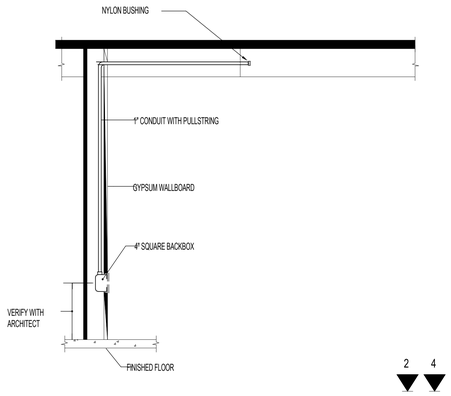
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Date:
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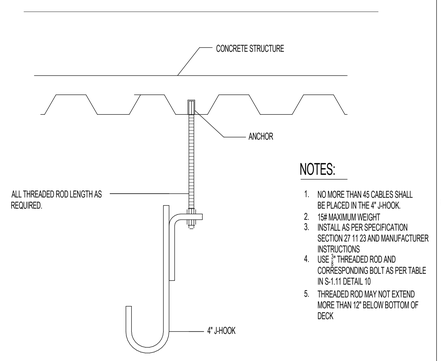
Project No. B17.07369

1-T5.01
Drawing No.

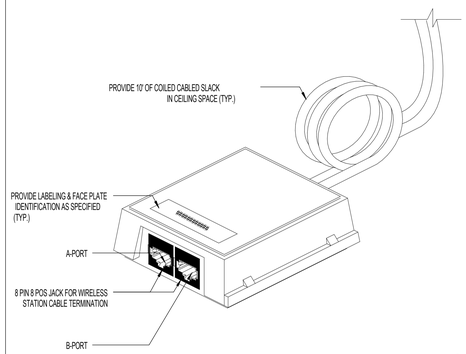
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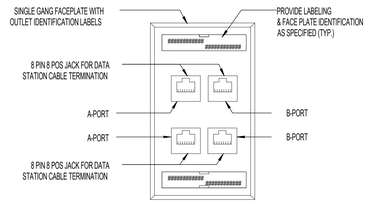
9 WALL MOUNTED SYSTEMS OUTLET — NO SCALE



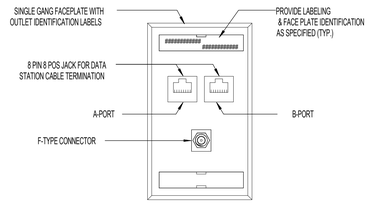
7 J-HOOK MOUNTED CEILING DETAIL — NO SCALE



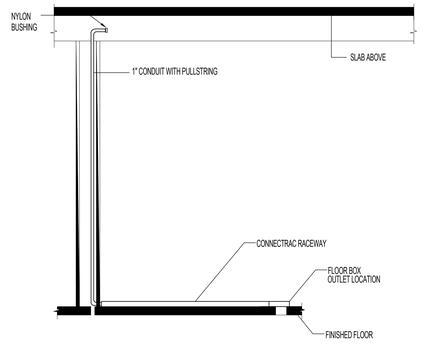
4 2-PORT CEILING OUTLET — (2) DATA — NO SCALE



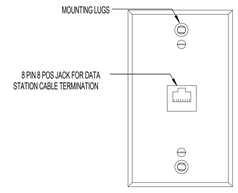
1 WALL MOUNTED OUTLET — (4) DATA — NO SCALE



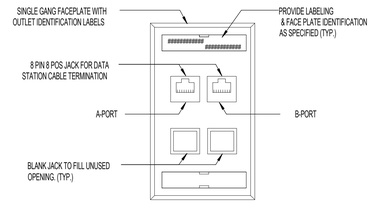
10 WALL MOUNTED OUTLET — (2) DATA (1) CO-AXIAL — NO SCALE



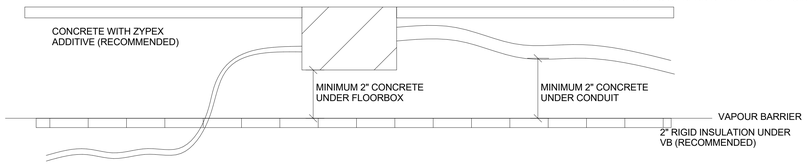
8 TELECOMMUNICATIONS SYSTEM OUTLET — CONNECTRAC — NO SCALE



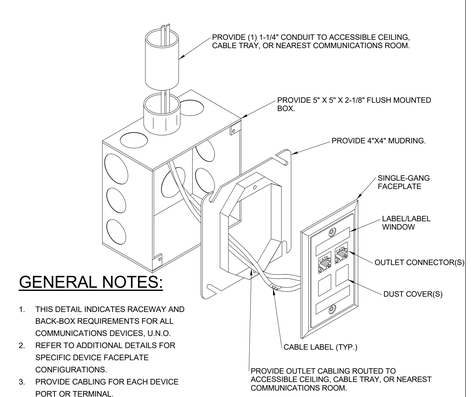
5 UTILITY ROOM WALLPHONE — (1) VOICE — NO SCALE



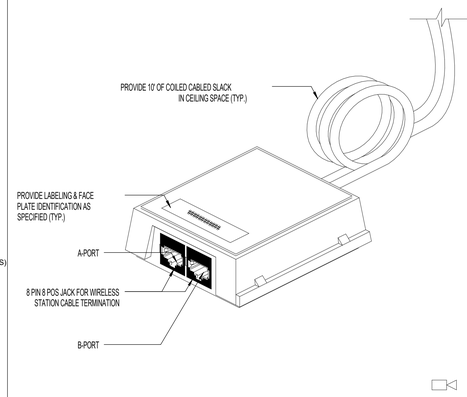
2 WALL MOUNTED OUTLET — (2) DATA — NO SCALE



11 FLOORBOX DETAIL — NO SCALE



6 TYPICAL COMMUNICATIONS OUTLET ROUGH-IN DETAIL — NO SCALE



3 2-PORT SURFACE MOUNTED CAMERA OUTLET — (2) DATA — NO SCALE

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TEL 707 996 8448
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CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION	
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DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
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REVISIONS

No.	Description	Date
1	INC 01_ADD_01_V1	12/06/2019

REGISTERED PROFESSIONAL ENGINEER — J M BRADSHAW — No. E31026 — ELECTRICAL — STATE OF CALIFORNIA

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Sheet Title

TECHNOLOGY DETAILS

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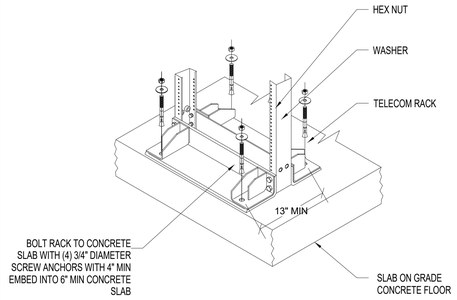
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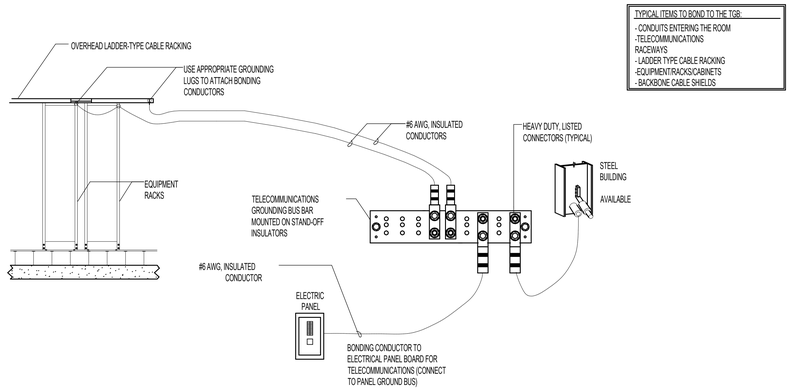
Project No. B17.07369

1-T7.01
Drawing No.

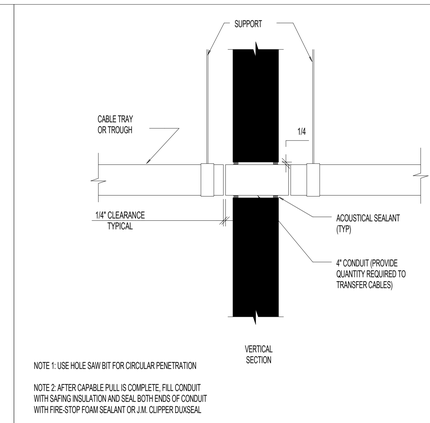
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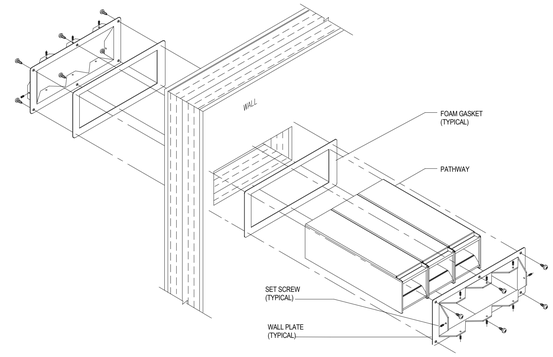
6 CONCRETE RACK MOUNTED — NO SCALE



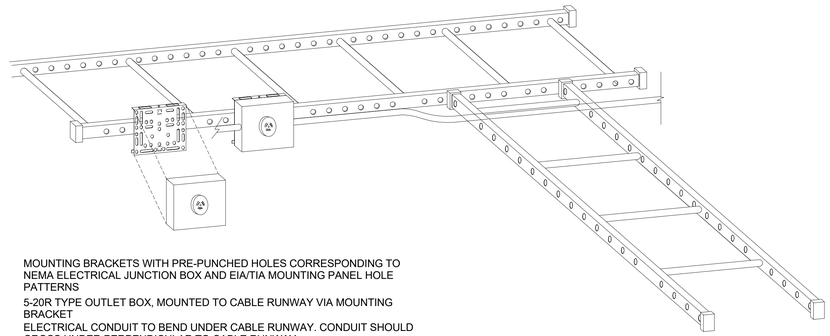
3 TELECOMMUNICATIONS GROUNDING DETAIL — NO SCALE



1 TYPICAL CABLE TRAY AND CONDUIT SLEEVES PENETRATION AT SOUND-RATED CONSTRUCTION — NO SCALE



4 RACEWAY WALL PENTRATION DETAIL — NO SCALE

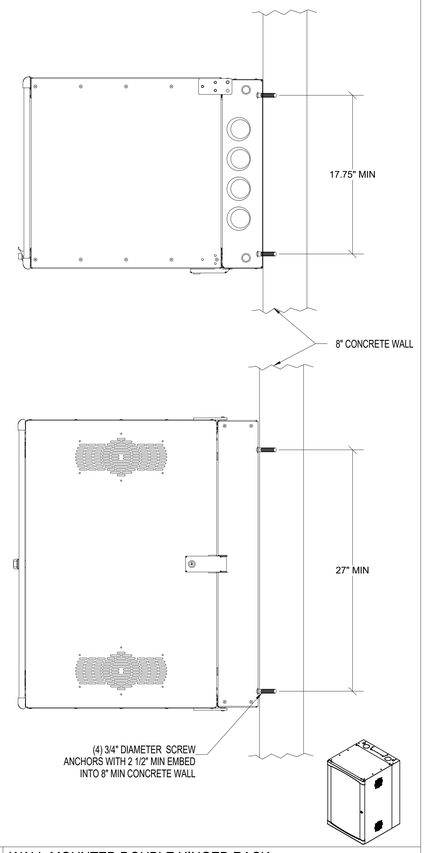


MOUNTING BRACKETS WITH PRE-PUNCHED HOLES CORRESPONDING TO NEMA ELECTRICAL JUNCTION BOX AND EIA/TIA MOUNTING PANEL HOLE PATTERNS

5-20R TYPE OUTLET BOX, MOUNTED TO CABLE RUNWAY VIA MOUNTING BRACKET

ELECTRICAL CONDUIT TO BEND UNDER CABLE RUNWAY. CONDUIT SHOULD CROSS UNDER PERPENDICULAR TO CABLE RUNWAY

5 ELECTRICAL BACKBOX MOUNTING TO CABLE RUNWAY DETAIL — NO SCALE



2 WALL-MOUNTED DOUBLE HINGED RACK
24" W x 30"D x 24"H CUBE-iT — NO SCALE

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ARCHITECTURE
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1	INC 01_ADD_01_V1	12/06/2019

REGISTERED PROFESSIONAL ENGINEER — J M BROWNEE — No. E19226 — MECHANICAL — STATE OF CALIFORNIA

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Sheet Title

TECHNOLOGY DETAILS

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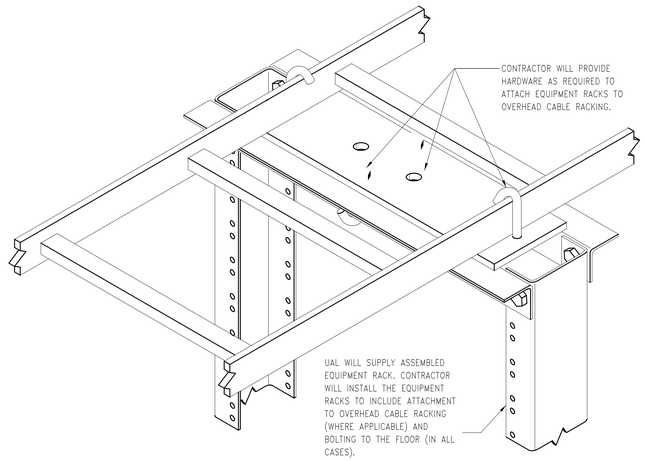
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Date: **October 4, 2019**

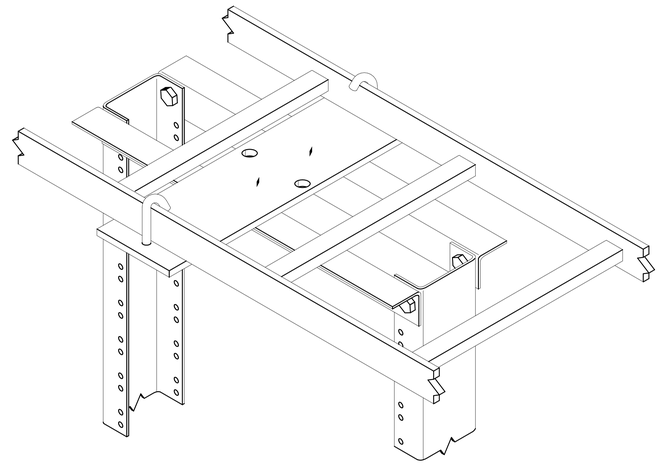
Project No. B17.07369

1-T7.02
Drawing No.

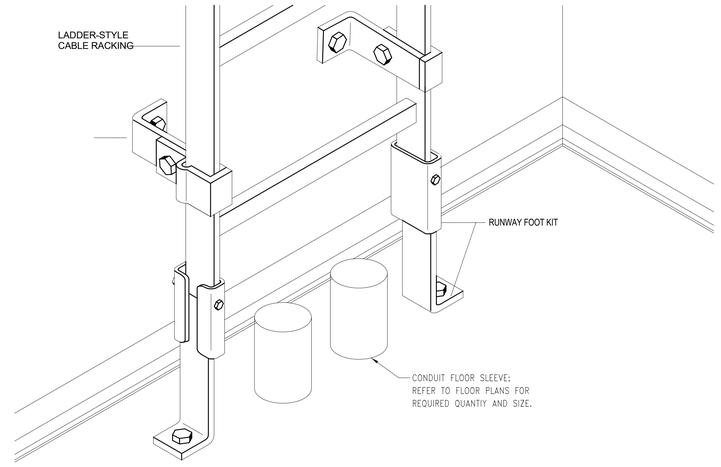
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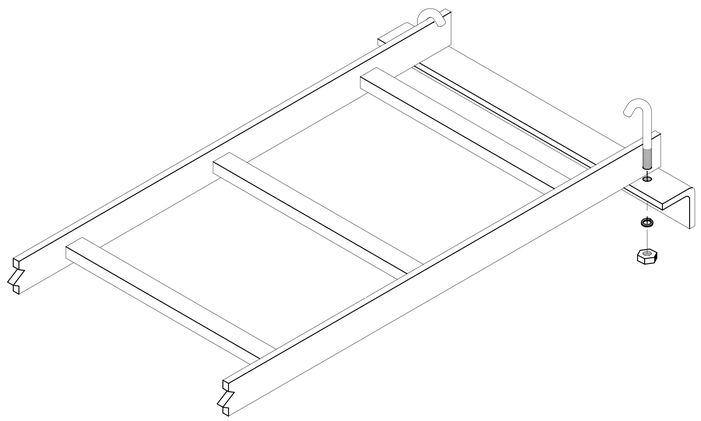
7 'J' BOLT ANCHOR TO RACK
-- NO SCALE



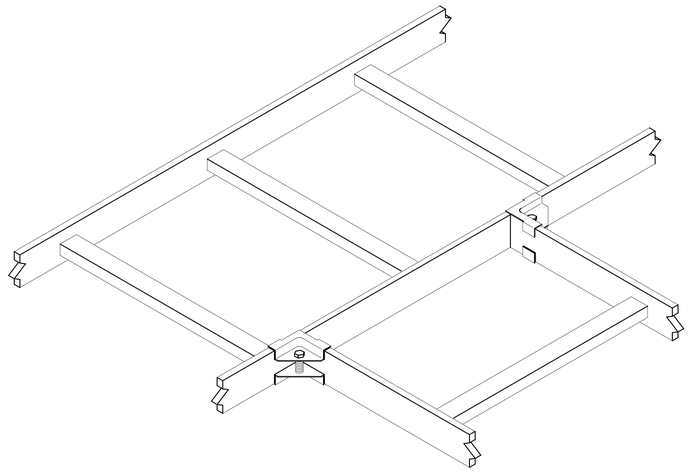
4 'J' BOLT ANCHOR TO RACK
NO SCALE



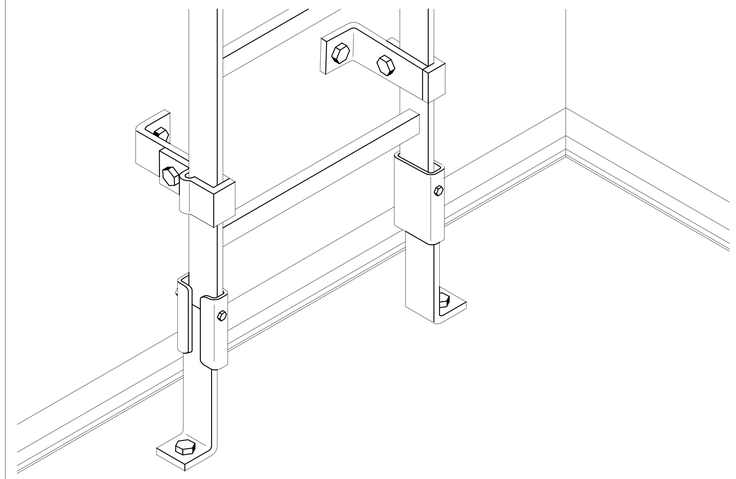
1 VERTICAL LADDER WITH CONDUIT STUB-UP
NO SCALE



8 TELECOMMUNICATIONS CABLE TRAY
'J' BOLT ANCHOR TO WALL NO SCALE

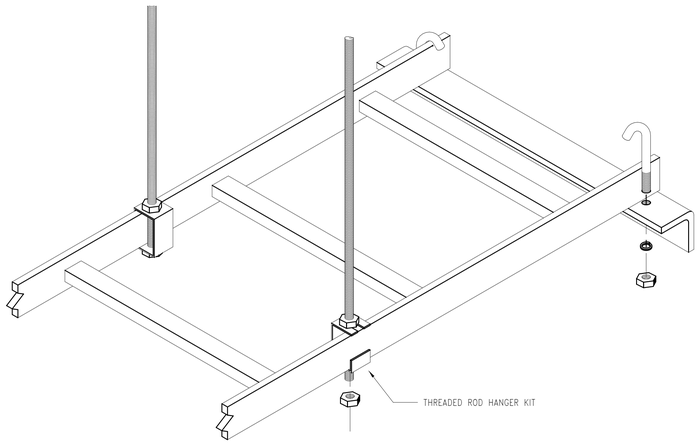


5 TELECOMMUNICATIONS CABLE TRAY
TEE INTERSECTION CORNER CLAMP BRAKET NO SCALE

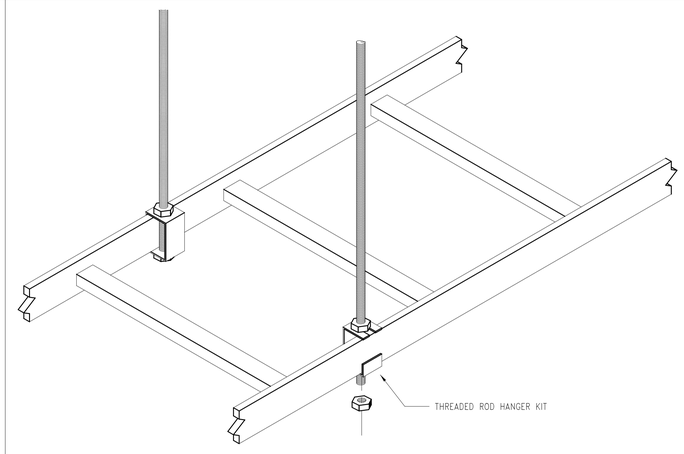


2 VERTICAL LADDER, CEILING AND FLOOR
STAND-OFF KIT NO SCALE

DETAILS ON THIS SHEET ARE GENERIC, PLEASE REFER TO OPM DETAILS FOR HANGER AND ANCHOR INFORMATION FOR ALL SUPPORTS AND CONNECTION INFORMATION NOT INDICATED



6 'J' BOLT ANCHOR TO WALL
SLOTTED HANGER NO SCALE



3 TELECOMMUNICATIONS CABLE TRAY
SLOTTED HANGER NO SCALE

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER
AMISHA J. BRONKLEE
No. E17287
ELECTRICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

TECHNOLOGY DETAILS

Drawn By: Author
Checked By: Checker

Scale:
NTS

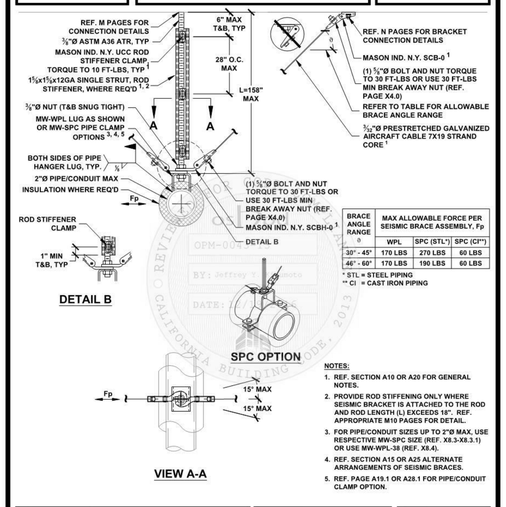
Date:
October 4, 2019

Project No. B17.07369

1-T7.03
Drawing No.

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HANGER ROD DIAMETER = ⅜"	PIPING/CONDUIT TRANSVERSE SEISMIC CABLE BRACING SYSTEM 2"Ø PIPE/CONDUIT MAX	KIT OPTIONS C0T



BRACE ANGLE RANGE ◊	MAX ALLOWABLE FORCE PER SEISMIC BRACE ASSEMBLY, Fp		
	WPL	SPC (STL*)	SPC (CI**)
30° - 45°	170 LBS	270 LBS	60 LBS
46° - 60°	170 LBS	190 LBS	60 LBS

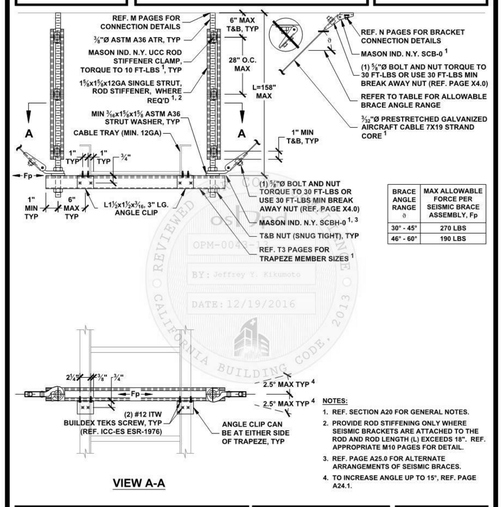
* STL = STEEL PIPING
** CI = CAST IRON PIPING

DETAIL B

VIEW A-A

NOTES:
1. REF. SECTION A10 OR A20 FOR GENERAL NOTES.
2. PROVIDE ROD STIFFENING ONLY WHERE SEISMIC BRACKET IS ATTACHED TO THE ROD AND ROD LENGTH (L) EXCEEDS 18". REF. APPROPRIATE M10 PAGES FOR DETAIL.
3. FOR PIPE/CONDUIT SIZES UP TO 2"Ø MAX. USE RESPECTIVE MW-SPC SIZE (REF. X8.3-X8.3.1) OR USE MW-WPL-38 (REF. X8.4).
4. REF. SECTION A15 OR A25 FOR ALTERNATE ARRANGEMENTS OF SEISMIC BRACES.
5. REF. PAGE A19.1 OR A28.1 FOR PIPE/CONDUIT CLAMP OPTION.

HANGER ROD DIAMETER = ⅜"	CABLE TRAY TRANSVERSE TRAPEZE SEISMIC CABLE BRACING SYSTEM 20 PLF MAX	KIT OPTIONS TC0T

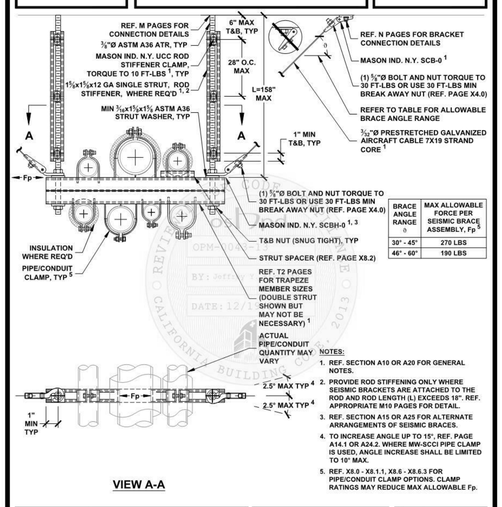


BRACE ANGLE RANGE ◊	MAX ALLOWABLE FORCE PER SEISMIC BRACE ASSEMBLY, Fp
30° - 45°	270 LBS
46° - 60°	190 LBS

VIEW A-A

NOTES:
1. REF. SECTION A20 FOR GENERAL NOTES.
2. PROVIDE ROD STIFFENING ONLY WHERE SEISMIC BRACKETS ARE ATTACHED TO THE ROD AND ROD LENGTH (L) EXCEEDS 18". REF. APPROPRIATE M10 PAGES FOR DETAIL.
3. REF. PAGE A25.0 FOR ALTERNATE ARRANGEMENTS OF SEISMIC BRACES.
4. TO INCREASE ANGLE UP TO 15°, REF. PAGE A24.1.

HANGER ROD DIAMETER = ⅜"	PIPING/CONDUIT TRANSVERSE TRAPEZE SEISMIC CABLE BRACING SYSTEM 30 PLF MAX	KIT OPTIONS TC0T

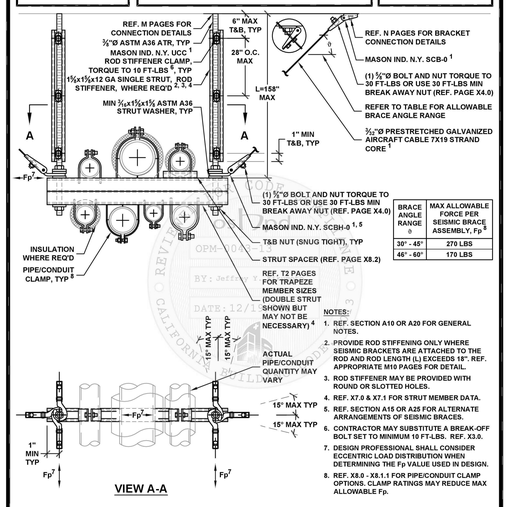


BRACE ANGLE RANGE ◊	MAX ALLOWABLE FORCE PER SEISMIC BRACE ASSEMBLY, Fp [5]
30° - 45°	270 LBS
46° - 60°	190 LBS

VIEW A-A

NOTES:
1. REF. SECTION A10 OR A20 FOR GENERAL NOTES.
2. PROVIDE ROD STIFFENING ONLY WHERE SEISMIC BRACKETS ARE ATTACHED TO THE ROD AND ROD LENGTH (L) EXCEEDS 18". REF. APPROPRIATE M10 PAGES FOR DETAIL.
3. REF. SECTION A15 OR A25 FOR ALTERNATE ARRANGEMENTS OF SEISMIC BRACES.
4. TO INCREASE ANGLE UP TO 15°, REF. PAGE A14.1 OR A24.2. WHERE MW-SCCI PIPE CLAMP IS USED, ANGLE INCREASE SHALL BE LIMITED TO 15° MAX.
5. REF. X8.0 - X8.1.1, X8.6 - X8.6.3 FOR PIPE/CONDUIT CLAMP OPTIONS. CLAMP RATINGS MAY REDUCE MAX ALLOWABLE Fp.

HANGER ROD DIAMETER = ⅜"	PIPING/CONDUIT ALL-DIRECTIONAL TRAPEZE SEISMIC CABLE BRACING SYSTEM 30 PLF MAX	KIT OPTIONS TC0A

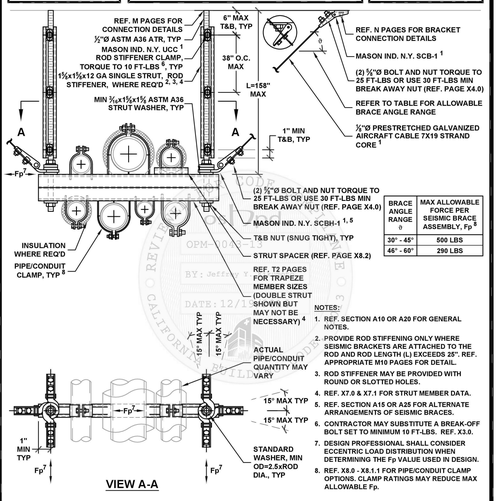


BRACE ANGLE RANGE ◊	MAX ALLOWABLE FORCE PER SEISMIC BRACE ASSEMBLY, Fp [5]
30° - 45°	270 LBS
46° - 60°	170 LBS

VIEW A-A

NOTES:
1. REF. SECTION A10 OR A20 FOR GENERAL NOTES.
2. PROVIDE ROD STIFFENING ONLY WHERE SEISMIC BRACKETS ARE ATTACHED TO THE ROD AND ROD LENGTH (L) EXCEEDS 18". REF. APPROPRIATE M10 PAGES FOR DETAIL.
3. ROD STIFFENER MAY BE PROVIDED WITH ROUND OR SLOTTED HOLES.
4. REF. X7.0 & X7.1 FOR STRUT MEMBER DATA.
5. REF. SECTION A15 OR A25 FOR ALTERNATE ARRANGEMENTS OF SEISMIC BRACES.
6. CONTRACTOR MAY SUBSTITUTE A BREAK-OFF BOLT SET TO MINIMUM 10 FT-LBS. REF. X3.0.
7. DESIGN PROFESSIONAL SHALL CONSIDER ECCENTRIC LOAD DISTRIBUTION WHEN DETERMINING THE Fp VALUE USED IN DESIGN.
8. REF. X8.0 - X8.1.1 FOR PIPE/CONDUIT CLAMP OPTIONS. CLAMP RATINGS MAY REDUCE MAX ALLOWABLE Fp.

HANGER ROD DIAMETER = ½"	PIPING/CONDUIT ALL-DIRECTIONAL TRAPEZE SEISMIC CABLE BRACING SYSTEM 60 PLF MAX	KIT OPTIONS TC1A

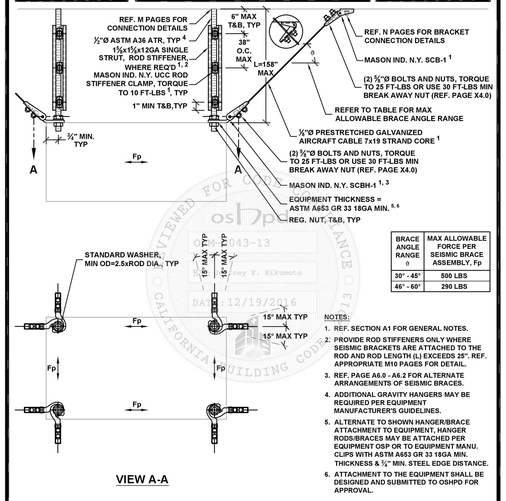


BRACE ANGLE RANGE ◊	MAX ALLOWABLE FORCE PER SEISMIC BRACE ASSEMBLY, Fp [5]
30° - 45°	500 LBS
46° - 60°	290 LBS

VIEW A-A

NOTES:
1. REF. SECTION A10 OR A20 FOR GENERAL NOTES.
2. PROVIDE ROD STIFFENING ONLY WHERE SEISMIC BRACKETS ARE ATTACHED TO THE ROD AND ROD LENGTH (L) EXCEEDS 18". REF. APPROPRIATE M10 PAGES FOR DETAIL.
3. ROD STIFFENER MAY BE PROVIDED WITH ROUND OR SLOTTED HOLES.
4. REF. X7.0 & X7.1 FOR STRUT MEMBER DATA.
5. REF. SECTION A15 OR A25 FOR ALTERNATE ARRANGEMENTS OF SEISMIC BRACES.
6. CONTRACTOR MAY SUBSTITUTE A BREAK-OFF BOLT SET TO MINIMUM 10 FT-LBS. REF. X3.0.
7. DESIGN PROFESSIONAL SHALL CONSIDER ECCENTRIC LOAD DISTRIBUTION WHEN DETERMINING THE Fp VALUE USED IN DESIGN.
8. REF. X8.0 - X8.1.1 FOR PIPE/CONDUIT CLAMP OPTIONS. CLAMP RATINGS MAY REDUCE MAX ALLOWABLE Fp.

HANGER ROD DIAMETER = ½"	SUSPENDED EQUIPMENT SEISMIC CABLE BRACING SYSTEM 375 LB MAX VERTICAL LOAD PER HANGER	KIT OPTIONS C1SE

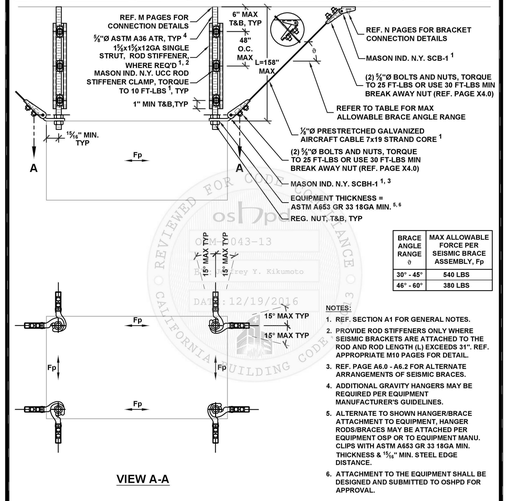


BRACE ANGLE RANGE ◊	MAX ALLOWABLE FORCE PER SEISMIC BRACE ASSEMBLY, Fp
30° - 45°	500 LBS
46° - 60°	290 LBS

VIEW A-A

NOTES:
1. REF. SECTION A1 FOR GENERAL NOTES.
2. PROVIDE ROD STIFFENERS ONLY WHERE SEISMIC BRACKETS ARE ATTACHED TO THE ROD AND ROD LENGTH (L) EXCEEDS 25". REF. APPROPRIATE M10 PAGES FOR DETAIL.
3. REF. PAGE A6.0 - A6.2 FOR ALTERNATE ARRANGEMENTS OF SEISMIC BRACES.
4. ADDITIONAL GRAVITY HANGERS MAY BE REQUIRED PER EQUIPMENT MANUFACTURER'S GUIDELINES.
5. ALTERNATE TO SHOWN HANGER/BRACE ATTACHMENT TO EQUIPMENT, HANGER RODS/BRACES MAY BE ATTACHED PER EQUIPMENT OSP OR TO EQUIPMENT MANU. CLIPS WITH ASTM A653 GR 33 18GA MIN. THICKNESS & ⅛" MIN. STEEL EDGE DISTANCE.
6. ATTACHMENT TO THE EQUIPMENT SHALL BE DESIGNED AND SUBMITTED TO OSHPD FOR APPROVAL.

HANGER ROD DIAMETER = ⅝"	SUSPENDED EQUIPMENT SEISMIC CABLE BRACING SYSTEM 750 LB MAX VERTICAL LOAD PER HANGER	KIT OPTIONS C1SE

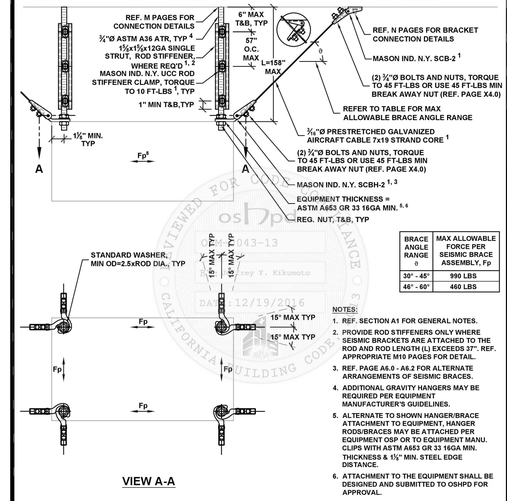


BRACE ANGLE RANGE ◊	MAX ALLOWABLE FORCE PER SEISMIC BRACE ASSEMBLY, Fp
30° - 45°	540 LBS
46° - 60°	380 LBS

VIEW A-A

NOTES:
1. REF. SECTION A1 FOR GENERAL NOTES.
2. PROVIDE ROD STIFFENERS ONLY WHERE SEISMIC BRACKETS ARE ATTACHED TO THE ROD AND ROD LENGTH (L) EXCEEDS 31". REF. APPROPRIATE M10 PAGES FOR DETAIL.
3. REF. PAGE A6.0 - A6.2 FOR ALTERNATE ARRANGEMENTS OF SEISMIC BRACES.
4. ADDITIONAL GRAVITY HANGERS MAY BE REQUIRED PER EQUIPMENT MANUFACTURER'S GUIDELINES.
5. ALTERNATE TO SHOWN HANGER/BRACE ATTACHMENT TO EQUIPMENT, HANGER RODS/BRACES MAY BE ATTACHED PER EQUIPMENT OSP OR TO EQUIPMENT MANU. CLIPS WITH ASTM A653 GR 33 18GA MIN. THICKNESS & ⅛" MIN. STEEL EDGE DISTANCE.
6. ATTACHMENT TO THE EQUIPMENT SHALL BE DESIGNED AND SUBMITTED TO OSHPD FOR APPROVAL.

HANGER ROD DIAMETER = ¾"	SUSPENDED EQUIPMENT SEISMIC CABLE BRACING SYSTEM 1250 LB MAX VERTICAL LOAD PER HANGER	KIT OPTIONS C2SE



BRACE ANGLE RANGE ◊	MAX ALLOWABLE FORCE PER SEISMIC BRACE ASSEMBLY, Fp
30° - 45°	990 LBS
46° - 60°	460 LBS

VIEW A-A

NOTES:
1. REF. SECTION A1 FOR GENERAL NOTES.
2. PROVIDE ROD STIFFENERS ONLY WHERE SEISMIC BRACKETS ARE ATTACHED TO THE ROD AND ROD LENGTH (L) EXCEEDS 37". REF. APPROPRIATE M10 PAGES FOR DETAIL.
3. REF. PAGE A6.0 - A6.2 FOR ALTERNATE ARRANGEMENTS OF SEISMIC BRACES.
4. ADDITIONAL GRAVITY HANGERS MAY BE REQUIRED PER EQUIPMENT MANUFACTURER'S GUIDELINES.
5. ALTERNATE TO SHOWN HANGER/BRACE ATTACHMENT TO EQUIPMENT, HANGER RODS/BRACES MAY BE ATTACHED PER EQUIPMENT OSP OR TO EQUIPMENT MANU. CLIPS WITH ASTM A653 GR 33 16GA MIN. THICKNESS & ⅛" MIN. STEEL EDGE DISTANCE.
6. ATTACHMENT TO THE EQUIPMENT SHALL BE DESIGNED AND SUBMITTED TO OSHPD FOR APPROVAL.

SHEET NOTES:

A. REFER TO MASON OPM'S PER THE FOLLOWING:
M-ATR VERTICAL HANGARS
CONCRETE FILLED DECK- M2.10, M2.11, M2.12, M2.20, M2.21.1, M2.23, M2.70- DO NOT SPACE CLOSER THAN 5' OC EW
WIDE FLANGED STEEL- M3.10-MAX 1 CON PER BEAM UNLESS SPACED 13' OC
COLD FORMED STEEL- M6.10, 3/1-S4.31-DO NOT SPACE CLOSER THAN 9'6" OC EW
BARE METAL DECK- M7.10 M7.11, M7.12 - DO NOT SPACE CLOSER THAN 2' OC EW
N-SEISMIC BRACKET
CONCRETE FILLED DECK- N2.10, N2.11, N2.12, N2.20, N2.21 - DO NOT SPACE CLOSER THAN 3' OC EW
WID EFLANGED STEEL- N3.11, N3.15 - MAX 1 CON PER BEAM UNLESS SPACED 12' OC
COLD FORMED STEEL- 4/1-S4.31 - DO NOT SPACE CLOSER THAN 10' OC EW
BARE METAL DECK- N7.10 DO NOT SPACE CLOSER THAN 1'6" OC EW

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY:	
KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER
AMICA J. BRONKEMA
No. E17267
ELECTRICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

TECHNOLOGY DETAILS

Drawn By: Author Checked By: Checker

Scale: NTS

Date: October 4, 2019

Project No. B17.07369

1-T7.04
Drawing No.

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EXTRON ELECTRONICS
WMK 160 & PVM 220

Extron Electronics
INTERFACING, SWITCHING AND CONTROL

GENERAL NOTES:

1. THIS OSHPD PRE-APPROVAL OF MANUFACTURER'S CERTIFICATION (OPM) IS BASED ON THE CBC 2013. THE DEMAND (DESIGN FORCES) FOR USE WITH THIS OPM SHALL BE BASED ON THE CBC 2013.
2. IT IS THE RESPONSIBILITY OF THE STRUCTURAL ENGINEER OF RECORD FOR A SITE SPECIFIC PROJECT TO VERIFY:
   - A. THE ADEQUACY OF THE NEW OR EXISTING STRUCTURE TO RESIST THE FORCES AND WEIGHT SPECIFIED FOR EACH EQUIPMENT IN ADDITION TO ALL OTHER LOADS. PROVIDE AND DESIGN SUPPLEMENTARY MEMBERS AS REQUIRED.
   - B. THAT THE FLOOR AND WALL ANCHORS ARE LOCATED AT AN ADEQUATE DISTANCE FROM ANY SLAB OR WALL EDGES OR OPENINGS.
   - C. THAT THE FLOOR AND WALL ANCHORS ARE LOCATED AT AN ADEQUATE DISTANCE FROM ANY NEW OR EXISTING ANCHORS. THE SPACING SHOWN WITHIN THIS DOCUMENT IS THE REQUIRED MINIMUM SPACING OF THE INDICATED DIAMETER ANCHOR BOLTS. THE REQUIRED SPACING FROM ANCHORS OF OTHER DIAMETERS AND EMBEDMENTS MAY VARY AND SHALL BE EVALUATED BY THE SEOR.
   - D. THAT THE INSTALLATION IS IN CONFORMANCE WITH THE CBC 2013 AND WITH THE DETAILS SHOWN IN THIS PRE-APPROVAL.
   - E. THAT THE ACTUAL EQUIPMENT'S WEIGHT, CENTER OF GRAVITY (CG) LOCATION, ANCHOR LOCATIONS, ANCHOR DETAILS, AND THE MATERIAL AND GAUGE OF THE EQUIPMENT WHERE ATTACHMENTS ARE MADE, AGREE WITH THE INFORMATION SHOWN ON THE PRE-APPROVAL DOCUMENTS.

3A. EXPANSION ANCHORS INSTALLED IN NORMAL WEIGHT OR SAND-LIGHTWEIGHT CONCRETE SHALL BE CARBON STEEL HILTI KB-TZ EXPANSION ANCHORS COMPLYING WITH ESR-1917 REISSUED MAY 1, 2013.

B. INSTALLATION: INSTALL THE EXPANSION ANCHORS IN ACCORDANCE WITH THE REQUIREMENTS GIVEN IN THE ICC EVALUATION REPORT FOR THE SPECIFIC ANCHOR AND THE PARAMETERS GIVEN IN THE TABLE ON PAGE 3.

C. JOB TESTING: FOR VERIFYING SATISFACTORY INSTALLATION WORKMANSHIP, PERFORM JOB SITE TESTING IN ACCORDANCE WITH THE TORQUE LOAD TABLE PROVIDED IN THIS DOCUMENT. TEST 50% OF THE INSTALLED ANCHORS. THE TEST LOAD MAY BE APPLIED BY ANY METHOD THAT WILL EFFECTIVELY MEASURE THE TENSION IN THE ANCHOR SUCH AS CALIBRATED TORQUE WRENCH METHOD. ALL TESTS SHALL BE CONDUCTED IN THE PRESENCE OF THE INSPECTOR OF RECORD. REPORT OF TEST RESULTS SHALL BE SUBMITTED TO OSHPD. IF ANY ANCHOR FAILS THE TEST, TEST ALL ANCHORS. THE TEST SHALL BE PERFORMED 24 HOURS OR MORE AFTER INSTALLATION. TESTING MAY BE DONE PRIOR TO EQUIPMENT INSTALLATION. ALSO REFER TO CBC 1913A.7 "FIELD TESTS FOR POST-INSTALLED ANCHORS IN CONCRETE".

D. FAILURE/ACCEPTANCE CRITERIA: THE FOLLOWING CRITERIA APPLY FOR THE ACCEPTANCE OF INSTALLED ANCHORS:
   - TORQUE WRENCH METHOD: THE APPLICABLE TEST TORQUE MUST BE REACHED WITHIN THE FOLLOWING LIMITS: WEDGE TYPE: ONE-HALF (½) TURN OF THE NUT.

REGISTERED PROFESSIONAL ENGINEER PETER T. SYSAK No. S4346 STRUCTURAL STATE OF CALIFORNIA

SHEET TITLE: GENERAL NOTES

CYS STRUCTURAL ENGINEERS, INC.
2495 NATOMAS PARK DRIVE, SUITE 650 TEL (916) 920-2020
SACRAMENTO, CA 95833 www.cyseng.com

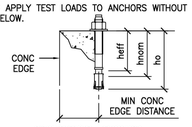
Job No:	13127
Date:	06-30-2014
Page:	2 of 13

EXTRON ELECTRONICS
WMK 160 & PVM 220

Extron Electronics
INTERFACING, SWITCHING AND CONTROL

GENERAL NOTES CONTINUED:

3E. TEST VALUES: APPLY TEST LOADS TO ANCHORS WITHOUT REMOVING THE NUT IF POSSIBLE, SEE TABLE BELOW.

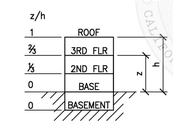


MECHANICAL ANCHOR

ANCHOR DIA (INCH) da	INSTALLATION EMBED (INCH) hnom	EFFECTIVE EMBED (INCH) heff	HOLE DEPTH (INCH) ho	MIN CONC THICKNESS (INCH) h	MIN CONC EDGE DISTANCE (INCH)	MIN AB SPACING (INCH)	TEST LOAD TORQUE (FT-LBS)	CONDITION OF ANCHORAGE
⅜	2⅜	2	2⅝	4*	6	6¾	25	CASE 1

* SEE PAGE 11 FOR UNDERSIDE OF METAL DECK DETAIL.

4. A SINGLE CASE OF ANCHORAGE IS SPECIFIED AND PRESENTED IN THIS PRE-APPROVAL:



BUILDING ELEV

CASE 1: ANCHORAGE DETAILS LOCATED AT ANY LEVEL OF A BUILDING (z/h<=1.0), IT IS ASSUMED THAT THE FLOORS ARE BUILT OF A MINIMUM 3¼" SAND-LIGHT WEIGHT CONCRETE OR NORMAL WEIGHT CONCRETE TOPPING OVER METAL DECK OR 4" NORMAL WEIGHT CONCRETE SLAB (f'c = 3000 PSI, MINIMUM).

5. THIS PRE-APPROVAL MAY BE USED AT ANY GEOGRAPHICAL LOCATION IN THE STATE OF CALIFORNIA. WHERE S_{DS} IS LESS THAN OR EQ TO 2.50.

REGISTERED PROFESSIONAL ENGINEER PETER T. SYSAK No. S4346 STRUCTURAL STATE OF CALIFORNIA

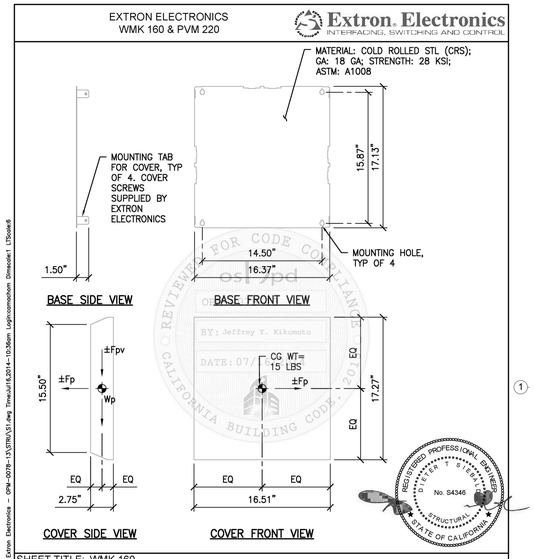
SHEET TITLE: GENERAL NOTES (CONTINUED)

CYS STRUCTURAL ENGINEERS, INC.
2495 NATOMAS PARK DRIVE, SUITE 650 TEL (916) 920-2020
SACRAMENTO, CA 95833 www.cyseng.com

Job No:	13127
Date:	06-30-2014
Page:	3 of 13

EXTRON ELECTRONICS
WMK 160 & PVM 220

Extron Electronics
INTERFACING, SWITCHING AND CONTROL



REGISTERED PROFESSIONAL ENGINEER PETER T. SYSAK No. S4346 STRUCTURAL STATE OF CALIFORNIA

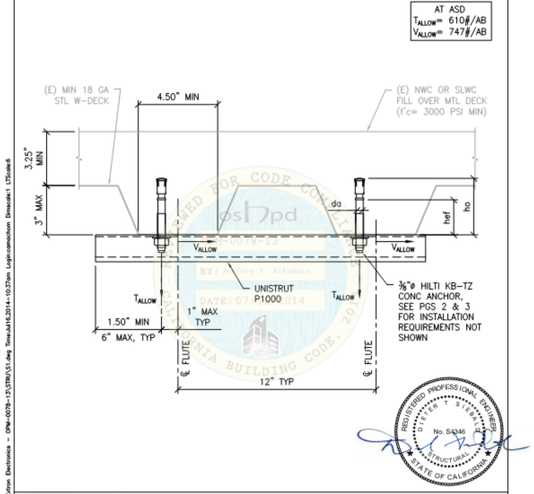
SHEET TITLE: WMK 160
ELEVATIONS

CYS STRUCTURAL ENGINEERS, INC.
2495 NATOMAS PARK DRIVE, SUITE 650 TEL (916) 920-2020
SACRAMENTO, CA 95833 www.cyseng.com

Job No:	13127
Date:	06-30-2014
Page:	6 of 13

EXTRON ELECTRONICS
WMK 160 & PVM 220

Extron Electronics
INTERFACING, SWITCHING AND CONTROL



REGISTERED PROFESSIONAL ENGINEER PETER T. SYSAK No. S4346 STRUCTURAL STATE OF CALIFORNIA

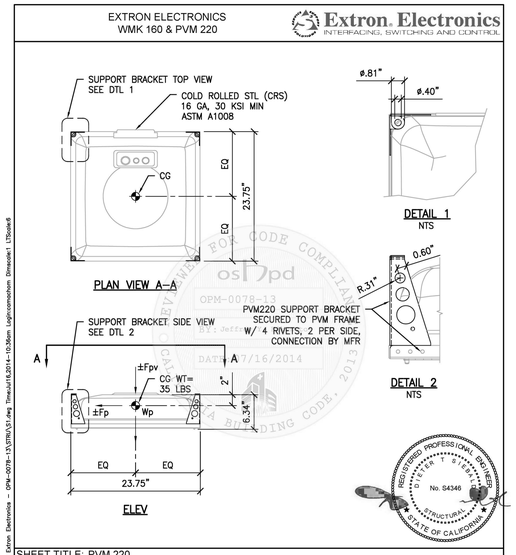
SHEET TITLE: PVM 220
UNDERSIDE OF METAL DECK

CYS STRUCTURAL ENGINEERS, INC.
2495 NATOMAS PARK DRIVE, SUITE 650 TEL (916) 920-2020
SACRAMENTO, CA 95833 www.cyseng.com

Job No:	13127
Date:	06-30-2014
Page:	13 of 13

EXTRON ELECTRONICS
WMK 160 & PVM 220

Extron Electronics
INTERFACING, SWITCHING AND CONTROL



REGISTERED PROFESSIONAL ENGINEER PETER T. SYSAK No. S4346 STRUCTURAL STATE OF CALIFORNIA

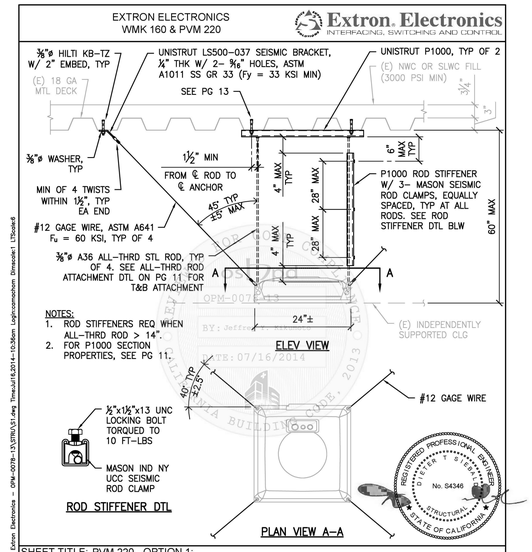
SHEET TITLE: PVM 220
PLAN & ELEVATIONS

CYS STRUCTURAL ENGINEERS, INC.
2495 NATOMAS PARK DRIVE, SUITE 650 TEL (916) 920-2020
SACRAMENTO, CA 95833 www.cyseng.com

Job No:	13127
Date:	06-30-2014
Page:	9 of 13

EXTRON ELECTRONICS
WMK 160 & PVM 220

Extron Electronics
INTERFACING, SWITCHING AND CONTROL



REGISTERED PROFESSIONAL ENGINEER PETER T. SYSAK No. S4346 STRUCTURAL STATE OF CALIFORNIA

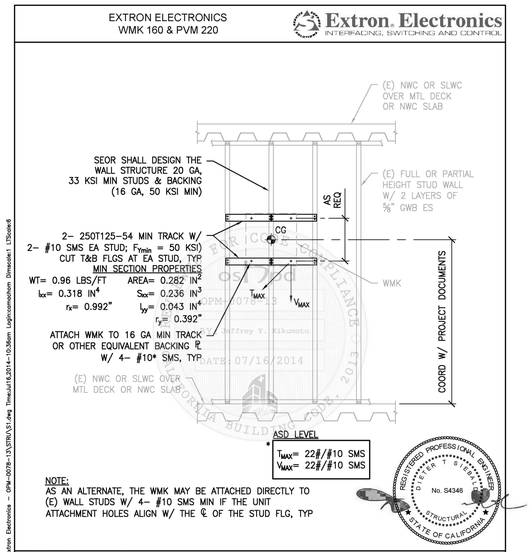
SHEET TITLE: PVM 220 - OPTION 1:
UNDERSIDE OF METAL DECK SUPPORT & ATTACHMENT

CYS STRUCTURAL ENGINEERS, INC.
2495 NATOMAS PARK DRIVE, SUITE 650 TEL (916) 920-2020
SACRAMENTO, CA 95833 www.cyseng.com

Job No:	13127
Date:	06-30-2014
Page:	10 of 13

EXTRON ELECTRONICS
WMK 160 & PVM 220

Extron Electronics
INTERFACING, SWITCHING AND CONTROL



REGISTERED PROFESSIONAL ENGINEER PETER T. SYSAK No. S4346 STRUCTURAL STATE OF CALIFORNIA

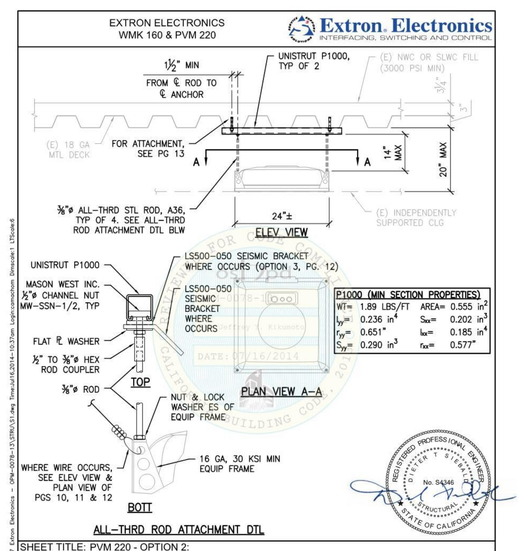
SHEET TITLE: WMK 160
STUD WALL ATTACHMENT

CYS STRUCTURAL ENGINEERS, INC.
2495 NATOMAS PARK DRIVE, SUITE 650 TEL (916) 920-2020
SACRAMENTO, CA 95833 www.cyseng.com

Job No:	13127
Date:	06-30-2014
Page:	7 of 13

EXTRON ELECTRONICS
WMK 160 & PVM 220

Extron Electronics
INTERFACING, SWITCHING AND CONTROL

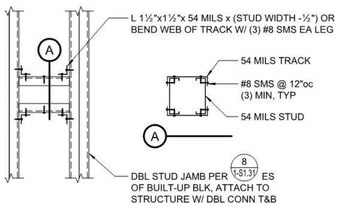


REGISTERED PROFESSIONAL ENGINEER PETER T. SYSAK No. S4346 STRUCTURAL STATE OF CALIFORNIA

SHEET TITLE: PVM 220 - OPTION 2:
UNDERSIDE OF METAL DECK SUPPORT & ATTACHMENT

CYS STRUCTURAL ENGINEERS, INC.
2495 NATOMAS PARK DRIVE, SUITE 650 TEL (916) 920-2020
SACRAMENTO, CA 95833 www.cyseng.com

Job No:	13127
Date:	06-30-2014
Page:	11 of 13



1 HEAVY DUTY WALL BACKING PLATING
NTS

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY:	
KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER AMANDA J. BROWNLEE No. E17387 ELECTRICAL STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

TECHNOLOGY DETAILS

Drawn By: Author | Checked By: Checker

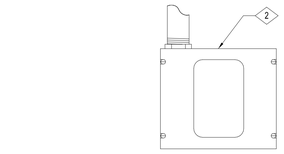
Scale: NTS

Date: October 4, 2019

Project No. B17.07369

1-T7.05
Drawing No.

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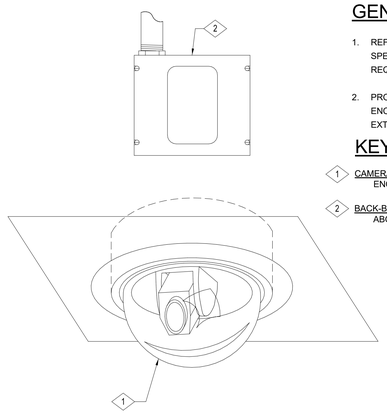
GENERAL NOTES:

1. REFER TO SECURITY SCHEDULES AND WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
2. PROVIDE WEATHER PROOF/WATER RESISTANT ENCLOSURE WITH HEATER/BLOWER FOR ALL EXTERIOR CAMERAS.

KEYNOTES:

1. CAMERA: PROVIDE MINI-DOME TYPE CAMERA WITH ENCLOSURE.
2. BACK-BOX: CAMERA CABLE BACK-BOX MOUNTED FLUSH IN WALL.

4 FIXED WALL SURFACE MOUNT CCTV CAMERA — NO SCALE



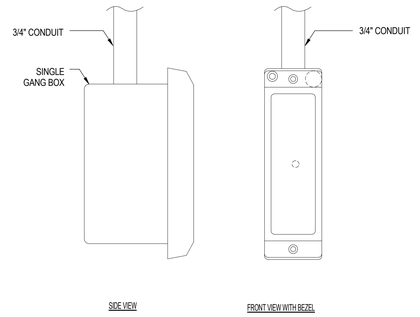
GENERAL NOTES:

1. REFER TO SECURITY SCHEDULES AND WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
2. PROVIDE WEATHER PROOF/WATER RESISTANT ENCLOSURE WITH HEATER/BLOWER FOR ALL EXTERIOR CAMERAS.

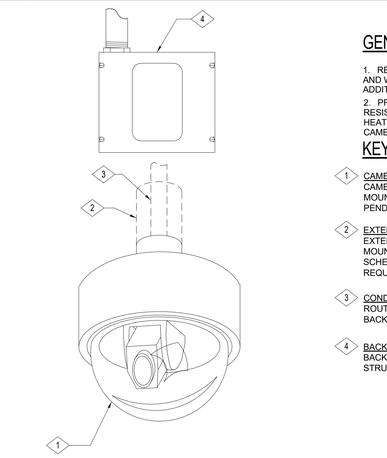
KEYNOTES:

1. CAMERA: PROVIDE MINI-DOME TYPE CAMERA WITH ENCLOSURE.
2. BACK-BOX: CAMERA CABLE BACK-BOX MOUNTED ABOVE CEILING.

1 FIXED CEILING MOUNT CCTV CAMERA — NO SCALE



5 CARD READER DETAIL - MULLION — NO SCALE



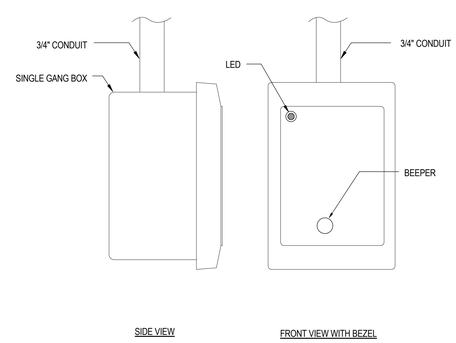
GENERAL NOTES:

1. REFER TO SECURITY SCHEDULES AND WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
2. PROVIDE WEATHER PROOF/WATER RESISTANT ENCLOSURE WITH HEATER/BLOWER FOR ALL EXTERIOR CAMERAS.

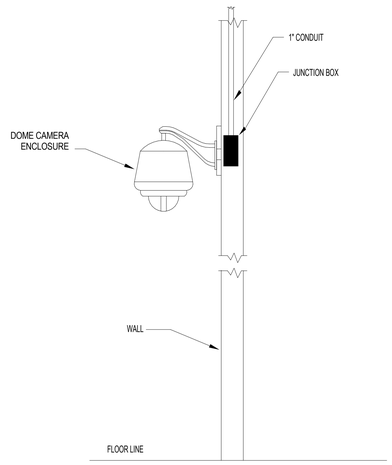
KEYNOTES:

1. CAMERA: PROVIDE MINI-DOME TYPE CAMERA WITH ENCLOSURE SURFACE MOUNTED DIRECTLY TO BACK-BOX OR PENDANT MOUNTED FROM BACK-BOX.
2. EXTENSION: PROVIDE PENDANT MOUNT EXTENSION AS REQUIRED BASED ON CAMERA MOUNTING HEIGHT. REFER TO CAMERA SCHEDULES FOR MOUNTING HEIGHT REQUIREMENTS.
3. CONDUIT: PROVIDE (1) 1-INCH CONDUIT ROUTED FROM CAMERA TO DATA DEVICE BACK-BOX.
4. BACK-BOX: CAMERA CABLE BACK-BOX SURFACE MOUNTED TO STRUCTURE.

2 FIXED OVERHEAD MOUNT CCTV CAMERA — NO SCALE



6 CARD READER DETAIL — NO SCALE



3 WALL MOUNTED DOME CAMERA ENCLOSURE — NO SCALE

DETAILS ON THIS SHEET ARE GENERIC. PLEASE REFER TO OPM DETAILS FOR HANGER AND ANCHOR INFORMATION FOR ALL SUPPORTS AND CONNECTION INFORMATION NOT INDICATED

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC: 01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

**1401 W. WINTON AVE.
HAYWARD, CA 94545**

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER
AMANDA J. BROWNLEE
No. E17287
ELECTRICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

SECURITY DETAILS

Drawn By: Author
Checked By: Checker

Scale: **NTS**

Date: **October 4, 2019**

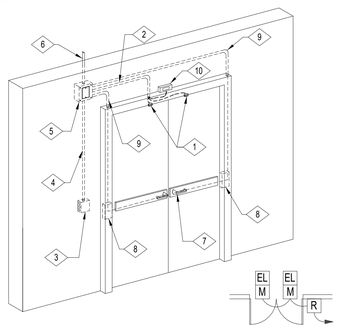
Project No. B17.07369

1-T7.06
Drawing No.

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GENERAL NOTES:

1. DOOR DETAIL INDICATES DOOR HANDLE OR CRASHBAR ON SECURED SIDE OF DOOR FOR REFERENCE ONLY. REFER TO DOOR HARDWARE DIVISION SPECIFICATIONS FOR ACTUAL HARDWARE INFORMATION.
2. LOCK POWER WILL VARY DEPENDING ON LOCK TYPE AND DOOR HARDWARE. REFER TO SECURITY SCHEDULES FOR COORDINATED POWER REQUIREMENTS. CONTRACTOR SHALL CROSS REFERENCE WITH OFFICIAL DOOR HARDWARE SCHEDULE/SPECIFICATIONS TO CONFIRM FINAL REQUIREMENTS.



CARD-IN WITH CONTACT, FREE EXIT, ELECTRIC LOCKS, PIR MOTION REX

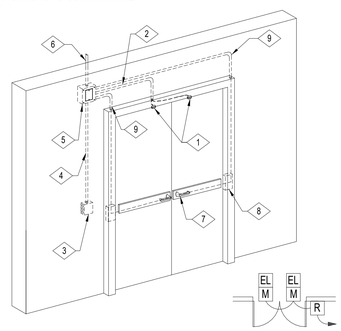
KEYNOTES:

1. DOOR MONITOR: PROVIDE FLUSH MOUNTED DOOR STATUS MONITOR.
2. DOOR MONITOR CONDUIT: PROVIDE 3/4"C. (19mm) FROM DOOR FRAME TO J-BOX.
3. READER/KEYPAD: PROVIDE 4"X4"X2-1/8" (1OOmmX100mmX 54mm) BACK-BOX AND SINGLE GANG MUD RING MOUNTED ON NON-SECURED SIDE OF DOOR AT 42" AFF.
4. READER/KEYPAD CONDUIT: PROVIDE 3/4"C. (19mm) TO J-BOX.
5. SECURITY J-BOX: PROVIDE 8"X8"X4" (200mmX200mmX100mm) J-BOX FLUSH MOUNTED ABOVE FINISHED ACCESSIBLE CEILING ON SECURED SIDE OF DOOR.
6. SECURITY J-BOX CONDUIT: PROVIDE 1"C. (25mm) TO NEAREST ACCESSIBLE CEILING, CABLE TRAY, OR COMM ROOM.
7. ELECTRIC LOCKSET: INTERNAL ELECTRIFIED LOCK, SHOWN FOR REFERENCE ONLY. (REFER TO DOOR HARDWARE DIVISION.)
8. ELECTRIFIED HINGE: HINGE WITH ISOLATED ELECTRICAL CONNECTIVITY, SHOWN FOR REFERENCE ONLY. (REFER TO DOOR HARDWARE DIVISION.)
9. LOCKING HARDWARE CONDUIT: PROVIDE 3/4"C. (19mm) FROM DOOR FRAME TO J-BOX. COORDINATE FRAME TIE-IN LOCATION WITH DOOR HARDWARE DIVISION.
10. PIR MOTION REX: PROVIDE MOTION REX DEVICE CENTERED AND MOUNTED TO TOP OF DOOR FRAME. ROUTE CABLING INTO DOOR FRAME AND UP TO J-BOX.

4 CARD ACCESS - DOUBLE DOOR TYPE 8 — NO SCALE

GENERAL NOTES:

1. DOOR DETAIL INDICATES DOOR HANDLE OR CRASHBAR ON SECURED SIDE OF DOOR FOR REFERENCE ONLY. REFER TO DOOR HARDWARE DIVISION SPECIFICATIONS FOR ACTUAL HARDWARE INFORMATION.
2. LOCK POWER WILL VARY DEPENDING ON LOCK TYPE AND DOOR HARDWARE. REFER TO SECURITY SCHEDULES FOR COORDINATED POWER REQUIREMENTS. CONTRACTOR SHALL CROSS REFERENCE WITH OFFICIAL DOOR HARDWARE SCHEDULE/SPECIFICATIONS TO CONFIRM FINAL REQUIREMENTS.



CARD-IN WITH CONTACTS, FREE EXIT, ELECTRIC LOCKS, INTEGRATED REX

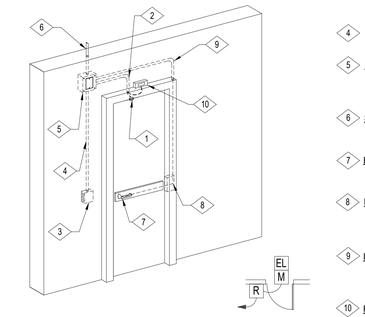
KEYNOTES:

1. DOOR MONITOR: PROVIDE FLUSH MOUNTED DOOR STATUS MONITOR.
2. DOOR MONITOR CONDUIT: PROVIDE 3/4"C. (19mm) FROM DOOR FRAME TO J-BOX.
3. READER/KEYPAD: PROVIDE 4"X4"X2-1/8" (1OOmmX100mmX 54mm) BACK-BOX AND SINGLE GANG MUD RING MOUNTED ON NON-SECURED SIDE OF DOOR AT 42" AFF.
4. READER/KEYPAD CONDUIT: PROVIDE 3/4"C. (19mm) TO J-BOX.
5. SECURITY J-BOX: PROVIDE 8"X8"X4" (200mmX200mmX100mm) J-BOX FLUSH MOUNTED ABOVE FINISHED ACCESSIBLE CEILING ON SECURED SIDE OF DOOR.
6. SECURITY J-BOX CONDUIT: PROVIDE 1"C. (25mm) TO NEAREST ACCESSIBLE CEILING, CABLE TRAY, OR COMM ROOM.
7. ELECTRIC LOCKSET: INTERNAL ELECTRIFIED LOCK, SHOWN FOR REFERENCE ONLY. (REFER TO DOOR HARDWARE DIVISION.)
8. ELECTRIFIED HINGE: HINGE WITH ISOLATED ELECTRICAL CONNECTIVITY, SHOWN FOR REFERENCE ONLY. (REFER TO DOOR HARDWARE DIVISION.)
9. LOCKING HARDWARE CONDUIT: PROVIDE 3/4"C. (19mm) FROM DOOR FRAME TO J-BOX. COORDINATE FRAME TIE-IN LOCATION WITH DOOR HARDWARE DIVISION.

1 CARD ACCESS - DOUBLE DOOR TYPE 5 — NO SCALE

GENERAL NOTES:

1. DOOR DETAIL INDICATES DOOR HANDLE OR CRASHBAR ON SECURED SIDE OF DOOR FOR REFERENCE ONLY. REFER TO DOOR HARDWARE DIVISION SPECIFICATIONS FOR ACTUAL HARDWARE INFORMATION.
2. LOCK POWER WILL VARY DEPENDING ON LOCK TYPE AND DOOR HARDWARE. REFER TO SECURITY SCHEDULES FOR COORDINATED POWER REQUIREMENTS. CONTRACTOR SHALL CROSS REFERENCE WITH OFFICIAL DOOR HARDWARE SCHEDULE/SPECIFICATIONS TO CONFIRM FINAL REQUIREMENTS.



CARD-IN WITH CONTACTS, FREE EXIT, ELECTRIC LOCK, PIR MOTION REX

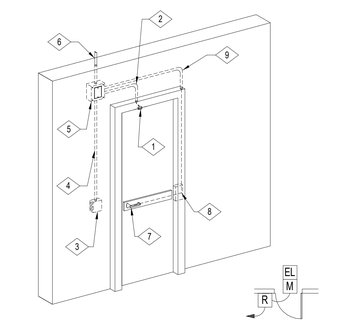
KEYNOTES:

1. DOOR MONITOR: PROVIDE FLUSH MOUNTED DOOR STATUS MONITOR.
2. DOOR MONITOR CONDUIT: PROVIDE 3/4"C. (19mm) FROM DOOR FRAME TO J-BOX.
3. READER/KEYPAD: PROVIDE 4"X4"X2-1/8" (1OOmmX100mmX 54mm) BACK-BOX AND SINGLE GANG MUD RING MOUNTED ON NON-SECURED SIDE OF DOOR AT 42" AFF.
4. READER/KEYPAD CONDUIT: PROVIDE 3/4"C. (19mm) TO J-BOX.
5. SECURITY J-BOX: PROVIDE 8"X8"X4" (200mmX200mmX100mm) J-BOX FLUSH MOUNTED ABOVE FINISHED ACCESSIBLE CEILING ON SECURED SIDE OF DOOR.
6. SECURITY J-BOX CONDUIT: PROVIDE 1"C. (25mm) TO NEAREST ACCESSIBLE CEILING, CABLE TRAY, OR COMM ROOM.
7. ELECTRIC LOCKSET: INTERNAL ELECTRIFIED LOCK, SHOWN FOR REFERENCE ONLY. (REFER TO DOOR HARDWARE DIVISION.)
8. ELECTRIFIED HINGE: HINGE WITH ISOLATED ELECTRICAL CONNECTIVITY, SHOWN FOR REFERENCE ONLY. (REFER TO DOOR HARDWARE DIVISION.)
9. LOCKING HARDWARE CONDUIT: PROVIDE 3/4"C. (19mm) FROM DOOR FRAME TO J-BOX. COORDINATE FRAME TIE-IN LOCATION WITH DOOR HARDWARE DIVISION.
10. PIR MOTION REX: PROVIDE MOTION REX DEVICE CENTERED AND MOUNTED TO TOP OF DOOR FRAME. ROUTE CABLING INTO DOOR FRAME AND UP TO J-BOX.

5 CARD ACCESS - SINGLE DOOR TYPE 6 — NO SCALE

GENERAL NOTES:

1. DOOR DETAIL INDICATES DOOR HANDLE OR CRASHBAR ON SECURED SIDE OF DOOR FOR REFERENCE ONLY. REFER TO DOOR HARDWARE DIVISION SPECIFICATIONS FOR ACTUAL HARDWARE INFORMATION.
2. LOCK POWER WILL VARY DEPENDING ON LOCK TYPE AND DOOR HARDWARE. REFER TO SECURITY SCHEDULES FOR COORDINATED POWER REQUIREMENTS. CONTRACTOR SHALL CROSS REFERENCE WITH OFFICIAL DOOR HARDWARE SCHEDULE/SPECIFICATIONS TO CONFIRM FINAL REQUIREMENTS.



CARD-IN WITH CONTACT, FREE EXIT, ELECTRIC LOCKSET, INTEGRATED REX

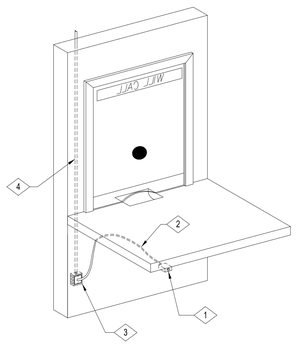
KEYNOTES:

1. DOOR MONITOR: PROVIDE FLUSH MOUNTED DOOR STATUS MONITOR.
2. DOOR MONITOR CONDUIT: PROVIDE 3/4"C. (19mm) FROM DOOR FRAME TO J-BOX.
3. READER/KEYPAD: PROVIDE 4"X4"X2-1/8" (1OOmmX100mmX 54mm) BACK-BOX AND SINGLE GANG MUD RING MOUNTED ON NON-SECURED SIDE OF DOOR AT 42" AFF.
4. READER/KEYPAD CONDUIT: PROVIDE 3/4"C. (19mm) TO J-BOX.
5. SECURITY J-BOX: PROVIDE 8"X8"X4" (200mmX200mmX100mm) J-BOX FLUSH MOUNTED ABOVE FINISHED ACCESSIBLE CEILING ON SECURED SIDE OF DOOR.
6. SECURITY J-BOX CONDUIT: PROVIDE 1"C. (25mm) TO NEAREST ACCESSIBLE CEILING, CABLE TRAY, OR COMM ROOM.
7. ELECTRIC LOCKSET: INTERNAL ELECTRIFIED LOCK WITH INTEGRATED REX SWITCH, SHOWN FOR REFERENCE ONLY. (REFER TO DOOR HARDWARE DIVISION.)
8. ELECTRIFIED HINGE: HINGE WITH ISOLATED ELECTRICAL CONNECTIVITY, SHOWN FOR REFERENCE ONLY. (REFER TO DOOR HARDWARE DIVISION.)
9. LOCKING HARDWARE CONDUIT: PROVIDE 3/4"C. (19mm) FROM DOOR FRAME TO J-BOX. COORDINATE FRAME TIE-IN LOCATION WITH DOOR HARDWARE DIVISION.

2 CARD ACCESS - SINGLE DOOR TYPE 3 — NO SCALE

GENERAL NOTES:

1. MILLWORK IS SHOWN HERE FOR REFERENCE ONLY. CONTRACTOR SHALL REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION AND TO COORDINATE FINAL DEVICE PLACEMENT PRIOR TO INSTALLATION.



KEYNOTES:

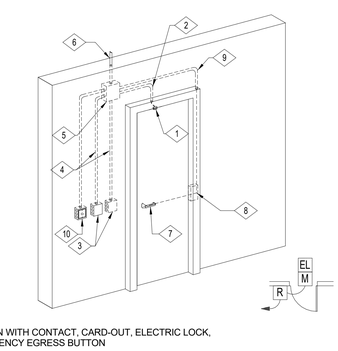
1. DURESS BUTTON: PROVIDE SURFACE MOUNTED DURESS BUTTON UNDER FRONT EDGE OF COUNTER.
2. FLEXIBLE CONDUIT WHIP: PROVIDE 3/4" FLEXIBLE WHIP FROM DURESS BUTTON TO J-BOX LOCATED BELOW COUNTER.
3. DURESS BUTTON J-BOX: PROVIDE 4"X4"X2-1/8" (1OOmmX100mmX 54mm) BACK-BOX AND SINGLE GANG FACE PLATE FLUSH MOUNTED IN WALL BELOW COUNTER AT 24" AFF.
4. DURESS BUTTON CONDUIT: PROVIDE 3/4"C. (19mm) FROM J-BOX TO NEAREST ACCESSIBLE CEILING, CABLE TRAY, OR COMM ROOM.

DETAILS ON THIS SHEET ARE GENERIC. PLEASE REFER TO OPM DETAILS FOR HANGER AND ANCHOR INFORMATION FOR ALL SUPPORTS AND CONNECTION INFORMATION NOT INDICATED

6 DURESS BUTTON - UNDER COUNTER — NO SCALE

GENERAL NOTES:

1. DOOR DETAIL INDICATES DOOR HANDLE OR CRASHBAR ON SECURED SIDE OF DOOR FOR REFERENCE ONLY. REFER TO DOOR HARDWARE DIVISION SPECIFICATIONS FOR ACTUAL HARDWARE INFORMATION.
2. LOCK POWER WILL VARY DEPENDING ON LOCK TYPE AND DOOR HARDWARE. REFER TO SECURITY SCHEDULES FOR COORDINATED POWER REQUIREMENTS. CONTRACTOR SHALL CROSS REFERENCE WITH OFFICIAL DOOR HARDWARE SCHEDULE/SPECIFICATIONS TO CONFIRM FINAL REQUIREMENTS.



CARD-IN WITH CONTACT, CARD-OUT, ELECTRIC LOCK, EMERGENCY EGRESS BUTTON

KEYNOTES:

1. DOOR MONITOR: PROVIDE FLUSH MOUNTED DOOR STATUS MONITOR.
2. DOOR MONITOR CONDUIT: PROVIDE 3/4"C. (19mm) FROM DOOR FRAME TO J-BOX.
3. READER/KEYPAD: PROVIDE 4"X4"X2-1/8" (1OOmmX100mmX 54mm) BACK-BOX AND SINGLE GANG MUD RING MOUNTED ON NON-SECURED SIDE OF DOOR AT 42" AFF.
4. READER/KEYPAD CONDUIT: PROVIDE 3/4"C. (19mm) TO J-BOX.
5. SECURITY J-BOX: PROVIDE 8"X8"X4" (200mmX200mmX100mm) J-BOX MOUNTED ABOVE FINISHED ACCESSIBLE CEILING ON SECURED SIDE OF DOOR.
6. SECURITY J-BOX CONDUIT: PROVIDE 1"C. (25mm) TO NEAREST ACCESSIBLE CEILING, CABLE TRAY, OR COMM ROOM.
7. ELECTRIC LOCKSET: INTERNAL ELECTRIFIED LOCK, SHOWN FOR REFERENCE ONLY. (REFER TO DOOR HARDWARE DIVISION.)
8. ELECTRIFIED HINGE: HINGE WITH ISOLATED ELECTRICAL CONNECTIVITY, SHOWN FOR REFERENCE ONLY. (REFER TO DOOR HARDWARE DIVISION.)
9. LOCKING HARDWARE CONDUIT: PROVIDE 3/4"C. (19mm) FROM DOOR FRAME TO J-BOX. COORDINATE FRAME TIE-IN LOCATION WITH DOOR HARDWARE DIVISION.
10. DOOR RELEASE BUTTON REX: PROVIDE 4"X4"X2-1/8" (1OOMMX100MMX 54MM) BACK-BOX, SINGLE GANG FACE PLATE, AND PUSH BUTTON, MOUNTED ON SECURED SIDE OF DOOR AT 42" AFF. ADDITIONALLY, PROVIDE 3/4"C. (19MM) TO SECURITY J-BOX.

3 CARD ACCESS - DOUBLE DOOR TYPE 20 — NO SCALE

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY:	
KATHY GARCIA DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER
AMANDA J. BROWNLEE
No. E17887
ELECTRICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

SECURITY DETAILS

Drawn By: Author
Checked By: Checker

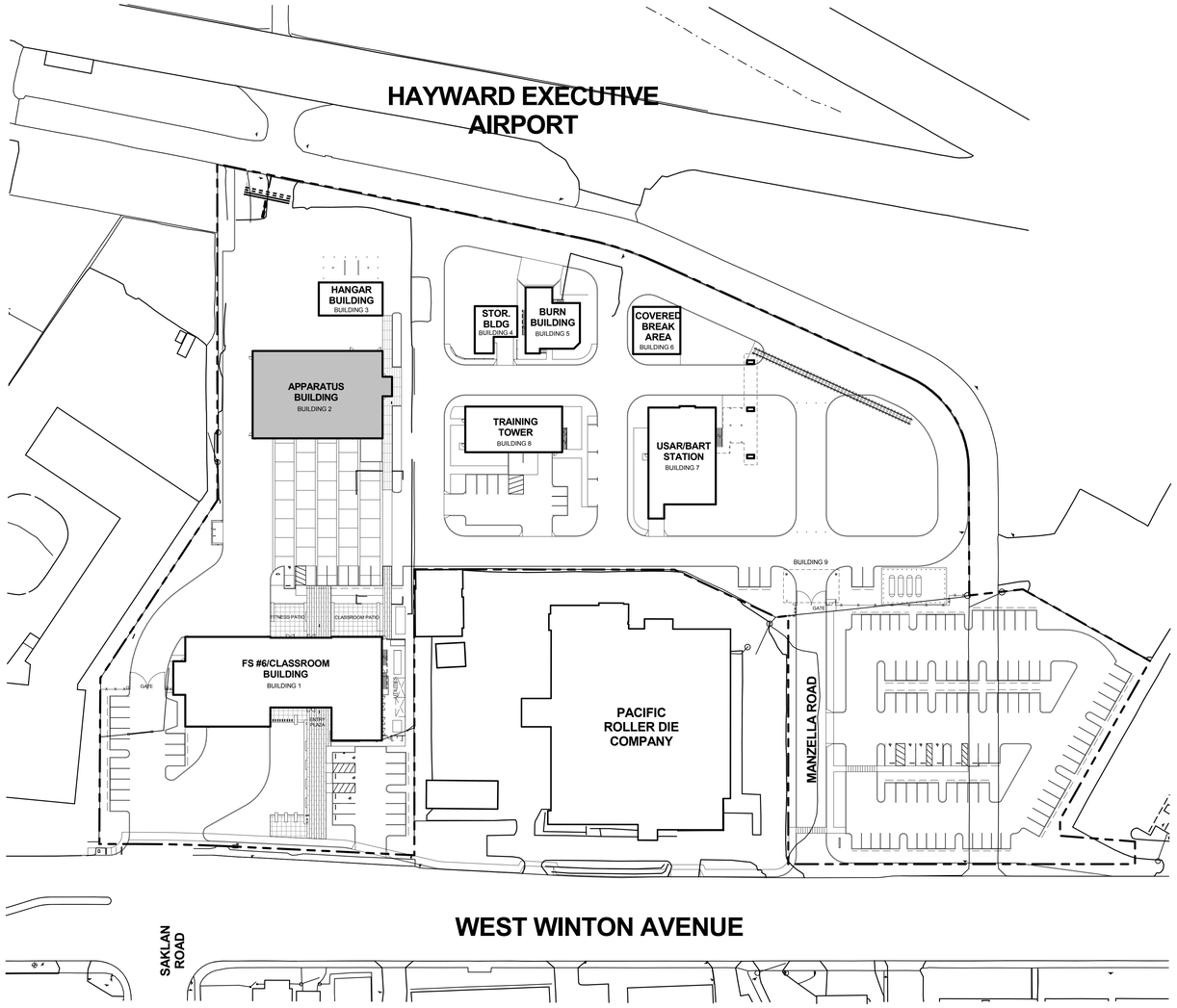
Scale: **NTS**

Date: **October 4, 2019**

Project No. B17.07369

1-T7.07
Drawing No.

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1 SITE LOCATION PLAN
1" = 50'-0"

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

BUILDING 2

PERMIT SUBMITTAL - INCREMENT #1

PROJECT INFORMATION

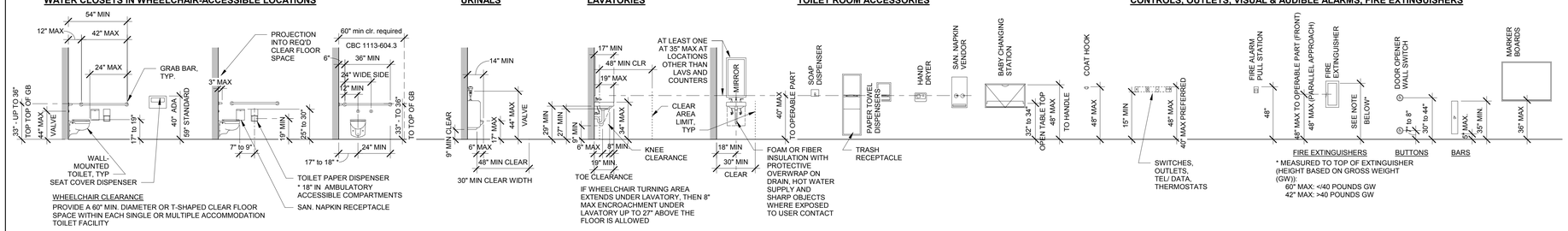
APN:	432-124-1-4 (PORTION)
PROJECT:	HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER BUILDING 2 1401 WEST WINTON AVENUE, HAYWARD, CA 94545
DESCRIPTION:	VEHICLE STORAGE/TRAINING AREA, LOCKER ROOMS, & RESTROOMS (BUILDING 2)
BUILDING AREAS:	39,156 SF SITE COVERAGE 66,278 SF GROSS FLOOR AREA
TOTAL BUILDING AREA FOR THIS PERMIT:	8,268 SF
SITE:	293,364 SF (6.73 ACRES) SITE DEVELOPMENT AREA 13% LOT COVERAGE (TOTAL DEVELOPMENT)
BUILDING FLOOR AREA RATIO:	23% (TOTAL DEVELOPMENT)
FIRE SPRINKLERED:	YES (BUILDING 2)
BUILDING USE/OCCUPANCY:	B (ASSEMBLY > 50), F-1 (SHOP), S-2 (STORAGE)
CONSTRUCTION TYPE:	II-B
ZONING:	AT/AC
TOTAL BUILDING STORIES:	1
DEFERRED SUBMITTALS:	ALL STOREFRONTS & CURTAIN WALLS GLAZED APPARATUS BAY DOORS AND SUPPORT FRAME (DOOR TYPE "E") FABRICATION AND INSTALLATION OF DEFERRED SUBMITTAL ITEMS SHALL NOT BE STARTED UNTIL CONTRACTOR'S DRAWINGS, SPECIFICATIONS, AND ENGINEERING CALCULATIONS FOR THE ACTUAL SYSTEMS TO BE INSTALLED HAVE BEEN ACCEPTED AND SIGNED BY THE ARCHITECT OR STRUCTURAL ENGINEER AND APPROVED BY THE DSA.

SHEET INDEX - INCREMENT #1

NUMBER	NAME
ARCHITECTURAL	
2-A0.10	BUILDING 2 SHEET INDEX, ACCESSIBILITY STANDARDS, PROJECT INFORMATION
2-A0.11	BUILDING 2 SCOPE OF WORK, EXTERIOR AXONOMETRIC VIEWS
2-A0.12	BUILDING 2 DESIGN INTENT ILLUSTRATION
2-A0.21	BUILDING 2 EGRESS PLAN
2-A0.22	BUILDING 2 CODE ANALYSIS
2-A0.30	BUILDING 2 ENVELOPE TITLE-24 ENERGY COMPLIANCE
2-A0.41	BUILDING 2 PLUMBING FIXTURE ANALYSIS
2-A2.10	BUILDING 2 SLAB EDGE PLAN, FLOOR PLAN
2-A2.11	BUILDING 2 ENLARGED SCALE FLOOR PLAN
2-A2.60	BUILDING 2 CLERESTORY FLOOR PLAN, ROOF PLAN
2-A2.70	BUILDING 2 ROOM FINSHES, DOOR WINDOWS AND EQUIPMENT SCHEDULES
2-A3.10	BUILDING 2 EXTERIOR ELEVATIONS
2-A3.40	BUILDING 2 BUILDING CROSS SECTIONS
2-A3.50	BUILDING 2 WALL SECTIONS
2-A4.10	BUILDING 2 ENLARGED RESTROOM PLANS, INTERIOR ELEVATIONS
2-A5.10	BUILDING 2 INTERIOR ELEVATIONS
2-A5.11	BUILDING 2 INTERIOR ELEVATIONS
2-A6.10	BUILDING 2 REFLECTED CEILING PLAN
2-A8.00	BUILDING 2 WALL TYPES
2-A8.01	BUILDING 2 EXTERIOR DETAILS
2-A8.02	BUILDING 2 EXTERIOR DETAILS
2-A8.03	BUILDING 2 EXTERIOR DETAILS
2-A8.04	BUILDING 2 EXTERIOR DETAILS
2-A8.05	BUILDING 2 EXTERIOR DETAILS
2-A9.01	BUILDING 2 INTERIOR DETAILS
2-A9.02	BUILDING 2 INTERIOR DETAILS
STRUCTURAL	
2-S0.10	BUILDING 2 GENERAL NOTES AND SPECIFICATIONS
2-S1.10	BUILDING 2 TYPICAL CONCRETE DETAILS
2-S1.20	BUILDING 2 STEEL FRAMING DETAILS
2-S1.21	BUILDING 2 STEEL FRAMING DETAILS
2-S1.30	BUILDING 2 TYPICAL METAL STUD ELEVATION AND CONNECTION DETAILS
2-S1.31	BUILDING 2 TYPICAL METAL STUD SOFFIT & MISCELLANEOUS DETAILS
2-S1.40	BUILDING 2 TYPICAL CMU DETAILS
2-S1.50	BUILDING 2 TYPICAL METAL DECKING DETAILS
2-S2.10	BUILDING 2 FLOOR PLAN
2-S2.11	BUILDING 2 ROOF PLAN
2-S3.10	BUILDING 2 ELEVATIONS
2-S3.20	BUILDING 2 ELEVATIONS
2-S3.30	BUILDING 2 ELEVATIONS
2-S4.10	BUILDING 2 DETAILS AND ELEVATIONS
2-S4.11	BUILDING 2 TYPICAL CMU DETAILS
2-S4.13	BUILDING 2 CONCRETE WALL DETAILS
PLUMBING	
2-P0-01	BUILDING 2 PLUMBING LEGEND AND ABBREVATION, DRAWING LIST
2-P0-02	BUILDING 2 PLUMBING EQUIPMENT SCHEDULE
2-P0.03	BUILDING 2 PLUMBING TITLE 24
2-P2.00	BUILDING 2 PLUMBING APPARATUS BUILDING UNDERSLAB PLAN
2-P2.01	BUILDING 2 PLUMBING APPARATUS BUILDING FLOOR PLAN
2-P2.02	BUILDING 2 PLUMBING APPARATUS BUILDING PLAN
2-P6.01	BUILDING 2 PLUMBING DIAGRAM AND DETAILS
FIRE PROTECTION	
2-FP2.10	BUILDING 2 PIPING PLAN - FIRE PROTECTION
2-FP3.10	BUILDING 2 CEILING PLAN - FIRE PROTECTION
2-FP4.10	BUILDING 2 SECTIONS - FIRE PROTECTION
2-FP6.10	BUILDING 2 DETAILS - FIRE PROTECTION
MECHANICAL	
2-M0.01	BUILDING 2 MECHANICAL LEGEND, ABBREVIATIONS AND DRAWING LIST
2-M0.02	BUILDING 2 MECHANICAL SCHEDULES
2-M0.03	BUILDING 2 MECHANICAL TITLE 24 DOCUMENTATION
2-M0.04	BUILDING 2 MECHANICAL TITLE 24 DOCUMENTATION
2-M0.05	BUILDING 2 MECHANICAL TITLE 24 DOCUMENTATION
2-M2.01	BUILDING 2 MECHANICAL APPARATUS BUILDING FLOOR PLAN
2-M4.01	BUILDING 2 MECHANICAL VRF DIAGRAM
2-M5.01	BUILDING 2 MECHANICAL DETAILS
2-M5.02	BUILDING 2 MECHANICAL DETAILS
2-M5.03	BUILDING 2 MECHANICAL DETAILS
ELECTRICAL	
2-E0.01	BUILDING 2 ELECTRICAL LEGEND, ABBREVIATIONS AND DRAWING LIST
2-E0.02	BUILDING 2 ELECTRICAL SCHEDULES
2-E0.03	BUILDING 2 ELECTRICAL SCHEDULES
2-E0.10	BUILDING 2 ELECTRICAL LIGHT FIXTURE SCHEDULE
2-E0.11	BUILDING 2 ELECTRICAL LIGHT FIXTURE SCHEDULE
2-E0.20	BUILDING 2 ELECTRICAL TITLE 24
2-E0.21	BUILDING 2 ELECTRICAL TITLE 24
2-E0.22	BUILDING 2 ELECTRICAL TITLE 24
2-E0.23	BUILDING 2 ELECTRICAL TITLE 24
2-E2.01	BUILDING 2 ELECTRICAL APPARATUS BUILDING FLOOR PLAN
2-E5.01	BUILDING 2 ELECTRICAL SINGLE LINE DIAGRAM
2-E5.02	BUILDING 2 ELECTRICAL GROUNDING AND FIRE ALARM RISER DIAGRAMS
2-E5.03	BUILDING 2 LIGHTING CONTROL SINGLE LINE DIAGRAM
2-E6.01	BUILDING 2 ELECTRICAL DETAILS
2-E6.02	BUILDING 2 ELECTRICAL DETAILS
FIRE ALARM	
2-FA0.00	FIRE ALARM COVER SHEET
2-FA1.00	FIRE ALARM SITE PLAN
2-FA1.03	BUILDING 2 FIRE ALARM PLAN
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2-FA4.01	FIRE ALARM FACU AND ANNUNCIATOR DETAILS
2-FA4.02	FIRE ALARM FIELD DEVICE WIRING DETAILS
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TECHNOLOGY	
2-T0.01	BUILDING 2 TECHNOLOGY LEGEND, ABBREVIATIONS AND DRAWING LIST
2-T2.01	BUILDING 2 TECHNOLOGY APPARATUS BUILDING FLOOR PLAN
2-T5.01	BUILDING 2 TECHNOLOGY FUNCTIONAL DIAGRAMS
2-T7.01	BUILDING 2 TECHNOLOGY DETAILS
2-T7.02	BUILDING 2 TECHNOLOGY DETAILS
2-T7.03	BUILDING 2 TECHNOLOGY DETAILS
2-T7.04	BUILDING 2 TECHNOLOGY DETAILS
2-T7.05	BUILDING 2 SECURITY DETAILS
2-T7.06	BUILDING 2 SECURITY DETAILS

MOUNTING HEIGHTS AND CLEARANCES

NOTES: 1. DIMENSIONS FROM FLOOR ARE MEASURED FROM FLOOR FINISH



Ross Drulis Cusenbery ARCHITECTURE
18294 Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

CITY OF HAYWARD
HEART OF THE BAY
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3 - INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
RENEWAL DATE 8/31/21
STATE OF CALIFORNIA

Sheet Title

BUILDING 2
SHEET INDEX, ACCESSIBILITY STANDARDS, PROJECT INFORMATION

Drawn By: EW Checked By: EW

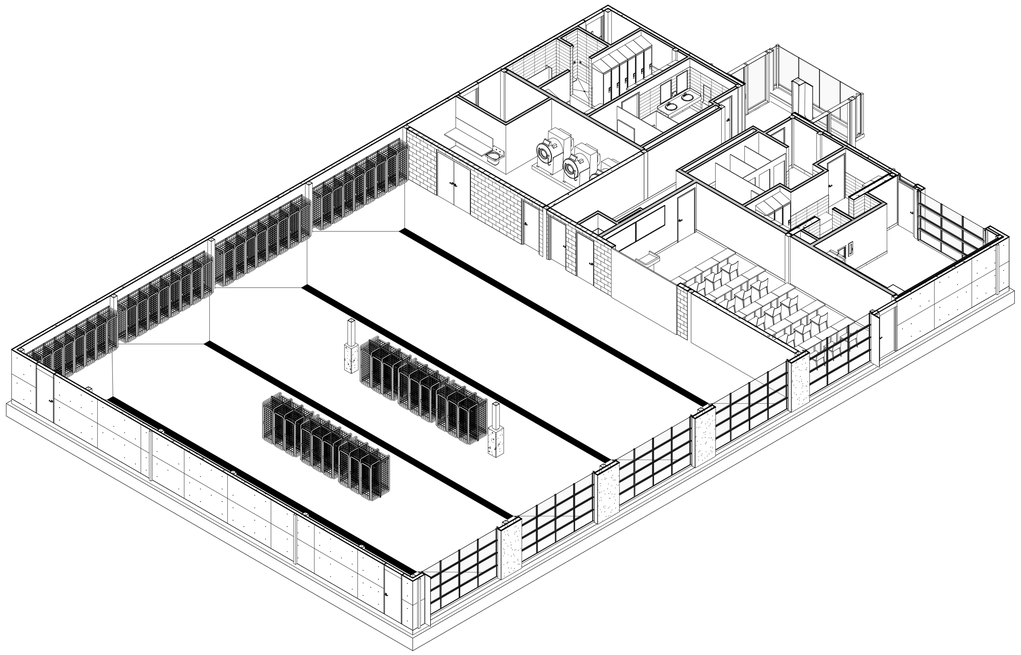
Scale: As indicated

Date: October 4, 2019

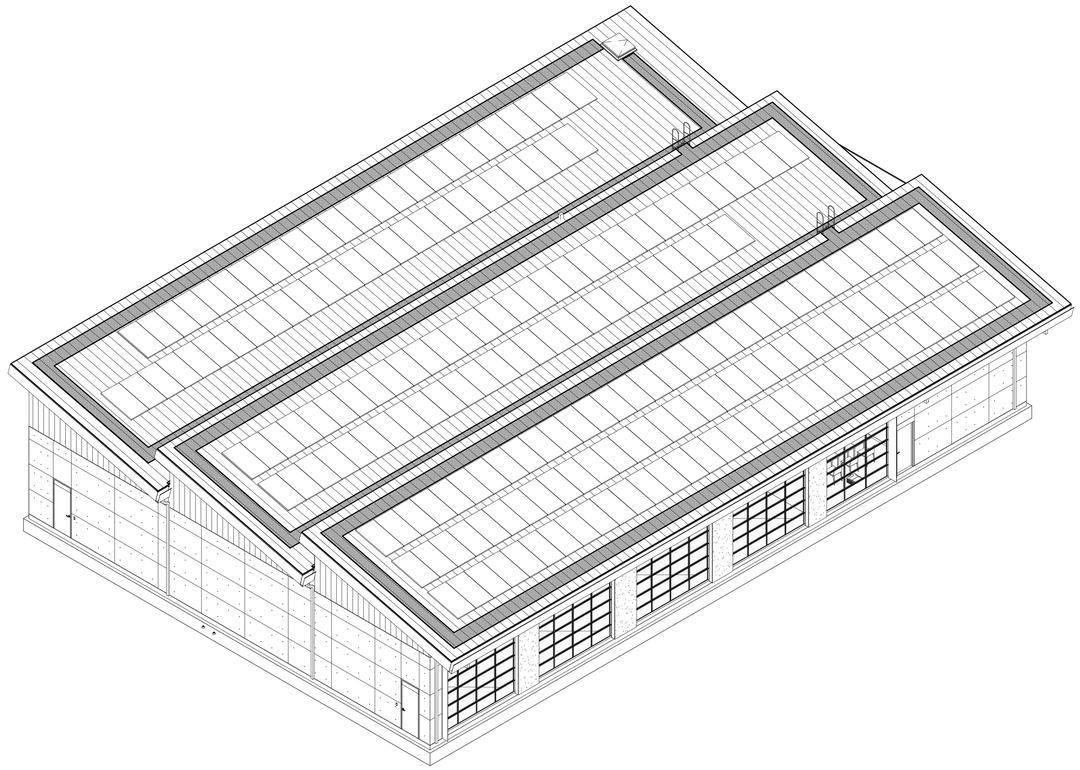
Project No. 2016039

2-A0.10
Drawing No.

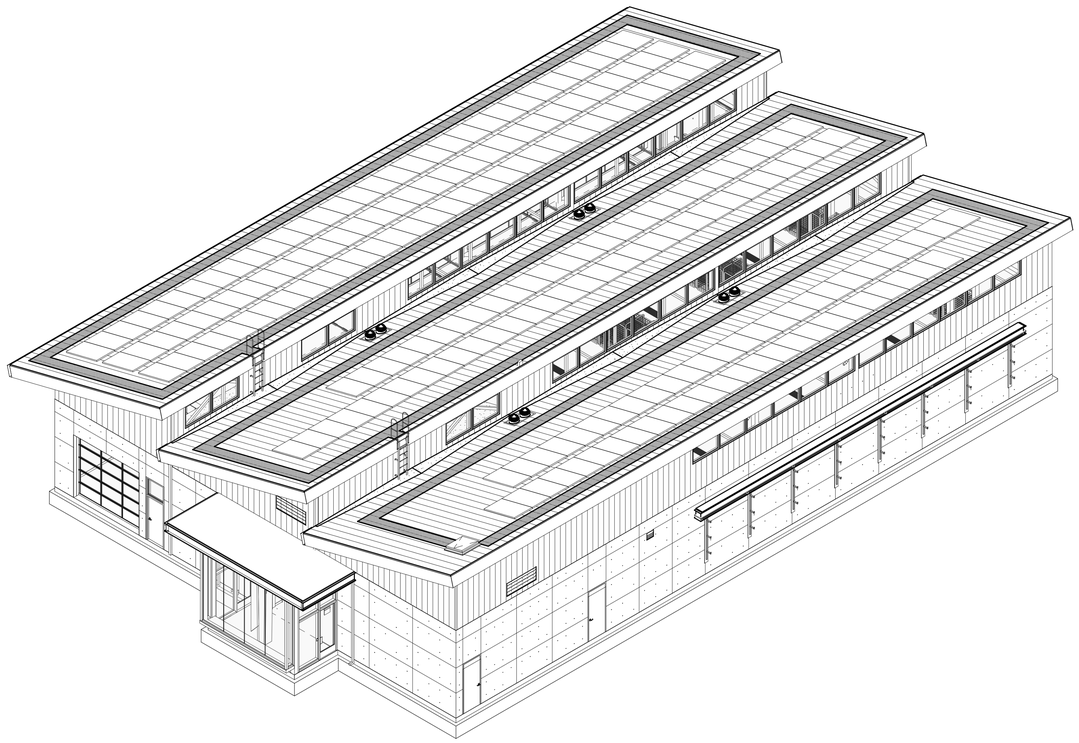
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1 SOUTHWEST AXONOMETRIC VIEW AT FIRST FLOOR LEVEL



2 SOUTHWEST AXONOMETRIC VIEW



3 NORTHEAST AXONOMETRIC VIEW

GRAPHIC FOR REFERENCE ONLY

BUILDING 2 SCOPE OF WORK

The general scope of work covered under this contract includes but is not limited to:

Structure
- New concrete slab, cast-in-place concrete walls, and structual steel framing.
- New interior cast-in-place structural concrete walls and non-bearing light gauge metal stud walls.
- New standing seam metal and membrane roofs.
- New multiple occupancy restrooms and locker rooms with showers.
- New Break Room for fire fighter use.
- New Classroom for fire figher use - turn outs allowed.
- New Equipment Room with air compressor, multiple extractors, and shop area.
- New 4-bay Apparatus Bay for the parking of reserve and training fire apparatus.
- Required signage.

Plumbing
- New multiple occupancy restroom fixtures, shower fixtures, and water cooler.
- New Break Room fixtures.
- New extractors and service sink in Equipment Room.
- Roof drains/overflows with interior drain lines.
- Domestic water and compressed air piping in Apparatus Bay.
- Fire Protection Sprinklers throughout.

Mechanical
- New HVAC system.
- New vehicle exhaust and air circulation systems in Apparatus Bay.

Electrical
- New power, voice, data and lighting systems.
- New roof-mounted photovoltaic system, including inverters. (Reviewed and approved under DSA Increment #2)
- New audio visual equipment and connections.

APPROVED
DIV. OF THE STATE ARCHITECT
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REVIEWED FOR
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DATE: 11/12/2019

RossDrulisCusenbery
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542
ARCHITECTURE

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION	
DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3 - INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
9/30/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 2
SCOPE OF WORK, EXTERIOR AXONOMETRIC VIEWS

Drawn By: TG Checked By: EW

Scale: **1/4" = 1'-0"**

Date: **October 4, 2019**

Project No. 2016039

2-A0.11
Drawing No.

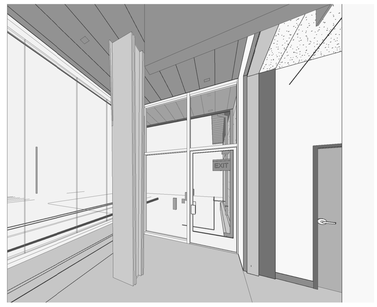
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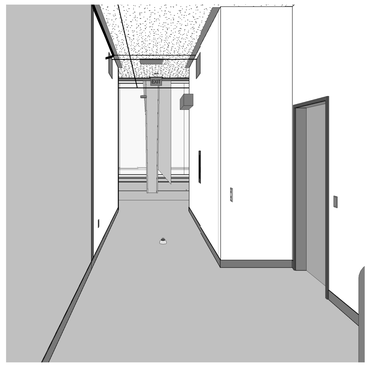
1 VIEW TO APPARATUS BAY



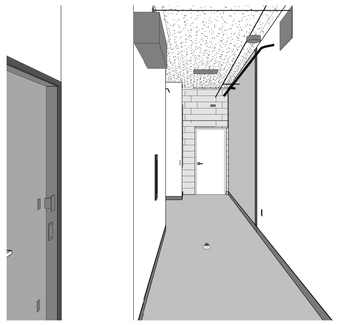
2 VIEW TO APPARATUS BAY



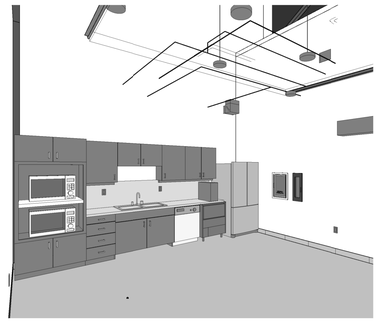
5 VIEW TO MOUNMENT STEEL



3 VIEW TO ENTRY HALLWAY



4 VIEW TO ENTRY HALLWAY



6 break room view 1



7 classroom view 2

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RossDrulisCusenbery
ARCHITECTURE

18294
Sonoma Highway
Sonoma
CA 95476

TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: **KATHY GARCIA** DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
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No.	Description	Date

PERMIT SUBMITTAL V3 - INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
RENEWAL DATE 08.31.21
STATE OF CALIFORNIA

Sheet Title

BUILDING 2 DESIGN INTENT ILLUSTRATIONS

Drawn By: TG Checked By: EW

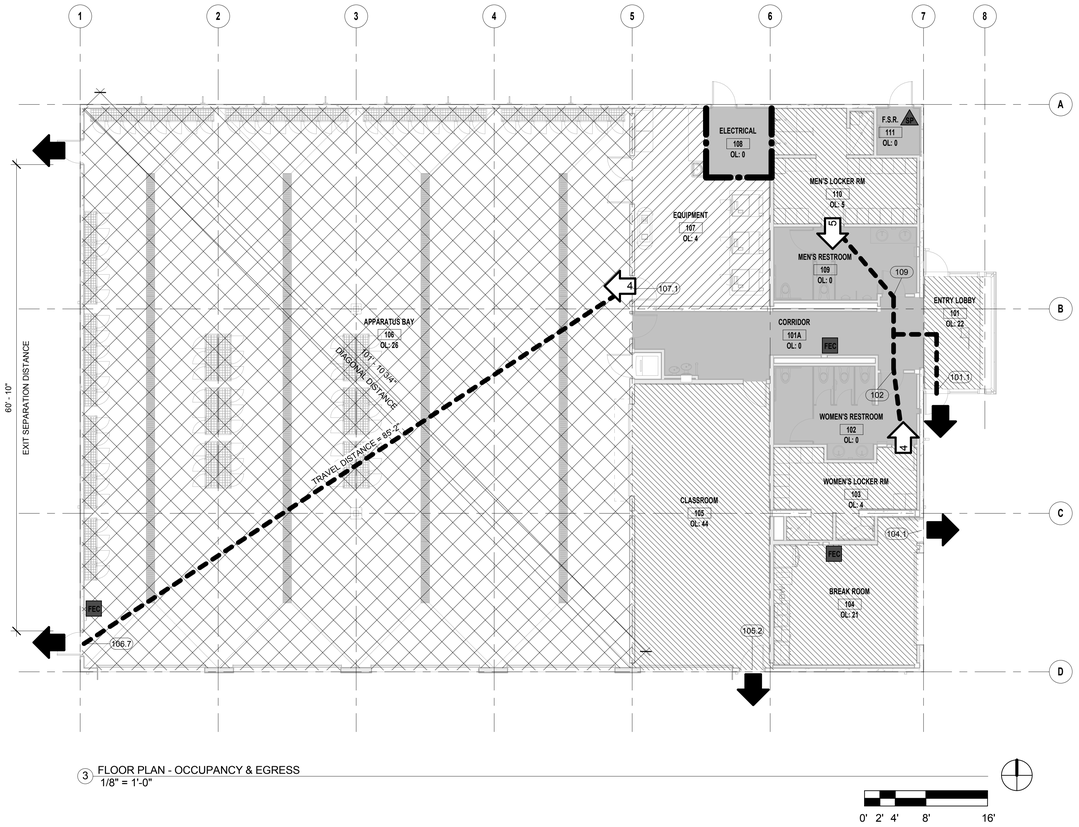
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2-A0.12
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3 FLOOR PLAN - OCCUPANCY & EGRESS
1/8" = 1'-0"

0' 2' 4' 8' 16'

OCCUPANCY ANALYSIS

RM. NO.	RM. NAME	AREA	OCC.	O.L.F.	O.L.
101	ENTRY LOBBY	108 SF	B	5 SF	22
101A	CORRIDOR	274 SF	-	0 SF	0
102	WOMEN'S RESTROOM	194 SF	-	0 SF	0
103	WOMEN'S LOCKER RM	175 SF	B	50 SF	4
104	BREAK ROOM	309 SF	B	15 SF	21
105	CLASSROOM	651 SF	B	15 SF	44
106	APPARATUS BAY	5188 SF	S-2	200 SF	26
107	EQUIPMENT	376 SF	F-1	100 SF	4
108	ELECTRICAL	71 SF	-	0 SF	0
109	MEN'S RESTROOM	172 SF	-	0 SF	0
110	MEN'S LOCKER RM	237 SF	B	50 SF	5
111	F.S.R.	34 SF	-	0 SF	0
Grand total: 12		7788 SF			126

EGRESS COMPONENTS- DOORS

NO.	O.L.	REQ'D WIDTH	WIDTH	COMMENTS
101.1	31	0' - 6 1/8"	3' - 0"	
102	4	0' - 0 3/4"	3' - 0"	
104.1	21	0' - 4 1/8"	3' - 0"	
105.2	44	0' - 8 3/4"	3' - 0"	
106.7	15	0' - 3"	3' - 0"	
106.8	15	0' - 3"	3' - 0"	
107.1	4	0' - 0 3/4"	3' - 0"	
109	5	0' - 1"	3' - 0"	

OCCUPANCY LOAD FACTORS

(REFERENCE: TABLE 1004.1.2)

ASSEMBLY WITHOUT FIXED SEATS (TABLES AND CHAIRS)	15
LOCKER ROOMS	50
INDUSTRIAL AREAS (SHOP)	100
PARKING GARAGE (APPARATUS BAY)	200

NOTE: RESTROOMS ARE DESIGNATED AS UNOCCUPIED

LEGEND- EGRESS PLAN

EXIT OCCUPANT LOAD

0 MEANS OF EGRESS OCCUPANT LOAD

PATH OF TRAVEL

1-HR FIRE-RATED SEPARATION

(?) DOOR NUMBER

LEGEND- FIRE PROTECTION

FEC FIRE EXTINGUISHER CABINET

STANDPIPE

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC: 01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
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DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

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REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3 - INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
5/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 2
EGRESS PLAN

Drawn By: EW Checked By: EW

Scale:
As indicated

Date:
October 4, 2019

Project No. 2016039

2-A0.21
Drawing No.

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Code Analysis - Hayward Fire Station #6/Fire Training Center Building 2

Project Location: 1401 West Winton Avenue, Hayward, CA 94545

Date: 07/19/2019

SUMMARY:

APPLICABLE REGULATIONS

2016 California Building Standards Code (Title 24, California Code of Regulations)
2016 California Building Standards Administrative Code (Title 24, California Code of Regulations, Part 1)
2016 California Building Code (Title 24, California Code of Regulations, Part 2)
2016 California Electrical Code (Title 24, California Code of Regulations, Part 3)
2016 California Mechanical Code (Title 24, California Code of Regulations, Part 4)
2016 California Plumbing Code (Title 24, California Code of Regulations, Part 5)
2016 California Energy Code (Title 24, California Code of Regulations, Part 6)
2016 California Fire Code (Title 24, California Code of Regulations, Part 9)
2016 California Existing Building Code (Title 24, California Code of Regulations, Part 10)
2016 California Green Building Standards Code (Title 24, California Code of Regulations, Part 11)
2016 California Reference Standards Code (Title 24, California Code of Regulations, Part 12)
Uniform Fire Code With Approved California Amendments
Title 19 - Public Safety, State Fire Marshal California Code Of Regulations
Title 24 - California Code Of Regulations, Americans With Disabilities Act Accessibility Guidelines (ADAAG) Uniform Accessibility Standards
NFPA 101, Life Safety Code, 2015 Edition - Chapters 5 And 13
NFPA 13-2015 Edition

APPLICABLE STANDARDS

UL - Underwriters Laboratories Fire Resistive Directory, 2016 Edition
UL - Underwriters Laboratory Building Materials Directory, 2006 Edition
SMACNA - Fire, Smoke & Radiation Damper Installation Guide For Hvac Systems, 5th Edition, 2002

BUILDING CODE ANALYSIS

BUILDING 2: NEW APPARATUS BUILDING	NOTES
TYPE OF CONSTRUCTION: Type II-B	
FIRE PROTECTION Sprinklered	
PRIMARY STRUCTURE Non-rated	Table 601
BEARING WALLS, EXTERIOR AND INTERIOR Non-Rated	Table 601
EXTERIOR WALLS (based on fire separation distance)	
1-hour rated / II-B / B, F-1, & S-2 Occ / Separation < 10'	Table 602
Non-rated / II-B / B, F-1, & S-2 Occ / Separation > 10' but < 30'	Table 602
Non-rated / II-B / B, F-1, & S-2 Occ / Separation > 30'	Table 602
NONBEARING INTERIOR WALLS AND PARTITIONS Non-rated	Table 601
FLOOR CONSTRUCTION & SECONDARY FRAMING Non-rated	Table 601
ROOF CONSTRUCTION & SECONDARY FRAMING Non-rated	Table 601
MECHANICAL SHAFTS Not Applicable	Single story building
ELEVATOR SHAFT AND OPENINGS Not Applicable	Single story building
ATRIUM Not Applicable	Single story building
EXIT STAIRS Not Applicable	Single story building
EXIT STAIR INTERIOR DOORS Not Applicable	Single story building
BUILDING OCCUPANCY **Nonsepartated** mixed use, B; F-1; S-2	CBC 508.3 Nonseparated Occupancies. F-1 Occupancy most restrictive
TOTAL OCCUPANT LOAD **104 Total Building Occupants**	
MAXIMUM BUILDING AREA [Allowable] Total Area: 8,268 sq ft [62,000 sq ft without height increase]	CBC 506.2.2 Mixed Occupancy, One Story Buildings CBC 508.3 Nonseparated Occupancies. CBC Table 506.2, S1
BUILDING HEIGHT [Allowable] 1 story, 24.5' [3 story, 75' without area increase]	CBC Tables 504.3 & 504.4 S1
MIN. NUMBER OF EXITS [Required] S at Ground Floor [2 from S Occupancy]	CBC 1006.2.1 & Table 1006.2.1: Exits per story; 2 required if the design occ. load exceeds the values listed in Table 1006.2.1.
MIN. EXIT SEPARATON [Required] S-2 Occupancy: 61' > [34'=102' (max. floor diag.) /3]	CBC 1007.1.1, Exception 2: Greater than 1/3 the diagonal distance of the area to be served for sprinklered building
MAXIMUM TRAVEL DISTANCE [Allowable] 86' < [250']	CBC Table 1017.2: 250' is the allowable travel distance for a building with a sprinkler system for F-1 Occupancy, 300' for B Occupancy, and 400' for S-2 Occupancy.
EXIT ACCESS B, F-1 and S-2 Occupancies **Non-rated** Exit Access Hallways	CBC Chap 2 Definition and 1016.2.2. The Exit Access Hallway is an exit access that leads directly to an exterior exit and is within the allowable travel distance. Exit Access Hallways are intervening areas that are an accessory to the B, F-1, & S-2 Occupancies.
Corridors: Occupancy B, F, & S Sprinklered: **0 hour** with occupant load served greater than 30	CBC Table 1020.1

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Code Analysis - Hayward Fire Station #6/Fire Training Center Building 2

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CBC	TITLE	REQUIRED / DESCRIBED	EXCEPTION	PROVIDED	NOTES
500	**BUILDING HEIGHTS AND AREAS**			**Type IIB (for F-1 Occupancy)**	
508.3.2 & Table 601	Nonseparated Occupancies, Allowable Building Height and Area.	The allowable building height and area…shall be based on the most restrictive allowances for the occupancy groups under consideration for the construction type of the building		For Construction Types Occupancy Type F-1 has the most restrictive requirements.	Construction Type IIB, The building elements listed in Table 601 are of noncombustible materials. Table 601 indicates that no (0 hr) fire resistive construction is required for any of the building elements in IIB Construction Type unless specified elsewhere in the Code.
Table 504.3	Allowable base height without area increase	IIB/S/ B, F, & S/ Occ = **75'**		Building is 24.5' high.	
Table 504.4	Allowable base number of stories without area increase	IIB/S/ B Occ = **4** IIB/S/F-1 Occ = **3** IIB/S/S-2 Occ = **4**		The building is 1 story, with photovoltaic panels on roof.	
Table 506.2	Allowable total base area without height increase	IIB / F-1 / S1 = 62,000 SF		Building Area = 8,268 BGSF	IIB construction type, sprinklered, F-1 occupancy
Table 504.3	Automatic sprinkler system height increase	Height increase for sprinklered building is contained in Table 504.3		Building is fully sprinklered (S) and is 24.5' high. Building height complies with Table 504.3.	
506.2.4	Area modifications (See 506.2 and 506.3 below)	***Total Allowable Area*** ***Aa = (At + (NS x I))*** ***Increase not required***		Building Area Total = 8,268 BGSF **8,268 sf < 62,000 sf = Building complies with base allowable area without increase**	
506.3	Frontage increase	***If = [(F/P)- 0.25] W/30*** ***Increase not required***			
Table 506.2	Automatic sprinkler system increase	Area increase for sprinklered building is contained in Table 506.2		Building is fully sprinklered. Therefore, the S1 values in Table 506.2 have been utilized.	
508.3	Mixed Occupancies/ Nonseparated.	Allowable area per most restrictive occ.		Based on **F-1** occ.	508.3.2 **Nonseparated occupancy** used
508	**MIXED USE AND OCCUPANCIES**				
508.3.3	Nonseparated Occupancies	No separation is required between B; F-1; S-2			
508.4.2	Allowable Building Area	In each story, the building area shall be such that the sum of the ratios of actual building area of each separated occupancy divided by the allowable building area of each separated occupancy shall not exceed 1.		Does not apply, building is mixed use nonseparated occupancies.	Refer 506.2.4 allowable area calculation above.
508.4.3	Allowable Height	Each separated occupancy shall comply with the building height limitations based on the type of construction of the building in accordance with section 503.1		Does not apply, building is mixed use nonseparated occupancies.	Refer 504.3 allowable height calculation above

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Code Analysis - Hayward Fire Station #6/Fire Training Center Building 2

Project Location: 1401 West Winton Avenue, Hayward, CA 94545

Date: 07/19/2019

CBC	TITLE	REQUIRED / DESCRIBED	EXCEPTION	PROVIDED	NOTES
1009	**ACCESSIBLE MEANS OF EGRESS**				
1009.1	Required	Accessible means of egress is required from all spaces.		1 accessible means of egress provided from all spaces	
1009.2	Continuity and Components	Each required accessible means of egress shall be continuous to a public way and shall consist of one or more of the following components: 1. Accessible routes complying with Chapter 11A or 11B 2. Interior exit stairways complying with 1009.3, 1009.3, with Chapter 11A or 11B 3. Interior exit access stairways complying with 1007.3, 1009.3, with Chapter 11A or 11B 4. Exterior exit stairways complying with sections 1007.3 and 1026 and Chapter 11A or 11B		Egress is continuous to the public way	
1009.2.1	Elevators Required	Egress Elevators required in buildings of four or more stories		Not provided, building is one story.	
1009.3	Stairways	In order to be considered part of an accessible means of egress: -48" clear width between handrails -Area of Refuge		Not provided, building is one story.	
1010	**DOORS**				
1010.1.1	Size	Min. 32" clear		36" wide doors provided	
1010.1.1.1	Projections into clear width	Projections into the clear opening width between 34" and 80" above floor shall not exceed 4"		Complies	
1010.1.2	Door swing	in direction of travel if OL>=50		Complies	
1010.1.5	Floor Elevation	There shall be a floor or landing on each side of a door. Such floor or landing shall be at the same elevation on each side of the door. **Landings shall be level except for exterior landings, which are permitted to have a slope not to exceed .25 unit vertical in 12 units horizontal (2% slope)**		Complies	

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Code Analysis - Hayward Fire Station #6/Fire Training Center Building 2

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CBC	TITLE	REQUIRED / DESCRIBED	EXCEPTION	PROVIDED	NOTES
Table 508.4 Section 508.3	Occupancy Separations per Table 508.4	1-hr sprinklered between [S-2] and [B & F-1]. 2-hr for nonsprinklered between [S-2] and [B & F-1].	508.3.3 No seperation is required between nonseparated occupancies.	Table 508.4 separations not used per 508.3.3. Table does not apply, building is mixed use nonseparated occupancies.	Building is fully sprinklered.
705	**EXTERIOR WALLS**				
705.3	Buildings on the Same Lot	For the purposes of determining the required wall and opening protection, projections and roof-covering requirements, buildings on the same lot shall be assumed to have an imaginary line between them.		Separation distance between this building and adjacent structures exceeds 30'	The distance from each separate building to the imaginary line is the Fire Separation Distance.
705.8.1	Allowable Area of Openings	The maximum area of unprotected and protected openings permitted in an exterior wall in any story of a building shall not exceed the percentages specified in Table 705.8	2. Buildings whose exterior bearing walls, exterior nonbearing walls and exterior primary structural frame are not required to be fire resistance rated shall be permitted to have unlimited unprotected openings.	No fire rating of exterior walls and structure required. Therefore, no limit on openings.	Building is Type IIB, FSD > 10, per table 602, no fire rating of exterior walls required, therefore unlimited unprotected openings allowed.
Table 705.8	Maximum Area of Exterior Wall Openings Based on Fire Separation Distance and Degree of Opening Protection	**0 <= FSD < 3** No opening permitted **3 <= FSD < 5** Sprinkled: 15% **5 <= FSD < 10** Sprinkled: 25% **10 <= FSD < 15** Sprinkled: 45% **15 <= FSD < 20** Sprinkled: 75% **20 <= FSD < 25** Sprinkled: No Limit	2. Buildings whose exterior bearing walls, exterior nonbearing walls and exterior primary structural frame are not required to be fire resistance rated shall be permitted to have unlimited unprotected openings.	No fire rating of exterior walls and structure required. Therefore, no limit on openings.	Building is Type IIB, FSD > 10, per table 602, no fire rating of exterior walls required, therefore unlimited unprotected openings allowed.
905	**STANDPIPE SYSTEMS**				
905.1	General	Standpipe systems shall be provided in buildings and structures in accordance with this section.			
905.3	Required installations	Standpipe systems shall be installed where required by Sections 905.3.1 through 905.3.11.1. Standpipe systems are allowed to be combined with automatic sprinkler systems.		Building does not meet any of the conditions defined in Sections 905.3.1 through 905.3.11.1. Therefore, a standpipe system not required.	

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Code Analysis - Hayward Fire Station #6/Fire Training Center Building 2

Project Location: 1401 West Winton Avenue, Hayward, CA 94545

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CBC	TITLE	REQUIRED / DESCRIBED	EXCEPTION	PROVIDED	NOTES
1016	**EXIT ACCESS**				
1016.2	Exit through intervening spaces	Egress shall not pass through adjoining or intervening rooms or areas, except where such adjoining rooms or areas and the area served are accessory to one or the other, are not a Group H occupancy and provide a discernible path of egress travel to an exit.		Complies	CBC Chap 2 Definition and 1016.2.2. The Exit Access Hallway is an exit access that leads directly to an exterior exit and is within the allowable travel distance. Exit Access Hallways are intervening areas that are an accessory to the A, B, R, & S Occupancies.
1017	**EXIT ACCESS TRAVEL DISTANCE**				
1017.2	Travel Distance Limitations	Exit access travel distance shall not exceed the values given in Table 1017.2			
1017.3	Limitations	Exit access travel shall not exceed **200' max for F-1 occupancy,** without a sprinkler system.		Building is partially sprinklered, max travel distance to an exit is 200'. Travel distance to exits does not exceed 200'. Longest travel distance from Equipment Room to exit access door in Apparatus Bay is 86'	F-1 occupancy is the most restrictive nonseparated occ.
1020	**CORRIDORS**				
1020.1 Table 1020.1	Corridors shall be fire-resistance rated in accordance with Table 1020.1	Table 1020.1: **B, F, & S** with occupant load served greater than 30: Non-sprinklered = 1 -hour Sprinklered = 0-hour		Building is partially fire sprinklered. Fire-rated corridors are not required since the occupant load served is less than 30.	
1020.2	Width	**44"** min.	2., **36"** if OL<50	Complies	
1020.4	Dead Ends	**20 ft** max.	2., in B, R-2, & S, **50 ft** with sprinkler	Complies	
1020.6	Corridor continuity	Fire-resistance-rated corridors shall be continuous from the point of entry to an exit	1., foyers, lobbies, reception are not intervening rooms	Corridors not required to be fire-rated per Table 1020.1	
1022	**EXITS**				
1022.1	General	Once a level of protection is achieved, such level of protection shall not be reduced until arrival at the exit discharge. Exits shall be continuous.		Complies	

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Code Analysis - Hayward Fire Station #6/Fire Training Center Building 2

Project Location: 1401 West Winton Avenue, Hayward, CA 94545

Date: 07/19/2019

DETAILED ANALYSIS:

CBC	TITLE	REQUIRED / DESCRIBED	EXCEPTION	PROVIDED	NOTES
200	**DEFINITIONS**			**B; F-1; S-2**	
300	**USE AND OCCUPANCY CLASSIFICATION**			**B; F-1; S-2**	
304.1	Group B	Office use; civic admin.; clinic outpatient; education above 12th grade; radio telev. stations; education above 12th grade; laboratories: testing; professional services		Classroom	Break Room O.L.<50, can be classified as "B"
306.2	Group F-1	Laundries, machinery		Equipment Room	
311.3	Group S-2	Parking garages (open or enclosed), Low Hazard Storage		Apparatus Bay	
400	**SPECIAL REQUIREMENTS ON USE & OCCUPANCY**				
404	Atriums	Not applicable		Not applicable	
404.5	Smoke Control	Not applicable		Not applicable	
404.6	Enclosure of Atriums	Not applicable		Not applicable	
600	**CONSTRUCTION TYPE**				
602.3	Type of Construction: Type IIB	Construction Type IIB: The building elements listed in Table 601 are of noncombustible materials.		Construction Type IIB	
Table 601	Type of Construction: Type IIB	Fire Resistance (Hours) Primary Structure (0) Bearing Walls Ext. (0) Bearing Walls Int. (0) Nonbearing Walls Ext Table 602 Nonbearing Walls Int. (0) Floor Construction (0) Roof Construction (0)			Refer to Table 602 analysis below for nonbearing exterior walls.
Table 602	Fire Resistance Rating for Exterior Walls Based on Fire Separation Distance	For Occupancy Group F-1: **FSD < 5':** 2 hr **5' <= FSD < 10':** 1 hr **10' <= FSD < 30':** 0 hr **FSD >= 30':** 0 hr For Occupancy Group B & S-2: **FSD < 5':** 1 hr **5' <= FSD < 10':** 1 hr **10' <= FSD < 30':** 0 hr **FSD >= 30':** 0 hr		0 hr rating; All portions of building are >10'-0"	All exterior walls are greater than 10' separation from either property lines or other buildings on the same parcel.

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Code Analysis - Hayward Fire Station #6/Fire Training Center Building 2

Project Location: 1401 West Winton Avenue, Hayward, CA 94545

Date: 07/19/2019

CBC	TITLE	REQUIRED / DESCRIBED	EXCEPTION	PROVIDED	NOTES
906	**PORTABLE FIRE EXTINGUISHERS**				
906.1	Where Required	1. In Group A, B,… 5. Where required by the California Fire Code sections indicated in Table 906.1. 6. Computer room, where required by fire code official		Fire extinguisher cabinets provided per code.	
906.3	Size and Distribution	Light Hazard Occupancy Min. Rated Single Extinguisher: 2-A Max. Floor Area Per Extinguisher: 11,250 sf Max Travel Distance: 75'		Fire extinguisher cabinets provided per code.75' travel distance governs the placement.	
1004	**OCCUPANT LOAD (Table 1004.1.2)**				
Section 1004.1.2	**Max floor area (sq ft) per occupant (OLF):**	**Occupant Load Factor (sq. ft./ person)**			
	Accessory storage, mech.	300 gross			
	Assembly unconcentrated (tables/chairs)	15 net			
	Assembly, concentrated (chairs only)	7 net			
	Business areas	100 gross			
	Industrial areas	100 gross			
	Locker rooms	50 gross			
	Parking garages	200 gross			
1005	**EGRESS WIDTH**				
1005.3.2	Other egress components (doors) width per occupant served; no fire sprinklers	Door: **x 0.2 (in. per occ.)**		Doors comply.	See egress plan for individual door calculations
1005.3.2	Other egress components (doors) width per occupant served; with fire sprinklers	Door: **x 0.15 (in. per occ.)**	Exception 1	Not applicable, building has sprinkler system	
1006	**NUMBER OF EXITS AND EXIT ACCESS DOORWAYS**				
1006.2.1 & 1006.3	Spaces with one exit access doorway	Tables 1006.2.1 , & 1006.3.2(2): Maximum Occupant Load Per Story **B** First Story: 49 **S-2** First Story: 29 **F-1** First Story: 49		One exit required for all B & F-1 Occupancies, two exits required from S-2 Occupancy. Number of exits provided comply with these requirements.	
1006.3.1	Minimum number of exist or access to exits per story	Table 1006.3.1: 1 - 500 occupants requires 2 exits or access to exits per story		First floor occupant load = **103** 5 exits provided	
1007	**EXIT AND EXIT ACCESS DOORWAY CONFIGURATION**				
1007.1.1	Separation distance when two exits are required	Not less than **1/2** of the length of the maximum overall diagonal dimension of the building or area to be served	Exception 2: Greater than 1/3 the diagonal distance of the area to be served for sprinklered building	Ground Floor: 61' > [34'=102' (max. floor diag.) /3]	

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Code Analysis - Hayward Fire Station #6/Fire Training Center Building 2

Project Location: 1401 West Winton Avenue, Hayward, CA 94545

Date: 07/19/2019

CBC	TITLE	REQUIRED / DESCRIBED	EXCEPTION	PROVIDED	NOTES
1028	**EXIT DISCHARGE**				
1028.1	General	Exits shall discharge directly to the exterior of the building. The exit discharge shall be at grade or shall provide a direct path of egress travel to grade. The exit discharge shall not reenter a building. The combined use of Exceptions 1 and 2 shall not exceed 50 percent of the number and capacity of required exits.	1. Max 50% of interior exit stairways and ramps permitted to egress through areas on level of exit discharge if all the following: **1.1** Egress to a free and unobstructed path of travel to an exterior exit. **1.2** The entire area of the level of exit discharge is separated from areas below by construction conforming to the fire-resistance rating of the enclosure **1.3** Protected throughout with an Automatic Sprinkler System	There are no interior exit stairways or ramps. All exits have a direct path of egress travel to grade. The building has a partial fire sprinkler system.	

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY: **KATHY GARCIA** DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3 - INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18887
3/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 2 CODE ANALYSIS

Drawn By: EW Checked By: EW

Scale:

Date: **October 4, 2019**

Project No. 2016039

2-A0.22

Drawing No.

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STATE OF CALIFORNIA
ENVELOPE COMPONENT APPROACH
CEC-NRCC-ENV-01-E (Revised 01/16) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-ENV-01-E
Envelope Component Approach	(Page 1 of 4)
Project Name: Hayward Fire Station #6 Bldg 2 - Revised	Date Prepared: 9/23/2019

A. GENERAL INFORMATION

01	Project Location:	1401 W. Winton Avenue	06	Compliance Method:	☑ Component ☐ Unconditioned (file Affidavit)
02	CA City and Zip Code:	Hayward, 94545	07	Building Front Orientation (deg or cardinal):	0 deg
03	Climate Zone:	3	08	Phase of Construction:	☑ New Construction ☐ Addition ☐ Alteration
04	Total Conditioned Floor Area:	2,940	09	Building Occupancy:	☑ Nonresidential ☐ High-Rise Residential ☐ Hotel/Motel Guest Room
05	Building Type:	☐ Schools (Public School) ☐ Relocatable Public School Bldg. ☑ Conditioned Spaces ☐ Unconditioned Spaces ☐ Skylight Area for Large Enclosed Space > 5000 ft² (If checked include the NRCC-ENV-04-E with submittal)			

B. ENVELOPE DETAILS – FRAMED

01	02	03	04	05	06	07	08	09	10	11	
						Continuous Insulation	Appendix JA 4 Reference		Proposed	Required	
Tag/ID	Assembly Type	Frame Material	Frame Depth	Frame Spacing	Cavity R-value	R-value	Table	Cell	U-Factor	U-Factor from Tables 140.3-B, C or D	Field Inspection Comments
1	Wall	Metal	2x6 @ 16		19	6.8	4.3.3-A	6	0.082	0.082	2- Mtl Stud R19 + R6.8
2	Wall	Metal	2x4 @ 16		13	7.6	4.3.3-A	4	0.082	0.082	3- Mtl Stud R13 + R7.6 \
3	Roof	None	Fireprotfir		0	27.0	4.2.2-A	1	0.033	0.034	Sloped Roof

C. ENVELOPE DETAILS – NON-FRAMED

01	02	03	04	05	06	07	08	09	10	
				Interior or Core		Appendix JA4 Reference		Proposed	Required	
Tag/ID	Assembly Type	Assembly Materials	Thickness (inches)	Insulation R-value	Continuous Insulation R-value	Table	Cell	U-Factor	U-Factor from Tables 140.3-B, C or D	Field Inspection Comments
1	Door	Metal, Double-layer		0	0.0	4.5.1-A	2	0.700	0.700	Metal, Double-layer

STATE OF CALIFORNIA
ENVELOPE COMPONENT APPROACH
CEC-NRCC-ENV-01-E (Revised 01/16) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-ENV-01-E
Envelope Component Approach	(Page 2 of 4)
Project Name: Hayward Fire Station #6 Bldg 2 - Revised	Date Prepared: 9/23/2019

D. ENVELOPE DETAILS – MASS

01	02	03	04	05	06	07	08	09	10	11
							Appendix JA4 Reference		Proposed	Required
Tag/ID	Mass Type	Density (lb/ft³)	Mass Thickness (inches)	Furring Strip Thickness (inches)	Interior Insulation R-value	Exterior Insulation R-value	Table	Cell	U-Factor	U-Factor from Tables 140.3-B, C or D	Field Inspection Comments
1	Wall	14.4			2.5	0.0	4.3.6-C	6	0.269	0.278	1- 6" Concrete Wall w/ F
2	Wall	14.4			13.0	0.0	4.3.6-C	6	0.169	0.278	1+20- 6" Conc R13 Wal

E. ROOFING PRODUCTS (COOL ROOF)

01	02	03	04	05	06	07	08	09	10	11
Mass Roof 25 lb/ft² or Greater	Roof Pitch	CRRC Product ID Number	Product Type	Proposed			Minimum Required			
				Aged Solar Reflectance	Thermal Emittance	SRI² (Optional)	Aged Solar Reflectance	Thermal Emittance	SRI (optional)	Comments
☐	3 / 12			☐³	0.20	0.75		0.20	0.75	Sloped Roof
☐	0 / 12			☐³	0.63	0.75		0.63	0.75	Mtl Roof Deck at lobby
☐				☐³						

☐ An aged solar reflectance less than 0.63 is allowed provided the maximum roof / ceiling U-factor in TABLE 140.3 is not exceeded

☐ High-rise residential buildings and Hotels and Motels with low-sloped roofs in Climate Zones 1 through 8, 12 and 16 are exempted from aged Solar Reflectance and thermal emittance requirements.

☐ High-rise residential buildings and Hotels/Motels with steep-sloped roofs in Climate Zones 1 and 16 are exempt from aged Solar Reflectance and thermal emittance requirements.

☐ The roof area covered by building integrated photovoltaic panels and building integrated solar thermal panels are exempt from aged Solar Reflectance and thermal emittance requirements.

To apply Liquid Field Applied Coatings, the coating must be applied across the entire roof surface and meet the dry mil thickness or coverage recommended by the coatings manufacturer and meet minimum performance requirements listed in §110.8(i)4. Select the applicable coating:

☐ Aluminum-Pigmented Asphalt Roof Coating ☐ Cement-Based Roof Coating ☐ Other _____

NOTES:

1. *Check the box if the aged Solar reflectance was not available in the Cool Roof Rating Council's Rated Product Directory. Then use the equation in Section 110.8(i)3 where the Initial Reflectance value from the same directory and use the equation (0.2+(**ρ**$_{Initial}$ – 0.2) to obtain a calculated aged solar reflectance value. Where **ρ** is the Initial Solar Reflectance and **B** is either set to 0.65 for Field-Applied Coatings or it is set to 0.70 for all other roofing products other than Field-Applied Coating.*
2. *Calculate the SRI Value by using the SRI Calculator Worksheet at (http://energy.ca.gov/title24/2016standards/documents/solar_reflectance/) and enter the resulting value in the SRI column above and attach a copy of the SRI-Worksheet (NRCC-ENV-03-E) to the to this compliance document.*

STATE OF CALIFORNIA
ENVELOPE COMPONENT APPROACH
CEC-NRCC-ENV-01-E (Revised 01/16) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-ENV-01-E
Envelope Component Approach	(Page 3 of 4)
Project Name: Hayward Fire Station #6 Bldg 2 - Revised	Date Prepared: 9/23/2019

F. AIR BARRIER

01	02	03	04	05
Name	Air Barrier Material Type	Air Barrier Assembly Type	Whole Building Air Leakage Testing	Comments

G. FENESTRATION PROPOSED AREAS AND EFFICIENCIES

01	02	03	04	05	06	07	08	09	10	11	12
			Orientation			Proposed					
Tag/ID	Fenestration Type	Surface Area	N, S, W, E or Roof	# of Panes	Max U-Factor	Max (R) SHGC	Min VT	Label	Overhang	Condition Status	Comments
9	Lobby Door NFRC 0.45/0.23/C	24	S	2	0.45	0.23	0.17	NFRC	Yes	New	
10	Lobby Storefront NFRC 0.41/C	69	S	2	0.41	0.26	0.46	NFRC	Yes	New	
11	Lobby Curtainwall NFRC 0.41\	12	S	2	0.41	0.26	0.46	NFRC	No	New	
12	Roll-Up Door NFRC 0.45/0.23\	168	S	2	0.45	0.23	0.17	NFRC	No	New	

H. ENVELOPE MANDATORY MEASURES

Indicate location on building plans of Mandatory Envelope Measures Note Block: ENV-MM

INSTRUCTIONS TO APPLICANT ENVELOPE COMPLIANCE & WORKSHEETS (check box if worksheet are included)

For detailed instructions on the use of this and all Energy Efficiency Standards compliance documents, please refer to theEnergy Commission website.

☑ NRCC-ENV-01-E Certificate of Compliance. Required on plans for all submittals.

☐ NRCC-ENV-04-E Use when minimum skylight requirements for large enclosed spaces are required in climate zones 2 through 15. Optional on plans.

STATE OF CALIFORNIA
ENVELOPE COMPONENT APPROACH
CEC-NRCC-ENV-01-E (Revised 09/MYY) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-ENV-01-E
Envelope Component Approach	(Page 4 of 4)
Project Name: Hayward Fire Station #6 Bldg 2 - Revised	Date Prepared: 9/23/2019

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

1. I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name:	Sarah Pernula	Documentation Author Signature:	Sarah Pernula
Company:	SOLDATA Energy Consulting	Signature Date:	9/23/2019
Address:	2227 Capricorn Way, Suite 202	CEA/ HERS Certification Identification (if applicable):	
City/State/Zip:	Santa Rosa, CA 95407	Phone:	707.545.4440

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer).
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name:		Responsible Designer Signature:	
Company :	RossDrulisCusenbery Architecture, Inc.	Date Signed:	
Address:	18294 Sonoma Highway	License:	
City/State/Zip:	Sonoma, CA 95476	Phone:	707-996-8448

STATE OF CALIFORNIA
Solar Ready Areas
NRCC-SRA-E (Created 12/17) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-SRA-E
Project Name: Hayward Fire Station #6 Bldg 2	Report Page: Page 1 of 5
Project Address: 1401 W. Winton Avenue	Date Prepared: 8/14/2019

This document is used to demonstrate compliance with mandatory requirements in §110.10 for newly constructed buildings which are either high-rise multifamily ten stories or fewer, hotel/motel ten stories or fewer or all other nonresidential buildings three stories or fewer. It is also used to demonstrate compliance for additions to these building types which add more than 2,000 ft² of roof area. Alterations or additions of less than 2,000 ft² of roof area are not required to comply with §110.10.

A. GENERAL INFORMATION

01	Project Location (city)	Hayward	04	Building Type	Other nonresidential bldg 3 stories or fewer
02	Climate Zone	3	05	Construction Type	New Construction
03	☐ Roof is designed for vehicle traffic, parking or for heliport				

B. PROJECT SCOPE

Table Instructions: Select the compliance path the project is using to comply per §110.10(b)1.B.

My project consists of (check one):

01

☑ Allocated Solar Zone	The project has allocated a solar zone on the roof plan per requirements in §110.10(b), as documented in Table F.
☐ Installed Solar Photovoltaic System	The project includes a permanently installed solar electric system having a nameplate DC power rating, measured under Standard Test Conditions, of no less than one watt per square foot of roof area, as documented in Table G.
☐ Installed Solar Water Heating System	The project includes a permanently installed domestic solar water-heating system complying with §150.1(c)8iii and Reference Residential Appendix RA4, as documented in Table H.
☐ Smart Thermostat and Alternative Energy Efficiency Measure	The project is a high-rise multifamily occupancy where all thermostats in each dwelling unit comply with Reference Joint Appendix JA5 and are capable of receiving and responding to demand response signals AND at least one additional energy efficiency measure listed in Exception 4 to §110.10(b)1B is installed, as documented in Table I.

C. COMPLIANCE RESULTS

Table Instructions: If any cell on this table says "DOES NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D. for guidance.

Allocated Solar Zone				Installed PV System				Installed SWH System				Smart Tstat and Alternative EE Measure		Compliance Results
01	02			03	04			05	06			07	08	09
Required Minimum Area (ft²)	≤	Designated Area (ft²)	OR	Required Minimum DC Power Rating (Watts)	≤	Designed DC Power Rating (Watts)	OR	Required Minimum Solar Savings Fraction	≤	Designed/ Rated Solar Savings Fraction	OR	JA5 Compliant Thermostat Specified?	Alternative Energy Efficiency Measure	
(See Table F)				(See Table G)				(See Table H)				(See Table I)		
1,240.2	≤	1,250	OR		<		OR		≤		OR			COMPLIES
A1.10 within the construction documents shows the location for inverters and metering equipment and a pathway for the routing of conduit/ plumbing to the electrical service/ water heating system.														COMPLIES

STATE OF CALIFORNIA
ENVELOPE COMPONENT APPROACH
CEC-NRCC-ENV-01-E (Revised 01/16) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-ENV-01-E
Envelope Component Approach	(Page 3 of 4)
Project Name: Hayward Fire Station #6 Bldg 2 - Revised	Date Prepared: 9/23/2019

F. AIR BARRIER

01	02	03	04	05
Name	Air Barrier Material Type	Air Barrier Assembly Type	Whole Building Air Leakage Testing	Comments

G. FENESTRATION PROPOSED AREAS AND EFFICIENCIES

01	02	03	04	05	06	07	08	09	10	11	12
			Orientation			Proposed					
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9	Lobby Door NFRC 0.45/0.23/C	24	S	2	0.45	0.23	0.17	NFRC	Yes	New	
10	Lobby Storefront NFRC 0.41/C	69	S	2	0.41	0.26	0.46	NFRC	Yes	New	
11	Lobby Curtainwall NFRC 0.41\	12	S	2	0.41	0.26	0.46	NFRC	No	New	
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H. ENVELOPE MANDATORY MEASURES

Indicate location on building plans of Mandatory Envelope Measures Note Block: ENV-MM

INSTRUCTIONS TO APPLICANT ENVELOPE COMPLIANCE & WORKSHEETS (check box if worksheet are included)

For detailed instructions on the use of this and all Energy Efficiency Standards compliance documents, please refer to theEnergy Commission website.

☑ NRCC-ENV-01-E Certificate of Compliance. Required on plans for all submittals.

☐ NRCC-ENV-04-E Use when minimum skylight requirements for large enclosed spaces are required in climate zones 2 through 15. Optional on plans.

STATE OF CALIFORNIA
Solar Ready Areas
NRCC-SRA-E (Created 12/17) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-SRA-E
Project Name: Hayward Fire Station #6 Bldg 2	Report Page: Page 2 of 5
Project Address: 1401 W. Winton Avenue	Date Prepared: 8/14/2019

D. EXCEPTIONAL CONDITIONS

This table is auto-filled with unedittable comments because of selections made or data entered in tables throughout the form.

No exceptional conditions apply to this project.

E. ADDITIONAL REMARKS

This table includes remarks made by the permit applicant to the Authority Having Jurisdiction.

F. ALLOCATED SOLAR ZONE

This Section Does Not Apply

Required Minimum Solar Zone

01	02	03	04	05	06			07	08
					Potential Solar Zone Areas: Roof Areas with ≥ 70% Solar Access				
Minimum Solar Zone Area Calculation Method	Total New or Added Roof Area (ft²)	Total New or Added Roof Area Covered with Skylights (ft²)	Minimum Solar Zone Based on Total or Added Roof Area (0.15 x (Roof-Sky)) (ft²)	Method/Tool(s) Used to Determine Annual Solar Access for Potential Zones¹	Low-Sloped Area (≤ 2:12 pitch) (ft²)	Steep-Sloped Area (> 2:12 pitch), Oriented 110° - 270° (ft²)	Total Potential Solar Zone Area (ft²)	Minimum Solar Zone Based on Potential Zone (0.5 x (Total Potential Zone)) (ft²)	Required Minimum Solar Zone Area (ft²)
Total New or Added Ro	8,268	0	1,240.2						1,240.2

Designated Solar Zone Subareas

09	10	11	12	13	14	15	16	17	18	19
Subarea Name or Tag	Building Plan Reference	Roof or Overhang Slope (Low ≤ 2:12 pitch) (Steep > 2:12 pitch)	Is Steep-Sloped Roof or Overhang between 110 and 270 degrees?	Subarea Complies with Title 24, Part 9	Solar Zone Subarea Free of Obstructions per §110.10(b)1A	Subarea is Required Distance from Potential Obstructions per §110.10(b)1B	Is the Smallest Dimension 5 feet or greater?	Min. Area Required per Subarea (ft²)	Designated Area (ft²)	Subarea Complies?
Table Continued										

STATE OF CALIFORNIA
Solar Ready Areas
NRCC-SRA-E (Created 12/17) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-SRA-E
Project Name: Hayward Fire Station #6 Bldg 2	Report Page: Page 3 of 5
Project Address: 1401 W. Winton Avenue	Date Prepared: 8/14/2019

Designated Solar Zone Subareas

09	10	11	12	13	14	15	16	17	18	19
Subarea Name or Tag	Building Plan Reference	Roof or Overhang Slope (Low ≤ 2:12 pitch) (Steep > 2:12 pitch)	Is Steep-Sloped Roof or Overhang between 110 and 270 degrees?	Subarea Complies with Title 24, Part 9	Solar Zone Subarea Free of Obstructions per §110.10(b)1A	Subarea is Required Distance from Potential Obstructions per §110.10(b)1B	Is the Smallest Dimension 5 feet or greater?	Min. Area Required per Subarea (ft²)	Designated Area (ft²)	Subarea Complies?
Sloped Roof	2-A2.60	Steep-Sloped	Yes	Yes	Yes	Yes	Yes	80	1,250	COMPLIES
								Total Designated Solar Zone Area (ft²):	1,250	

Interconnection Pathways	
Location in construction documents showing the location for inverters and metering equipment and a pathway for the routing of conduit/ plumbing to the electrical service/ water heating system per §110.10(c).	A1.10

G. PERMANENTLY INSTALLED SOLAR PHOTOVOLTAIC (PV) SYSTEM

This Section Does Not Apply

H. PERMANENTLY INSTALLED SOLAR HOT WATER SYSTEM

This Section Does Not Apply

I. SMART THERMOSTATS AND ALTERNATIVE EFFICIENCY MEASURE

This Section Does Not Apply

STATE OF CALIFORNIA
Solar Ready Areas
NRCC-SRA-E (Created 12/17) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-SRA-E
Project Name: Hayward Fire Station #6 Bldg 2	Report Page: Page 4 of 5
Project Address: 1401 W. Winton Avenue	Date Prepared: 8/14/2019

J. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Table Instructions: Selections have been made based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and can be found online at http://www.energy.ca.gov/2015publications/CEC-400-2015-033/appendices/forms/NRCI

YES	NO	Form/Title	Field Inspector Pass	Field Inspector Fail
○	◉	NRCI-SPV-01-E - Must be submitted for all newly installed Photovoltaic Systems (PV) being used to comply with §110.10(b)1B for high-rise multifamily, Hotel/Motel buildings less than 10 stories and nonresidential buildings less than 4 stories.	☐	☐
○	◉	NRCI-STH-01-E - Must be submitted for all newly installed Solar Water Heating systems being used to comply with §110.10(b)1B for high-rise multifamily, Hotel/Motel buildings less than 10 stories and nonresidential buildings less than 4 stories.	☐	☐

K. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

There are no Certificates of Acceptance applicable to solar ready requirements.

STATE OF CALIFORNIA
Solar Ready Areas
NRCC-SRA-E (Created 12/17) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-SRA-E
Project Name: Hayward Fire Station #6 Bldg 2	Report Page: Page 5 of 5
Project Address: 1401 W. Winton Avenue	Date Prepared: 8/14/2019

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

Documentation Author Name:	Sarah Pernula	Documentation Author Signature:	Sarah Pernula
Company:	SOLDATA Energy Consulting	Signature Date:	8/14/19
Address:	2227 Capricorn Way, Suite 202	CEA/ HERS Certification Identification (if applicable):	NR16-90-20043
City/State/Zip:	Santa Rosa, CA 95407	Phone:	707.545.4440

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer)
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
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Responsible Designer Name:		Responsible Designer Signature:	
Company :		Date Signed:	
Address:		License:	
City/State/Zip:	,	Phone:	

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY:	
KATHY GARCIA DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3 - INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
RENEWAL DATE 08/31/21
STATE OF CALIFORNIA

Sheet Title

BUILDING 2 ENVELOPE TITLE-24 ENERGY COMPLIANCE

Drawn By: SP Checked By: EW

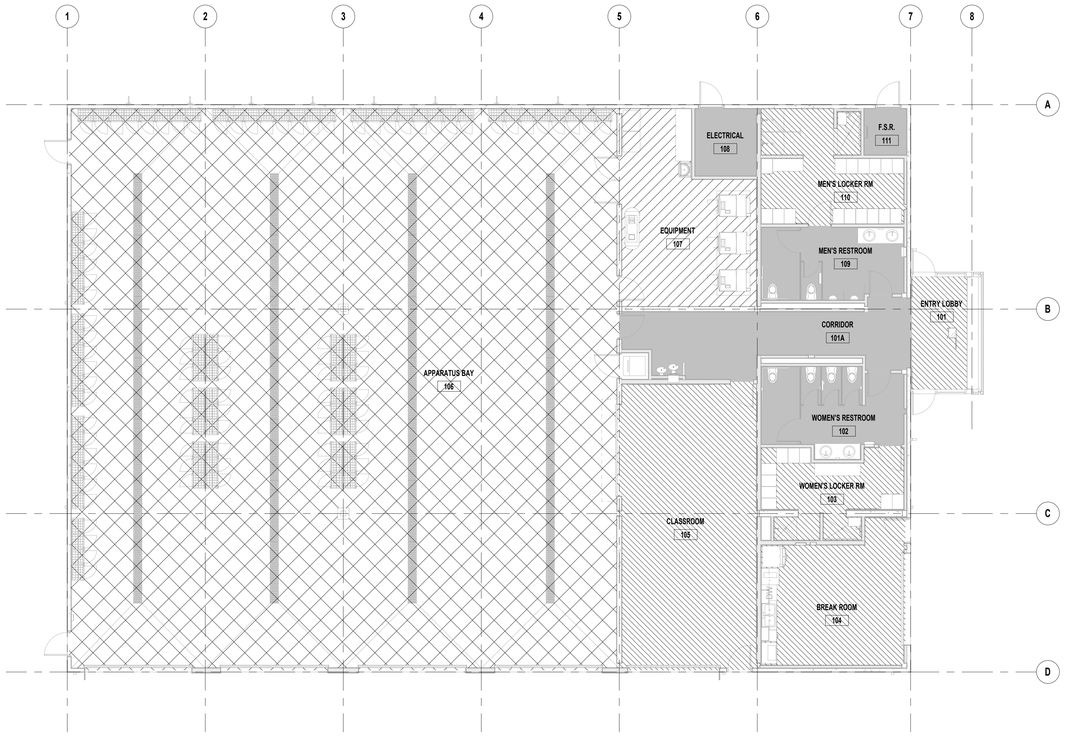
Scale:

Date: **October 4, 2019**

Project No. 2016039

2-A0.30
Drawing No.

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1 FLOOR PLAN - PLUMBING FIXTURES
1/8" = 1'-0"

0' 2' 4' 8' 16'

OCCUPANCY ANALYSIS- PLUMBING

PB. OCC.	RM. NO.	RM. NAME	AREA	PB. O.L.F.	PB. O.L.
-					
-	101A	CORRIDOR	274 SF	0 SF	
-	102	WOMEN'S RESTROOM	194 SF	0 SF	
-	108	ELECTRICAL	71 SF	0 SF	
-	109	MEN'S RESTROOM	172 SF	0 SF	
-	111	F.S.R.	34 SF	0 SF	
			745 SF		0
A3					
A3	101	ENTRY LOBBY	108 SF	30 SF	4
			108 SF		4
B					
B	103	WOMEN'S LOCKER RM	175 SF	200 SF	1
B	104	BREAK ROOM	309 SF	200 SF	2
B	105	CLASSROOM	651 SF	200 SF	3
B	110	MEN'S LOCKER RM	237 SF	200 SF	1
			1372 SF		7
F					
F	107	EQUIPMENT	376 SF	2000 SF	0
			376 SF		0
S					
S	106	APPARATUS BAY	5188 SF	5000 SF	1
			5188 SF		1
Grand total: 12			7788 SF		12

RossDrulisCusenbery

Plumbing Occupancy/Fixture Analysis
HAYWARD FIRE TRAINING CENTER - BUILDING 2

PLUMBING OCCUPANT ANALYSIS Date: 7/2/19

	Area	Pb. O.L.F.	Totals	Females 50%	Males 50%
A-3 Occupancy	108	30.0	3.6	1.8	1.8
B Occupancy	1372	200.0	6.9	3.4	3.4
F Occupancy	376	2000.0	0.2	0.1	0.1
S Occupancy	5188	5000.0	1.0	0.5	0.5
Total Building Plumbing Occupants			11.7	All	

PLUMBING FIXTURE ANALYSIS

	TOILETS Female No.	TOILETS Male No.	URINALS Male No.	LAVATORIES Female No.	LAVATORIES Male No.	Drinking Fountains	Service Sink
A-3 Occupancy	1.8			1.8			
Female							
Male		1.8	1.8		1.8	3.6	
M+F							
2016 CPC Table 422.1 Req's	1:1-25 0.072 2:26-50 3:51-100	1:1-100 0.018 2: 101-200 3:201-400	1:1-100 0.018 2:201-300	1:1-100 0.02 2:101-200	1:1-200 0.009 2:201-400	1:1-250 2:251-500	Provide One In Bldg
Calculations	1.8	1.8	1.8	1.8	1.8	3.6	
	25	100	100	100	200	250	
Fixtures Req'd	0.07	0.02	0.02	0.02	0.01	0.01	
B Occupancy	3.4			3.4			
Female							
Male		3.4	3.4		3.4	6.9	
M+F							
2016 CPC Table 422.1 Req's	1:1-15 0.229 2:16-30 3:31-50	1:1-50 0.069	1:1-100 0.034	1:1-50 0.07	1:1-75 0.046	1:1-150	Provide One In Bldg
Calculations	3.4	3.4	3.4	3.4	3.4	6.9	
	15	50	100	50	75	150	
Fixtures Req'd	0.23	0.07	0.03	0.07	0.05	0.05	
F Occupancy	0.1			0.1			
Female							
Male		0.1	0.1		0.1	0.2	
M+F							
2016 CPC Table 422.1 Req's	1:1-50 0.002 2:51-75	1:1-50 0.002 2:51-75	-	1:1-50 0 2:51-100	1:1-75 0.001 2:76-150	1:1-150	Provide One In Bldg
Calculations	0.1	0.1	-	0.1	0.1	0.2	
	50	50	-	50	75	150	
Fixtures Req'd	0.00	0.00	0.00	0.00	0.00	0.00	
S Occupancy	0.5			0.5			
Female							
Male		0.5	0.5		0.5	1.0	
M+F							
2016 CPC Table 422.1 Req's	1:1-100 0.005 2:101-200	1:1-100 0.005 2:101-200	-	1:1-200 0 2:201-400	1:1-200 0.003 2:201-400	1:1-250	Provide One In Bldg
Calculations	0.5	0.5	-	0.5	0.5	1.0	
	100	100	-	200	200	250	
Fixtures Req'd	0.01	0.01	0.00	0.00	0.00	0.00	

No. F Toilets to be > or = to No. of M Toilets+Urinals	TOILETS Female No.	TOILETS Male No.	URINALS Male No.	LAVATORIES Female No.	LAVATORIES Male No.	Drinking Fountains	Service Sink
	Subtotal 0.31	Subtotal 0.09	Subtotal 0.05	Subtotal 0.09	Subtotal 0.06	0.07	
	Total Req'd 1	Total Req'd 1	Total Req'd 1	Total Req'd 1	Total Req'd 1	1	1
	1	2	Sum of Req'd Toilets & Urinals				
Fixtures Provided	4	2	2	2	2	1	1

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3 - INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
9/30/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 2 PLUMBING FIXTURE ANALYSIS

Drawn By: EW
Checked By: EW

Scale:
1/8" = 1'-0"

Date:
October 4, 2019

Project No. 2016039

2-A0.41
Drawing No.

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SLAB TYPE LEGEND

+0'-0", UON

-2" FROM 0'-0" LEVEL

SLOPED STRUCTURE, SEE FLOOR PLAN

6" HIGH APPLIED CONCRETE CURB

GENERAL NOTES

1. REFER TO DETAILS FOR SIZE AND PLACEMENT OF CONCRETE CURBS
2. SEE DETAIL 9/2-A8.05 FOR WATERPROOFING OF SLAB PENETRATIONS
2. SEE DETAIL 8/2-A8.05 FOR GUIDE TO LAPPING OF UNDERSLAB WATERPROOFING JOINTS

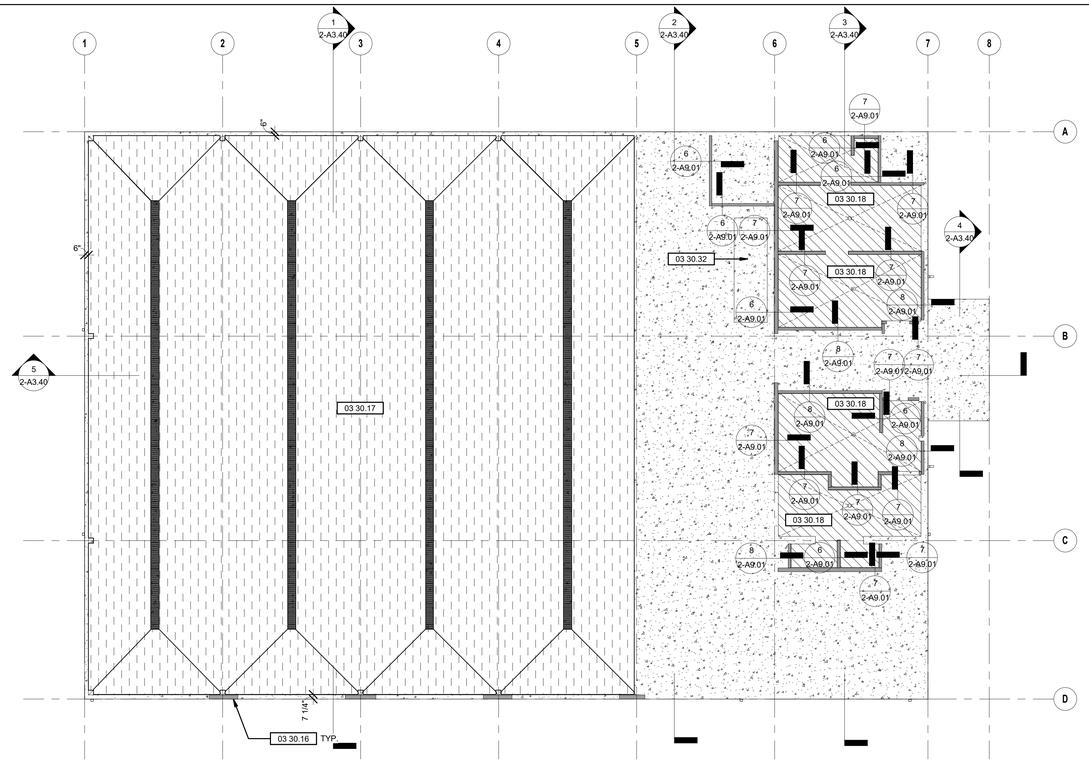
ALIGNMENT GUIDE

GUIDE TO LOCATE SLAB EDGES

EXTERIOR EDGES (DIMENSIONS ON FLOOR PLANS)

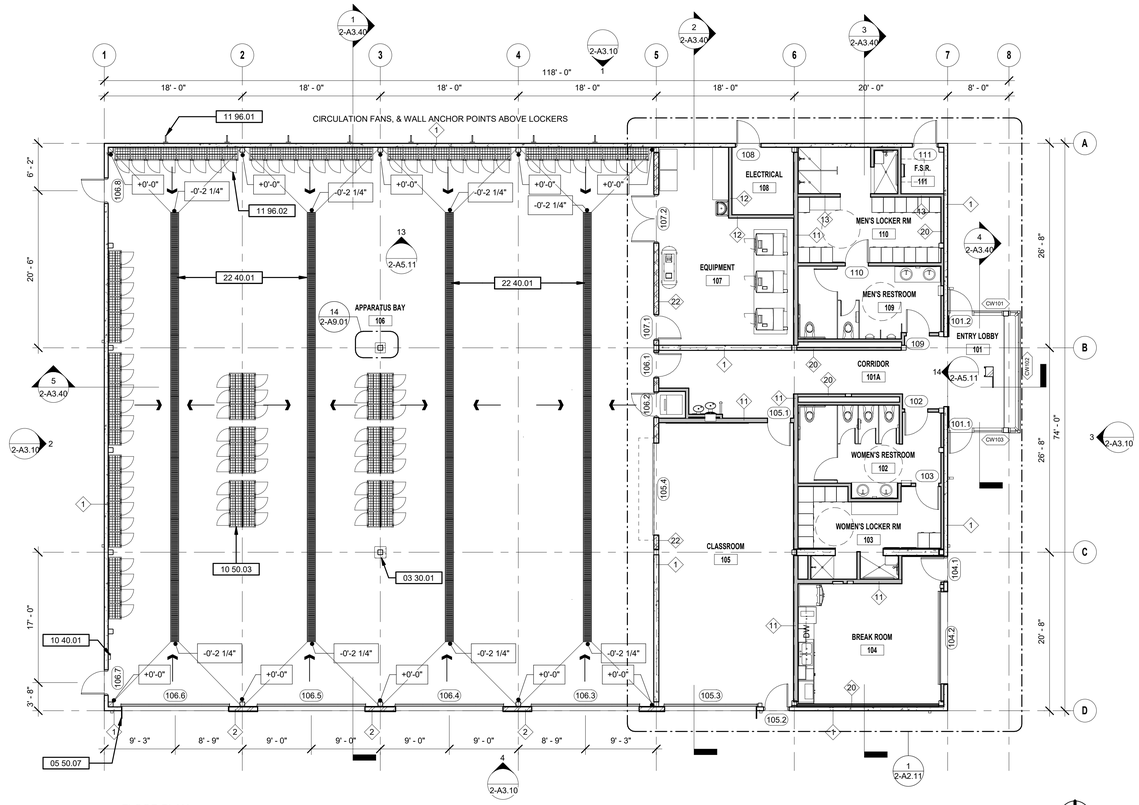
INTERIOR EDGES (DIMENSIONS ON FLOOR PLANS) AND AS FOLLOWS:
1. TILE FLOOR RECESSES:
RECESS EDGES SHALL ALIGN WITH OUTSIDE F.O. TILE BACKER BOARD

2. VISIBLE WALL FINISH PASSING SLAB EDGE:
OUTER EXTENTS OF BENT PL AND WALL FRAMING SHALL ALIGN



1 SLAB EDGE PLAN
1/8" = 1'-0"

0' 2' 4' 8' 16'



2 FLOOR PLAN
1/8" = 1'-0"

0' 2' 4' 8' 16'

GENERAL SHEET NOTES

1. SEE SHEET 2-A0.10 FOR ACCESSIBLE MOUNTING HEIGHTS AND CLEARANCES.
2.

WALL LEGEND

- CONCRETE WALL, S.S.D. FOR THICKNESS & REINFORCING
- CMU WALL TO 8'-0" A.F.F., S.S.D. FOR THICKNESS & REINFORCING
- METAL STUD-FRAMED WALL PER WALL TYPE (SEE SHEET 2-A8.00)
- ALUMINUM CURTAIN WALL
- 1-HR FIRE-RATED SEPARATION

SHEET KEYNOTE LEGEND

03 30.01	PROTECTIVE CONCRETE CASING @ BASE OF STEEL COLUMN, TYPICAL U.N.O.
03 30.16	6" HIGH CONCRETE WALL CURB, TYPICAL - WIDTH AS DETAILED
03 30.17	FLOOR SURFACE SLOPED TO TRENCH DRAINS, SEE DIMENSIONED FLOOR PLAN & PLUMBING DRAWINGS
03 30.18	FLOOR SURFACE SLOPED TO FLOOR DRAINS, S.P.D.
03 30.32	CONCRETE HOUSEKEEPING PAD, S.S.D. MIN. PAD EXTENTS 6" FROM EQUIPMENT PERIMETER.
05 50.07	PAINTED ALUMINUM PLATE "PORTAL" AT HEAD & JAMBS OF APPARATUS BAY DOOR GROUP
10 40.01	SURFACE-MOUNTED FIRE EXTINGUISHER CABINET
10 50.03	METAL TURN OUT LOCKERS ON CASTERS.
11 96.01	WALL-MOUNTED LADDER RACK, TYPICAL
11 96.02	WALL-MOUNTED TURN OUT LOCKERS
22 40.01	PREMANUFACTURED TRENCH DRAIN WITH GALVANIZED STEEL FRAME AND DUCTILE IRON GRATE, TYPICAL

RossDrulisCusenbery
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542
ARCHITECTURE

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY:	
KATHY GARCIA DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	INC 01_ADD_01_V1	12/06/2019

PERMIT SUBMITTAL V3 - INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
9/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 2
SLAB EDGE PLAN, FLOOR PLAN

Drawn By: EW

Checked By: EW

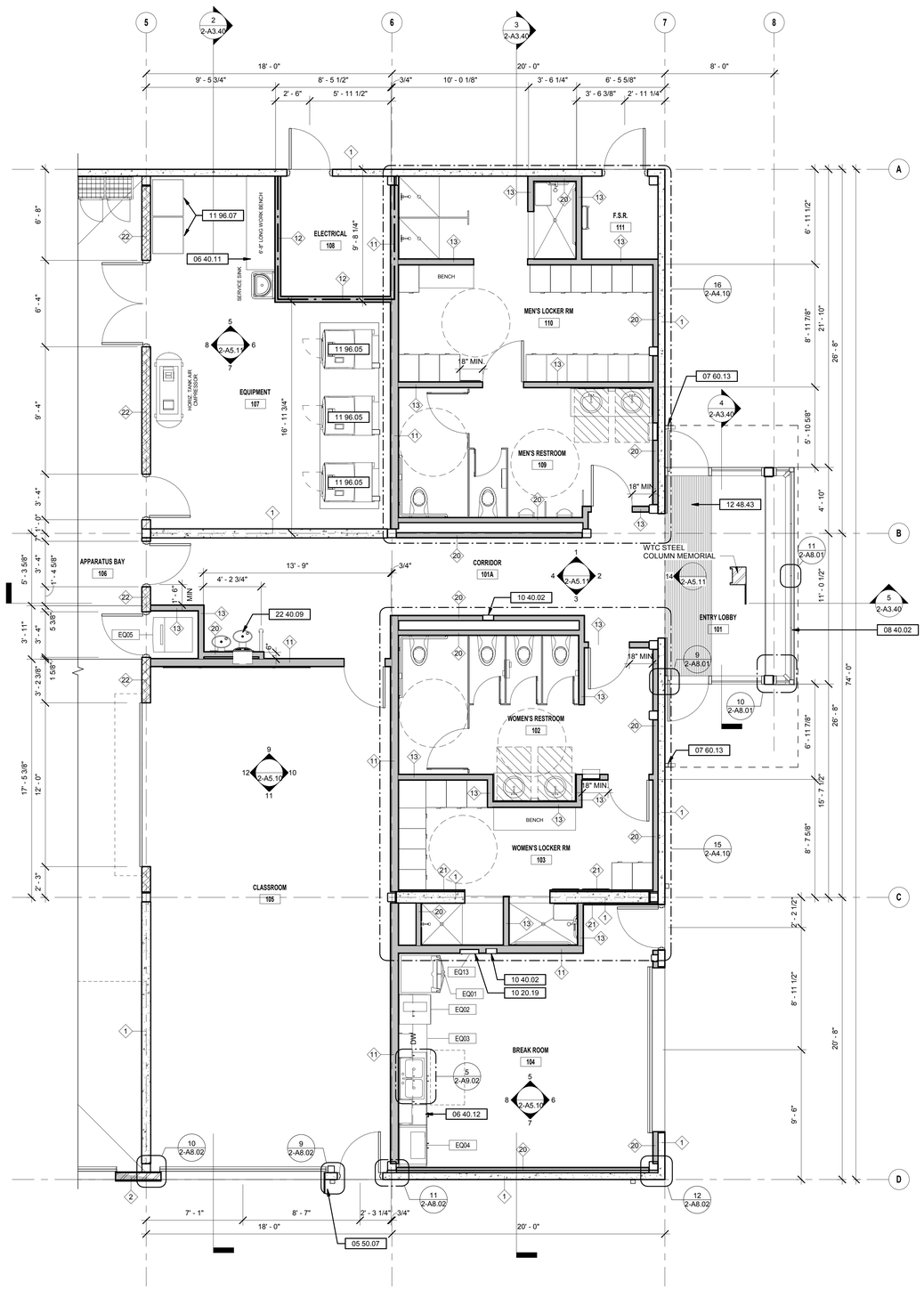
Scale:
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Date:
October 4, 2019

Project No. 2016039

2-A2.10
Drawing No.

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1 FLOOR PLAN (EAST HALF) - ENLARGED SCALE
1/4" = 1'-0"

GENERAL SHEET NOTES

1. SEE SHEET 2-A0.10 FOR ACCESSIBLE MOUNTING HEIGHTS AND CLEARANCES.
2. INTERIOR OF STUD WALL AND COLUMN BOX DIMENSIONS MEASURED TO FACE OF FRAMING, U.O.N.
3. EXTERIOR WALL DIMENSIONS MEASURED TO FACE OF FINISH, U.O.N.
4. CONCRETE AND CMU WALL DIMENSIONS MEASURED TO FACE OF CONCRETE OR BLOCK, U.O.N.
5. REFER TO SHEET 2-A8.00 FOR WALL TYPES
6. FOR DETAIL CALLOUTS, SEE WALL SECTIONS, ENLARGED PLANS, AND INTERIOR ELEVATIONS REFERENCED IN THE 2-A2 SERIES
7. FOR LOCATION AND DETAILED INFORMATION ON SIGNAGE, REFER TO "VOLUME 5 CONSTRUCTION DOCUMENT DRAWINGS (SIGNAGE)"
8. "ALIGN" ANNOTATIONS AT WALLS REFER TO FACE OF FINISH, U.O.N.
9. SEE PLUMBING DRAWINGS FOR FLOOR DRAIN AND CLEANOUT LOCATIONS

WALL LEGEND

- CONCRETE WALL, S.S.D. FOR THICKNESS & REINFORCING
- CMU WALL TO 8'-0" A.F.F., S.S.D. FOR THICKNESS & REINFORCING
- METAL STUD-FRAMED WALL PER WALL TYPE (SEE SHEET 2-A8.00)
- ALUMINUM CURTAIN WALL
- 1-HR FIRE-RATED SEPARATION

SHEET KEYNOTE LEGEND

05 50.07	PAINTED ALUMINUM PLATE "PORTAL" AT HEAD & JAMBS OF APPARATUS BAY DOOR GROUP
06 40.11	WORK BENCH WITH GALVANIZED STEEL FINISH
06 40.12	STAINLESS STEEL COUNTERTOP WITH INTEGRAL BOWL SINK
07 60.13	CONNECT D.S. TO PIPE UNDER SIDEWALK, S.C.D.
08 40.02	ALUMINUM FRAME STOREFRONT SECTION WITH ENTRY DOOR AND CLEAR GLAZING
10 20.19	RECESSED AED CABINET
10 40.02	RECESSED FIRE EXTINGUISHER CABINET
11 96.05	EXTRACTOR (O.F.C.I.). MOUNT TO EQUIPMENT PAD W/ (10) 5/8" DIA. SCREW ANCHORS W/ 3-1/4" EMBED (5 EA. SIDE), S.S.D.
11 96.07	SELF-CONTAINED SOLVENT TANK, BY OTHERS. ANCHOR W/ (4) 3/8" DIA. CONCRETE SCREW ANCHORS W/ 3 1/2" EMBED INTO MAT SLAB PER 1/1-S1.11
12 48.43	WALK OFF MAT WITH ANCHORED PERIMETER EDGES
22 40.09	HI-LOW DRINKING FOUNTAIN, S.P.D. AND SEE ACCESSIBILITY STANDARDS FOR MOUNTING REQUIREMENTS (SHEET 2-A0.10)

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

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HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3 - INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
9/30/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 2
ENLARGED SCALE FLOOR PLAN

Drawn By: EW
Checked By: EW

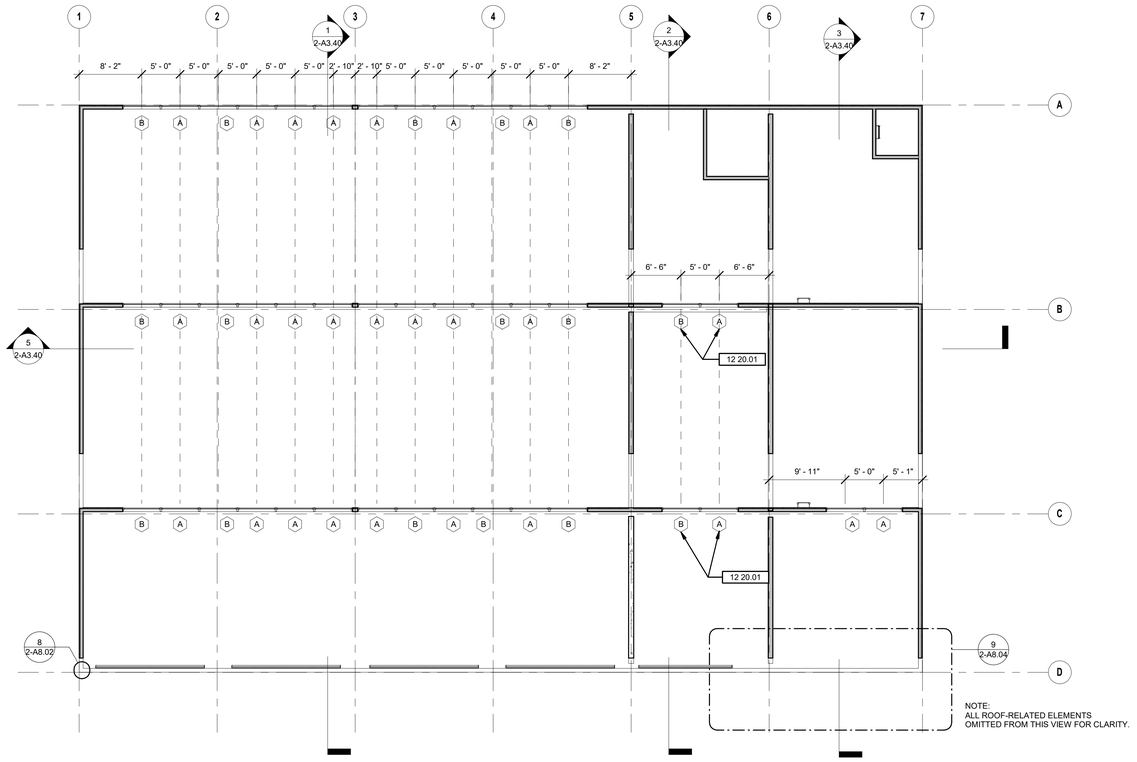
Scale:
1/4" = 1'-0"

Date:
October 4, 2019

Project No. 2016039

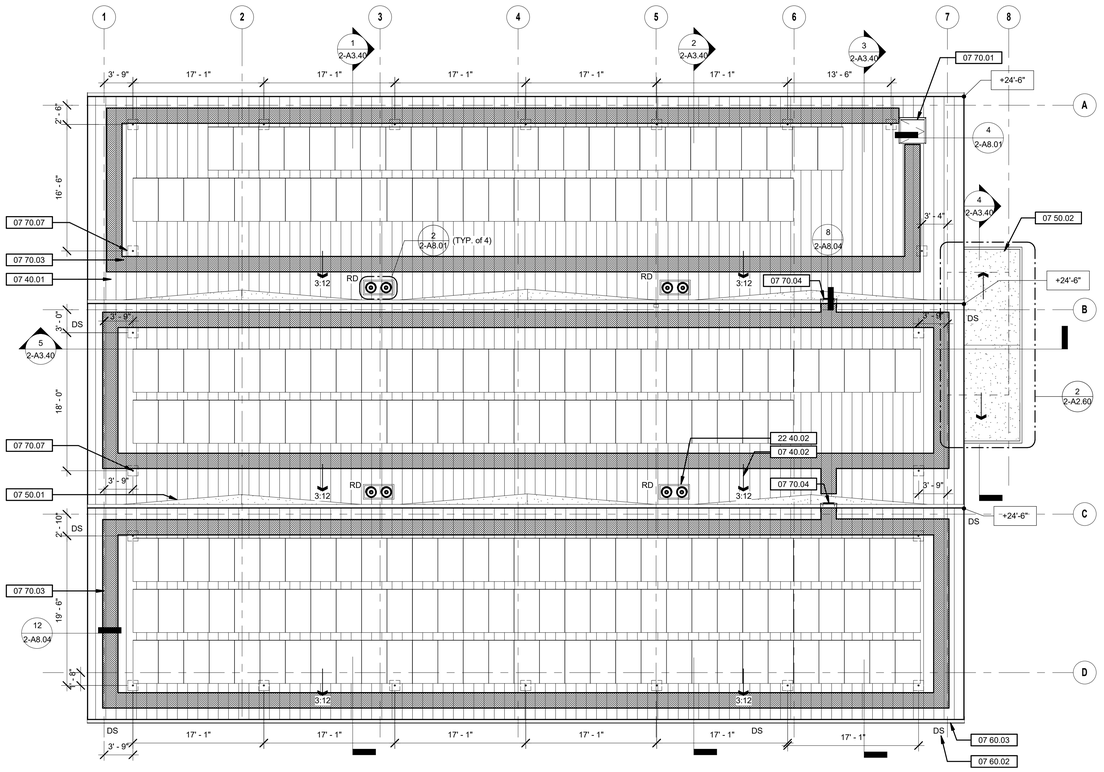
2-A2.11
Drawing No.

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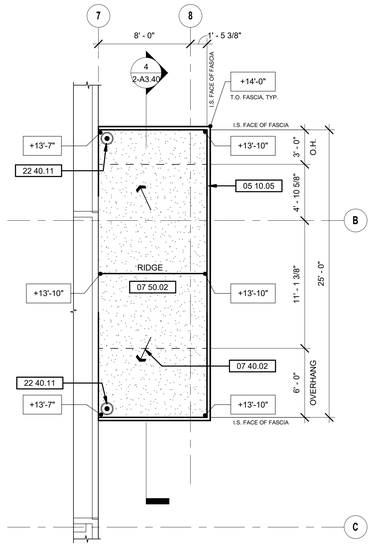
3 CLERESTORY FLOOR PLAN
1/8" = 1'-0"

0' 2' 4' 8' 16'



1 ROOF PLAN
1/8" = 1'-0"

0' 2' 4' 8' 16'



2 ROOF PLAN @ LOBBY
3/16" = 1'-0"

GENERAL SHEET NOTES

1. SEE SHEET 2-A0.10 FOR ACCESSIBLE MOUNTING HEIGHTS AND CLEARANCES.
2. MINIMUM ROOF SLOPES SHALL BE 1/4" PER FOOT, U.O.N.
3. SLOPE ARROWS @ ROOF AREAS INDICATE DOWN SLOPE, TYP.
4. REFER TO MECHANICAL DRAWINGS AND MECHANICAL SYSTEM TO BE INSTALLED FOR ALL MECHANICAL SYSTEM PENETRATIONS.
5. REFER TO PLUMBING DRAWINGS AND PLUMBING SYSTEM TO BE INSTALLED FOR ALL ROOF PLUMBING PENETRATIONS.
6. CONTRACTOR SHALL COORDINATE THE LOCATION OF ROOF DRAINS AND PIPING TO AVOID CONFLICTS WITH STRUCTURE, MECHANICAL SYSTEM AND INFRASTRUCTURE.
7. ABBREVIATIONS:

   T.O.S. = TOP OF STEEL
   HP - T.O.R. = HIGH POINT - TOP OF ROOF FINISH
   LP - T.O.R. = LOW POINT - TOP OF ROOF FINISH

8. REFER TO ARCHITECTURAL DETAIL SERIES FOR TYPICAL PENETRATION WATERPROOFING ASSEMBLIES
9. SEE ELECTRICAL AND PV DRAWINGS FOR COMPLETE SCOPE OF ELECTRICAL AND PHOTOVOLTAIC WORK.
10. PHOTOVOLTAIC ARRAY SHALL COMPLY TO THE 2016 CALIFORNIA FIRE CODE.
11. REFER TO DETAILS 5 AND 7/2-A8.04 FOR SSMR DETAILS

WALL LEGEND

- CONCRETE WALL, S.S.D. FOR THICKNESS & REINFORCING
- CMU WALL TO 8'-0" A.F.F., S.S.D. FOR THICKNESS & REINFORCING
- METAL STUD-FRAMED WALL PER WALL TYPE (SEE SHEET 2-A8.00)
- ALUMINUM CURTAIN WALL
- 1-HR FIRE-RATED SEPARATION

SHEET KEYNOTE LEGEND

05 10.05	PAINTED STEEL CHANNEL FASCIA, MITER ALL EXPOSED CORNERS. COMPLY WITH AESS SPECIFICATION SECTION 05 1250 FOR FASCIA FABRICATION AND FINISH WITH HIGH-PERFORMANCE PAINT COATING
07 40.01	PRE-FINISHED STANDING SEAM METAL ROOF PANELS, TYPICAL
07 40.02	ARROW INDICATES DOWNWARD DIRECTION OF ROOF SLOPE, TYPICAL
07 50.01	MODIFIED BITUMEN MEMBRANE ROOF CRICKET
07 50.02	MODIFIED BITUMEN MEMBRANE ROOF OVER STRUCTURAL DECK
07 60.02	INDICATES DOWNSPOUT LOCATION, TYPICAL
07 60.03	PAINTED ALUMINUM EAVE GUTTER
07 70.01	ROOF HATCH WITH COLLAPSIBLE GUARDS
07 70.03	ROOF ACCESS WALKWAY, SECURED TO STANDING SEAM ROOF
07 70.04	VERTICAL ACCESS LADDER BETWEEN SAW TOOTH ROOF SECTIONS
07 70.07	MAINTENANCE TIE-OFF ANCHOR, SEE 13/2-S1.5.1 FOR DETAIL
12 20.01	PROVIDE BLACK-OUT WINDOW SHADE WITH MOTORIZED OPERATOR
22 40.02	ROOF AND OVERFLOW DRAIN
22 40.11	ROOF DRAIN WITH SCREEN, S.P.D.

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
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LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
5/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 2 CLERESTORY FLOOR PLAN, ROOF PLANS

Drawn By: EW
Checked By: EW

Scale:
As indicated

Date:
October 4, 2019

Project No. 2016039

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Drawing No.

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ROOM FINISH SCHEDULE

WTWT	NAME	FLOOR	BASE	WALLS				CEILING	COMMENTS
				NORTH	EAST	SOUTH	WEST		
101	ENTRY LOBBY	CONC2	WB2	CUR	CUR	CUR	G1/WDR1		
101A	CORRIDOR	CONC2	CB1	G1	G1	G1	G1/WDR1	CLG4	
102	WOMEN'S RESTROOM	T1	TB1	T4/G1	T4/G1	T4/G1	T4/G1	G1	
103	WOMEN'S LOCKER RM	T1/T2	TB1	T4/G1	T4/G1	T4/G1	T4/G1	G1	
104	BREAK ROOM	CONC2	RB1	G1/CONC3	CONC3	G1	G1	X1	
105	CLASSROOM	PAC1	RB1	G1	G1	CONC3	CONC3/CONC4/G1	X1	PROVIDE ABUSE RESISTANT GYPSUM BOARD 0"- 48" A.F.F ON NORTH AND EAST WALLS
106	APPARATUS BAY	PAC1	CB2	CONC3/FC1	CONC3/CONC4/G1	CONC3/FC1	CONC3/FC1	X1	
107	EQUIPMENT	PAC1	RB1	CONC3/G1	G1	CONC3	CONC4/G1	X1	
108	ELECTRICAL	CONC1	RB1	CONC2	G1	G1	G1	X1	
109	MEN'S RESTROOM	T1	TB1	T4/G1	T4/G1	T4/G1	T4/G1	G1	
110	MEN'S LOCKER RM	T1/T2	TB1	T4/G1	T4/G1	T4/G1	T4/G1	G1	T2 INSIDE SHOWERS
111	F.S.R.	CONC1	RB1	CONC3	CONC3	G1	G1	X1	

FINISH LEGEND

FLOORS

CPT1	CARPET TILE; TYPE 1
CONC1	SEALED CONCRETE; NO DYE/STAIN
CONC2	SEALED POLISHED CONCRETE TOPPING, NO DYE/STAIN.
PAC1	POLYASPARTRIC COATING OVER CONCRETE
R1	RUBBER ATHLETIC FLOORING
RF1	RESILIENT FLOORING
SP1	SEALED PAVER; COLOR 1
SP2	SEALED PAVER, COLOR 2
T1	PORCELAIN FIELD TILE: 12"x12" UNGLAZED, COLOR 1
T2	PORCELAIN FIELD TILE: 2"x2" UNGLAZED, COLOR 1 (SHOWERS)
T3	PORCELAIN FIELD TILE: 12"x12" UNGLAZED, COLOR 2

BASE

CB1	CONCRETE CURB, SEALED NO STAIN/DYE
CB2	POLYASPARTRIC FLOORING OVER CONCRETE
RB1	4" RESILIENT WALL BASE, COLOR 1
TB1	PORCELAIN TILE: 6"X12" UNGLAZED PORCELAIN COVED BASE TILE, COLOR 1
TB2	NOT USED
WB1	WOOD BASE - SURFACE APPLIED
WB2	WOOD BASE - FLUSH

CEILING

AC1	ACOUSTIC PANEL TYPE 1 - 2'x2' GRID
AC2	ACOUSTIC PANEL TYPE 2 - TECTUM 2'x4' GRID
AC3	ACOUSTIC PANEL TYPE 3 - 2'X2' GRID
G1	PAINTED GYPSUM BOARD
CLG1	LINEAR METAL PANEL CEILING SYSTEM TYPE 1
CLG2	LINEAR METAL PANEL CEILING SYSTEM TYPE 2; W/ PERFORATIONS AND ACOUSTIC BACKING
CLG3	METAL SOFFIT PANEL SYSTEM TYPE 1
CLG4	METAL SOFFIT PANEL SYSTEM TYPE 2; W/ PERFORATIONS AND ACOUSTIC BACKING
X1	EXPOSED STRUCTURE - NO FINISH/NOT PAINTED
X2	EXPOSED STRUCTURE AND MECHANICAL SYSTEMS - PAINTED COLOR 1
X3	EXPOSED STRUCTURE - ACOUSTICAL SPRAY; COLOR 1. CEILING BEAMS, EXPOSED STRUCTURE AND EXPOSED MECHANICAL SYSTEMS - PAINTED COLOR 1

WALL AND WAINSCOT MATERIALS

AP1	ACOUSTIC PANELS - FELT WRAPPED PANELS
CONC3	CIP CONCRETE - SEALED
CONC4	CMU CONCRETE WALL - SEALED
CUR	GLAZED CURTAIN WALL SYSTEM
FC1	FIBER CEMENT BOARD; COLOR 1. SCREW DOWN
FC2	FIBER CEMENT BOARD; COLOR 2. ADHESIVE APPLIED
FRP	FIBER REINFORCED PANEL
G1	GYPSUM BOARD - PAINTED W/ EGGSHELL FINISH
G2	PAINTED HIGH-IMPACT GYPSUM BOARD
PLY	3/4" FIRE RESISTANT PLYWOOD OVER GYP. BD. PAINT ALL SURFACES W/ FLAME RESISTANT ENAMEL PAINT
T4	PORCELAIN FIELD TILE: 6"x24"; COLOR 1
WDR1	RECLAIMED 1X4 TONGUE AND GROOVE WOOD PANELING
WIN	ALUMINUM STOREFRONT WINDOW SYSTEM
WV1	WOOD VENEER, STAIN 1

FINISH SCHEDULE GENERAL NOTES

1. SEE INTERIOR ELEVATIONS FOR MORE DETAILED INFORMATION
2. SEE REFLECTED CEILING PLANS FOR MORE DETAILED INFORMATION
3. PROVIDE FIRE RESISTANT TYPE 'X' GYPSUM BOARD AT FIRE RATED ASSEMBLIES
4. PROVIDE WATER RESISTANT TYPE 'WR' GYPSUM BOARD AT WET LOCATIONS

DOOR AND FRAME SCHEDULE

DOOR		DOOR						FRAME							
		SIZE									DETAILS			HARDWARE	
MARK	ROOM NAME	WIDTH	HEIGHT	THICKNESS	TYPE	MATERIAL	FINISH	TYPE	MATERIAL	FINISH	HEAD	JAMB	SILL	GROUP	REMARKS
101.1	ENTRY LOBBY	3' - 0"	7' - 10"	1 3/4"	C	AL	ANOD	PER MANUF	AL	ANOD	5/2-A8.02	9/2-A8.01	3/2-A8.02	2-02	EQUIPPED WITH CARD READER
101.2	ENTRY LOBBY	3' - 0"	7' - 10"	1 3/4"	C	AL	ANOD	PER MANUF	AL	ANOD	5/2-A8.02	9/2-A8.01	3/2-A8.02	2-02	EQUIPPED WITH CARD READER
102	WOMEN'S RESTROOM	3' - 0"	7' - 0"	1 3/4"	A	HM	FP	C	HM	FP	1/2-A9.01	2/2-A9.01	1/2-A9.01	2-12	
103	WOMEN'S LOCKER ROOM	3' - 0"	7' - 0"	1 3/4"	A	HM	FP	C	HM	FP	1/2-A9.01	2/2-A9.01		2-08	EQUIPPED WITH CARD READER
104.1	BREAK ROOM	3' - 0"	7' - 0"	1 3/4"	A	HM	FP	B	HM	FP	2/2-A8.05	10/2-A8.05	3/2-A8.02	2-04	
104.2	BREAK ROOM	12' - 0"	10" - 0"	2 1/8"	E	MTL	FF	PER MANUF	MTL	FF	11/2-A8.05	4/2-A9.01		2-13	
105.1	CLASSROOM	3' - 0"	7' - 0"	1 3/4"	A	HM	FP	C	HM	FP	1/2-A9.01	2/2-A9.01		2-08	EQUIPPED WITH CARD READER
105.2	CLASSROOM	3' - 0"	7' - 10"	1 3/4"	A	HM	FP	A	HM	FP	2/2-A8.05	3/2-A9.01	3/2-A8.02	2-05	
105.3	CLASSROOM	12' - 0"	14' - 0"	2 1/8"	E	MTL	FF	PER MANUF	MTL	FF	1/2-A8.05	4/2-A9.01		2-13	
105.4	CLASSROOM	12' - 0"	12' - 0"	1 5/8"	D	MTL	FF	PER MANUF	MTL	FF	2/2-A8.05	4/2-A9.01		2-13	
106.1	APPARATUS BAY	3' - 0"	7' - 0"	1 3/4"	A	HM	FP	C	HM	FP	3/2-A9.01	3/2-A9.01		2-10	
106.2	APPARATUS BAY	3' - 0"	7' - 0"	1 3/4"	A	HM	FP	C	HM	FP	3/2-A9.01	3/2-A9.01		2-09	
106.3	APPARATUS BAY	14' - 0"	14' - 0"	2 1/8"	E	MTL	FF	PER MANUF	HM	FP	1/2-A8.05	4/2-A9.01		2-13	
106.4	APPARATUS BAY	14' - 0"	14' - 0"	2 1/8"	E	MTL	FF	PER MANUF	MTL	FF	1/2-A8.05	4/2-A9.01		2-13	
106.5	APPARATUS BAY	14' - 0"	14' - 0"	2 1/8"	E	MTL	FF	PER MANUF	MTL	FF	1/2-A8.05	4/2-A9.01		2-13	
106.6	APPARATUS BAY	14' - 0"	14' - 0"	2 1/8"	E	MTL	FF	PER MANUF	MTL	FF	1/2-A8.05	4/2-A9.01		2-13	
106.7	APPARATUS BAY	3' - 0"	7' - 10"	1 3/4"	A	HM	FP	PER MANUF	MTL	FF	2/2-A8.05	10/2-A8.05	3/2-A8.02	2-01	EQUIPPED WITH CARD READER
106.8	APPARATUS BAY	3' - 0"	7' - 10"	1 3/4"	A	HM	FP	A	MTL	FF	2/2-A8.05	10/2-A8.05	3/2-A8.02	2-02	EQUIPPED WITH CARD READER
107.1	EQUIPMENT ROOM	3' - 0"	7' - 0"	1 3/4"	A	HM	FP	A	HM	FP	3/2-A9.01	3/2-A9.01		2-12	
107.2	EQUIPMENT ROOM	6' - 0"	7' - 0"	1 3/4"	B	HM	FP	D	HM	FP	3/2-A9.01	3/2-A9.01		2-07	
108	ELECTRICAL	3' - 0"	7' - 10"	1 3/4"	A	HM	FP	A	HM	FP	2/2-A8.05	10/2-A8.05	3/2-A8.02	2-06	
109	MEN'S RESTROOM	3' - 0"	7' - 0"	1 3/4"	A	HM	FP	C	HM	FP	1/2-A9.01	2/2-A9.01	1/2-A9.01	2-12	
110	MEN'S LOCKER ROOM	3' - 0"	7' - 0"	1 3/4"	A	HM	FP	C	HM	FP	1/2-A9.01	2/2-A9.01		2-08	EQUIPPED WITH CARD READER
111	F.S.R.	3' - 0"	7' - 10"	1 3/4"	A	HM	FP	A	HM	FP	2/2-A8.05	10/2-A8.05	3/2-A8.02	2-06	

DOOR SCHEDULE LEGEND

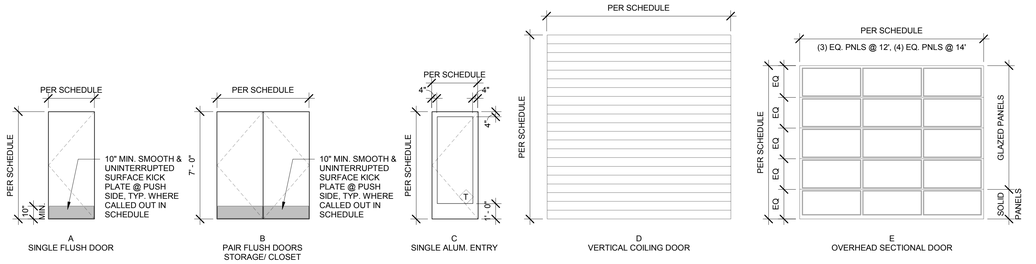
DOOR CONSTRUCTION:
AL = ALUMINUM
FAB = FABRIC
GL = TEMPERED GLASS
HC = HOLLOW CORE
SC = SOLID CORE
HM = HOLLOW METAL
MTL = METAL

DOOR FINISHES:
ANOD = ANODIZED
FF = FACTORY FINISHED
FP = FIELD PAINT
FS = FIELD STAIN

FRAME MATERIAL:
AL = ALUMINUM
HM = HOLLOW METAL
MTL = METAL
WD = WOOD

FRAME FINISHES:
ANOD = ANODIZED
FF = FACTORY FINISHED
FP = FIELD PAINT
FS = FIELD STAIN

DOOR TYPES



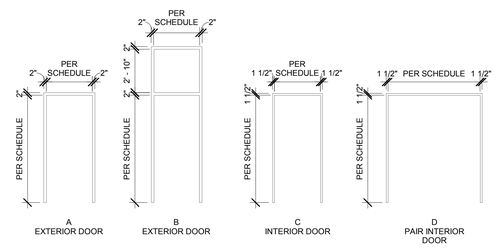
A SINGLE FLUSH DOOR
B PAIR FLUSH DOORS STORAGE/ CLOSET
C SINGLE ALUM. ENTRY
D VERTICAL COILING DOOR
E OVERHEAD SECTIONAL DOOR

Notes:

Door hardware height shall be installed between 34 and 48 inches above the floor surface in accordance with CBC 1010.1.9.2.
See mounting heights on 2-A0.10.

Hardware shall be accessible per CBC Ch. 11B and shall not require tight grasping, tight pinching, or twisting of the wrist. CBC 1010.1.9.1.

FRAME TYPES



A EXTERIOR DOOR
B EXTERIOR DOOR
C INTERIOR DOOR
D PAIR INTERIOR DOOR

EQUIPMENT SCHEDULE

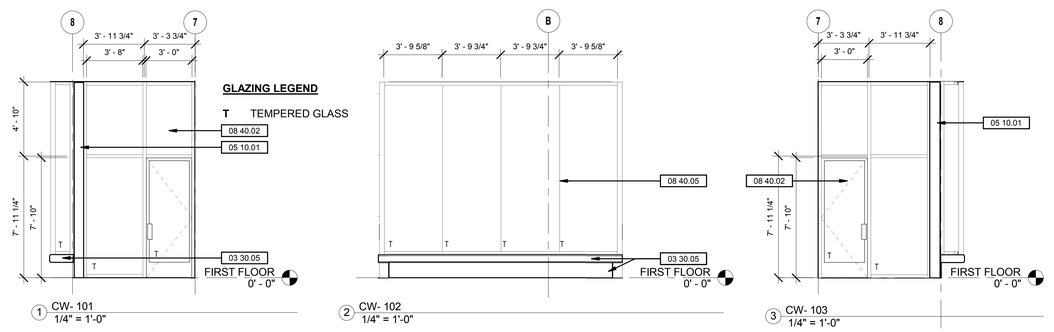
MARK	Count	DESCRIPTION	MANUFACTURER	MODEL	Plumbed	COMMENTS
EQ01	1	French Door Refrigerator	KGE Appliances	GNE29GMK/GSK	X	
EQ02	1	Under-Counter Ice Maker	ITV Ice Makers	NG 175 A1F	X	
EQ03	1	Dishwasher	Bosch	SGE63E15UC	X	
EQ04	2	Microwave	GE	JES2251SJ		
EQ05	1	Large Ice Machine	TBD		X	
EQ06	1	Single Coffee Maker	BRUN	CWTG15-1, PF		
EQ08	1	Surface Mounted Fire Extiguisher Cabinet				
EQ09	25	Personal Storage Locker - Single Door	Spacesaver Corp	PSL722418S & PSLBAS2418		Metal Lockers
EQ12	2	Recessed Fire Extiguisher Cabinet				
EQ13	1	Defibrillator - Recessed	AED	TBD		
EQ14	54	Gear Turn Out Lockers- Wall Mounted	Gear Grid			
EQ15	36	Gear Turn Out Lockers- On Casters	Gear Grid			

SHEET KEYNOTE LEGEND

03 30.05	SEALED CAST-IN-PLACE (CIP) CONCRETE EXTERIOR WALLS, TYPICAL
05 10.01	PAINTED STEEL COLUMN, S.S.D.
08 40.02	ALUMINUM FRAME STOREFRONT SECTION WITH ENTRY DOOR AND CLEAR GLAZING
08 40.05	ALUMINUM FRAME CURTAIN WALL WITH BUTT GLAZED VERTICAL JOINT GLAZING

WINDOW SCHEDULE

	SIZE		FRAME		GLASS				DETAILS				ACCESSORIES			
MARK	WIDTH	HEIGHT	MATERIAL	FINISH	THK	COLOR	TYPE	OPERATION	HEAD	JAMB	SILL	FIRE RATING LABEL	INSECT SCREEN	GRID	WINDOW COVERING	NOTES
A	5' - 0"	3' - 6"	AL	FF	1"	CLR	LOW-E	FIX	6 / 2-A8.05		7 / 2-A8.05		No			
B	5' - 0"	3' - 6"	AL	FF	1"	CLR	LOW-E	AWN	4 / 2-A8.05		5 / 2-A8.05		Yes		Yes	INSECT SCREENS & BLACK-OUT SHADES W/ MOTORIZED OPERATORS @ CLASSROOM



1 CW- 101 1/4" = 1'-0"
2 CW- 102 1/4" = 1'-0"
3 CW- 103 1/4" = 1'-0"

WINDOW SCHEDULE LEGEND

FRAME MATERIAL:
AL = ALUMINUM
MTL = METAL
WD = WOOD
STL = STEEL
VIN = VINYL

FRAME FINISHES:
ANOD = ANODIZED
FF = FACTORY FINISHED
FP = FIELD PAINT
FS = FIELD STAIN
CLAD = MANUF. CLADDING

GLASS COLOR:
CLR = CLEAR
GRY = GREY
BRZ = BRONZE

GLASS TYPE:
GRID = TRUE DIVIDED LITE
LOW-E = LOW-E
MESH = G.I. MESH
OBS = OBSURE LOW-E
TEMP = TEMPERED
TRAN = TRANSLUCENT PANEL
WIRE = WIRE GLASS

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294 Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3 - INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
9/30/20
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 2
ROOM FINISH, DOOR, WINDOW AND EQUIPMENT SCHEDULES

Drawn By: EW
Checked By: EW

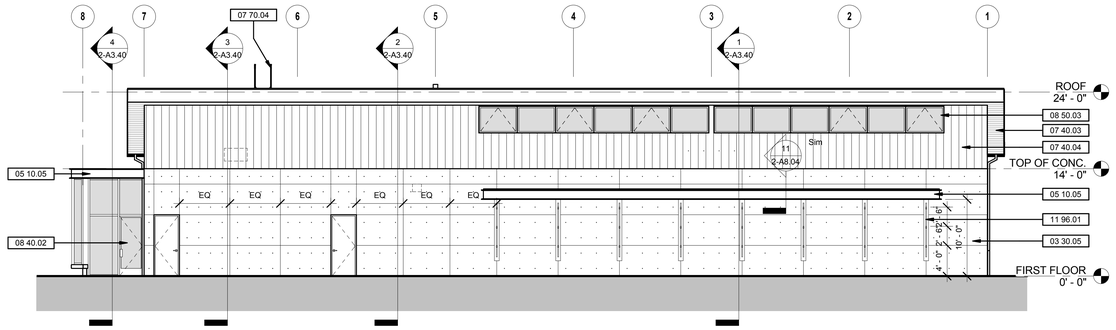
Scale:
As indicated

Date:
October 4, 2019

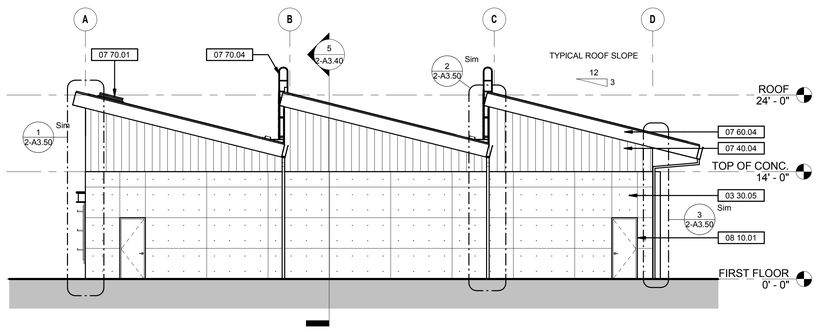
Project No. 2016039

2-A2.70
Drawing No.

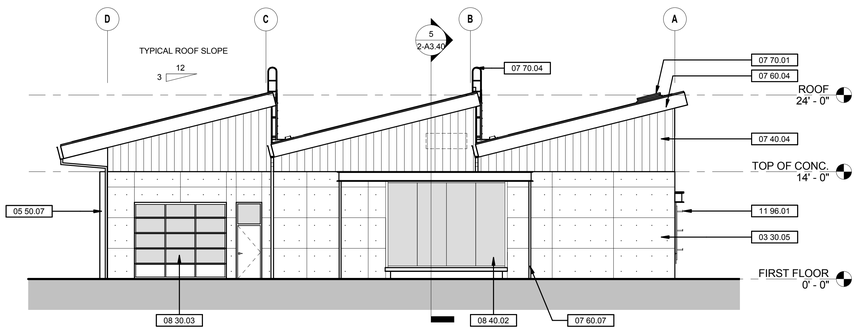
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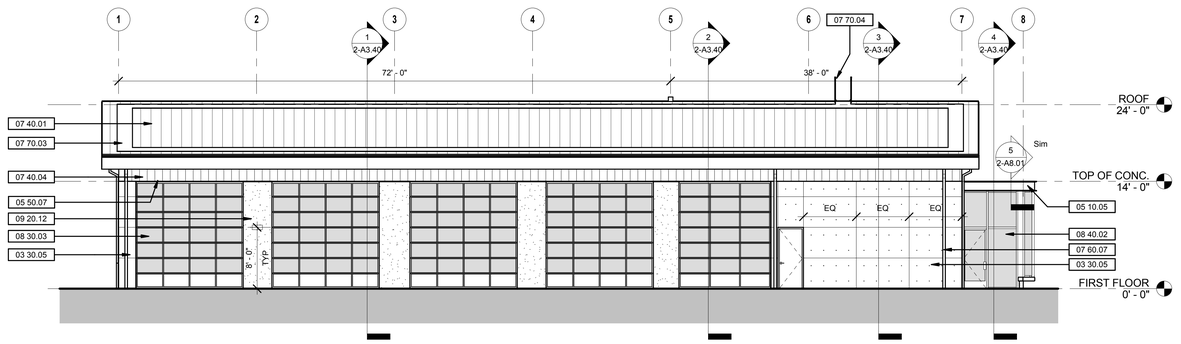
1 NORTH ELEVATION
1/8" = 1'-0"



2 WEST ELEVATION
1/8" = 1'-0"

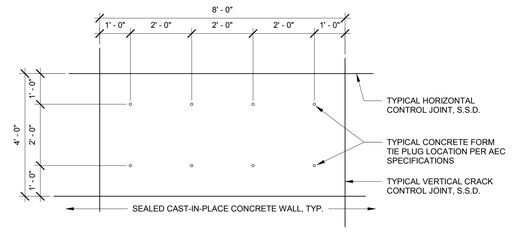


3 EAST ELEVATION
1/8" = 1'-0"



4 SOUTH ELEVATION
1/8" = 1'-0"

0' 2' 4' 8' 16'



5 TYPICAL CIP WALL JOINT PATTERN
1/2" = 1'-0"

GENERAL SHEET NOTES

1. WINDOW / CURTAIN WALL / STOREFRONT / LOUVER FOR ILLUSTRATIVE PURPOSE ONLY. SEE 2-A2.70 FOR SCHEDULES AND GLAZING TYPE.
2. SEE DETAIL 5/2-A3.10 FOR CAST-IN-PLACE ARCHITECTURAL CONCRETE LINER PANEL & FORM TIE HOLE LAYOUT ELEVATION.

SHEET KEYNOTE LEGEND

03 30.05	SEALED CAST-IN-PLACE (CIP) CONCRETE EXTERIOR WALLS, TYPICAL
05 10.05	PAINTED STEEL CHANNEL FASCIA. MITER ALL EXPOSED CORNERS. COMPLY WITH AESS SPECIFICATION SECTION 05 1250 FOR FASCIA FABRICATION AND FINISH WITH HIGH-PERFORMANCE PAINT COATING
05 50.07	PAINTED ALUMINUM PLATE "PORTAL" AT HEAD & JAMBS OF APPARATUS BAY DOOR GROUP
07 40.01	PRE-FINISHED STANDING SEAM METAL ROOF PANELS, TYPICAL
07 40.03	PRE-FINISHED METAL SOFFIT PANELS, TYPICAL
07 40.04	PRE-FINISHED METAL SIDING PANELS WITH VERTICAL PATTERN, TYPICAL
07 60.04	PAINTED ALUMINUM FASCIA TRIM
07 60.07	PAINTED ALUMINUM DOWNSPOUT FROM GUTTER ABOVE
07 70.01	ROOF HATCH WITH COLLAPSIBLE GUARDS
07 70.03	ROOF ACCESS WALKWAY, SECURED TO STANDING SEAM ROOF
07 70.04	VERTICAL ACCESS LADDER BETWEEN SAW TOOTH ROOF SECTIONS
08 10.01	PAINTED HOLLOW METAL DOOR & FRAME
08 30.03	ALUMINUM FRAME OVERHEAD SECTIONAL DOOR WITH GLAZED PANELS, TYPICAL
08 40.02	ALUMINUM FRAME STOREFRONT SECTION WITH ENTRY DOOR AND CLEAR GLAZING
08 50.03	ALUMINUM FRAME CLERESTORY WINDOW WITH CLEAR GLAZING, TYPICAL. SEE WINDOW SCHEDULE
09 20.12	PAINTED 7/8" CEMENT PLASTER WITH METAL LATH
11 96.01	WALL-MOUNTED LADDER RACK, TYPICAL

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY:	
KATHY GARCIA DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3 - INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
5/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 2 EXTERIOR ELEVATIONS

Drawn By: EW
Checked By: EW

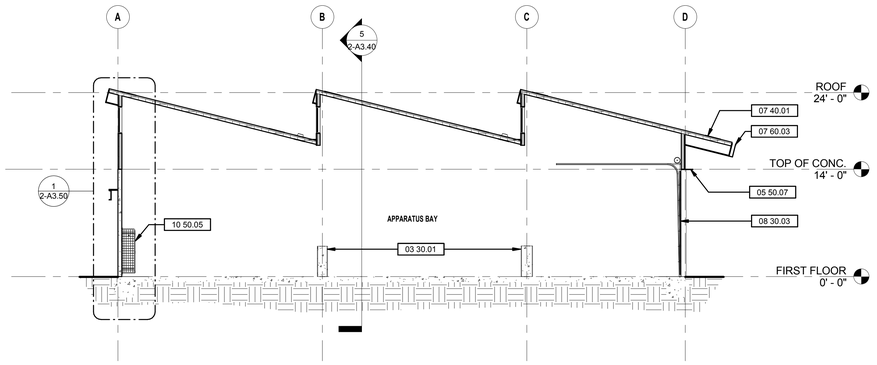
Scale:
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Date:
October 4, 2019

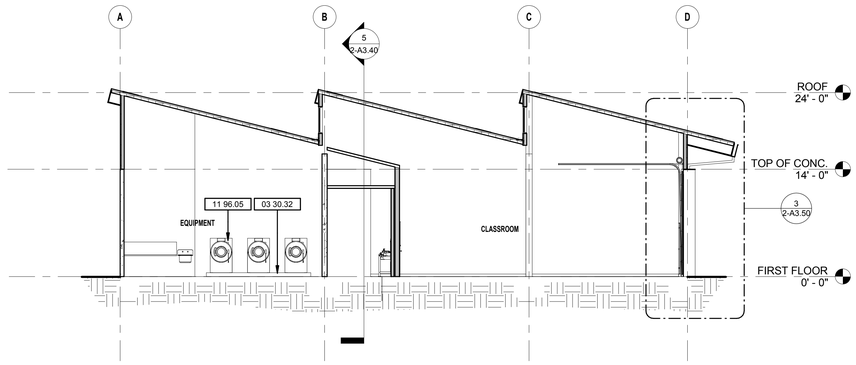
Project No. 2016039

2-A3.10
Drawing No.

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1 TRANSVERSE SECTION @ APPARATUS BAY
1/8" = 1'-0"



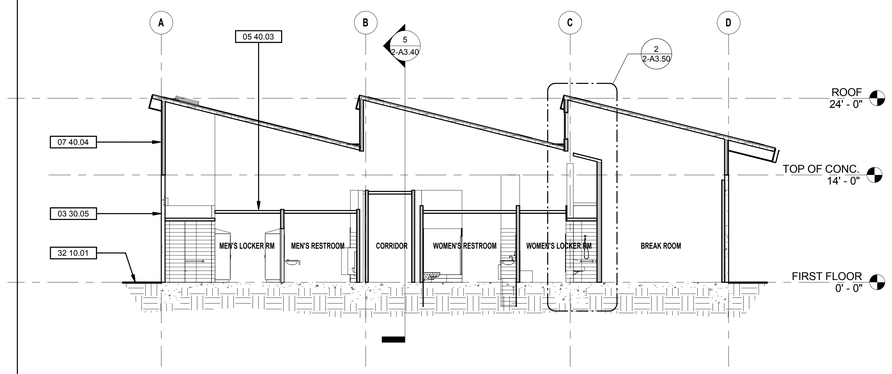
2 TRANSVERSE SECTION @ CLASSROOM
1/8" = 1'-0"

0' 2' 4' 8' 16'

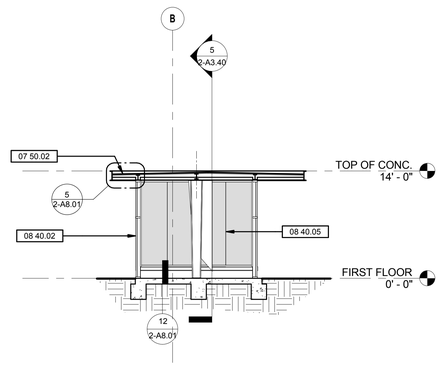
GENERAL SHEET NOTES

SHEET KEYNOTE LEGEND

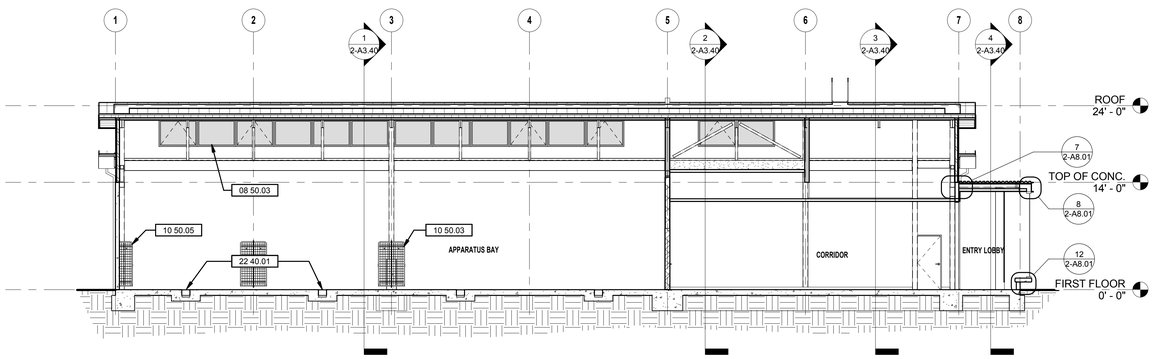
03 30.01	PROTECTIVE CONCRETE CASING @ BASE OF STEEL COLUMN, TYPICAL U.N.O.
03 30.05	SEALED CAST-IN-PLACE (CIP) CONCRETE EXTERIOR WALLS, TYPICAL
03 30.32	CONCRETE HOUSEKEEPING PAD, S.S.D. MIN. PAD EXTENTS 6" FROM EQUIPMENT PERIMETER.
05 40.03	PROVIDE METAL CEILING JOISTS AS NECESSARY TO SUPPORT GYPSUM BOARD CEILING IN COMPLIANCE WITH DETAIL 1/2-S1.30
05 50.07	PAINTED ALUMINUM PLATE "PORTAL" AT HEAD & JAMBS OF APPARATUS BAY DOOR GROUP
07 40.01	PRE-FINISHED STANDING SEAM METAL ROOF PANELS, TYPICAL
07 40.04	PRE-FINISHED METAL SIDING PANELS WITH VERTICAL PATTERN, TYPICAL
07 50.02	MODIFIED BITUMEN MEMBRANE ROOF OVER STRUCTURAL DECK
07 60.03	PAINTED ALUMINUM EAVE GUTTER
08 30.03	ALUMINUM FRAME OVERHEAD SECTIONAL DOOR WITH GLAZED PANELS, TYPICAL
08 40.02	ALUMINUM FRAME STOREFRONT SECTION WITH ENTRY DOOR AND CLEAR GLAZING
08 40.05	ALUMINUM FRAME CURTAIN WALL WITH BUTT GLAZED VERTICAL JOINT GLAZING
08 50.03	ALUMINUM FRAME CLERESTORY WINDOW WITH CLEAR GLAZING, TYPICAL, SEE WINDOW SCHEDULE
10 50.03	METAL TURN OUT LOCKERS ON CASTERS.
10 50.05	WALL MOUNTED TURN OUT LOCKERS. FASTEN EACH TO WALL W/ (4) 3/8" DIA. SCREW ANCHORS W/ 2.5" EMBED, S.S.D.
11 96.05	EXTRACTOR (O.F.C.I.). MOUNT TO EQUIPMENT PAD W/ (10) 5/8" DIA. SCREW ANCHORS W/ 3-1/4" EMBED (5 EA. SIDE), S.S.D.
22 40.01	PREMANUFACTURED TRENCH DRAIN WITH GALVANIZED STEEL FRAME AND DUCTILE IRON GRATE, TYPICAL
32 10.01	CONCRETE PAVING, SEE CIVIL DRAWINGS



3 TRANSVERSE SECTION @ LOCKER ROOMS
1/8" = 1'-0"



4 TRANSVERSE SECTION @ LOBBY
1/8" = 1'-0"



5 LONGITUDINAL SECTION
1/8" = 1'-0"

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

Ross Drulis Cusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: **KATHY GARCIA** DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3 - INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
5655
5/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 2
BUILDING CROSS SECTIONS

Drawn By: EW Checked By: EW

Scale: 1/8" = 1'-0"

Date: October 4, 2019

Project No. 2016039

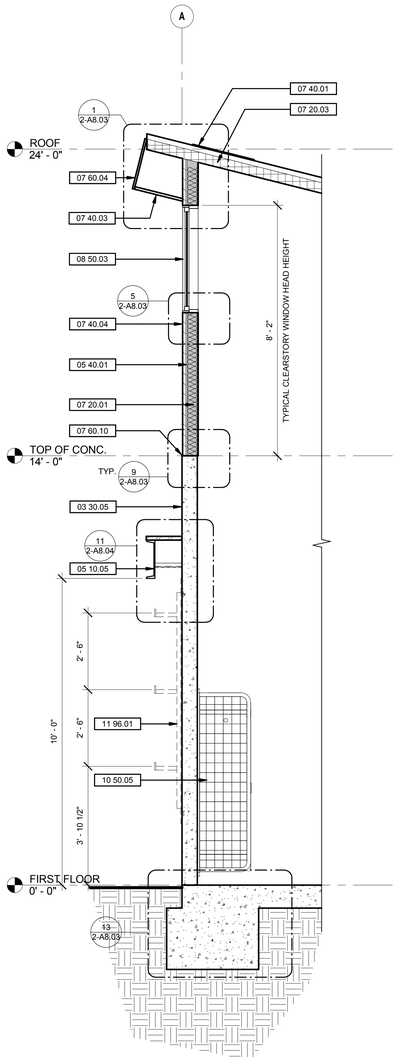
2-A3.40
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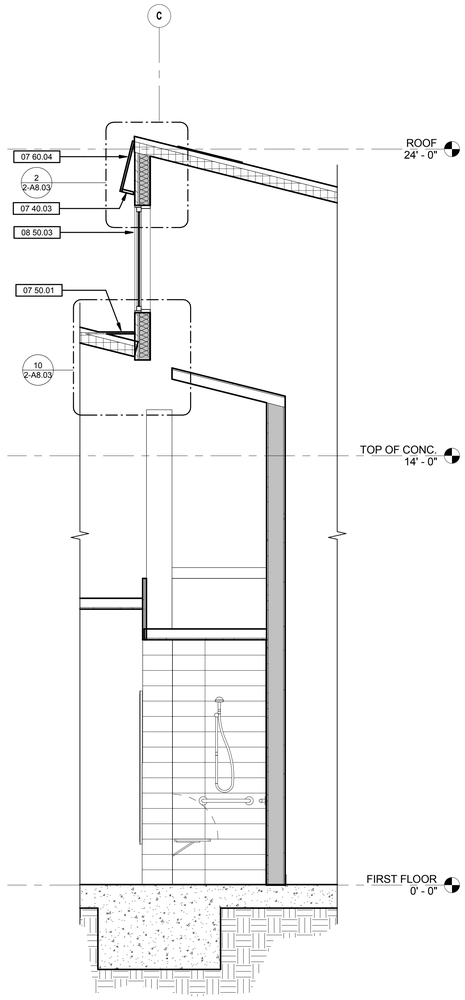
GENERAL SHEET NOTES

SHEET KEYNOTE LEGEND

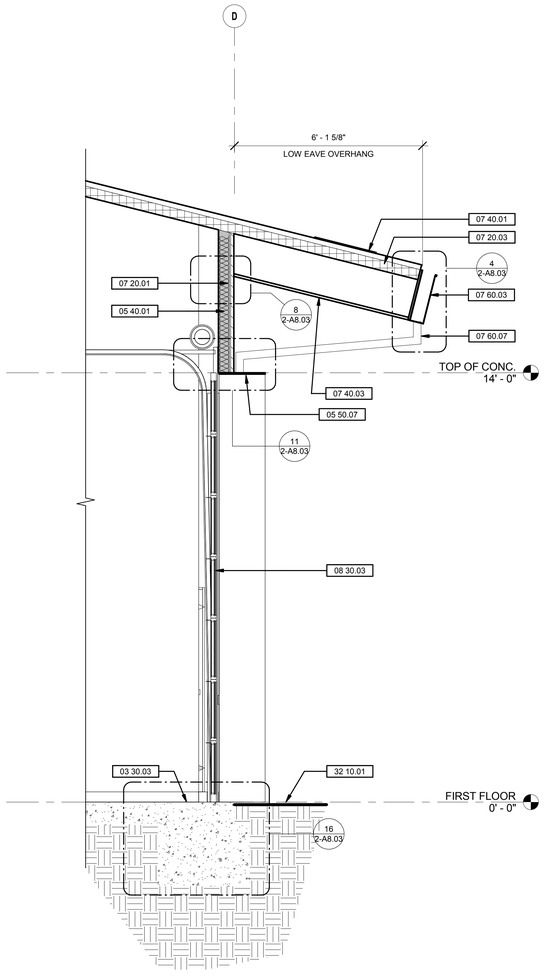
03 30.03	CONCRETE MAT SLAB, S.S.D.
03 30.05	SEALED CAST-IN-PLACE (CIP) CONCRETE EXTERIOR WALLS, TYPICAL
05 10.05	PAINTED STEEL CHANNEL FASCIA. MITER ALL EXPOSED CORNERS. COMPLY WITH AESS SPECIFICATION SECTION 05 1250 FOR FASCIA FABRICATION AND FINISH WITH HIGH-PERFORMANCE PAINT COATING
05 40.01	METAL WALL STUDS, S.S.D.
05 50.07	PAINTED ALUMINUM PLATE "PORTAL" AT HEAD & JAMBS OF APPARATUS BAY DOOR GROUP
07 20.01	UNFACED R-13 FIBERGLASS BATT INSULATION IN STUD CAVITY
07 20.03	4" THICK RIGID INSULATION OVER STRUCTURAL ROOF DECK
07 40.01	PRE-FINISHED STANDING SEAM METAL ROOF PANELS, TYPICAL
07 40.03	PRE-FINISHED METAL SOFFIT PANELS, TYPICAL
07 40.04	PRE-FINISHED METAL SIDING PANELS WITH VERTICAL PATTERN, TYPICAL
07 60.03	PAINTED ALUMINUM EAVE GUTTER
07 60.04	PAINTED ALUMINUM FASCIA TRIM
07 60.07	PAINTED ALUMINUM DOWNSPOUT FROM GUTTER ABOVE
07 60.10	CONTINUOUS ALUMINUM FLASHING AT STUD WALL SILL
08 30.03	ALUMINUM FRAME OVERHEAD SECTIONAL DOOR WITH GLAZED PANELS, TYPICAL
08 50.03	ALUMINUM FRAME CLERESTORY WINDOW WITH CLEAR GLAZING, TYPICAL. SEE WINDOW SCHEDULE
10 50.05	WALL MOUNTED TURN OUT LOCKERS. FASTEN EACH TO WALL W/ (4) 3/8" DIA. SCREW ANCHORS W/ 2.5" EMBED, S.S.D.
11 96.01	WALL-MOUNTED LADDER RACK, TYPICAL
32 10.01	CONCRETE PAVING, SEE CIVIL DRAWINGS



1 WALL SECTION @ LINE "A"
1/2" = 1'-0"



2 WALL SECTION @ LINE "C" (LINE "B" SIM)
1/2" = 1'-0"



3 WALL SECTION @ LINE "D"
1/2" = 1'-0"

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542
ARCHITECTURE

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY: **KATHY GARCIA** DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3 - INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
9/30/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 2
WALL SECTIONS

Drawn By: EW
Checked By: EW

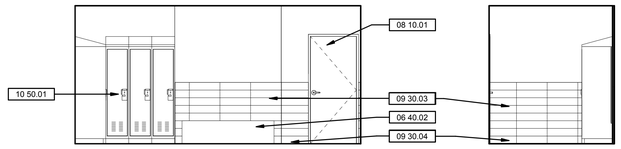
Scale:
1/2" = 1'-0"

Date:
October 4, 2019

Project No. 2016039

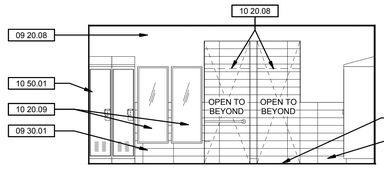
2-A3.50
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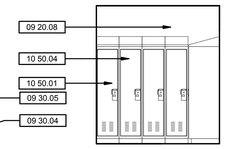


1 IE- 103- WOMEN'S LOCKER ROOM- 01- N
1/4" = 1'-0"

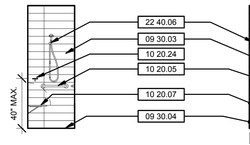
2 IE- 103- WOMEN'S LOCKER ROOM- 02- E
1/4" = 1'-0"



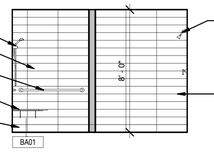
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1/4" = 1'-0"



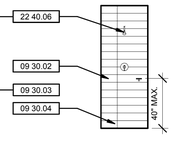
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1/4" = 1'-0"



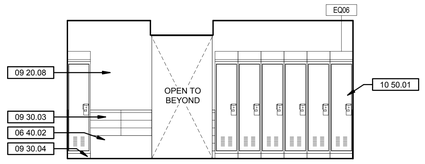
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1/4" = 1'-0"



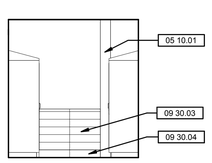
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1/4" = 1'-0"



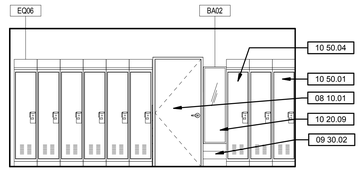
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1/4" = 1'-0"



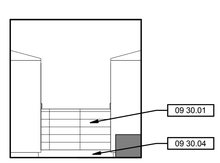
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1/4" = 1'-0"



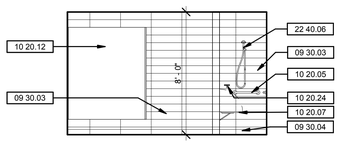
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1/4" = 1'-0"



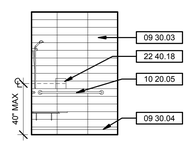
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1/4" = 1'-0"



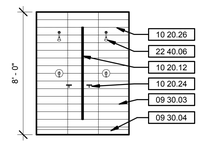
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1/4" = 1'-0"



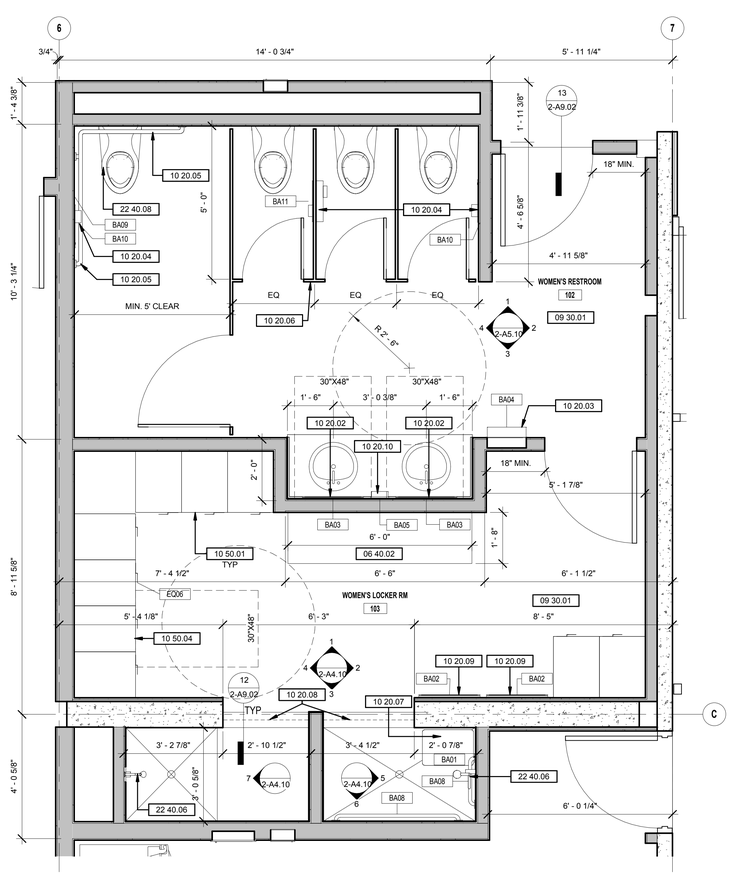
12 IE- 110- MEN'S SHOWER- 01- N
1/4" = 1'-0"



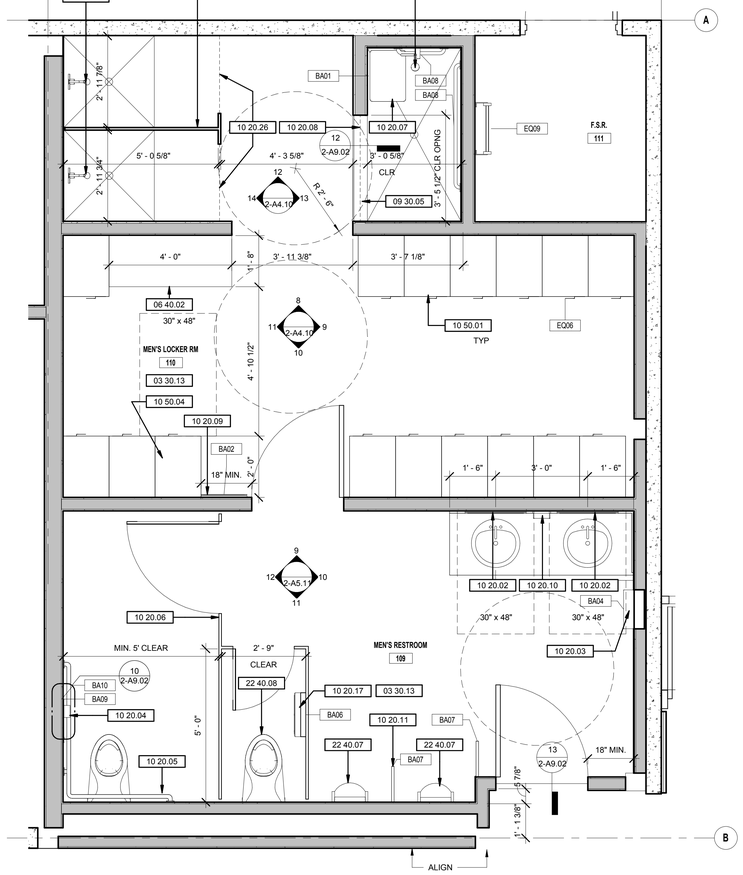
13 IE- 110- MEN'S SHOWER- 02- E
1/4" = 1'-0"



14 IE- 110- MEN'S SHOWER- 04- W
1/4" = 1'-0"



15 103 - WOMEN'S RESTROOM
1/2" = 1'-0"



16 110- MEN'S RESTROOM
1/2" = 1'-0"

GENERAL SHEET NOTES

1. SEE SHEET 2-A0.10 FOR ACCESSIBLE MOUNTING HEIGHTS AND CLEARANCES.
2. ACCESSIBLE SHOWER DETAILS PER CBC 11B-608:

   -SHOWERS SHALL HAVE A MINIMUM DIMENSION OF 60 INCHES WIDE BY 30 INCHES DEEP, WITH A FULL OPENING WIDTH ON THE LONG SIDE, OR 60 INCHES WIDE BY 36 INCHES DEEP, WITH AN ENTRANCE OPENING WIDTH OF 36 INCHES PER CBC 11B-608.2

   -FLOOR AND GROUND SURFACE SHALL BE STABLE, FIRM, AND SLIP RESISTANT PER CBC 11B-302.1
   -FLOOR AND GROUND SURFACE SHALL BE SLOPED 1:48 MAXIMUM IN ANY DIRECTION
   -WHERE THE DRAINS ARE PROVIDED, THE GRATE OPENINGS SHALL BE 1/4" MAXIMUM AND FLUSH WITH THE FLOOR SURFACE

   -ROLL-IN TYPE SHOWER COMPARTMENTS TO HAVE A MAXIMUM 1/2" HIGH ENTRY THRESHOLD PER CBC 11B-608.7

   SINGLE-LEVER WATER CONTROLS PER CBC 11B-608.5:
   -LOCATED ON THE SIDEWALL OF THE COMPARTMENT ADJACENT TO THE SEAT
   -OPERABLE WITH A MAXIMUM FORCE OF 5 POUNDS
   -MOUNTED AT 40 INCHES ABOVE THE SHOWER FLOOR, WITH THE CENTERLINE OF THE CONTROLS TO BE WITHIN A REACH OF 19"-27" FROM THE REAR EDGE OF THE SEAT
   -THE HOSE OF THE SPRAY UNIT SHALL BE AT LEAST 59 INCHES LONG THAT ALLOWS IT TO BE USED AS BOTH A FIXED SHOWER HEAD AND AS A HAND-HELD SHOWER HEAD
   -THE SHOWER SPRAY UNIT SHALL HAVE AN ON/OFF CONTROL WITH A NON-POSITIVE SHUT-OFF
   -ADJUSTABLE-HEIGHT SHOWER HEADS ON VERTICAL BARS SHALL BE INSTALLED SO AS NOT TO OBSTRUCT THE USE OF THE GRAB BARS
   -SHOWER SPRAY UNIT SHALL DELIVER WATER THAT IS 120 DEGREES FAHRENHEIT, MAXIMUM
   -TOP OF THE MOUNTING BRACKETS SHALL BE A MAXIMUM OF 48" ABOVE THE SHOWER FLOOR

   -SHOWER SEAT MOUNTED AND LOCATED PER CBC 11B-610.3

   -GRAB BAR MOUNTED 33"-36" ABOVE SHOWER FLOOR, MEASURED FROM THE FINISHED FLOOR TO THE TOP OF THE GRIPPING SURFACE PER CBC 11B-609.4

   -SOAP DISH MOUNTED ON CONTROL WALL 40" MAX. ABOVE SHOWER FLOOR PER CBC 11B-608.10
3. 5% BUT NOT LESS THAN ONE OF THE LOCKERS TO BE ACCESSIBLE PER CBC 11B-222.1
4. BENCHES SHALL BE AFFIXED TO THE WALL OR FLOOR AND DESIGNED FOR A 250-POUND FORCE PER CBC 11B-903.6

SHEET KEYNOTE LEGEND

03 30.13	RECESS CONCRETE SLAB TO ACCOMMODATE TILE AND MORTAR BED INSTALLATION S.S.D
05 10.01	PAINTED STEEL COLUMN, S.S.D.
06 40.02	BUILT-IN BENCH; AFFIXED TO THE WALL OR FLOOR & DESIGNED FOR A 250-POUND FORCE PER CBC 11B-903.6
08 10.01	PAINTED HOLLOW METAL DOOR & FRAME
09 20.08	GYP. BD, PTD.
09 30.01	TILE FLOORS, BASE, AND WAINSCOT. SLOPE FLOORS TO FLOOR DRAINS, TYP.
09 30.02	2"X2" UNGLAZED PORCELAIN TILE, SEE FINISH SCHEDULE.
09 30.03	WALL TILE, SEE FINISH SCHEDULE.
09 30.04	TILE BASE, TYP. SEE FINISH SCHEDULE
09 30.05	MARBLE THRESHOLD. 6" WIDE & 1/2" HIGH, MAX.
10 20.02	WALL-MOUNTED 2'-0" X 3'-0" RECTANGULAR MIRROR. SEE ACCESSIBILITY STANDARDS FOR MOUNTING REQUIREMENTS. SHIM @ UNEVEN WALL FINISH FOR PLUMB INSTALLATION & PROVIDE CONTINUOUS SEALANT AROUND PERIMETER
10 20.03	RECESSED COMBINATION PAPER TOWEL AND WASTE DISPOSAL UNIT, SEE ACCESSIBILITY STANDARDS FOR MOUNTING REQUIREMENTS. SHIM AT UNEVEN WALL FINISHES FOR PLUMB INSTALLATION & PROVIDE CONTINUOUS SEALANT AROUND PERIMETER
10 20.04	RECESSED COMBINATION SEAT COVER DISPENSER, SANITARY NAPKIN DISPOSAL (AT WOMEN'S RESTROOMS), AND TOILET TISSUE DISPENSER
10 20.05	S.S. GRAB BAR. SEE ACCESSIBILITY STANDARDS FOR MOUNTING AND LENGTH REQUIREMENTS
10 20.06	FLOOR-MOUNTED TOILET COMPARTMENT PANELS, TYP.
10 20.07	ACCESSIBLE SHOWER SEAT, SEE ACCESSIBILITY STANDARDS FOR MOUNTING REQUIREMENTS
10 20.08	SHOWER CURTAIN AND ROD (NOT SHOWN FOR CLARITY); CENTERLINE OF ROD MOUNTED @ 74.5"
10 20.09	18" X 54" FULL LENGTH MIRROR WITH BOTTOM EDGE OF REFLECTIVE SURFACE LOCATED AT 20" MAX A.F.F.
10 20.10	SOAP DISPENSER; MOUNTED 40" MAX. A.F.F. PER CBC 11B-608.10
10 20.11	WALL-MOUNTED URINAL PRIVACY PANEL, TYP.
10 20.12	WALL-MOUNTED SHOWER COMPARTMENT PANELS, TYP.
10 20.17	SURFACE-MOUNTED COMBINATION SEAT COVER DISPENSER AND TOILET TISSUE DISPENSER
10 20.24	SURFACE MOUNTED SHOWER SOAP DISH 40" A.F.F. MAX. PER CBC 11B-608.10
10 20.26	Track mounted shower curtain; track at top of partition (not shown for clarity)
10 50.01	METAL LOCKERS; 5% BUT NOT LESS THAN ONE (1) TO BE ACCESSIBLE PER CBC 11B-222.1
10 50.04	ACCESSIBLE METAL LOCKER
22 40.06	SHOWER HEAD, S.P.D. AND SEE ACCESSIBILITY STANDARDS FOR MOUNTING REQUIREMENTS
22 40.07	URINAL, WALL MOUNTED. S.P.D. AND SEE ACCESSIBILITY STANDARDS FOR MOUNTING REQUIREMENTS
22 40.08	WALL MOUNTED WATER CLOSET, TYP. S.P.D. AND SEE ACCESSIBILITY STANDARDS FOR MOUNTING REQUIREMENTS
22 40.18	SINGLE LEVER MIXING VALVE CONTROL

TOILET ROOM ACCESSORIES SCHEDULE

MARK	DESCRIPTION	MODEL	MANUFACTURER	COMMENTS
BA01	ADA Folding Shower Seat	B-5191	Bobrick	
BA02	Full Length Wall Mirror	B-290	Bobrick	2460
BA03	24" x 36" Wall Mirror	B-290	Bobrick	2436
BA04	Recessed Combination Paper Towel Dispenser And Waste Receptacle	B-3944	Bobrick	
BA05	Classic Series Surface Mounted Soap Dispenser	B-2112	Bobrick	
BA06	Surface-Mounted Seat-Cover and Toilet Tissue Dispenser	B-3479	Bobrick	
BA07	Privacy Panel - Urinal			
BA08	1 1/4" Diameter Stainless Steel Grab Bars with Snap Flange	B-5806 Series	Bobrick	
BA09	L-Shaped Grab Bars	B-5897	Bobrick	
BA10	Recessed Seat-Cover And Toilet Tissue Dispenser	B-3474	Bobrick	
BA11	Recessed Toilet Partition Seat-Cover And Toilet Tissue Dispenser	B-35715	Bobrick	2-SIDED THRU-PARTITION

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3 - INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
9/30/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 2 ENLARGED RESTROOM PLANS, INTERIOR ELEVATIONS

Drawn By: TG
Checked By: EW

Scale:
As indicated

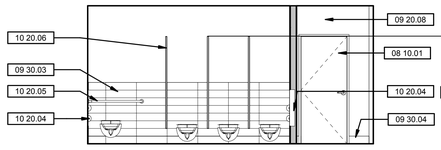
Date:
October 4, 2019

Project No. 2016039

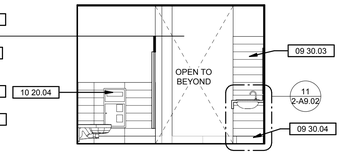
2-A4.10

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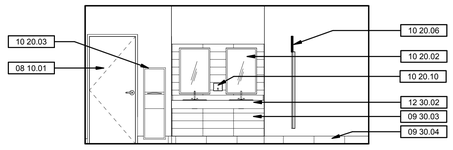
If this drawing is not 30" x 42", it is a reduced print - scale accordingly. All rights reserved. Material may not be reproduced in any form without permission from RossDrulisCusenbery Architecture, Inc.



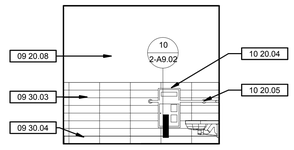
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1/4" = 1'-0"



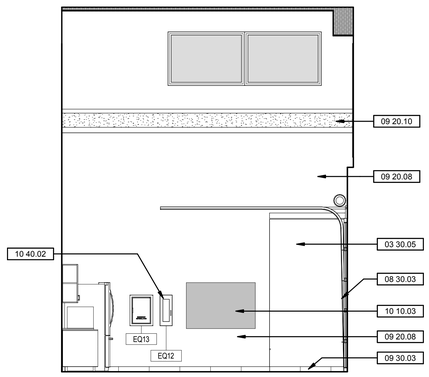
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1/4" = 1'-0"



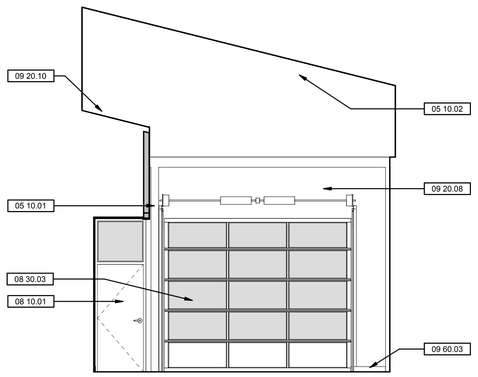
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1/4" = 1'-0"



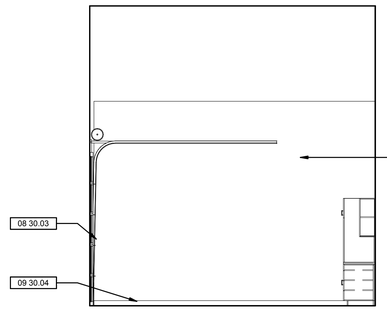
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1/4" = 1'-0"



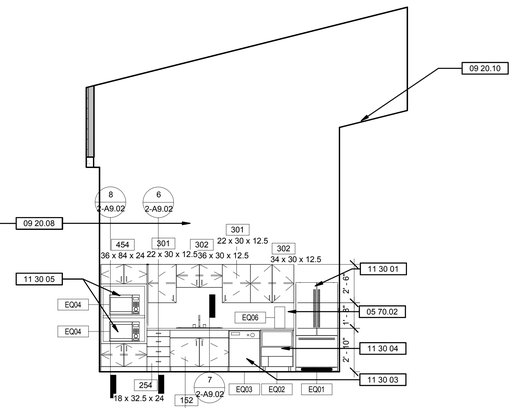
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1/4" = 1'-0"



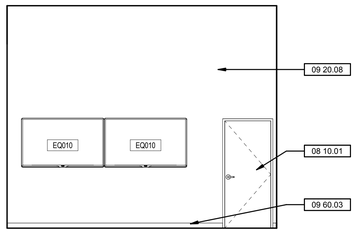
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1/4" = 1'-0"



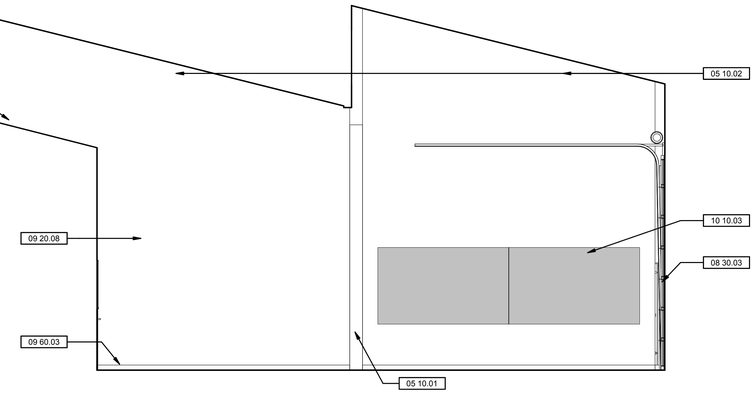
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1/4" = 1'-0"



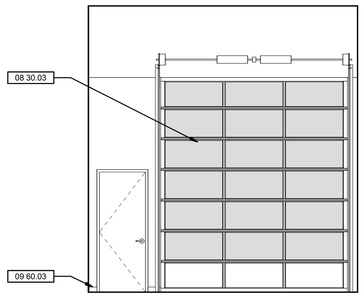
8 IE- 104- BREAK ROOM- 04- W
1/4" = 1'-0"



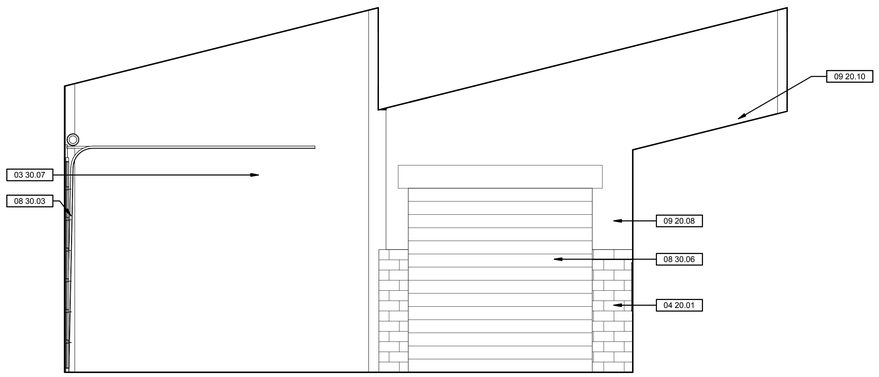
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1/4" = 1'-0"



10 IE- 105- CLASSROOM- 02- E
1/4" = 1'-0"



11 IE- 105- CLASSROOM- 03- S
1/4" = 1'-0"



12 IE- 105- CLASSROOM- 04- W
1/4" = 1'-0"

GENERAL SHEET NOTES

1. SEE SHEET 2-A0.10 FOR ACCESSIBLE MOUNTING HEIGHTS AND CLEARANCES.
2. SEE SHEET 2-A2.70 FOR FINISH, DOOR, WINDOW AND EQUIPMENT SCHEDULES.

CABINET TYPE LEGEND

222 — WOODWORK INSTITUTE (WI) CABINET DESIGN SERIES NUMBER ("L" INDICATED LOCK)

W x H x D — WIDTH x HEIGHT x DEPTH (INCHES)

FOR STANDARD CABINET INSTALLATION AND HARDWARE DETAILS, SEE SHEET A9.02

SHEET KEYNOTE LEGEND

03 30.05	SEALED CAST-IN-PLACE (CIP) CONCRETE EXTERIOR WALLS, TYPICAL
03 30.07	CAST-IN-PLACE CONCRETE WALL, S.S.D.
04 20.01	SMOOTH CMU WALLS, S.S.D.
05 10.01	PAINTED STEEL COLUMN, S.S.D.
05 10.02	PAINTED STEEL BEAM, S.S.D.
05 70.02	STAINLESS STEEL COUNTERTOP WITH INTEGRAL STAINLESS STEEL BACKSPLASH CONTINUOUS TO UNDERSIDE OF UPPER CABINETS, TYP.
08 10.01	PAINTED HOLLOW METAL DOOR & FRAME
08 30.03	ALUMINUM FRAME OVERHEAD SECTIONAL DOOR WITH GLAZED PANELS, TYPICAL
08 30.06	OVERHEAD SECTIONAL DOOR
09 20.08	GYP. BD, PTD.
09 20.10	GYP. BD, LEVEL 5 FINISH
09 30.03	WALL TILE, SEE FINISH SCHEDULE.
09 30.04	TILE BASE, TYP. SEE FINISH SCHEDULE
09 60.03	WALL BASE, TYP. SEE FINISH SCHEDULE
10 10.03	CORK BULLETIN BOARD
10 20.02	WALL-MOUNTED 2'-0" X 3'-0" RECTANGULAR MIRROR. SEE ACCESSIBILITY STANDARDS FOR MOUNTING REQUIREMENTS. SHIM @ UNEVEN WALL FINISH FOR PLUMB INSTALLATION & PROVIDE CONTINUOUS SEALANT AROUND PERIMETER
10 20.03	RECESSED COMBINATION PAPER TOWEL AND WASTE DISPOSAL UNIT, SEE ACCESSIBILITY STANDARDS FOR MOUNTING REQUIREMENTS. SHIM AT UNEVEN WALL FINISHES FOR PLUMB INSTALLATION & PROVIDE CONTINUOUS SEALANT AROUND PERIMETER
10 20.04	RECESSED COMBINATION SEAT COVER DISPENSER, SANITARY NAPKIN DISPOSAL (AT WOMEN'S RESTROOMS), AND TOILET TISSUE DISPENSER
10 20.05	S.S. GRAB BAR. SEE ACCESSIBILITY STANDARDS FOR MOUNTING AND LENGTH REQUIREMENTS
10 20.06	FLOOR-MOUNTED TOILET COMPARTMENT PANELS, TYP.
10 20.10	SOAP DISPENSER; MOUNTED 40" MAX. A.F.F. PER CBC 11B-608.10
10 40.02	RECESSED FIRE EXTINGUISHER CABINET
11 30 01	(N) REFRIGERATOR, TYP.
11 30 03	(N) DISHWASHER
11 30 04	(N) ICE MACHINE
11 30 05	(N) MICROWAVE
12 30.02	QUARTZ-SURFACE COUNTERTOP AT +34" A.F.F.

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3 - INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
12/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 2 INTERIOR ELEVATIONS

Drawn By: TG
Checked By: EW

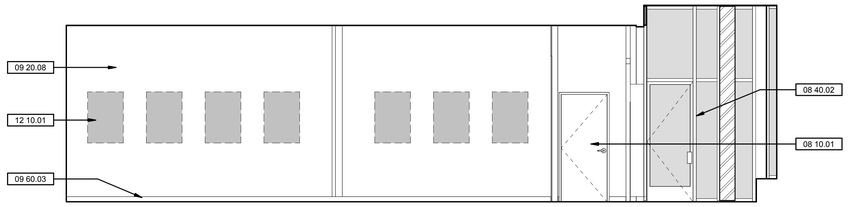
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1/4" = 1'-0"

Date:
October 4, 2019

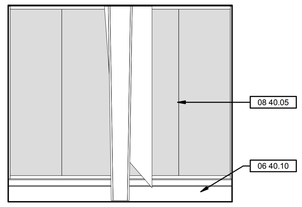
Project No. 2016039

2-A5.10
Drawing No.

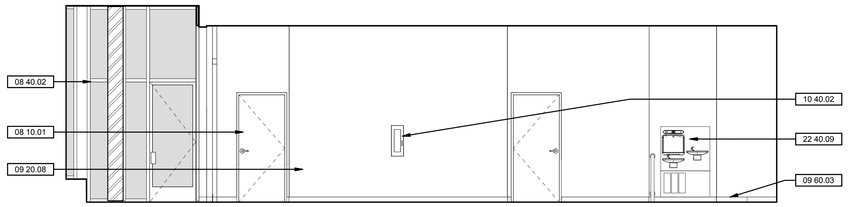
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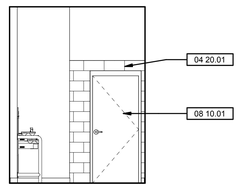
1 IE- 101A- CORRIDOR- 01- N
1/4" = 1'-0"



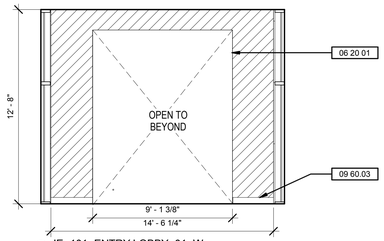
2 IE- 101- ENTRY LOBBY - 02- E
1/4" = 1'-0"



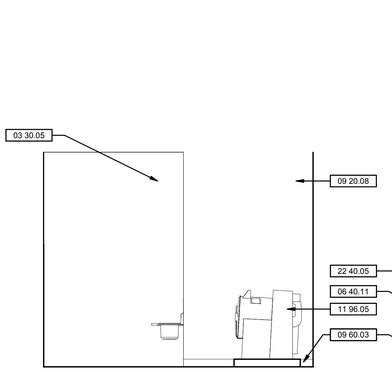
3 IE- 101A- CORRIDOR- 03- S
1/4" = 1'-0"



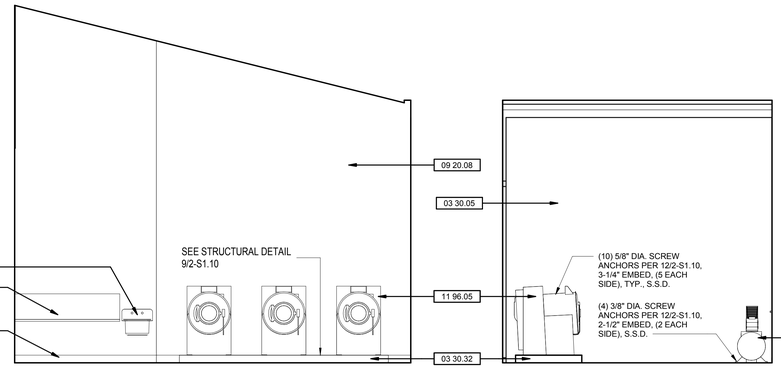
4 IE- 101A- CORRIDOR- 04- W
1/4" = 1'-0"



14 IE- 101- ENTRY LOBBY- 01- W
1/4" = 1'-0"

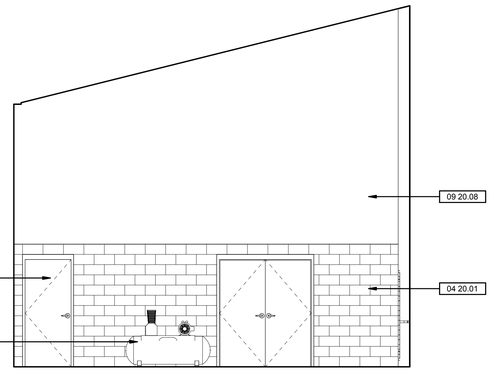


5 IE- 107- EQUIPMENT- 01- N
1/4" = 1'-0"

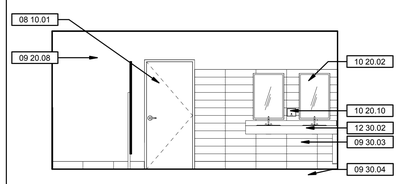


6 IE- 107- EQUIPMENT- 02- E
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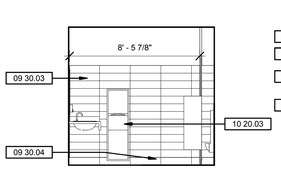
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1/4" = 1'-0"



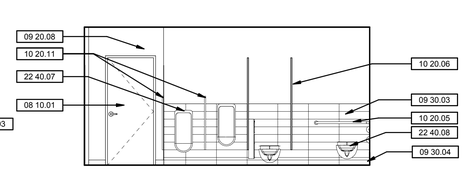
8 IE- 107- EQUIPMENT- 04- W
1/4" = 1'-0"



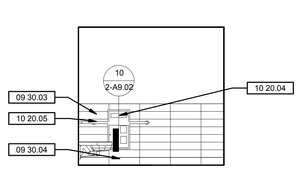
9 IE- 109- MEN'S RESTROOM- 01- N
1/4" = 1'-0"



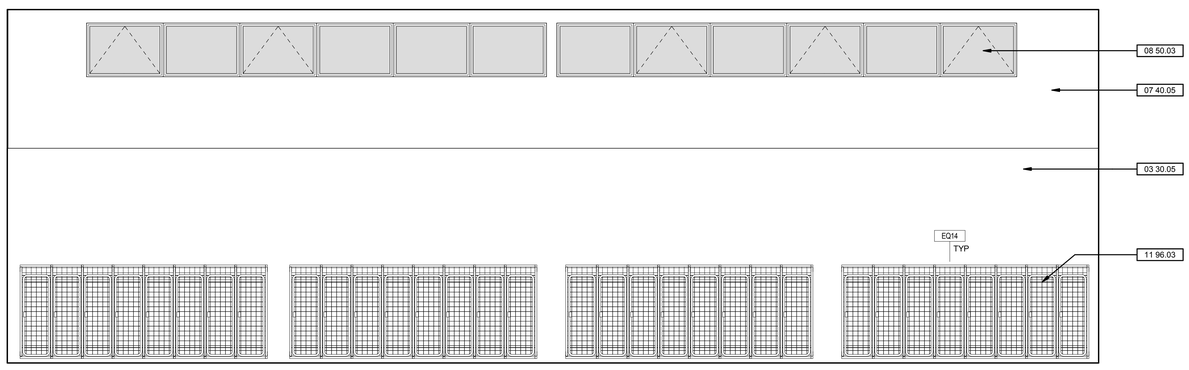
10 IE- 109- MEN'S RESTROOM- 02- E
1/4" = 1'-0"



11 IE- 109- MEN'S RESTROOM- 03- S
1/4" = 1'-0"



12 IE- 109- MEN'S RESTROOM- 04- W
1/4" = 1'-0"



13 IE- 106- APPARATUS BAY- 01- N
1/4" = 1'-0"

GENERAL SHEET NOTES

1. SEE SHEET 2-A0.01 FOR ACCESSIBLE MOUNTING HEIGHTS AND CLEARANCES.
2. SEE SHEET 2-A2.70 FOR FINISH, DOOR, WINDOW AND EQUIPMENT SCHEDULES.

CABINET TYPE LEGEND

222 — WOODWORK INSTITUTE (WI) CABINET DESIGN SERIES NUMBER ("L" INDICATED LOCK)

W x H x D — WIDTH x HEIGHT x DEPTH (INCHES)

FOR STANDARD CABINET INSTALLATION AND HARDWARE DETAILS, SEE SHEET A9.02

SHEET KEYNOTE LEGEND

03 30.05	SEALED CAST-IN-PLACE (CIP) CONCRETE EXTERIOR WALLS, TYPICAL
03 30.32	CONCRETE HOUSEKEEPING PAD, S.S.D. MIN. PAD EXTENTS 6" FROM EQUIPMENT PERIMETER.
04 20.01	SMOOTH CMU WALLS, S.S.D.
06 20.01	WOOD BOARD PANELING. RECLAIMED FROM BURN BUILDING
06 40.10	CAST IN PLACE CONCRETE BENCH
06 40.11	WORK BENCH WITH GALVANIZED STEEL FINISH
07 40.05	FIBER CEMENT BOARD, SCREW DOWN APPLICATION
08 10.01	PAINTED HOLLOW METAL DOOR & FRAME
08 40.02	ALUMINUM FRAME STOREFRONT SECTION WITH ENTRY DOOR AND CLEAR GLAZING
08 40.05	ALUMINUM FRAME CURTAIN WALL WITH BUTT GLAZED VERTICAL JOINT GLAZING
08 50.03	ALUMINUM FRAME CLERESTORY WINDOW WITH CLEAR GLAZING, TYPICAL. SEE WINDOW SCHEDULE
09 20.08	GYP. BD, PTD.
09 30.03	WALL TILE, SEE FINISH SCHEDULE.
09 30.04	TILE BASE, TYP. SEE FINISH SCHEDULE
09 60.03	WALL BASE, TYP. SEE FINISH SCHEDULE
10 20.02	WALL-MOUNTED 2'-0" X 3'-0" RECTANGULAR MIRROR. SEE ACCESSIBILITY STANDARDS FOR MOUNTING REQUIREMENTS. SHIM @ UNEVEN WALL FINISH FOR PLUMB INSTALLATION & PROVIDE CONTINUOUS SEALANT AROUND PERIMETER
10 20.03	RECESSED COMBINATION PAPER TOWEL AND WASTE DISPOSAL UNIT, SEE ACCESSIBILITY STANDARDS FOR MOUNTING REQUIREMENTS. SHIM AT UNEVEN WALL FINISHES FOR PLUMB INSTALLATION & PROVIDE CONTINUOUS SEALANT AROUND PERIMETER
10 20.04	RECESSED COMBINATION SEAT COVER DISPENSER, SANITARY NAPKIN DISPOSAL (AT WOMEN'S RESTROOMS), AND TOILET TISSUE DISPENSER
10 20.05	S.S. GRAB BAR. SEE ACCESSIBILITY STANDARDS FOR MOUNTING AND LENGTH REQUIREMENTS
10 20.06	FLOOR-MOUNTED TOILET COMPARTMENT PANELS, TYP.
10 20.10	SOAP DISPENSER, MOUNTED 40" MAX. A.F.F. PER CBC 11B-608.10
10 20.11	WALL-MOUNTED URINAL PRIVACY PANEL, TYP.
10 40.02	RECESSED FIRE EXTINGUISHER CABINET
11 96.03	FLOOR-MOUNTED TURN OUT LOCKERS
11 96.05	EXTRACTOR (O.F.C.I.). MOUNT TO EQUIPMENT PAD W/ (10) 5/8" DIA. SCREW ANCHORS W/ 3-1/4" EMBED (5 EA. SIDE), S.S.D.
11 96.09	AIR COMPRESSOR, S.P.D.
12 10.01	ARTWORK PRINTED ON METAL W/ STANDOFFS, TYP.
12 30.02	QUARTZ-SURFACE COUNTERTOP AT +34" A.F.F.
22 40.05	ACCESSIBLE SINK, WALL MOUNTED. S.P.D. AND SEE ACCESSIBILITY STANDARDS FOR MOUNTING REQUIREMENTS
22 40.07	URINAL, WALL MOUNTED. S.P.D. AND SEE ACCESSIBILITY STANDARDS FOR MOUNTING REQUIREMENTS
22 40.08	WALL MOUNTED WATER CLOSET, TYP. S.P.D. AND SEE ACCESSIBILITY STANDARDS FOR MOUNTING REQUIREMENTS
22 40.09	HI-LOW DRINKING FOUNTAIN, S.P.D. AND SEE ACCESSIBILITY STANDARDS FOR MOUNTING REQUIREMENTS

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3 - INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
3/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 2 INTERIOR ELEVATIONS

Drawn By: TG
Checked By: EW

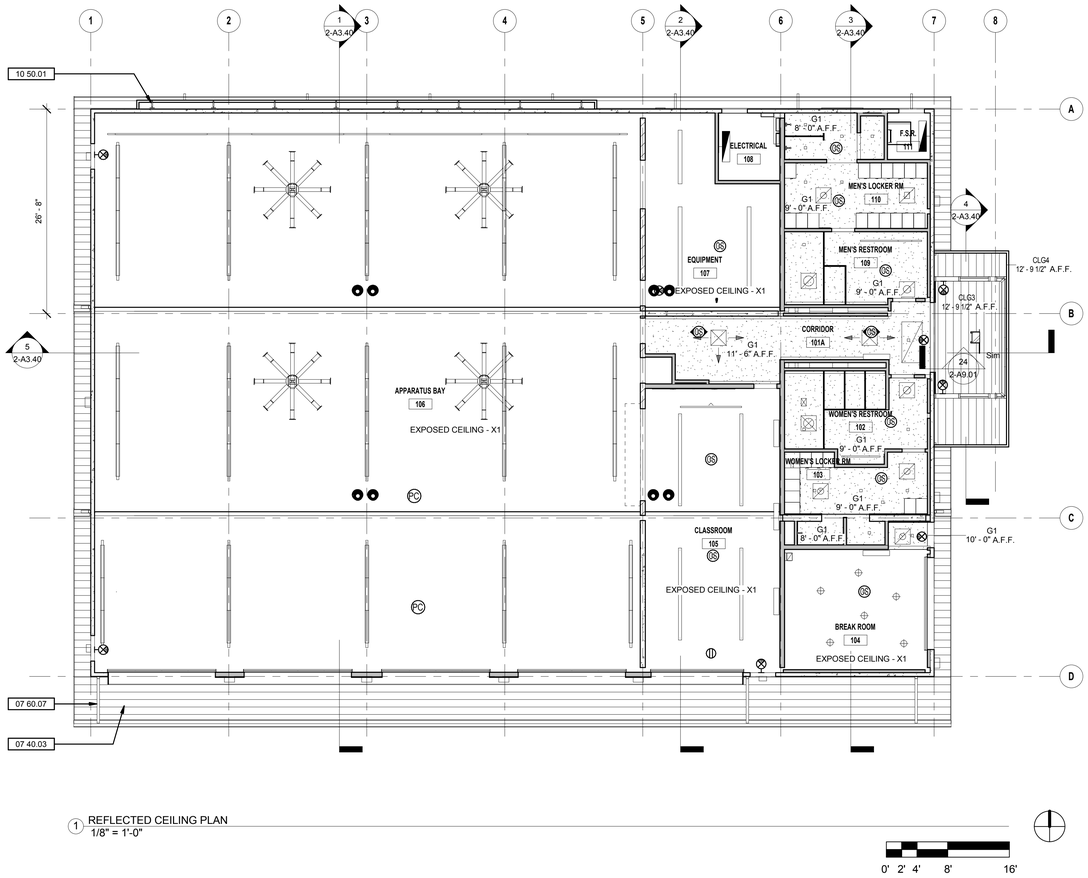
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1/4" = 1'-0"

Date:
October 4, 2019

Project No. 2016039

2-A5.11
Drawing No.

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1 REFLECTED CEILING PLAN
1/8" = 1'-0"

0' 2' 4' 8' 16'

GENERAL SHEET NOTES

1. DEVICES ARE SHOWN FOR LOCATION CRITERIA ONLY, SEE ASSOCIATED CONSULTANT DRAWINGS FOR COUNT AND ADDITIONAL INFORMATION.
2. EXIT SIGNS TO BE CENTERED ON DOOR, U.O.N.
3. PROVIDE LAYOUT OF DEVICES FOR ARCHITECTURAL APPROVAL PRIOR TO INSTALLATION.
4. REPORT ANY DISCREPANCIES BETWEEN CONSULTANT DRAWINGS AND ARCHITECTURAL DRAWINGS TO ARCHITECT UPON DISCOVERY.
5. SPRINKLER HEADS SHOWN FOR LOCATION CRITERIA ONLY, FINAL SHOP DRAWINGS REQUIRED.
6. DETAIL REFERENCES LISTED ARE PROVIDED FOR CONVENIENCE. ADDITIONAL DETAILS MAY NEED TO BE REFERENCED, TYPICAL.
7. ROVIDE REQUIRED SEISMIC BRACING
8. SEE MECHANICAL DRAWINGS FOR COMPLETE SCOPE OF MECHANICAL WORK.
9. SEE ELECTRICAL DRAWINGS FOR COMPLETE SCOPE OF ELECTRICAL WORK.

WALL LEGEND

- CONCRETE WALL, S.S.D. FOR THICKNESS & REINFORCING
- CMU WALL TO 8'-0" A.F.F., S.S.D. FOR THICKNESS & REINFORCING
- METAL STUD-FRAMED WALL PER WALL TYPE (SEE SHEET 2-A8.00)
- ALUMINUM CURTAIN WALL
- 1-HR FIRE-RATED SEPARATION

SHEET KEYNOTE LEGEND

07 40.03	PRE-FINISHED METAL SOFFIT PANELS, TYPICAL
07 60.07	PAINTED ALUMINUM DOWNSPOUT FROM GUTTER ABOVE
10 50.01	METAL LOCKERS; 5% BUT NOT LESS THAN ONE (1) TO BE ACCESSIBLE PER CBC 11B-222.1

APPROVED
DIV. OF THE STATE ARCHITECT
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REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

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ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION	
DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

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HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3 - INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
RENEWAL DATE 8/31/21
STATE OF CALIFORNIA

Sheet Title

BUILDING 2
REFLECTED CEILING PLAN

Drawn By: EW Checked By: EW

Scale: **As indicated**

Date: **October 4, 2019**

Project No. 2016039

2-A6.10
Drawing No.

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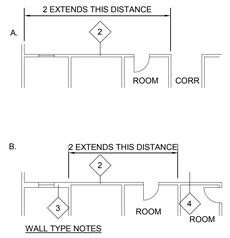
GENERAL NOTES:
1. COORDINATE W/ 1/2-S1.30 FOR STUD TYPES, GAUGES AND STUD THICKNESSES
2. COORDINATE W/ 2-S1.30 AND 2-S1.31 FOR TYPICAL STUD WALL CONSTRUCTION

WALL TYPE DESIGNATIONS

1. WALL TYPES ARE INDICATED IN SQUARE BOXES LINKED TO THE WALL THEY DESCRIBE:



2. THE WALL TYPE EXTENDS THE ENTIRE LENGTH OF THE WALL WHERE IT IS SHOWN ACROSS DOORS, WINDOWS AND MINOR PROJECTIONS OR RECESSES (E.G. AT WATER FOUNTAINS). THE WALL TYPE ENDS AT THE INTERSECTION WITH ANOTHER SPACE, DEFINED BY AN INSIDE OR OUTSIDE CORNER, INCLUDING INTERVENING CORRIDORS, UNLESS OTHERWISE SPECIFICALLY NOTED ON THE DRAWINGS. SEE EXAMPLE A, B AND C BELOW.
3. THE INDICATED WALL TYPE INCLUDES ALL SIDES OF MINOR PROJECTIONS OR ALCOVES, SUCH AS AT RECESSED DOORS, AND WATER FOUNTAINS AND HEADS OVER DOORS AND WINDOWS. SEE EXAMPLE C BELOW.
4. IN SMALL SPACES, WALL TYPES MAY BE INDICATED BY A KEY IN ONE BOX, WITH HEAVY PERPENDICULAR LINES INDICATING THE WALLS WHICH HAVE THE SAME WALL TYPE. SEE EXAMPLE D.
5. ALL WALL COMPONENTS, INCLUDING DOOR AND WINDOW JAMBS SHALL BE COORDINATED WITH THE WALL TYPE SECTION. IF A CONFLICT WITH THE DOOR OR WINDOW SCHEDULE OCCURS, THE WALL SECTION SHALL DICTATE THE DIMENSIONAL REQUIREMENTS OF THE JAMBS.

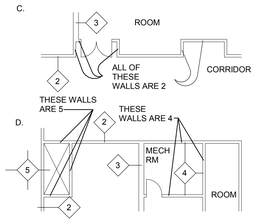


WALL NOTES

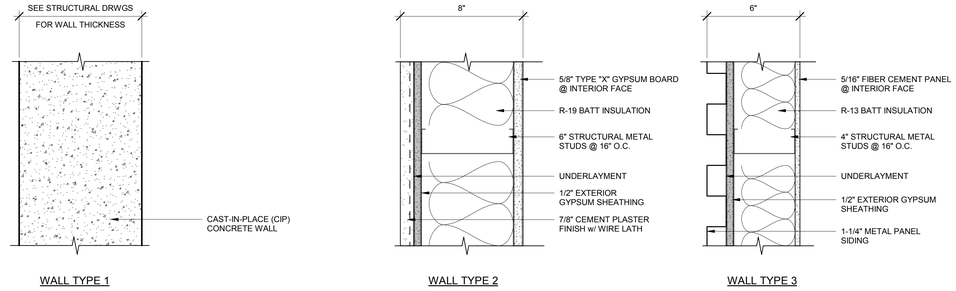
1. ALL GYPSUM BOARD SHEETS TO RUN VERTICALLY.
2. TAPE OUTER JOINTS OF GYPSUM BOARD ONLY.
3. NO JOINTS EXCEPT AT STUDS.
4. STUD SIZES SHOWN ARE MINIMUM. LARGER SIZES MAY BE REQUIRED BASED ON HEIGHT AND LOADING. REFER TO STRUCTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
5. DRYWALL SCREW EDGE AND FIELD SPACING SHALL BE PER GYPSUM ASSOCIATION FIRE RESISTANCE DESIGN MANUAL FILE NUMBER INDICATED ON WALL TYPES AND GYPSUM BOARD MANUFACTURER'S RECOMMENDATIONS. ALL SCREWS SHALL PENETRATE STUDS.
6. FIBERGLASS BATT INSULATION SHALL BE FIBERGLASS NOISE BARRIER BATTS, OWENS-CORNING FIBERGLAS FRICTION FIT BUILDING INSULATION OR APPROVED EQUAL. FIBERGLASS THICKNESS TO EQUAL STUD DEPTH.

FIRE RATED AND ACOUSTIC WALL NOTES

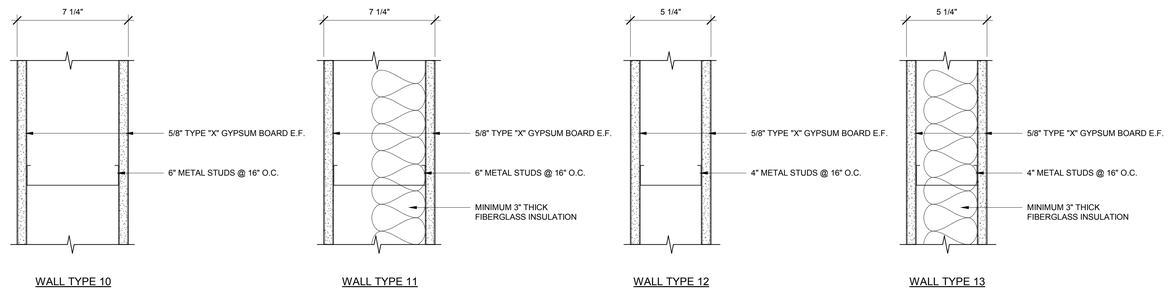
1. CONSTRUCTION SHALL CONFORM TO THE REQUIREMENTS OF THE GYPSUM ASSOCIATION FIRE RESISTANCE DESIGN MANUAL, LATEST EDITION.
2. SEE WALL TYPE FOR REQUIRED NUMBER OF GYPSUM BOARD LAYERS AND FASTENER SPACING.
3. PROVIDE FIBER GLASS INSULATION, FRICTION FIT IN STUD SPACE WHERE REQUIRED PER WALL TYPE.
4. SEE FLOOR PLAN SHEETS FOR LOCATION AND RATING OF WALLS.



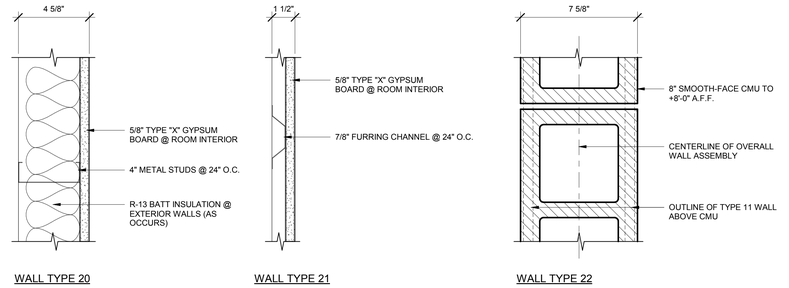
2 WALL TYPE NOTES
3" = 1'-0"



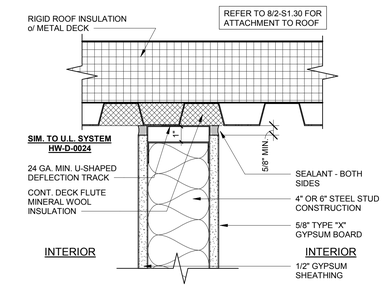
WALL TYPES - EXTERIOR



WALL TYPES - INTERIOR (ACOUSTIC)



WALL TYPES - INTERIOR (SPECIALTY)



3 FIRE RATED STUD WALL TERMINATION @ ROOF
3" = 1'-0"

1 WALL TYPES
3" = 1'-0"

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RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

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ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

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LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
9.30.21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 2
WALL TYPES

Drawn By: EW
Checked By: EW

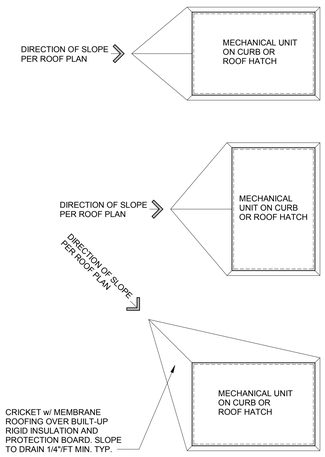
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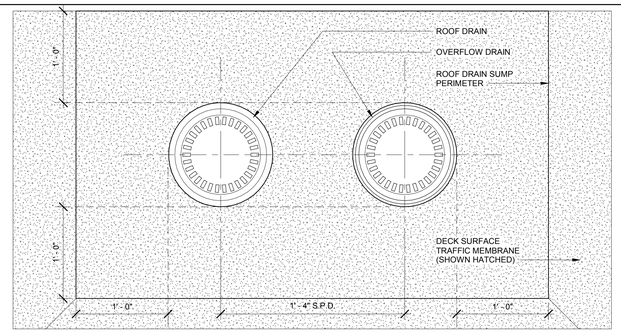
Project No. 2016039

2-A8.00
Drawing No.

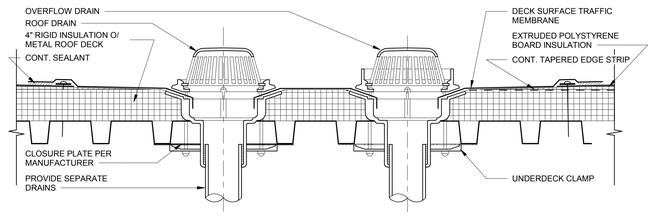
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1 TYP. ROOF EQUIPMENT CRICKET
1" = 1'-0"

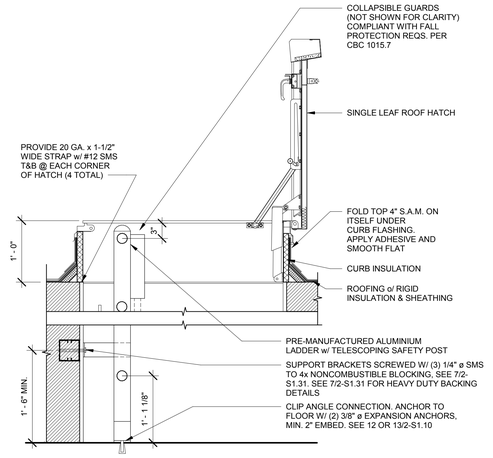


2 TYP. ROOF DRAIN PLAN
1 1/2" = 1'-0"

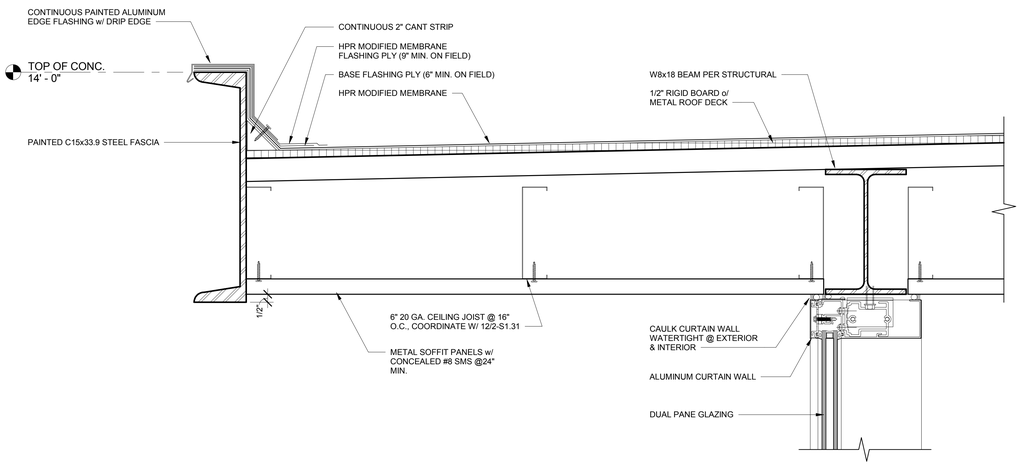


NOTE:
SLOPE ALL SURROUNDING SURFACES TOWARD DRAIN 1/4 INCH PER FOOT MIN. FOLLOW SPECS AND MANUFACTURER INSTRUCTION FOR INSTALLATION OF ROOFING MATERIALS

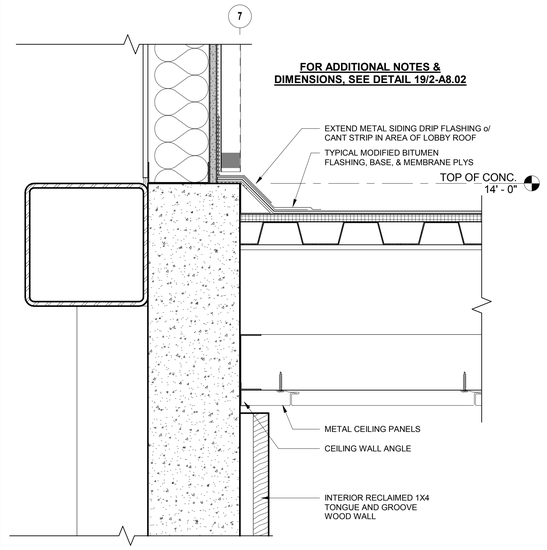
3 TYP. ROOF DRAIN SECTION
1 1/2" = 1'-0"



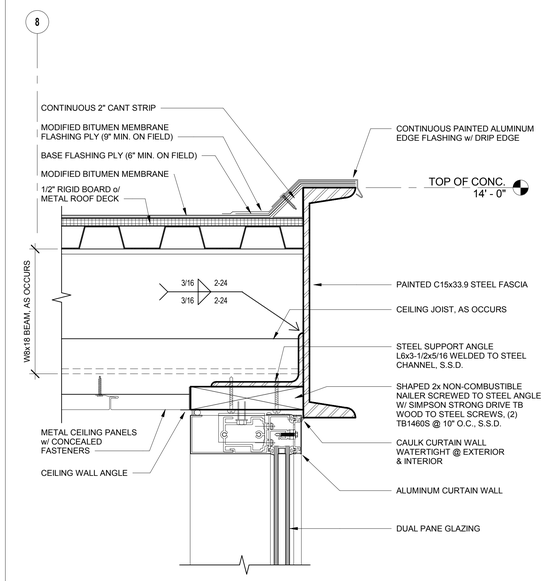
4 ROOF HATCH & LADDER
1" = 1'-0"



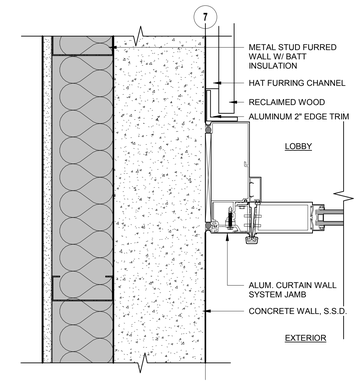
5 NORTH LOBBY ROOF OVERHANG
3" = 1'-0"



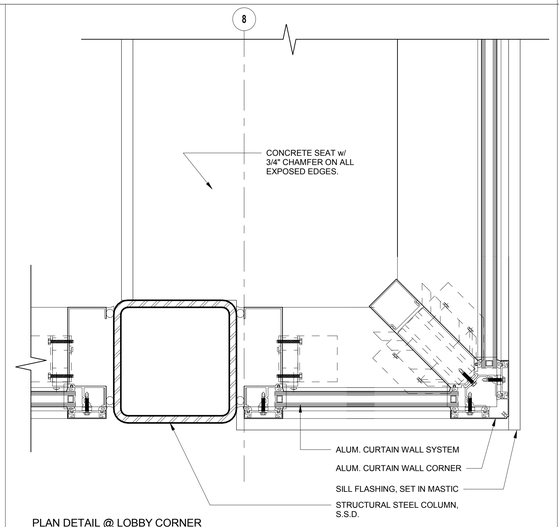
7 LOBBY ROOF @ LINE 7
3" = 1'-0"



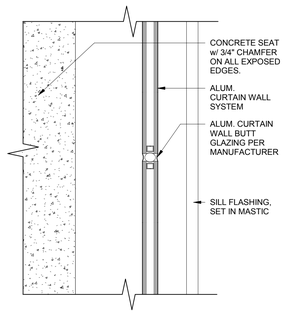
8 EAST LOBBY ROOF FASCIA
3" = 1'-0"



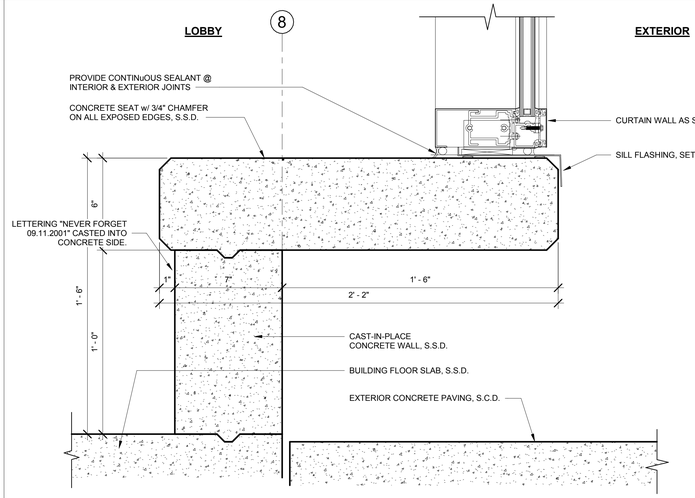
9 PLAN DETAIL @ LOBBY GRID LINE 7
3" = 1'-0"



10 PLAN DETAIL @ LOBBY CORNER WINDOW
3" = 1'-0"



11 CURTAIN WALL BUTT GLAZING
3" = 1'-0"



12 BENCH SEAT @ LOBBY
3" = 1'-0"

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542
ARCHITECTURE

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION	
DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3 - INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
RENEWAL DATE 8/31/21
STATE OF CALIFORNIA

Sheet Title

BUILDING 2 EXTERIOR DETAILS

Drawn By: EW
Checked By: EW

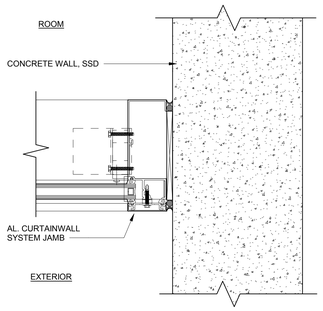
Scale:
As indicated

Date:
October 4, 2019

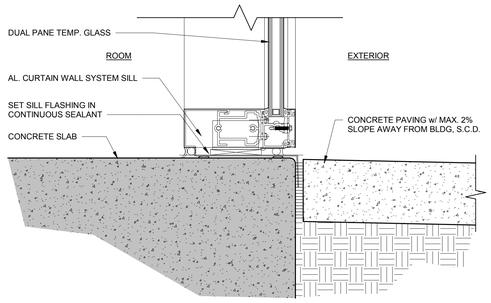
Project No. 2016039

2-A8.01
Drawing No.

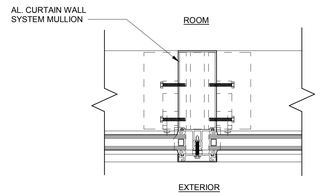
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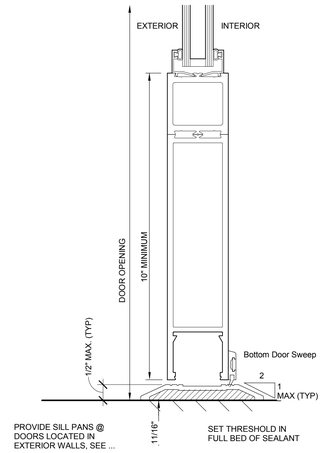
1 TYP. CURTAINWALL WINDOW JAMB @ CONCRETE WALL
3" = 1'-0"



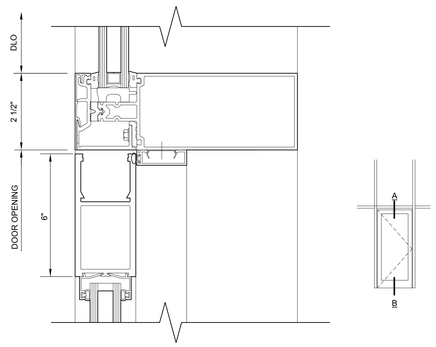
2 TYP. CURTAINWALL WINDOW SILL
3" = 1'-0"



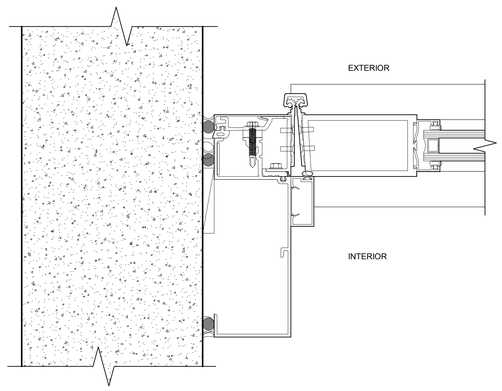
3 TYP. CURTAIN WALL VERTICAL MULLION
3" = 1'-0"



4 TYP. CURTAIN WALL DOOR BASE
6" = 1'-0"

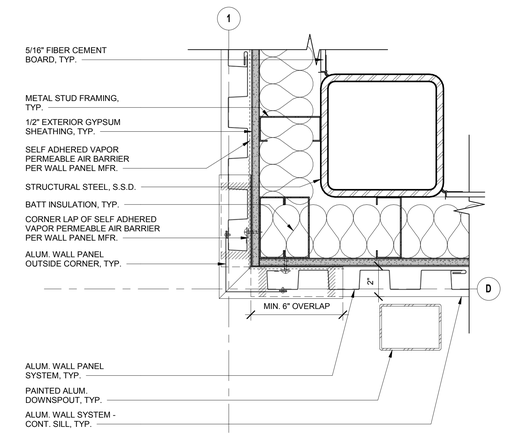


5 TYP. CURTAIN WALL DOOR HEAD
6" = 1'-0"

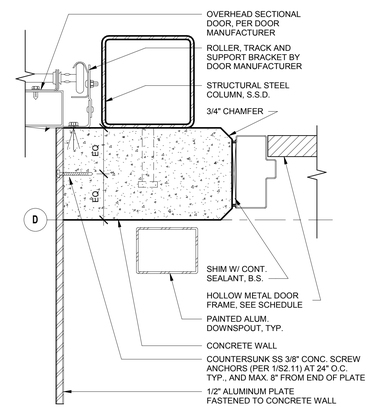


6 TYP. CURTAINWALL DOOR JAMB @ CONCRETE
6" = 1'-0"

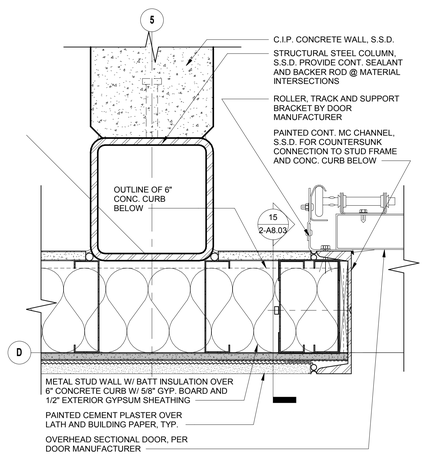
NOT USED



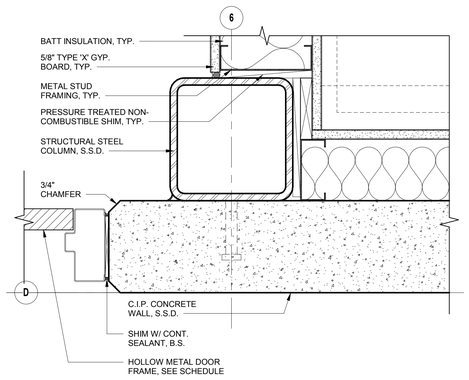
8 TYP. METAL PANEL CORNER DETAIL
3" = 1'-0"



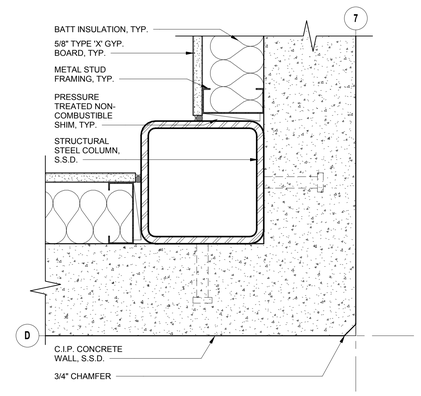
9 PLAN DETAIL @ GRID LINE D CONCRETE JAMB
3" = 1'-0"



10 PLAN DETAIL @ GRID LINES D-5
3" = 1'-0"



11 PLAN DETAIL @ GRID LINES D-6
3" = 1'-0"



12 PLAN DETAIL @ GRID LINES D-7
3" = 1'-0"

APPROVED
DIV. OF THE STATE ARCHITECT
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RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION	
DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3 - INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
5/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 2 EXTERIOR DETAILS

Drawn By: AA
Checked By: EW

Scale:
As indicated

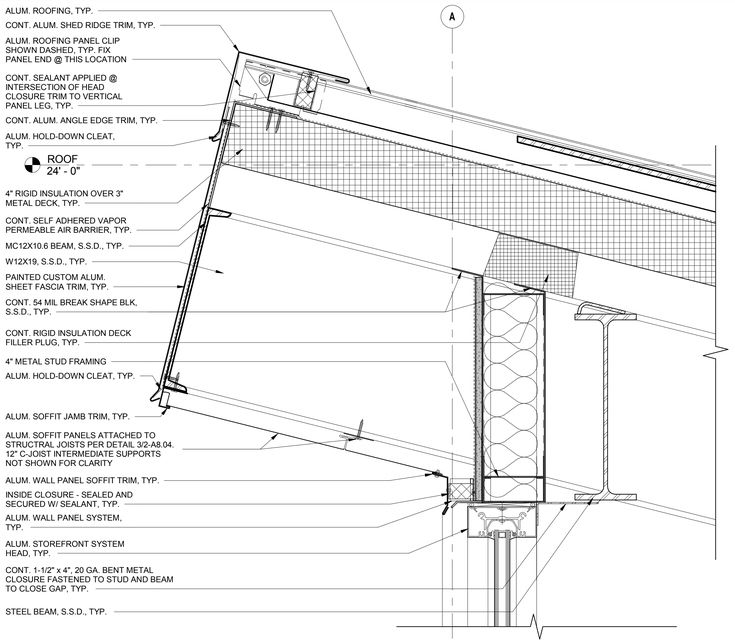
Date:
October 4, 2019

Project No. 2016039

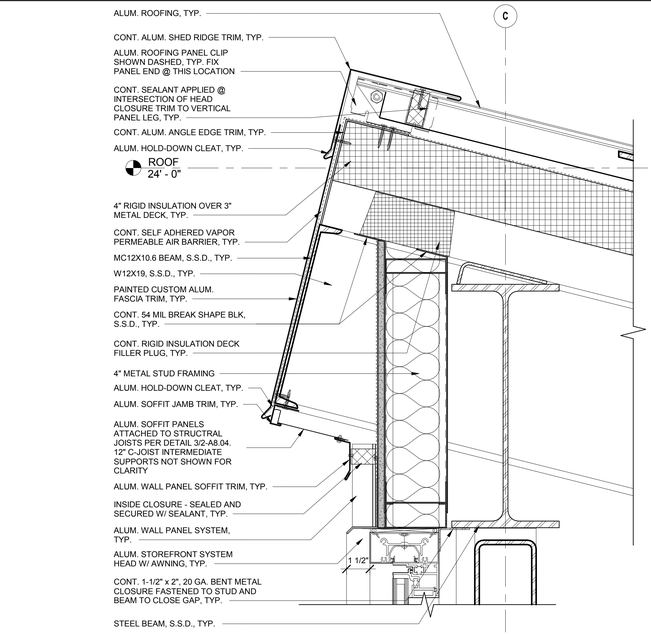
2-A8.02

Drawing No.

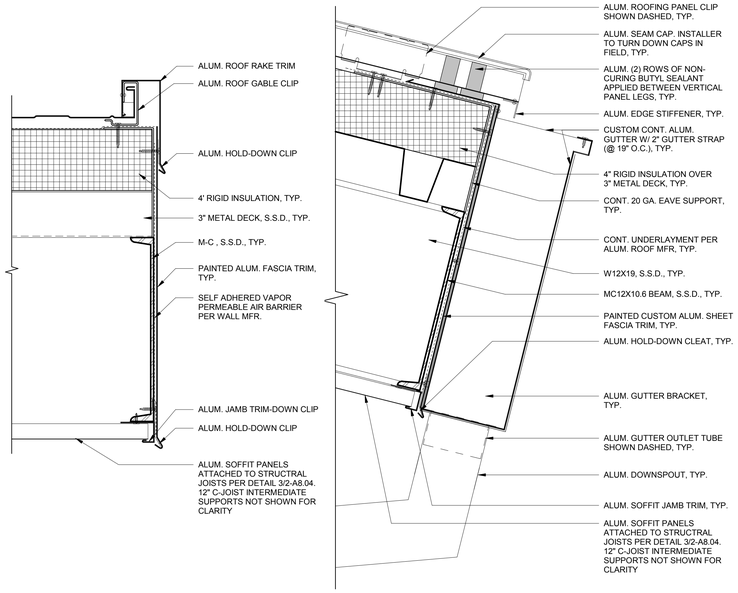
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1 TYP HIGH ROOF EDGE W/ FASCIA TRIM @ GRID LINE A
3" = 1'-0"

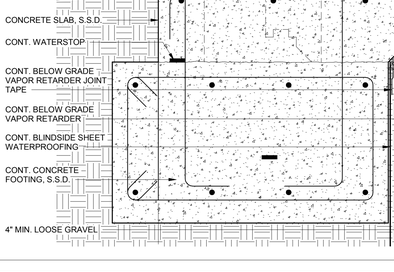


2 TYP. HIGH ROOF EDGE W/ FASCIA TRIM @ GRID LINE C (B LINE SIM.)
3" = 1'-0"



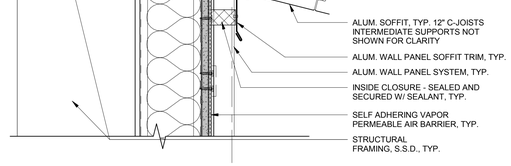
3 TYP. RAKE DETAIL
3" = 1'-0"

4 TYP. GUTTER AND DOWNSPOUT
3" = 1'-0"

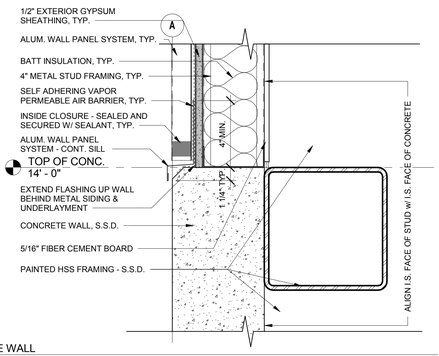


5 ALUM. STOREFRONT SILL @ METAL WALL PANEL
3" = 1'-0"

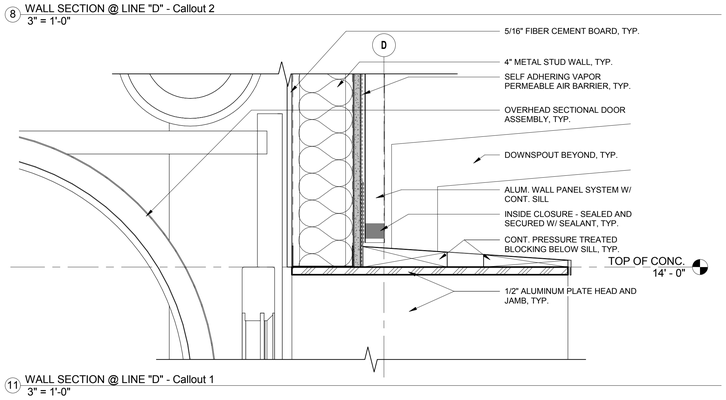
10 TYP ROOF FASCIA AND CRICKET @ GRID LINE C (B LINE SIM.)
3" = 1'-0"



8 WALL SECTION @ LINE "D" - Callout 2
3" = 1'-0"

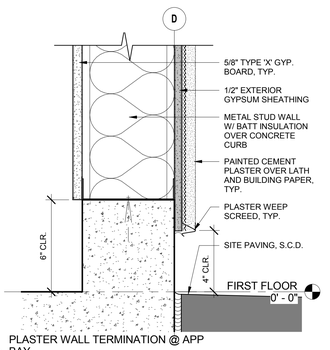


9 METAL WALL PANEL TERMINATION @ CONCRETE WALL
3" = 1'-0"

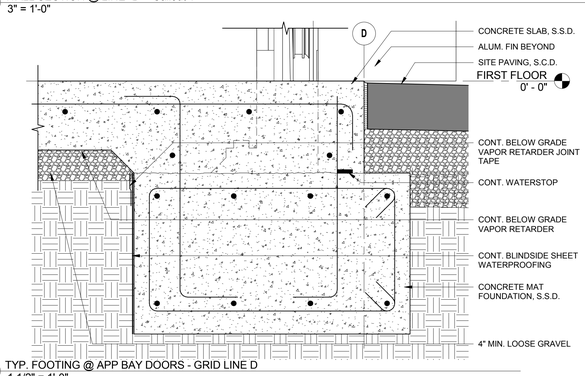


11 WALL SECTION @ LINE "D" - Callout 1
3" = 1'-0"

13 TYP. FOOTING @ GRID LINE A
1 1/2" = 1'-0"



PLASTER WALL TERMINATION @ APP BAY
3" = 1'-0"



16 TYP. FOOTING @ APP BAY DOORS - GRID LINE D
1 1/2" = 1'-0"

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DIV. OF THE STATE ARCHITECT
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ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

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LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
9/11/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 2 EXTERIOR DETAILS

Drawn By: AA
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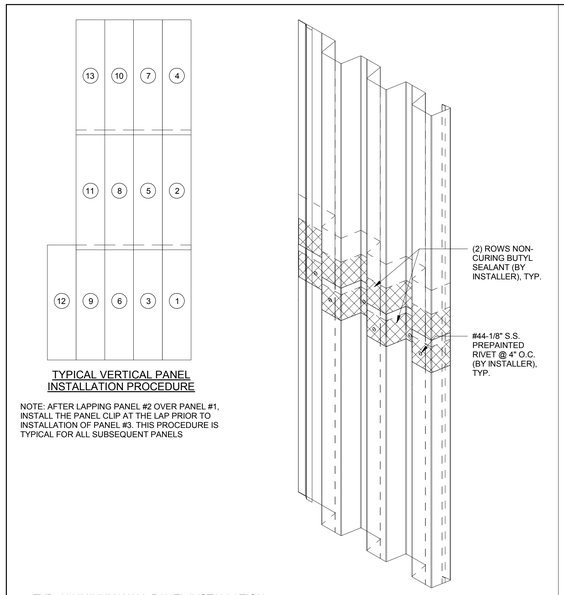
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Date:
October 4, 2019

Project No. 2016039

2-A8.03
Drawing No.

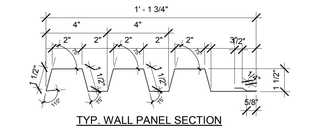
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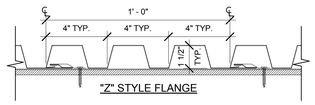
TYPICAL VERTICAL PANEL INSTALLATION PROCEDURE

NOTE: AFTER LAPPING PANEL #2 OVER PANEL #1, INSTALL THE PANEL CLIP AT THE LAP PRIOR TO INSTALLATION OF PANEL #3. THIS PROCEDURE IS TYPICAL FOR ALL SUBSEQUENT PANELS

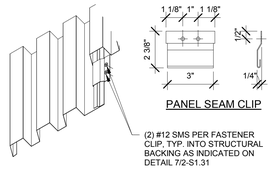
1 TYP. ALUMINUM WALL PANEL INSTALLATION
3" = 1'-0"



TYP. WALL PANEL SECTION



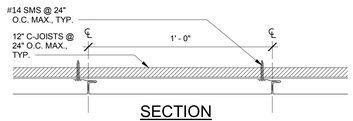
"Z" STYLE FLANGE



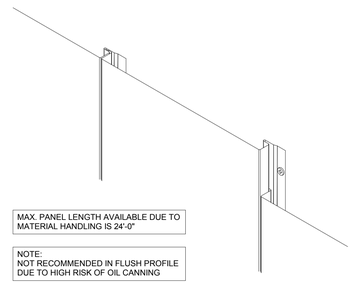
PANEL SEAM CLIP

(2) #12 SMS PER FASTENER CLIP, TYP. INTO STRUCTURAL BACKING AS INDICATED ON DETAIL 7/2-S1.31

2 TYP. ALUMINUM WALL PANEL SECTION
3" = 1'-0"



SECTION



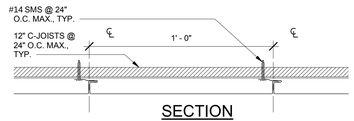
MAX. PANEL LENGTH AVAILABLE DUE TO MATERIAL HANDLING IS 24'-0"

NOTE:
NOT RECOMMENDED IN FLUSH PROFILE DUE TO HIGH RISK OF OIL CANNING

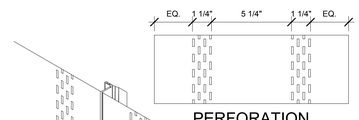
SPECIFICATIONS
MATERIAL: .032" OR .040" SMOOTH ALUMINUM

FINISH: FLUOROCARBON-70% RESIN (KYNAR 500)

3 TYP. NON-PERF ALUMINUM SOFFIT PANEL
3" = 1'-0"



SECTION



PERFORATION

MAX. PANEL LENGTH AVAILABLE DUE TO MATERIAL HANDLING IS 24'-0"

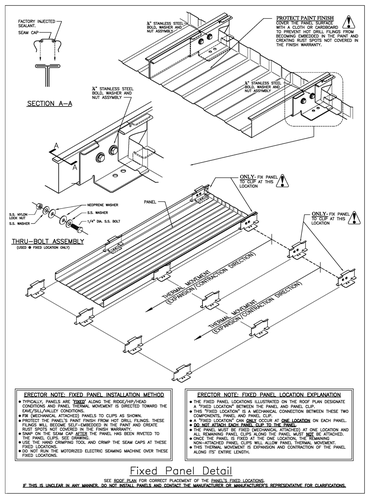
NOTE:
NOT RECOMMENDED IN FLUSH PROFILE DUE TO HIGH RISK OF OIL CANNING

SPECIFICATIONS
VENTING: 3.2 SQUARE INCHES/LF OF OPEN AIR FLOW (2.2% / SQUARE FOOT AIR FLOW)

MATERIAL: .032" OR .040" SMOOTH ALUMINUM

FINISH: FLUOROCARBON-70% RESIN (KYNAR 500)

4 TYP. PERF ALUMINUM SOFFIT PANEL
3" = 1'-0"



ERECTOR NOTE: FIXED PANEL INSTALLATION METHOD

- TYPICALLY, PANELS ARE "FIXED" ALONG THE RIDGE/ARCHEAD, ALLOWING FOR THERMAL MOVEMENT IS DIRECTED TOWARD THE EAVE/EGL/VALLEY CONDITIONS.
- FIX (MECHANICAL ATTACHED) PANELS TO CLIPS AS SHOWN.
- DO NOT DRILL HOLES IN PANELS FOR ANY REASON. IF DRILLED, THESE HOLES WILL BECOME SELF-EMBEDDED IN THE PAINT AND CREATE RUST SPOTS NOT COVERED IN THE FINISH WARRANTY.
- IF A HOLE IS DRILLED IN ERROR, THE PANEL HAS BEEN INVITED TO THE PANEL CLIPS, NOT HARDER.
- USE THE HAND CRIMPING TOOL AND CRIMP THE SCAM CAPS AT THESE LOCATIONS.
- DO NOT RUN THE MOTORIZED ELECTRIC SEAMING MACHINE OVER THESE FIXED LOCATIONS.

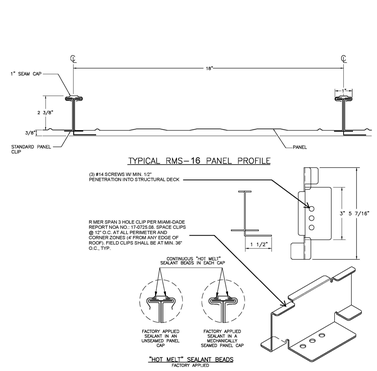
ERECTOR NOTE: FIXED PANEL LOCATION EXPLANATION

- THE FIXED PANEL LOCATIONS ILLUSTRATED ON THE ROOF PLAN DESIGNATE THE "FIXED LOCATION" OF THE PANELS AT THE RIDGE.
- THIS "FIXED LOCATION" IS A MECHANICAL CONNECTION BETWEEN THESE TWO COMPONENTS: PANEL AND PANEL CLIP.
- THE PANEL MUST BE FIXED MECHANICALLY AT **ONE LOCATION** ON EACH PANEL.
- **DO NOT ATTACH EACH PANEL CLIP TO THE PANEL.**
- THE PANEL MUST BE FIXED MECHANICAL ATTACHED AT ONE LOCATION AND ONLY ONE LOCATION ALONG THE LENGTH OF THE PANEL AS SHOWN.
- ONCE THE PANEL IS FIXED AT THE ONE LOCATION, THE REMAINING NON-ATTACHED PANEL CLIPS WILL ALLOW PANEL THERMAL MOVEMENT (EXPANSION AND CONTRACTION) OF THE PANEL ALONG ITS ENTIRE LENGTH.

Fixed Panel Detail

SEE ROOF PLAN FOR CORRECT PLACEMENT OF THE PANEL'S FIXED LOCATIONS.
IF THIS IS UNCLEAR IN ANY MANNER, DO NOT INSTALL PANELS AND CONTACT THE MANUFACTURER OR MANUFACTURER'S REPRESENTATIVE FOR CLARIFICATIONS.

5 TYP. ROOF PANEL REQUIREMENTS
3" = 1'-0"

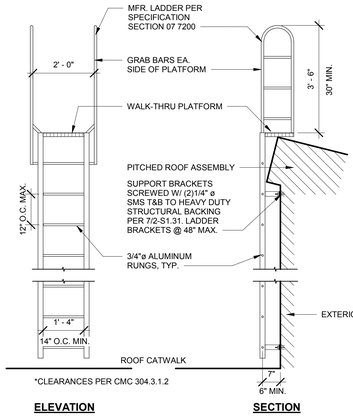


TYPICAL RMS–16 PANEL PROFILE

R-MER SPAN 3 HOLE CLIP PER MIAMI-DADE REPORT NOA NO.: 17-0725.08. SPACE CLIPS @ 12" O.C. AT ALL PERIMETER AND CORNER ZONES (4' FROM ANY EDGE OF ROOF'S, FIELD CLIPS SHALL BE AT MIN. 24" O.C., TYP.

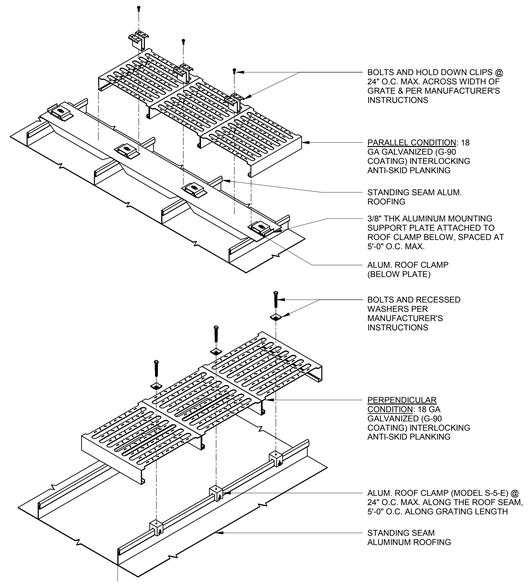
"HOT MELT" SEALANT BEADS
FACTORY APPLIED

7 TYP. ROOF PANEL AND CLIPS
3" = 1'-0"

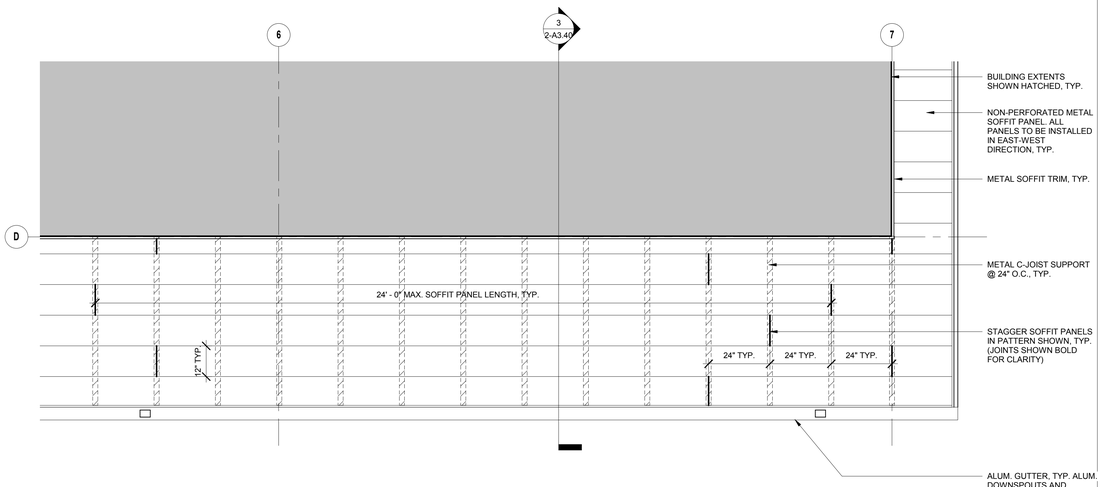


ELEVATION **SECTION**

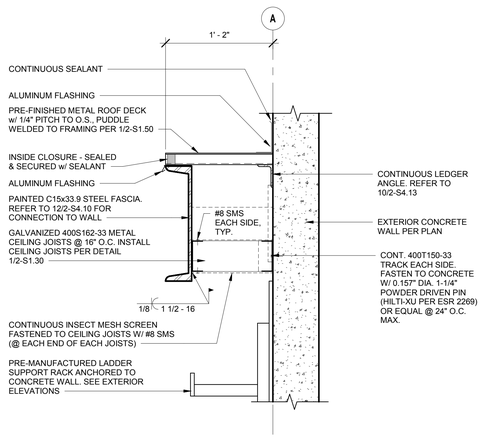
8 SAW TOOTH ROOF LADDER
1/2" = 1'-0"



TYP. ROOFWALK GRATING ATTACHMENT TO STANDING SEAM ALUM. ROOF
1" = 1'-0"



9 TYP. METAL SOFFIT PANEL SPACING
1/2" = 1'-0"



11 ROOF @ LADDER STORAGE
1 1/2" = 1'-0"

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION	
DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVED RECD:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3 - INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
3/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 2 EXTERIOR DETAILS

Drawn By: AA Checked By: EW

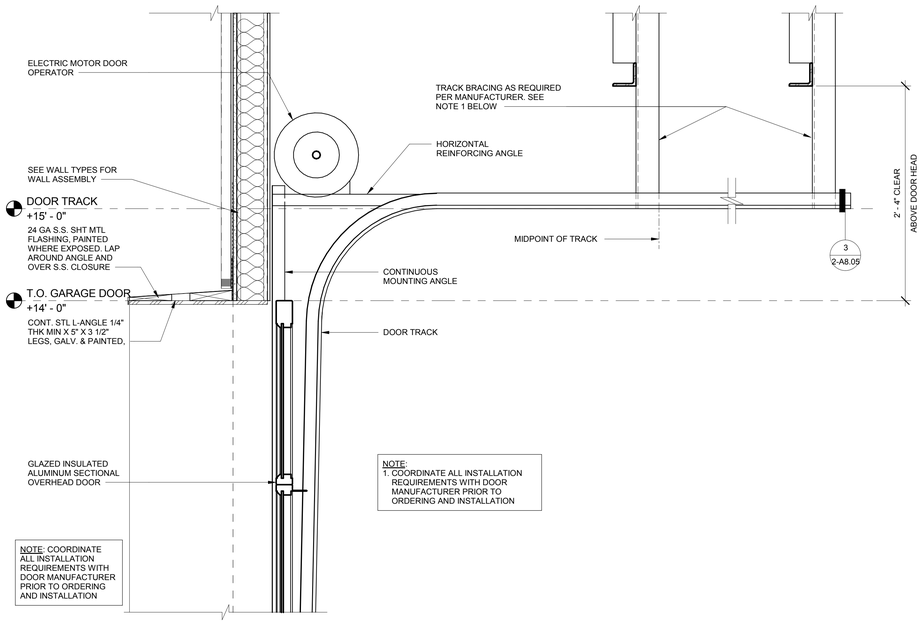
Scale: **As indicated**

Date: **October 4, 2019**

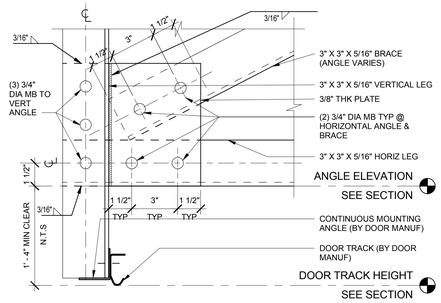
Project No. 2016039

2-A8.04
Drawing No.

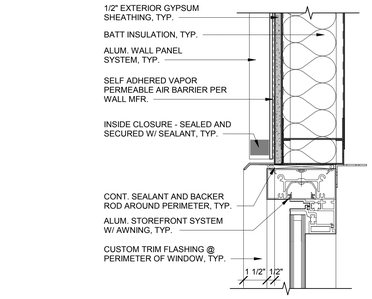
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1 SECTIONAL DOOR HEAD
1 1/2" = 1'-0"



3 SECTIONAL GARAGE DOOR TRACK SUPPORT FRAME
3" = 1'-0"



4 TYP. CLERESTORY AWNING HEAD DETAIL
3" = 1'-0"

5 TYP. CLERESTORY AWNING SILL DETAIL
3" = 1'-0"

6 TYP. CLERESTORY HEAD DETAIL
3" = 1'-0"

7 TYP. CLERESTORY SILL DETAIL
3" = 1'-0"

8 UNDERSLAB WP LAPS
3" = 1'-0"

9 SLAB PENETRATION DETAIL
1 1/2" = 1'-0"

2 HM DOOR HEAD CONCRETE
3" = 1'-0"

ANCHOR QUANTITIES:
- PROVIDE (3) ANCHORS PER JAMB THROUGH 7'-6" HEIGHT
- PROVIDE (4) ANCHORS OVER 7'-6" TO 12'-0" HEIGHT
- PROVIDE (1) SILL ANCHOR EACH JAMB SIDE W/ 3/8" CONCRETE SCREW ANCHOR PER 12/2-S1.10

ANCHOR LOCATIONS:
1. LOCATE ALL ANCHORS ON HINGE JAMB AS CLOSE TO TOP OF HINGE REINFORCEMENT AS POSSIBLE.
2. LOCATE ANCHORS ON STRIKE JAMB IN THE CORRESPONDING POSITION AS THE HINGE JAMB.

10 HM DOOR JAMB CONCRETE
3" = 1'-0"

11 ROLL-UP HEAD CONCRETE
1 1/2" = 1'-0"

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No. C-18867
3/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 2 EXTERIOR DETAILS

Drawn By: Author
Checked By: Checker

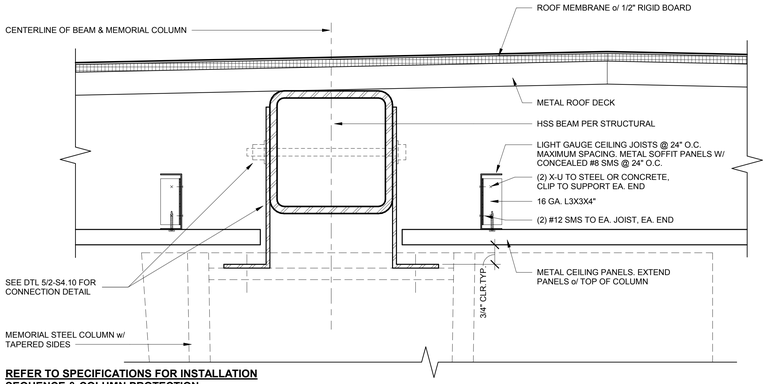
Scale:
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Date:
October 4, 2019

Project No. 2016039

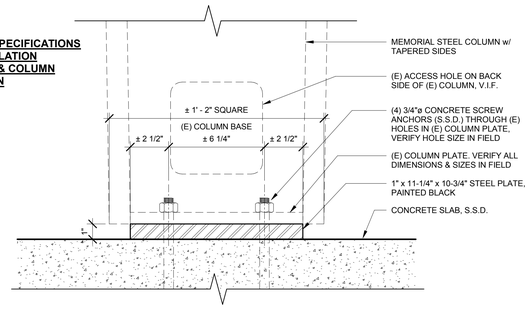
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Drawing No.

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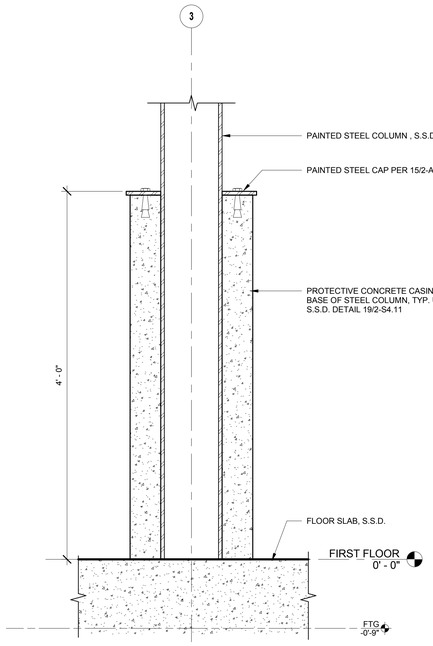


REFER TO SPECIFICATIONS FOR INSTALLATION SEQUENCE & COLUMN PROTECTION

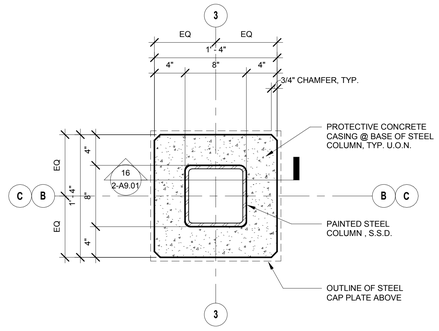
17 WTC COLUMN HEAD
3" = 1'-0"



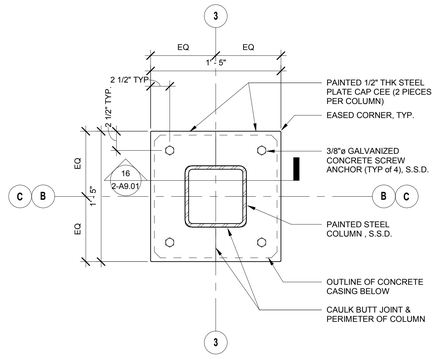
18 MEMORIAL COLUMN BASE
3" = 1'-0"



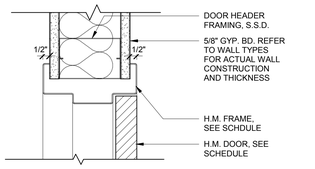
16 COLUMN CASING - SECTION
1 1/2" = 1'-0"



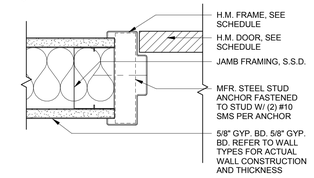
14 COLUMN CASING
1 1/2" = 1'-0"



15 COLUMN CASING CAP
1 1/2" = 1'-0"



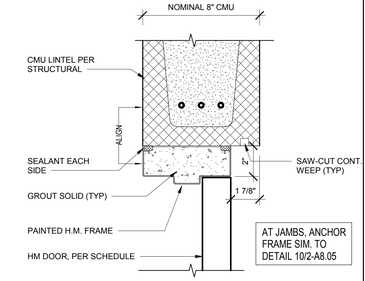
1 TYPICAL DOOR HEAD
3" = 1'-0"



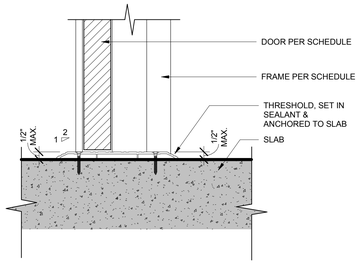
ANCHOR QUANTITIES:
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- PROVIDE (1) SILL ANCHOR EACH JAMB SIDE W/ 3/8" CONCRETE SCREW ANCHOR PER 12/2-S1.10

ANCHOR LOCATIONS:
1. LOCATE ALL ANCHORS ON HINGE JAMB AS CLOSE TO TOP OF HINGE REINFORCEMENT AS POSSIBLE.
2. LOCATE ANCHORS ON STRIKE JAMB IN THE CORRESPONDING POSITION AS THE HINGE JAMB.

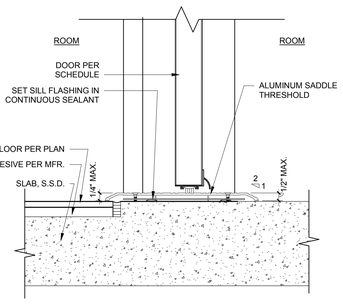
2 TYPICAL DOOR JAMB
3" = 1'-0"



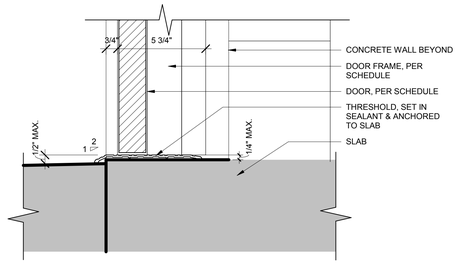
3 DOOR HEAD/JAMB CMU
3" = 1'-0"



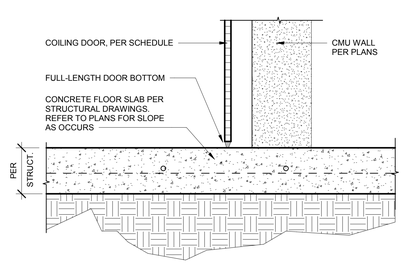
11 TYPICAL INTERIOR DOOR SILL
3" = 1'-0"



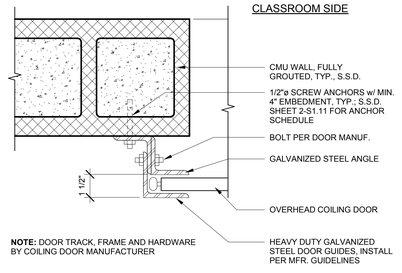
10 TYP. DOOR SILL @ TILE
3" = 1'-0"



9 TYP. EXTERIOR DOOR @ CONC. -THRESHOLD
3" = 1'-0"

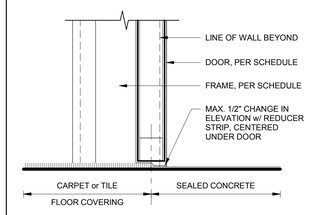


5 ROLL-UP DOOR SILL
1 1/2" = 1'-0"

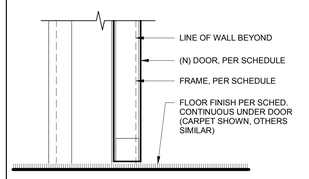


NOTE: DOOR TRACK, FRAME AND HARDWARE BY COILING DOOR MANUFACTURER

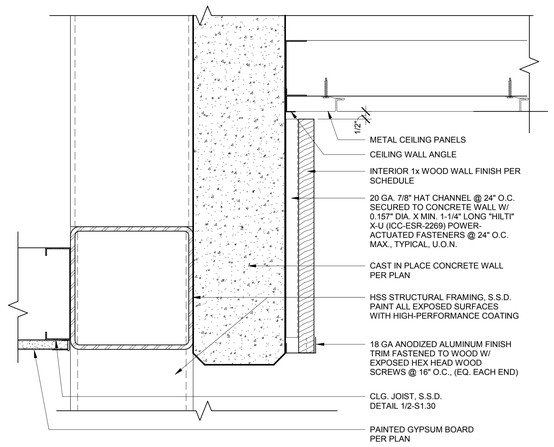
4 ROLL-UP DOOR JAMB @ CMU
3" = 1'-0"



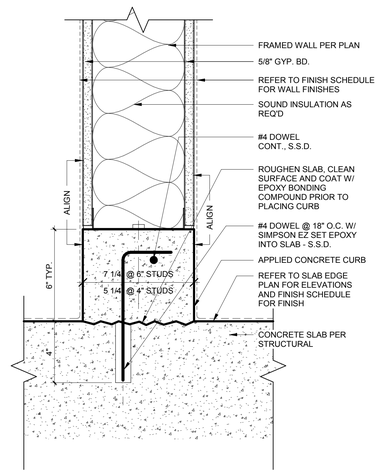
12 TYPICAL FLOOR TRANSITION
3" = 1'-0"



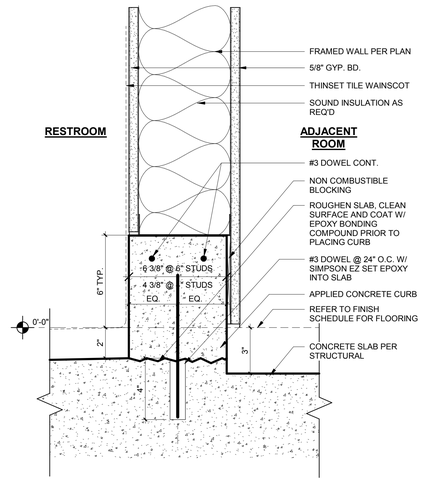
13 INTERIOR SILL W/O THRESHOLD
3" = 1'-0"



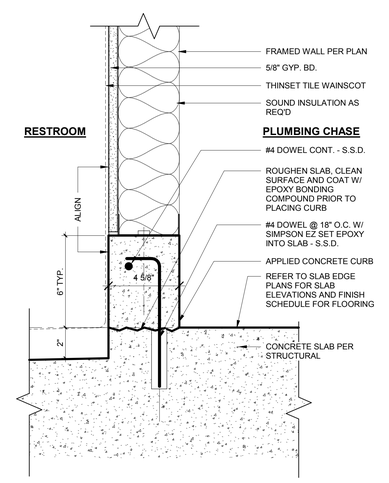
24 LOBBY CEILING @ LINE 7
3" = 1'-0"



6 APPLIED CURB @ RESTROOM/APPARATUS BAY
3" = 1'-0"



7 APPLIED CURB @ RESTROOM EXTERIOR WALL
3" = 1'-0"



8 APPLIED CURB @ RESTROOM PLUMBING CHASE
3" = 1'-0"

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CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION	
DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3 - INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
RENEWAL DATE 8/31/21
STATE OF CALIFORNIA

Sheet Title

BUILDING 2 INTERIOR DETAILS

Drawn By: EW
Checked By: EW

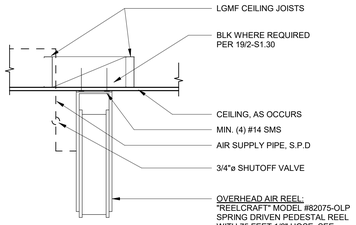
Scale:
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Date:
October 4, 2019

Project No. 2016039

2-A9.01
Drawing No.

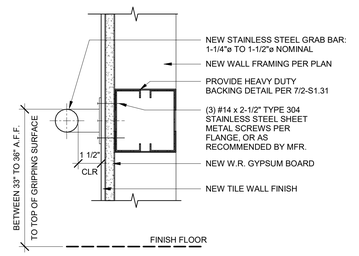
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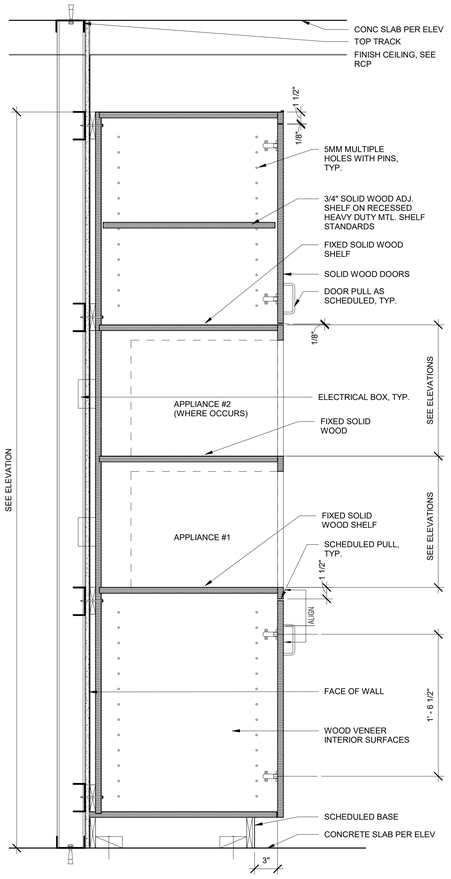
MAXIMUM WEIGHT = 200 LBS

NOTE:
1. PROVIDE SIMILAR ATTACHMENT FOR THE ELECTRICAL REELS. PROVIDE 30 AMP ELECTRICAL CABLE REELS THAT CONSIST OF A 50-FT. LONG 3-CONDUCTOR #10 TYPE SO CABLE AND FEMALE CONNECTOR, "APPLETON" #RL233N-3 w/ "KUSSMUL" #091-159-CON-3P-120. VERIFY ACTUAL PIN CONFIGURATION PRIOR TO INSTALLATION.

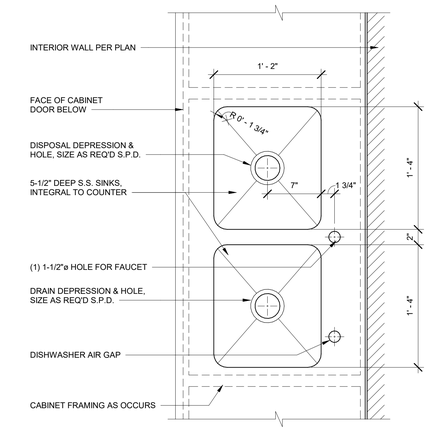
1 OVERHEAD AIR & ELECTRICAL REELS
1" = 1'-0"



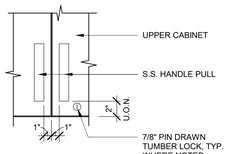
2 GRAB BAR
3" = 1'-0"



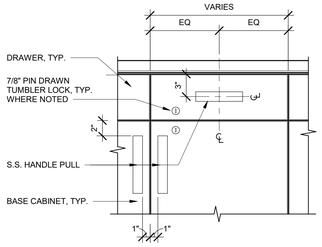
8 UPPER AND LOWER WITH MICROWAVE
1 1/2" = 1'-0"



5 INTEGRAL KITCHEN SINK - SK6
1 1/2" = 1'-0"

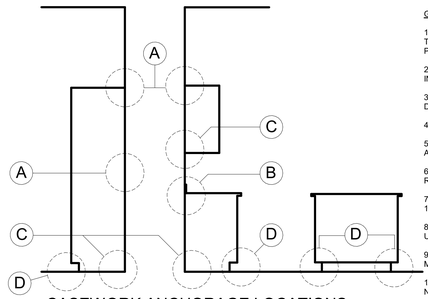


TYPICAL UPPER CABINET HARDWARE

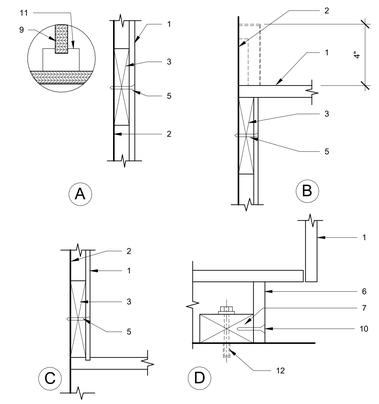


TYPICAL BASE CABINET HARDWARE

3 TYP. CABINET HARDWARE LOCATIONS
1 1/2" = 1'-0"



CASEWORK ANCHORAGE LOCATIONS



4 TYPICAL CASEWORK ANCHORAGE
3" = 1'-0"

GENERAL NOTES:

1. ALL CASEWORK SHOWN ON SCHEDULE *ARE NOT NECESSARILY USED*, ONLY THOSE CASEWORK ITEMS CALLED OUT ON INTERIOR ELEVATIONS and/or FLOOR PLANS SHALL BE USED.

2. CASEWORK NUMBERS SHOWN ON SCHEDULE ARE THOSE OF THE WOODWORK INSTITUTE OF CALIFORNIA (WIC) DESIGN NUMBERING SYSTEM.

3. ALL CABINET DIMENSIONS INDICATED IN SCHEDULE ARE NOMINAL OUTSIDE DIMENSIONS.

4. ALL DIMENSIONS NOTED ON SCHEDULE ARE IN INCHES.

5. FILLER STRIPS ARE REQUIRED AT ENDS OF CABINETS WHERE CABINETS ARE ADJACENT TO WALLS.

6. ALL FILLER STRIPS AT TALL AND WALL CABINETS TO HAVE TOP AND BOTTOM RETURNS.

7. HEIGHT DIMENSIONS OF BASE CABINETS INCLUDE FINISHED TOP THICKNESS OF 1-1/2" AND SUBBASE HEIGHT OF 4" UNLESS OTHERWISE NOTED.

8. HEIGHT DIMENSIONS OF APRONS INCLUDE FINISHED TOP THICKNESS OF 1-1/2" UNLESS OTHERWISE NOTED.

9. HEIGHT DIMENSIONS OF TOPS WITH APRONS FROM FINISHED FLOOR LINE SHALL MATCH HEIGHT OF ADJACENT BASE CABINETS UNLESS OTHERWISE NOTED.

10. ALL PLAN DIMENSIONS OF CASEWORK ARE CABINET DIMENSIONS ONLY AND DO NOT INCLUDE TOPS.

11. PROVIDE FINISHED END PANELS FOR SUPPORT OF COUNTERTOPS AT UNDERCOUNTER EQUIPMENT OR KNEE SPACES WHERE THERE IS NO ADJACENT WALL OR CABINET THAT CAN BE USED FOR SUPPORT.

12. FINISH ALL EXPOSED PORTIONS OF CASEWORK AND COUNTERTOPS.

13. ALL UNITS INCLUDING OPEN UNITS SHALL HAVE CASEWORK MANUFACTURERS STANDARD CABINET LINER UNLESS OTHERWISE NOTED.

14. ALL TOE SPACES SHALL BE 4" IN HEIGHT AND 3" IN DEPTH AND SHALL RETURN TO WALL WHERE ENDS OF CABINETS ARE EXPOSED.

15. ALL SHELVING SHALL BE ADJUSTABLE UNLESS OTHERWISE NOTED.

16. PROVIDE DUST CLOSURE PANELS TO CEILING OR DROPPED SOFFIT AS INDICATED ON ELEVATIONS OR PLAN.

17. ALL COUNTERTOPS SHALL BE OF DEPTHS AS DETAILED AND SHALL BE OF MAXIMUM PRACTICAL LENGTHS REQUIRED TO CONFORM TO OVERALL BASE CABINET DIMENSIONS.

18. PROVIDE BACKSPLASH RETURN AT ENDS OF COUNTERTOPS WHERE ADJACENT TO WALL OR OTHER FULL HEIGHT CASEWORK.

19. ALL SINKS, SINK TRIM & ELECTRICAL ITEMS SHALL BE FURNISHED BY OTHER THAN THE CASEWORK MANUFACTURER UNLESS OTHERWISE NOTED

20. ALL COUNTERTOPS SHALL BE SOLID POLYMER UNLESS OTHERWISE NOTED.

CASEWORK ANCHORAGE NOTES:

1. CASEWORK (FRONT) (BACK) (TOP) (BOTTOM)

2. FACE OF WALL

3. 1 x 4 CONTINUOUS WOOD CLEAT

4. 1 x 2 CONTINUOUS WOOD CLEAT

5. ANCHORAGE - METAL STUD FRAMING - 1/4" DIA. x 2-1/2" SHEET METAL SCREWS @ 20" OC. 2" MAXIMUM FROM EACH END (MINIMUM 4 PER CABINET) w/ CONT. BACKING PER 7/2-S1.31 x CABINET LENGTH AND ACROSS 3 STUDS MINIMUM.

6. 3/4" PARTICLE BOARD SKIRT W/ RUBBER BASE.

7. 2 x 4 PLATE

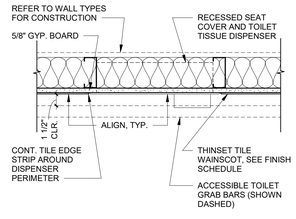
8. NOT USED.

9. 3/4" PLYWOOD BRACKET @ 24" OC. WITH (4) # 10 x 2 LONG FHMS (3" FROM EACH END), NO EXPOSED SCREW HEADS.

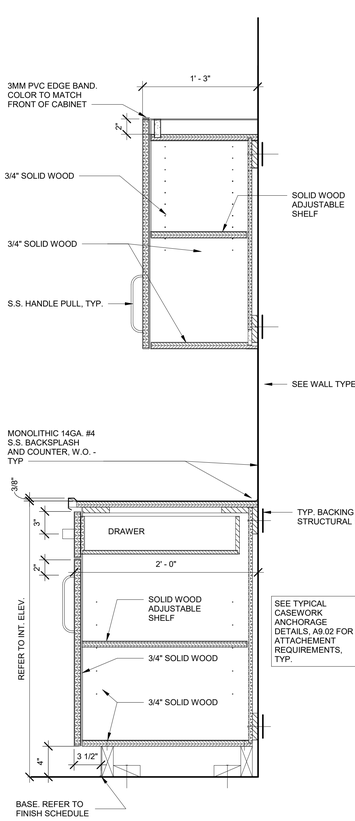
10. #10 x 3" FLAT HEAD WOOD SCREWS @ 24" OC.

11. 1 x 3 WITH #10 x 4" FHMS @ 6" OC.

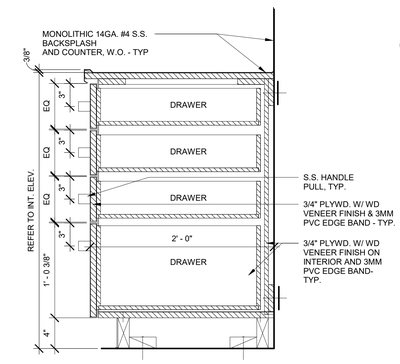
12. HILTI X-U AT 2" FROM EA. END AT 20" O.C., 1" EMBED, TYP.



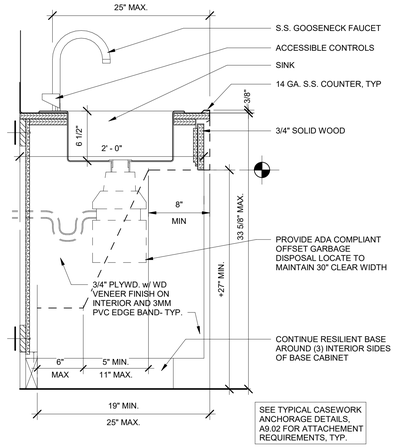
10 RECESSED DISPENSER DETAIL @ TILE WALL
1 1/2" = 1'-0"



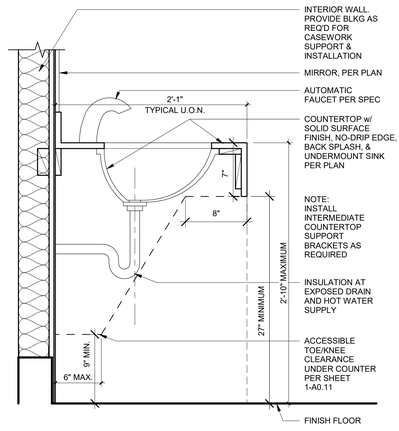
9 UPPER AND LOWER WOOD
1 1/2" = 1'-0"



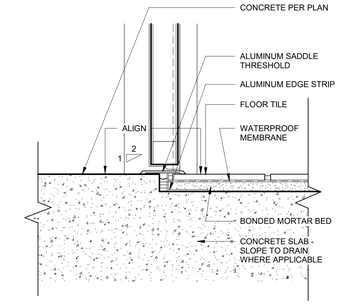
6 BASE CABINET WITH 4 DRAWERS
1 1/2" = 1'-0"



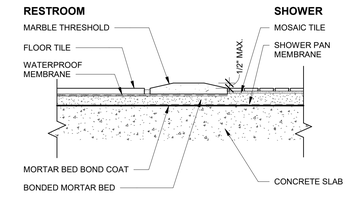
7 BASE WITH SINK
1 1/2" = 1'-0"



11 DV- TYP. LAVATORY COUNTERTOP
1 1/2" = 1'-0"



13 TRANSITION CERAMIC TILE TO PAVERS
3" = 1'-0"



12 TYP. MARBLE THRESHOLD @ SHOWER
3" = 1'-0"

Ross Drulis Cusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	INC 01_ADD_01_V1	12/06/2019

PERMIT SUBMITTAL V3 - INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
5/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 2 INTERIOR DETAILS

Drawn By: AA
Checked By: EW

Scale:
As indicated

Date:
October 4, 2019

Project No. 2016039

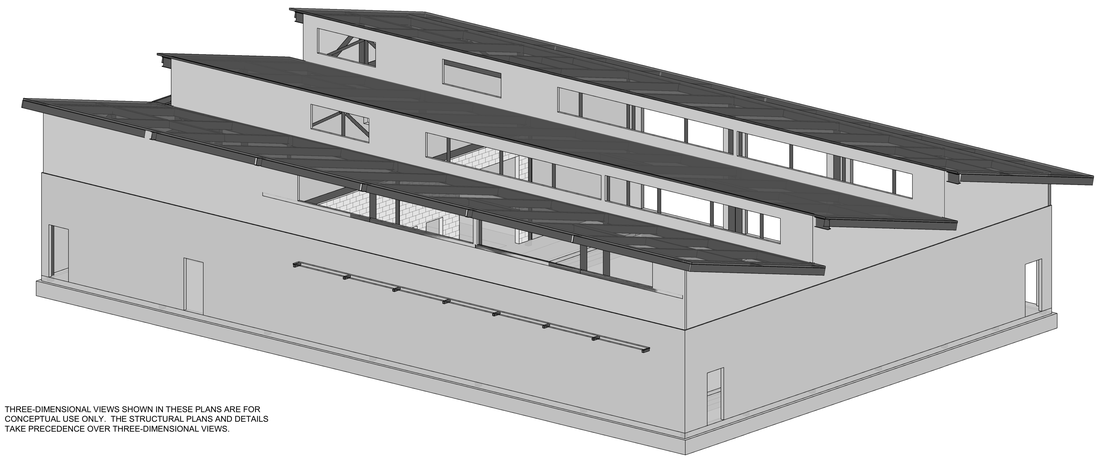
2-A9.02

Drawing No.

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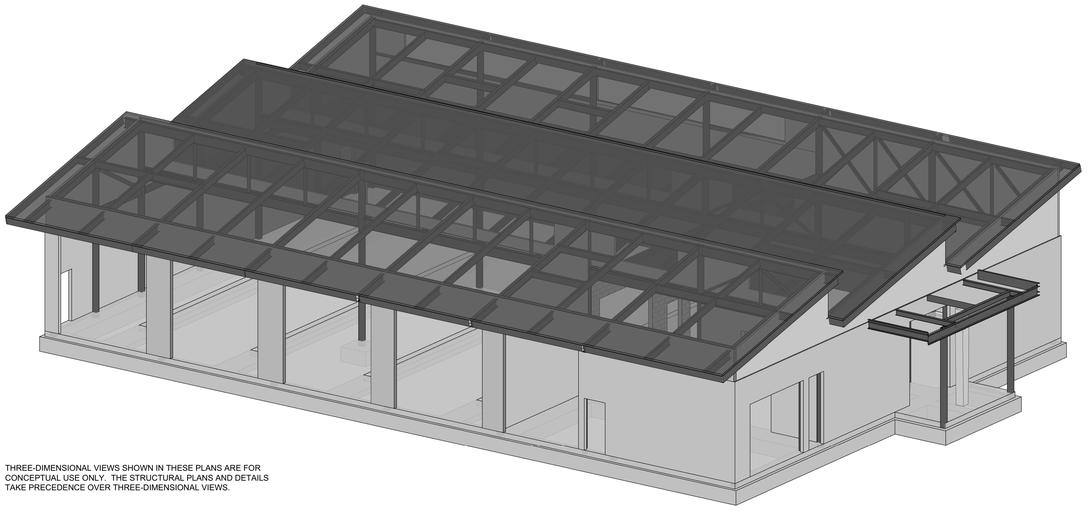
ABBREVIATIONS

AB	ANCHOR BOLT	GB	GRADE BEAM	PTDF	PRESSURE TREATED
ABV	ABOVE	GLB	GLUE LAMINATED BEAM		DOUGLAS FIR
AC	AIR CONDITIONING	GR	GRADE	PT	POINT
ADJ	ADJACENT	HD	HOLD DOWN	R	RADIUS
ADDL	ADDITIONAL	HDG	HOT-DIP GALVANIZED	RBS	REDUCED BEAM SECTION
ALT	ALTERNATE	HDR	HEADER	RFTR	RAFTER
ALUM	ALUMINUM	HGR	HANGER	REF	REFERENCE
ARCH	ARCHITECT	HK	HOOK	REINF	REINFORCING
@	AT	HORIZ	HORIZONTAL	REQD	REQUIRED
BLDG	BUILDING	HS	HIGH STRENGTH	RTG	RETAINING
BLK/BLKG	BLOCK/BLOCKING	HSB	HIGH STRENGTH BOLT	REV	REVISION
BLW	BELOW	HSFB	HIGH STRENGTH	RF	ROOF
BM	BEAM		FRICTION BOLT	RWD	REDWOOD
BN	BOUNDARY NAIL	HSG	HIGH STRENGTH GROUT	S	AMERICAN STANDARD BEAM
BOT	BOTTOM	HSH	HORIZONTAL SLOTTED	SAD	SEE ARCHITECTURAL
BRG	BEARING		HOLE		DRAWINGS
BTWN	BETWEEN	HSS	HOLLOW STRUCTURAL	SB	SOLID BLOCK
BV	BOTH WAYS		SECTION	SC	SPECIAL CUT
BYND	BEYOND	HT	HEIGHT	SCBF	SPECIAL CONCENTRIC
C	AMERICAN STANDARD	ID	INSIDE DIAMETER		BRACED FRAME
	CHANNEL	IJ	I SHAPED WOOD BUILT	SCD	SEE CIVIL DRAWINGS
CANT	CANTILEVER		UP TRUSS	SCHED	SCHEDULE
CB	CARRIAGE BOLT	INT	INTERIOR	SED	SEE ELECTRICAL DRAWINGS
CIP	CAST IN PLACE	JST	JOIST	SEOR	STRUCTURAL ENGINEER OF
CGL	CERTIFIED GLUED LUMBER	JT	JOINT		RECORD
CJ	CONTROL JOINT	KP	KING POST	SFRS	SEISMIC FORCE RESISTING
$	CENTERLINE		STEEL ANGLE		SYSTEM
CJP	CONTINUOUS JOINT	Lb or #	POUND(S)	SHTG	SHEATHING
	PENETRATION	LGMF	LIGHT GAGE METAL	SIM	SIMILAR
CLG	CEILING		FRAMING	SKYLT	SKYLIGHT
CLR	CLEAR	LGMFC	LIGHT GAGE METAL	SMF	SPECIAL MOMENT FRAME
COL	COLUMN		FRAMING CONTRACTOR	SMS	SHEET METAL SCREW
COLL	COLLECTOR	LL	LIVE LOAD	SMO	SEE MECHANICAL DRAWINGS
CONC	CONCRETE	LLH	LONG LEG HORIZONTAL	SOG	SLAB ON GRADE
CONN	CONNECTION	LLV	LONG LEG VERTICAL	SPCG	SPACING
CONT	CONTINUOUS	LOC	LOCATION	SPD	SEE PLUMBING DRAWINGS
COORD	COORDINATE	LS	LAG SCREW	SPEC	SPECIFICATION
	COORDINATION	LSL	LAMINATED STRAND LUMBER	SQ	SQUARE
CMU	CONCRETE MASONRY UNIT	LVL	LAMINATED VENEER LUMBER	SS	SELECT STRUCTURAL
CSK	COUNTERSINK	MAX	MAXIMUM		or STAINLESS STEEL
CW	CUT WASHER	MB	MACHINE BOLT	STGR	STAGGERED
DBL	DOUBLE	MBM	METAL BUILDING	STD	STANDARD
DCW	DEMAND CRITICAL WELD		MANUFACTURER	STIFF	STIFFENER
DF	DOUGLAS FIR	MC	MISCELLANEOUS CHANNEL	STL	STEEL
DF-L or Ø	DOUGLAS FIR-LARCH	MECH	MECHANICAL	STRUCT	STRUCTURAL
DIAG	DIAGONAL	MEZZ	MEZZANINE	SW	SHEAR WALL
DIM	DIMENSION	MF	MOMENT FRAME	SYM	SYMMETRICAL
DJ	DOWEL JOINT	MFR	MANUFACTURER	T&B	TOP AND BOTTOM
DL	DEAD LOAD	MIN	MINIMUM	T&G	TONGUE AND GROOVE
DN	DOWN	MISC	MISCELLANEOUS	THK	THICK
DO	DITTO	MW	MALLEABLE IRON WASHER	THRD	THREADED
DWG	DRAWING	MTL	METAL	THRU	THROUGH
DWL	DOWEL	(N)	NEW	TL	TOTAL LOAD
EA	EACH	NIC	NOT IN CONTRACT	TN	TOE NAIL
EW	EACH END	NO. or #	NUMBER	TOC	TOP OF CONCRETE
EF	EACH FACE	NS	NEAR SIDE	TOF	TOP OF FRAMING
ELEC	ELECTRICAL	NSG	NON-SHRINK GROUT	TOM	TOP OF MASONRY
ELEV	ELEVATOR/ELEVATION	NTS	NOT TO SCALE	TOP	TOP OF PLYWOOD
EMBED	EMBEDMENT	O/	OVER	TOS	TOP OF STEEL
EQ	EQUAL	oc	ON CENTER	TOT	TOTAL
EQUIP	EQUIPMENT	OD	OUTSIDE DIAMETER	TU	TILT UP
ES	EACH SIDE	OH	OPPOSITE HAND	TYP	TYPICAL
EW	EACH WAY	OPNG	OPENING	UNO	UNLESS NOTED OTHERWISE
EXIST or (E)	EXISTING	OPP	OPPOSITE	VERT	VERTICAL
EXP	EXPANSION	OW	OTHERWISE	VIF	VERIFY IN FIELD
EXT	EXTERIOR	OWT	OPEN WEB TRUSS	VSH	VERTICAL SLOTTED HOLE
FDN	FOUNDATION	℄	PLATE or PROPERTY LINE	W	WIDE FLANGE STEEL BEAM
FIN	FINISH	PA	POST ABOVE	W/	WITH
FG	FINISH GRADE	PDP	POWDER DRIVEN PINS	WO	WITHOUT
FLI	FERRULE LOOP INSERT	PEN	PANEL EDGE NAIL	WD	WOOD
FLR	FLOOR	PERP	PERPENDICULAR	WHS	WELDED HEADED STUD
FN	FACE NAIL	PES	PANEL EDGE SCREWS	WLD	WELDED
FOC	FACE OF CONCRETE	PJP	PARTIAL JOINT PENETRATION	WP	WEATHERPOINT/WATERPROOF
FOM	FACE OF MASONRY	PLF	POUNDS PER LINEAR FOOT	WS	WOOD SCREW
FOS	FACE OF STUD	PNL	PANEL	WT	WEIGHT
FRMG	FRAMING	PSF	POUNDS PER SQUARE FOOT	WTS	WELDED THREADED STUD
FS	FAR SIDE	PSI	POUNDS PER SQUARE INCH	WWR	WELDED WIRE
FTG	FOOTING	PSL	PARALLEL STRAND LUMBER		REINFORCEMENT
GA	GAGE or GAUGE	PTB	PANEL TIE BAR		
GALV	GALVANIZED				



THREE-DIMENSIONAL VIEWS SHOWN IN THESE PLANS ARE FOR CONCEPTUAL USE ONLY. THE STRUCTURAL PLANS AND DETAILS TAKE PRECEDENCE OVER THREE-DIMENSIONAL VIEWS.

2 3D VIEW - FOR REFERENCE ONLY



THREE-DIMENSIONAL VIEWS SHOWN IN THESE PLANS ARE FOR CONCEPTUAL USE ONLY. THE STRUCTURAL PLANS AND DETAILS TAKE PRECEDENCE OVER THREE-DIMENSIONAL VIEWS.

3 3D VIEW- FOR REFERENCE ONLY

G WIND C&C NOTES

NET COMPONENTS AND CLADDING WIND PRESSURES (PSF)

HEIGHT (FT)	SURFACE (PER ASCE 7-10 CHAPTER 30 PART 2)				
	ROOF ZONE			WALL ZONE	
	1	2	3	4	5
26	19 / -30	19 / -52	19 / -77	30 / -33	30 / -40
OVERHANGS	---	19 / -66	19 / -108	---	---

1. GIVEN VALUES SHALL BE USED FOR DESIGN OF CLADDING SYSTEMS UNLESS ENGINEERING IS SUBMITTED FOR REVIEW PER ITEM 3.
2. SEE **A/2-S0.10** FOR WIND DESIGN CRITERIA.
3. GIVEN PRESSURES ARE BASED ON AN EFFECTIVE AREA OF 10 SQUARE FEET OR LESS. ENGINEERING MAY BE SUBMITTED TO SUBSTANTIATE USE OF LOWER PRESSURES BASED ON GREATER EFFECTIVE WIND AREAS.
4. NEGATIVE VALUES INDICATE PRESSURE DIRECTED AWAY FROM THE EXTERIOR SURFACE OF THE STRUCTURE. BOTH THE POSITIVE AND NEGATIVE PRESSURE CASES SHALL BE CONSIDERED.

D FOUNDATION NOTES

1. FOUNDATION DESIGN PRESSURES ARE:

   SHALLOW FOOTINGS:
   DEAD LOAD + LIVE LOAD = 3,000 PSF
   DEAD LOAD + LIVE LOAD + LATERAL = 4,000 PSF

2. ALL SOILS WORK SHALL BE DONE IN ACCORDANCE WITH THE SPECIFICATIONS, THE REQUIREMENTS OF THE GEOTECHNICAL REPORT NOTED BELOW AND CHAPTER 18A OF THE CBC, TITLE 24, PART 2. ALL FOUNDATIONS SHALL BEAR ON FIRM, UNDISTURBED, NATIVE SOILS OR ENGINEERED FILL AT OR EXCEEDING DEPTHS SHOWN ON THE DRAWINGS. ENGINEERED FILL TO BE COMPACTED PER GEOTECHNICAL REPORT. INCREASE FILL AND OR FOOTING DEPTH AS REQUIRED BY GEOTECHNICAL ENGINEER. ALL FOOTING EXCAVATIONS SHALL BE AS NEAT AS PRACTICABLE. OVER-EXCAVATIONS/WIDTH SHALL BE FILLED WITH CONCRETE, AND IN DEPTH MAY BE FILLED WITH LEAN CONCRETE OR COMPACTED APPROVED BACKFILL. ALL LOOSE SOILS SHALL BE REMOVED FROM EXCAVATIONS PRIOR TO PLACEMENT OF REINFORCING OR CONCRETE. GEOTECHNICAL REPORT BY:

   ROCKRIDGE GEOTECHNICAL
   PROJECT NO. 15-91196
   DATED: SEPTEMBER 21, 2018

3. USE 5/8" DIAMETER x 12" (18" AT CURBS) ANCHOR BOLTS (AB) AT 48"oc WHERE NOT OTHERWISE NOTED. MINIMUM EMBEDMENT INTO CONCRETE IS 7" (EXCLUDING CURB) UNLESS DETAILED OTHERWISE. ANCHOR BOLTS ARE TO BE TIED IN PLACE PRIOR TO PLACEMENT OF CONCRETE. SEE SHEAR WALL SCHEDULE FOR ADDITIONAL REQUIREMENTS. MINIMUM TWO ANCHOR BOLTS PER SILL PIECE.
4. TYPICAL SLAB: 5" CONCRETE REINFORCED WITH #4 @ 16"oc EACH WAY LOCATED 1½" CLEAR FROM TOP OF SLAB OVER VAPOR RETARDER (PER SPECIFICATIONS) AND 6" MINIMUM FREE DRAINING COMPACTED ROCK PER SPECIFICATIONS ON SUBGRADE PER THE GEOTECHNICAL RECOMMENDATIONS, AND AS APPROVED BY THE GEOTECHNICAL ENGINEER. DO NOT DRIVE CONCRETE TRUCKS OR LARGE SCREED MACHINES ON VAPOR BARRIER WITHOUT ADDITIONAL BUFFER MATERIAL AND APPROVAL FROM THE STRUCTURAL ENGINEER.
5. TYPICAL APPARATUS BAY: 9" CONCRETE REINFORCED WITH #5 @ 12"oc EACH WAY AT 3" CLEAR FROM TOP OVER VAPOR BARRIER PER SPECIFICATIONS, AND 6" MINIMUM FREE DRAINING COMPACTED CRUSHED ROCK ON SUBGRADE PER GEOTECHNICAL REPORT. SEE OTHER DRAWINGS FOR SLAB DRAINAGE, SLOPE, DEPRESSIONS, FINISH, ETC. DO NOT DRIVE CONCRETE TRUCKS OR LARGE SCREED MACHINES ON VAPOR BARRIER WITHOUT ADDITIONAL BUFFER MATERIAL AND APPROVAL FROM THE STRUCTURAL ENGINEER.
6. TYPICAL SLAB AT APRONS: 8" CONCRETE REINFORCED WITH #4 @ 12"oc EACH WAY AT 2½" CLEAR FROM TOP OVER 12" MINIMUM CALTRANS CLASS 2 AGGREGATE BASE COMPACTED ON SUBGRADE PER GEOTECHNICAL REPORT.
7. REFER TO ARCHITECTURAL AND PLUMBING DRAWINGS FOR DEPRESSED SLABS FOR ARCHITECTURAL FLOORING OR INSERTS, SLOPED SLABS TO DRAIN AND PIPES OR CONDUITS AT SLAB. SEE **2/2-S1.10** AT DEPRESSED SLAB & **3/2-S1.10** FOR PIPES AND CONDUITS.
8. PROVIDE CONTROL JOINTS PER **5/2-S1.10** (OR CONSTRUCTION/DOWEL JOINTS AT CONTRACTOR'S OPTION) AS SHOWN ON PLAN AND AS REQUIRED TO MEET A MAXIMUM SPACING IN FEET OF 3 TIMES THE SLAB DEPTH IN INCHES (FOR EXAMPLE 3x4" = 12'-0"oc MAX). PROVIDE CONSTRUCTION/DOWEL JOINTS PER **1/2-S1.10** AS SHOWN ON PLAN, BUT NOT GREATER THAN 60'-0"oc EACH WAY. INSTALL JOINTS TO DIVIDE SLAB INTO RECTANGULAR AREAS WITH LONG DIMENSION LESS THAN 1.5 x SHORT DIMENSION. INSTALL JOINTS AT FACE OF STUDS OF WALL WHERE POSSIBLE. SUBMIT JOINT LAYOUT PLAN FOR REVIEW PRIOR TO PLACEMENT.
9. TOP OF FOOTING ELEVATIONS TO BE DETERMINED BY THE CONTRACTOR BASED ON INFORMATION FROM THE CIVIL DRAWINGS, GEOTECHNICAL REPORT, LANDSCAPE, ETC.

E MATERIAL DATA

(INFORMATION SHOWN IS FOR STRUCTURAL DESIGN REFERENCE ONLY. SEE THE PROJECT SPECIFICATIONS FOR ALL MATERIAL SPECIFICATIONS.)

CONCRETE 28-DAY ULTIMATE COMPRESSIVE STRENGTH:
- F'_c = 5,000 PSI FOUNDATIONS
- F'_c = 3,000 PSI INTERIOR SLAB ON GRADE (4,000 PSI AT 56 DAYS)
- F'_c = 5,000 PSI WALLS, COLUMNS

REINFORCING STEEL YIELD STRENGTH:
ALL SPECIAL CONCRETE SHEARWALL REINFORCING SHALL BE A706 GR. 60.
ALL OTHER REINFORCING, EXCEPT AS NOTED ABOVE:
- F_y = 40,000 PSI AT #3 AND SMALLER
- F_y = 60,000 PSI AT #4 AND LARGER

STEEL YIELD STRENGTH (UNO):
- F_y = 50,000 PSI W SHAPES
- F_y = 36,000 PSI ANGLES, CHANNELS, AND PLATES
- F_y = 50,000 PSI PLATES AT MOMENT OR BRACE FRAME CONNECTIONS
- F_y = 46,000 PSI RECTANGULAR HSS
- F_y = 42,000 PSI ROUND HSS
- F_y = 35,000 PSI PIPES

FASTENERS:
MACHINE BOLTS SHALL BE ASTM A307
HIGH STRENGTH BOLTS, NUTS, AND HARDENED WASHERS SHALL BE ASTM F3125 GRADE A325, ASTM A563, AND ASTM F436, RESPECTIVELY.
WELDED HEADED STUDS SHALL BE ASTM A108 F_y = 51 KSI
ANCHOR RODS SHALL BE ASTM F1554 GR 36 UNO
PDP TO BE 0.157"**ø** MINIMUM 1¼" LONG HILTI X-U (ICC-ESR-2269) UNO. AT STRUCTURAL STEEL USE 0.157"**ø** x¾" LONG HILTI X-U UNO.
ARC-WELDING ELECTRODES SHALL BE E70

MASONRY COMPRESSIVE STRENGTH:
- F'_m = 2,000 PSI

COLD FORMED METAL FRAMING YIELD STRENGTH:
- F_y = 33,000 PSI 33 & 43 MILS (20 & 18 GAUGE)
- F_y = 50,000 PSI 54, 68, & 97 MILS (16, 14, & 12 GAUGE)

FOR METAL CONNECTOR DESIGNATION REFER TO SIMPSON STRONG-TIE PER SPECIFICATIONS.

F CONCRETE MASONRY UNIT NOTES

1. CONCRETE MASONRY UNIT CONSTRUCTION SHALL BE PER **4/2-S1.40** UNO. USE DOUBLE OPEN END WHERE POSSIBLE AND SINGLE OPEN END OTHERWISE. ALL CELLS TO BE GROUTED SOLID. ALL CMU TO BE LAID IN RUNNING BOND.
2. PROVIDE INVERTED BOND BEAM UNITS AT FOUNDATION LEVEL. SEE SPECIFICATIONS FOR CLEANOUT AND GROUTING REQUIREMENTS.
3. DOWELS FROM FOUNDATION ARE TO MATCH SIZE AND ALIGNMENT WITH THE WALL VERTICAL REINFORCEMENT. EXTEND DOWELS FROM FOUNDATION INTO WALL TO PROVIDE MINIMUM LAP WITH WALL VERTICAL REINFORCEMENT. INSTALL DOWEL BARS PER PLAN AND **2/2-S1.40** ALL DOWELS TO EXTEND TO THE LOWEST FOUNDATION REINFORCEMENT AND END WITH A STANDARD HOOK.
4. WALL REINFORCING SHALL BE PER **1/2-S1.40** UNO.
5. PROVIDE (2) #5 IN BOND BEAM UNITS AT THE TOPS OF ALL WALLS AND AT EACH FLOOR AND ROOF ELEVATION, UNO.
6. PROVIDE SASH UNITS AT ALL OPENINGS TYPICAL UNO.
7. SET ALL LEDGER AND CONNECTOR BOLTS PER **12/2-S1.40** UNO. 1" GROUT AROUND BOLT REQUIRED.
8. SAD FOR TYPE OF FINISH, LOCATION, COLOR, ETC. SEE SPECIFICATIONS OTHERWISE.
9. VERTICAL CONTROL JOINTS SHALL BE SPACED NO GREATER THAN 25'-0"oc. SEE CONTRACTOR TO SUBMIT VERTICAL JOINT LAYOUT FOR REVIEW PRIOR TO CONSTRUCTION.

A DESIGN CRITERIA

DESIGN CRITERIA: 2016 CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 2 (CBC)
FLOOR LIVE LOAD: 60 PSF (REDUCIBLE) + 15 PSF PARTITION
ROOF LIVE LOAD: 20 PSF (REDUCIBLE)
FUTURE SOLAR: 4 PSF
RISK CATEGORY: II
WIND DATA: ULTIMATE WIND SPEED (3 SEC GUST) IN MPH: 115
NOMINAL WIND SPEED (3 SEC GUST) IN MPH: 89
WIND EXPOSURE: C
INTERNAL WIND PRESSURE COEFFICIENT (GCPI) = ±0.18
COMPONENTS AND CLADDING DESIGN PRESSURES FOR SYSTEMS DESIGNED BY OTHERS SHALL COMPLY WITH THE "ASCE 7" DESIGN STANDARD. SEE **G/2-S0.10**

EARTHQUAKE DATA: SEISMIC IMPORTANCE FACTOR, I_E: 1.0
SITE SPECIFIC SPECTRAL RESPONSE ACCELERATIONS:
S_{MS} = 1.99; S_{M1} = 1.97
SITE CLASS: D
SPECTRAL RESPONSE COEFFICIENTS: S_{DS} = 1.32; S_{D1} = 1.43
SEISMIC DESIGN CATEGORY: E
SEISMIC FORCE RESISTING SYSTEM: SPECIAL REINFORCED CONCRETE SHEAR WALLS (NON-BEARING)
RESPONSE MODIFICATION FACTOR: R = 6
DESIGN BASE SHEAR: 89K-N/S, 79K-E/W
SEISMIC RESPONSE COEFFICIENT, C_S = 0.221*W (LRFD)
ANALYSIS PROCEDURE USED: EQUIVALENT LATERAL FORCE
HORIZONTAL STRUCTURAL IRREGULARITIES: NONE
VERTICAL STRUCTURAL IRREGULARITIES: NONE

MAXIMUM ANTICIPATED STORY DRIFT = 0.025 X HEIGHT
PROVIDE DEFORMATION COMPATIBILITY PER SECTION 12.12.5 FOR NON-STRUCTURAL ITEMS, INCLUDING CLADDING, GLAZING, APPARATUS DOORS, SOLAR AND OTHER DEFERRED DESIGN ITEMS, ETC.

NARRATIVE: BUILDING #2: APPARATUS BUILDING

GENERAL DESCRIPTION: 1 STORY, CONCRETE SHEARWALL SYSTEM. THE BUILDING IS INTENDED ONLY TO BE USED AS A MOCK FIRE STATION FOR TRAINING PURPOSES ONLY. THE BUILDING IS NOT INTENDED TO BE DESIGNED AS ESSENTIAL SERVICE FACILITY AND WILL NOT BE USED FOR THAT PURPOSE.

- SINGLE STORY, 8,300 SF NON-ESSENTIAL SERVICES BUILDING
- CONCRETE SHEAR WALLS THAT DO NOT EXTEND TO ROOF
- DIAPHRAGMS USE STEEL DRAG/ COLLECTOR ELEMENTS TO DELIVER LATERAL FORCES DIRECTLY TO TOP OF WALL LINES 1, 7 & A

B GENERAL NOTES

1. REFER TO SHEETS **2-S1.10** THRU **2-S1.50** FOR STANDARD DETAILS OF CONSTRUCTION. REFER TO THE PROJECT SPECIFICATIONS FOR MATERIALS AND METHODS.
2. BUILDING DIMENSIONS SHOWN ARE FOR GENERAL REFERENCE ONLY. SEE ARCHITECTURAL DRAWINGS (SAD) FOR ALL ACTUAL BUILDING DIMENSIONS. ANY DISCREPANCIES ARE TO BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER SO CLARIFICATION CAN BE MADE PRIOR TO COMMENCING WORK.
3. STRUCTURAL DRAWINGS SHALL NOT BE SCALED. ALL DIMENSIONS AND FIT SHALL BE DETERMINED AND VERIFIED BY THE CONTRACTOR PRIOR TO COMMENCING WORK.
4. DETAILS NOT FULLY OR SPECIFICALLY SHOWN SHALL BE OF SAME NATURE AS OTHER SIMILAR CONDITIONS.
5. REFER TO ARCHITECTURAL DRAWINGS FOR SIDEWALK SLABS AND DIMENSIONS.
6. COORDINATION OF MECHANICAL, ELECTRICAL, PLUMBING, AND SITE UTILITY SYSTEMS WITH THE STRUCTURAL SYSTEM IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR. USE DETAILS **4/2-S1.10** AND **6/2-S1.10** AT CONDITIONS WHERE THESE DETAILS DO NOT APPEAR TO APPLY, NOTIFY THE STRUCTURAL ENGINEER PRIOR TO INSTALLATION. AT CONDITIONS WHERE FIELD MODIFICATIONS OF MECHANICAL, ELECTRICAL, PLUMBING, OR SITE UTILITIES AFFECT STRUCTURAL SYSTEMS, NOTIFY STRUCTURAL ENGINEER PRIOR TO INSTALLATION.
7. VERIFY WEIGHTS AND LOCATIONS OF MECHANICAL UNITS WITH MECHANICAL ENGINEER PRIOR TO PLACEMENT. UNITS VARYING OVER 5% IN WEIGHT SHALL BE REVIEWED BY THE STRUCTURAL ENGINEER PRIOR TO INSTALLATION (MECHANICAL WEIGHTS SHOWN ARE MAXIMUM). CONTRACTOR TO VERIFY MECHANICAL UNIT SIZES AND WEIGHTS AS INSTALLED PRIOR TO INSTALLATION OF SPECIAL FRAMING TO ENSURE CORRECT PLACEMENT UNDER CURBS, ETC.
8. SHORING AND BRACING DESIGN, MATERIALS AND INSTALLATION SHALL BE PROVIDED BY THE GENERAL CONTRACTOR, AND SHALL BE ADEQUATE FOR ALL LOADS. LEAVE IN PLACE AS LONG AS MAY BE REQUIRED FOR SAFETY AND UNTIL FINAL STRUCTURAL CONSTRUCTION IS COMPLETED. THE CONTRACTOR SHALL ENGAGE A LICENSED CIVIL OR STRUCTURAL ENGINEER TO PROVIDE SHORING.
9. SPECIAL INSPECTIONS ARE REQUIRED PER THE TESTING AND INSPECTION FORM, SEE SPECIFICATIONS.
10. VEHICULAR TRAFFIC, HEAVY EQUIPMENT AND MATERIAL STAGING SHALL NOT BE ALLOWED ADJACENT TO ANY RETAINING/BASEMENT WALL, NEW OR EXISTING WITHIN A HORIZONTAL DISTANCE EQUAL TO THE WALL HEIGHT MEASURED FROM THE BOTTOM OF FOOTING OR 5'-0" WHICHEVER IS GREATER, UNLESS APPROVED BY THE STRUCTURAL ENGINEER OR NOTED OTHERWISE. WITHIN THIS ZONE, ONLY HAND-OPERATED EQUIPMENT ("WHACKERS", VIBRATORY PLATES, OR PNEUMATIC COMPACTORS) SHALL BE USED TO COMPACT THE BACKFILL SOILS.
11. SITE REVIEWS BY ZFA ARE REQUIRED FOR THE FOLLOWING UNLESS DIRECTED OTHERWISE:
    - FOOTING SIZE AND REINFORCING STEEL.
    - CONCRETE WALLS AND REINFORCING.
    - SHEAR WALLS, SHEAR PANELS AND FLOOR/ROOF DIAPHRAGMS, INCLUDING NAILING, BOLTING, ANCHORAGE AND OTHER FASTENING TO OTHER COMPONENTS OF THE SEISMIC FORCE RESISTING SYSTEM.

    NOTIFY ZFA AT LEAST 2 WORKING DAYS PRIOR TO COMPLETION OF WORK.
12. SUBMIT ENGINEERING FOR DEFERRED APPROVAL ITEMS TO ARCHITECT/ENGINEER FOR REVIEW PRIOR TO FABRICATION. GENERAL CONTRACTOR SHALL REVIEW AND APPROVE DIMENSIONS AND DETAILS SHOWN ON THE SHOP DRAWINGS PRIOR TO SUBMITTAL. CONTRACTOR TO PROVIDE DRAWINGS AND CALCULATIONS PREPARED AND SIGNED BY A CALIFORNIA LICENSED STRUCTURAL ENGINEER FOR THE FOLLOWING ITEMS, UNLESS NOTED OTHERWISE:
    A. STORE FRONTS OR CURTAIN WALLS WITH SPANS GREATER THAN 10'-0": INCLUDE ATTACHMENTS TO STRUCTURE.
    B. GLAZED APPARATUS BAY DOORS DESIGNED AND DETAILED TO ACCOMODATE STORY DRIFT PER NOTE PER **A/2-S0.10**

C STEEL NOTES

1. COORDINATE TOP OF FOOTING ELEVATIONS AS DETERMINED BY THE CONTRACTOR PER **D/2-S0.10** NOTE #9.
2. TOP OF STEEL ELEVATIONS ARE TO BE DETERMINED BY THE CONTRACTOR BASED ON ARCHITECTURAL DRAWINGS AND STRUCTURAL DRAWINGS.
3. WHERE INDICATED ON PLAN "C" INDICATES MIDSPAN CAMBER IN INCHES.
4. ALL FRAMING AND CONNECTIONS ALONG GRID LINES OR OTHERWISE INDICATED AS (SFRS) ARE PART OF THE SEISMIC FORCE RESISTING SYSTEM. TESTING AND INSPECTION OF FRAMING AND CONNECTIONS INDICATED AS SFRS SHALL MEET ALL REQUIREMENTS OF AISC 341 AND AWS D1.8. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
5. ALL BOLTS THAT ARE A PART OF THE SFRS ARE TO BE SLIP CRITICAL.
6. DEMAND CRITICAL WELDS ARE AS INDICATED ON PLANS, ADDITIONALLY ALL COLUMN SPLICES AND COLUMN TO BASE PLATE WELDS IN THE SFRS ARE DEMAND CRITICAL. DEMAND CRITICAL WELDS AND THE TESTING AND INSPECTION OF THEM ARE TO MEET ALL REQUIREMENTS OF AISC 341, AWS D1.1, AND AWS D1.8. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

STRUCTURAL SHEET INDEX

2-S0.10	BUILDING 2	GENERAL NOTES
2-S1.10	BUILDING 2	TYPICAL CONCRETE DETAILS
2-S1.20	BUILDING 2	TYPICAL STEEL FRAMING DETAILS
2-S1.21	BUILDING 2	TYPICAL STEEL FRAMING DETAILS
2-S1.30	BUILDING 2	TYPICAL METAL STUD ELEVATION AND CONNECTION DETAILS
2-S1.31	BUILDING 2	TYPICAL METAL STUD SOFFIT & MISCELLANEOUS DETAILS
2-S1.40	BUILDING 2	TYPICAL CMU DETAILS
2-S1.50	BUILDING 2	TYPICAL METAL DECKING DETAILS
2-S2.10	BUILDING 2	FOUNDATION PLAN
2-S2.11	BUILDING 2	ROOF PLAN
2-S3.10	BUILDING 2	ELEVATIONS
2-S3.20	BUILDING 2	ELEVATIONS
2-S3.30	BUILDING 2	ELEVATIONS
2-S4.10	BUILDING 2	DETAILS AND SECTIONS
2-S4.11	BUILDING 2	DETAILS AND SECTIONS
2-S4.13	BUILDING 2	CONCRETE WALL DETAILS

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

Ross Drulis Cusenbery ARCHITECTURE
18294 Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date
	Intake Rev. 1	
1	PC response	2019.06.24

PERMIT SUBMITTAL V2-INCREMENT #1

ZFA STRUCTURAL ENGINEERS
1390 el camino real | suite 100 zfa.com
san carlos ca 94070 650.394.8869
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LICENSED PROFESSIONAL ENGINEER KEVIN G. ZUCCO STRUCTURAL No. 4861 STATE OF CALIFORNIA

Sheet Title

BUILDING 2 GENERAL NOTES

Drawn By: LS Checked By: SRP

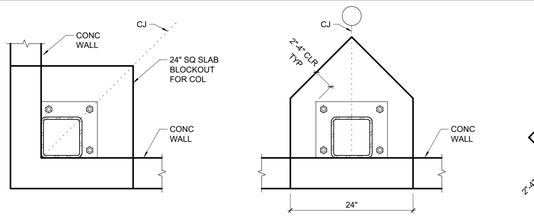
Scale: As indicated

Date: July 19, 2019

Project No. 17143

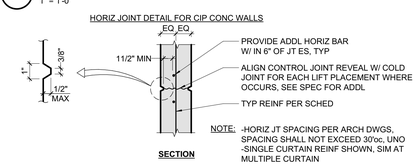
2-S0.10
Drawing No.

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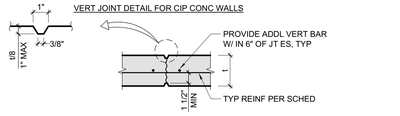
CORNER EDGE INTERIOR

14 SLAB BLOCKOUT
1" = 1'-0"



SECTION

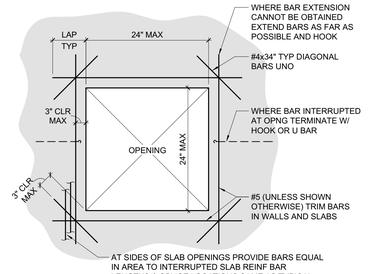
NOTE: -HORIZ JT SPACING PER ARCH DWGS, SPACING SHALL NOT EXCEED 30'oc, UNO -SINGLE CURTAIN REINF SHOWN, SIM AT MULTIPLE CURTAIN



PLAN

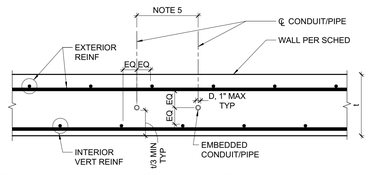
NOTE: - VERT JT SPACING PER ARCH DWGS, SPACING SHALL NOT EXCEED 30'oc OR AT LOCATIONS SPECIFICALLY APPROVED BY THE ENGINEER, UNO.

15 TYPICAL WALL JOINTS / REVEALS
3/4" = 1'-0"

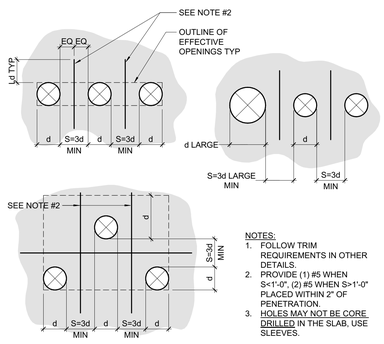


16 SMALL SLAB AND WALL PENETRATIONS
1" = 1'-0"

NOTES:
1. WHERE MORE THAN ONE SIZE CONDUIT/PIPE IS USED, D, IS THE OUTSIDE DIAMETER OF THE LARGEST CONDUIT/PIPE.
2. ALUMINUM CONDUIT/PIPE IS NOT PERMITTED.
3. PRESSURIZED PIPE SHALL NOT BE USED WITHOUT SEOR WRITTEN APPROVAL.
4. CONDUITS/PIPES SHALL BE PLACED BETWEEN EXTERIOR AND INTERIOR LAYERS OF REINFORCING. WHERE ONLY ONE LAYER IS SPECIFIED IN PLAN AN ADDITIONAL LAYER SHALL BE PLACED NORMAL TO THE EMBEDDED CONDUIT/PIPE WITH IDENTICAL SIZE AND SPACING TO THE SPECIFIED LAYER.
5. INTERIOR VERTICAL REINF SPACING OR 3 x D MIN, WHICHEVER IS GREATER.
6. PROVIDE 1½" MINIMUM CONCRETE CLEARANCE BETWEEN ALL EMBEDDED PIPES/CONDUITS AND REINF.

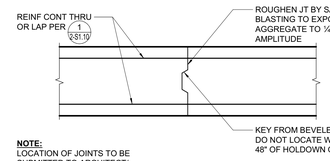


17 TYPICAL DETAIL AT EMBEDDED CONDUITS/PIPES IN CONCRETE WALL
1" = 1'-0"



NOTES:
1. FOLLOW TRIM REQUIREMENTS IN OTHER DETAILS.
2. PROVIDE (1) #5 WHEN S<1'-0", (2) #5 WHEN S>1'-0" PLACED WITHIN 2" OF PENETRATION.
3. HOLES MAY NOT BE CORE DRILLED IN THE SLAB, USE SLEEVES.

18 MULTIPLE SLAB AND WALL PENETRATIONS
1" = 1'-0"

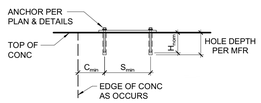


NOTE:
LOCATION OF JOINTS TO BE SUBMITTED TO ARCHITECT/ ENGINEER FOR REVIEW PRIOR TO PLACEMENT OF CONCRETE

11 FOOTING CONSTRUCTION JOINT
3/4" = 1'-0"

SCREW ANCHOR IN 2500 PSI MIN CONCRETE

ANCHOR TYPE	ANCHOR AND PILOT HOLE DIA	MINIMUM EMBEDMENT H_{nom}	MINIMUM EDGE DIST c_{max}	MINIMUM SPCG S_{min}	MINIMUM CONCRETE DEPTH H_{min}	INSTALL TORQUE (FT-LB)	MAX INSTALL TORQUE (FT-LB)
SIMPSON TITEN HD (ICC-ESR 2713)	⅜"	2½"	1¾"	3"	4"	10	50
	½"	3¼"	1¾"	3"	5"	10	65
	⅝"	4"	1¾"	3"	6"	10	100
	¾"	5½"	1¾"	3"	8½"	20	150
HILTI KH-EZ (ICC-ESR 3027)	⅜"	2½"	1½"	3"	4"	10	40
	½"	3"	1¾"	3"	4¾"	10	45
	⅝"	3¼"	1¾"	4"	5"	10	85
	¾"	4"	1¾"	4"	6"	20	115

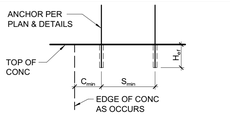


NOTES:
1. INSTALL SCREW ANCHORS PER MANUFACTURER'S INFORMATION AND ICC REPORT INSTRUCTIONS. SPECIAL INSPECTION IS REQUIRED PER SECTION 1705A OF THE CBC AND THE REQUIREMENTS OF THE ICC REPORTS. INSTALLED ANCHORS SHALL BRING CONNECTED PLIES INTO FIRM CONTACT, MEETING THE INSTALL TORQUE BUT NOT EXCEEDING THE MAXIMUM INSTALL TORQUE.
2. CONTRACTOR TO VERIFY MINIMUM EDGE DISTANCES, SPACING AND THICKNESS ARE IN ACCORDANCE W/ SCHEDULE PRIOR TO INSTALLING ANCHOR.
3. HOLES TO BE DRILLED W/ ROTARY DRILL ONLY. WHEN INSTALLING DRILLED-IN ANCHORS IN EXISTING REINFORCED CONCRETE, USE CARE AND CAUTION TO AVOID CUTTING OR DAMAGING THE EXISTING REINFORCING BARS. MAINTAIN A REASONABLE CLEARANCE BETWEEN REINFORCEMENT AND THE DRILLED-IN ANCHOR. FILL ABANDONED HOLES W/ HIGH STRENGTH GROUT.
4. THE SPECIAL INSPECTOR MUST BE ON THE JOBSITE PERIODICALLY DURING ANCHOR INSTALLATION TO VERIFY ANCHOR TYPE, ANCHOR DIMENSIONS, HOLE CLEANLINESS, EMBEDMENT DEPTH, CONCRETE TYPE, CONCRETE COMPRESSIVE STRENGTH, DRILL BIT DIAMETER, HOLE DEPTH, EDGE DISTANCE(S), ANCHOR SPACING(S), CONCRETE THICKNESS, AND TIGHTENING TORQUE.
5. TEST ANCHORS IN ACCORDANCE W/ CBC SECTION 1910A.5.

12 SCREW ANCHOR IN CONCRETE
3/4" = 1'-0"

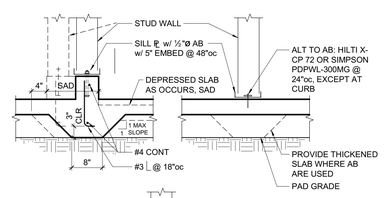
ADHESIVE ANCHOR IN 2500 PSI MIN CONCRETE

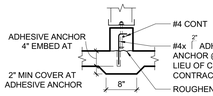
ADHESIVE TYPE	ANCHOR THRD ROD	ANCHOR REBAR	PILOT HOLE	MIN EMBED UNO H_{nr}	MIN EDGE DISTANCE C_{min}	MIN SPCG S_{min}	MIN CONC DEPTH H_{min}
SIMPSON SET-XP (ICC-ESR 2508)	⅜"ø	#3	½"ø	3"	1¾"	3"	5"
	½"ø	#4	⅝"ø	4"	1¾"	3"	6½"
	⅝"ø	#5	¾"ø	5"	1¾"	3"	8¼"
	¾"ø	#6	⅞"ø	6"	1¾"	3"	9¾"
	⅞"ø	#7	1"ø	7"	1¾"	3"	11½"
	1"ø	#8	1⅛"ø	8"	1¾"	3"	13"
	1¼"ø	#10	1⅜"ø	10"	2¾"	6"	16¼"
HILTI HIT-HY 200R (ICC-ESR 3187)	⅜"ø	N/A	⅞"ø	3"	1¾"	1¼"	4½"
	N/A	#3	½"ø	3"	1¾"	1¼"	4¼"
	½"ø	N/A	¾"ø	4"	1¾"	2½"	5¼"
	N/A	#4	⅝"ø	4"	1¾"	2½"	5¼"
	⅝"ø	#5	¾"ø	5"	1¾"	3¼"	6½"
	¾"ø	#6	⅞"ø	6"	1¾"	3¾"	7¾"
	⅞"ø	#7	1"ø	7"	1¾"	4⅜"	9"
	1"ø	#8	1⅛"ø	8"	1¾"	5"	10¼"
	N/A	#9	1⅜"ø	9"	1¾"	5⅝"	11¾"
	1¼"ø	N/A	1⅜"ø	10"	1¾"	6¼"	12¾"
	N/A	#10	1½"ø	10"	1¾"	6¼"	13"



NOTES:
1. INSTALL ADHESIVE ANCHORS PER MANUFACTURER'S INFORMATION AND ICC REPORT.
2. CONTRACTOR TO VERIFY MINIMUM EDGE DISTANCES, SPACING, AND THICKNESS ARE IN ACCORDANCE W/ SCHEDULE PRIOR TO INSTALLING ANCHOR.
3. HOLES TO BE DRILLED W/ ROTARY DRILL ONLY. WHEN DRILLING HOLES IN EXISTING CONCRETE, USE CARE AND CAUTION TO AVOID CUTTING OR DAMAGING THE EXISTING REINFORCING BARS. MAINTAIN A REASONABLE CLEARANCE BETWEEN REINFORCEMENT AND THE DRILLED-IN ANCHOR. FILL ABANDONED HOLES W/ HIGH STRENGTH GROUT.
4. SPECIAL INSPECTION IS REQUIRED PER SECTION 1705A AND THE REQUIREMENTS OF THE ICC REPORTS. THE SPECIAL INSPECTOR MUST BE ON THE JOB SITE PERIODICALLY DURING ANCHOR INSTALLATION TO VERIFY ANCHOR TYPE, ANCHOR DIMENSIONS, HOLE CLEANLINESS, EMBEDMENT DEPTH, CONCRETE TYPE, CONCRETE COMPRESSIVE STRENGTH, DRILL BIT DIAMETER, HOLE DEPTH, EDGE DISTANCE(S), ANCHOR SPACING(S), CONCRETE THICKNESS, AND ADHESIVE INJECTION. TEST ANCHORS IN ACCORDANCE W/ CBC SECTION 1910A.5. SEE DRAWINGS FOR SPECIFIC TENSION TEST LOADS FOR ANCHORS.

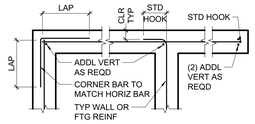
13 ADHESIVE ANCHOR IN CONCRETE
3/4" = 1'-0"



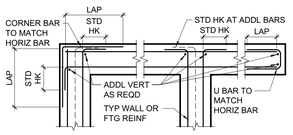


ALT CURB OPTION

7 NON-BEARING STUD WALL AT SLAB
3/4" = 1'-0"



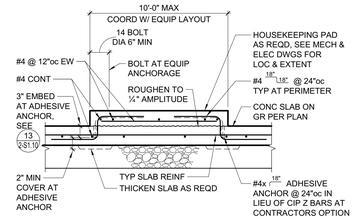
PLAN VIEW - SINGLE LAYER



PLAN VIEW - 2 OR MORE LAYERS

NOTE:
FOOTING REINFORCING AT CORNER AND INTERSECTION TO BE SIMILAR

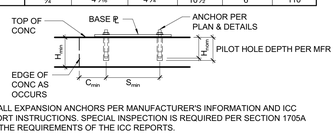
8 TYPICAL CORNER, INTERSECTION AND END REINFORCING
3/4" = 1'-0"



9 TYPICAL HOUSEKEEPING PAD AT SLAB ON GRADE
3/4" = 1'-0"

CARBON STL EXPANSION ANCHORS IN 2500 PSI MIN CONC

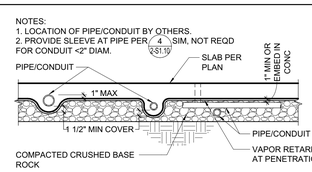
ANCHOR TYPE	ANCHOR & PILOT HOLE DIA	MIN NOMINAL EMBED H_{nom}	MIN EDGE DISTANCE C_{min}	MIN SPCG S_{min}	MIN CONC THICKNESS H_{min}	INSTALL TORQUE (FT-LB)
SIMPSON STRONG-BOLT 2 (ICC-ESR 3037)	⅜"	1⅞"	6"	3"	3¼"	30
	½"	2¾"	6"	6"	4"	60
	⅝"	3¾"	6½"	5"	5½"	90
	¾"	4⅛"	6½"	8"	6¾"	150
	1"	5¼"	8"	8"	9"	230
HILTI KWIK BOLT TZ (ICC-ESR 1917)	⅜"	2⅜"	3"	5"	4"	25
	½"	2⅞"	3"	5⅜"	4"	40
	⅝"	3⅜"	3⅜"	6⅛"	5"	60
	¾"	4⅜"	4½"	10½"	6"	110



NOTES:
1. INSTALL EXPANSION ANCHORS PER MANUFACTURER'S INFORMATION AND ICC REPORT INSTRUCTIONS. SPECIAL INSPECTION IS REQUIRED PER SECTION 1705A AND THE REQUIREMENTS OF THE ICC REPORTS.
2. CONTRACTOR TO VERIFY MINIMUM EDGE DISTANCES, SPACING AND THICKNESS ARE IN ACCORDANCE W/ SCHEDULE PRIOR TO INSTALLING ANCHOR.
3. WHEN INSTALLING DRILLED-IN ANCHORS IN EXISTING REINFORCED CONCRETE, USE CARE AND CAUTION TO AVOID CUTTING OR DAMAGING THE EXISTING REINFORCING BARS. MAINTAIN A REASONABLE CLEARANCE BETWEEN REINFORCEMENT AND THE DRILLED-IN ANCHOR. FILL ABANDONED HOLES W/ HIGH STRENGTH GROUT.
4. THE SPECIAL INSPECTOR MUST BE ON THE JOBSITE PERIODICALLY DURING ANCHOR INSTALLATION TO VERIFY ANCHOR TYPE, ANCHOR DIMENSIONS, HOLE CLEANLINESS, EMBEDMENT DEPTH, CONCRETE TYPE, CONCRETE COMPRESSIVE STRENGTH, DRILL BIT DIAMETER, HOLE DEPTH, EDGE DISTANCE(S), ANCHOR SPACING(S), CONCRETE THICKNESS, AND TIGHTENING TORQUE.
5. TEST ANCHORS IN ACCORDANCE W/ CBC SECTION 1910A.5.

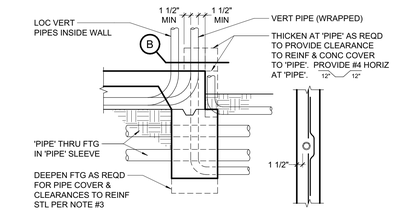
10 EXPANSION ANCHOR IN CONCRETE
3/4" = 1'-0"

NOTES:
1. LOCATION OF PIPE/CONDUIT BY OTHERS.
2. PROVIDE SLEEVE AT PIPE PER 4 S1.10 SIM, NOT REQD FOR CONDUIT <2" DIAM.

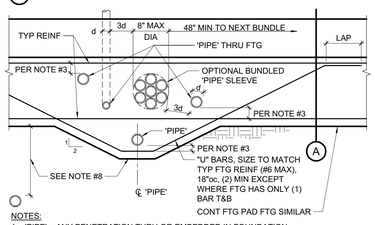


PIPE/CONDUIT REQUIRING EMBEDMENT IN CONC **PIPE/CONDUIT IN COMPACTED ROCK**

3 CONDUIT & PIPE AT SLAB ON GRADE
3/4" = 1'-0"

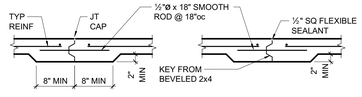


B **PLAN VIEW**



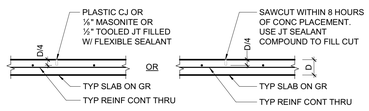
NOTES:
1. 'PIPE' = ANY PENETRATION THRU OR EMBEDDED IN FOUNDATION.
2. ALL PIPES THRU FOOTINGS TO BE WRAPPED OR SLEEVED AS FOLLOWS:
   a. SLEEVES: PROVIDE 1" MIN CLEAR ALL AROUND O.D. PIPE TO I.D. SLEEVE, UNO. SEAL SLEEVE ENDS W/ MASTIC OR PLASTIC BITUMINOUS CEMENT.
   b. WRAPPED VERTICAL PIPES: PROVIDE ½" NOMINAL SHEET FOAM W/ (3) WRAPS MINIMUM, UNO.
   c. WRAPPED HORIZONTAL PIPES: PROVIDE ½" NOMINAL SHEET FOAM W/ (8) WRAPS MINIMUM, UNO.
   d. UNDERGROUND FIRE LINES 4" AND LARGER:
      1. SLEEVES: PROVIDE 2" MIN CLEAR ALL AROUND O.D. PIPE TO I.D. SLEEVE. SEAL ENDS PER ABOVE.
      2. WRAPPED: PROVIDE ½" NOMINAL SHEET FOAM W/ (16) WRAPS MINIMUM.
3. WRAPPED AND SLEEVED PIPES SHALL HAVE 1½" MIN CLEAR TO REINF STEEL. MINIMUM CONCRETE COVER AT PIPES TO BE 3".
4. CLEARANCE BETWEEN 'PIPES' TO BE 3d MIN TYP W/ A MAXIMUM OF (8) PIPES PER 48". GROUPS OF PIPES MAY BE BUNDLED AS SHOWN, EXCEPT IN PAD FOOTINGS.
5. NO 'PIPE' TO RUN PARALLEL IN FOOTINGS, STEM OR CURB.
6. PVC CONDUIT ('PIPE') EMBEDDED IN CURB/STEM MAY BE WIRE TIED TO HORIZONTAL REINF.
7. NO HORIZONTAL PIPES ALLOWED THROUGH FOOTING WITHIN 2'-0" EACH SIDE OF HOLDOWNS OR STEEL COLUMNS. NO VERTICAL PIPES ALLOWED IN FOOTINGS AT BRACED FRAMES.
8. PROVIDE 18" MIN OF COMPACTED FILL ABOVE PIPES UP TO 12"ø, FOR LARGER PIPES INCREASE COMPACTED FILL DEPTH 1'-0" OF FOR EACH 6" INCREASE IN PIPE DIAMETER. OTHERWISE DEEPEN FOOTING AS SHOWN.

4 PIPES THRU FOOTING
3/4" = 1'-0"



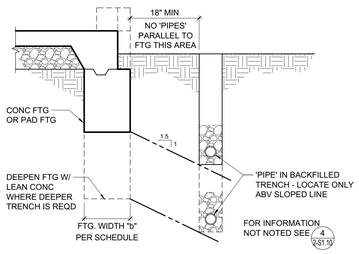
METAL JOINT **FORMED JOINT**

A **CONSTRUCTION/DOWEL JOINT**



B **CONTROL JOINT**

5 SLAB ON GRADE JOINTS
3/4" = 1'-0"



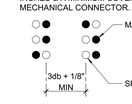
6 TRENCHING ADJACENT TO FOOTING
3/4" = 1'-0"

	DEVELOPMENT LENGTHS (Ld) GR60									
	LOCATION	SIZE								
		#3	#4	#5	#6	#7	#8	#9	#10	#11
CONCRETE fc = 3000 PSI AT 28 DAYS	TOP	12"	22"	32"	43"	69"	86"	103"	122"	141"
	OTHER	12"	17"	25"	33"	53"	66"	80"	94"	109"
CONCRETE fc = 4000 PSI AT 28 DAYS	TOP	12"	19"	28"	37"	60"	74"	90"	106"	122"
	OTHER	12"	15"	21"	29"	46"	57"	69"	81"	94"
CONCRETE fc = 5000 PSI AT 28 DAYS	TOP	12"	17"	25"	34"	54"	67"	80"	95"	109"
	OTHER	12"	13"	19"	26"	42"	51"	62"	73"	84"

	HOOKED DEVELOPMENT LENGTHS (Ldh)									
	LOCATION	SIZE								
		#3	#4	#5	#6	#7	#8	#9	#10	#11
CONCRETE fc = 3000 PSI AT 28 DAYS	ANY	9"	11"	14"	17"	20"	22"	25"	28"	-
CONCRETE fc = 4000 PSI AT 28 DAYS	ANY	8"	10"	12"	15"	17"	19"	22"	24"	-
CONCRETE fc = 5000 PSI AT 28 DAYS	ANY	7"	9"	11"	13"	15"	17"	20"	22"	-

	LAP SPLICE LENGTHS (Ls) GR60									
	LOCATION	SIZE								
		#3	#4	#5	#6	#7	#8	#9	#10	#11
CONCRETE fc = 3000 PSI AT 28 DAYS	TOP	17"	28"	41"	56"	90"	112"	134"	158"	183"
	OTHER	13"	22"	32"	43"	69"	86"	103"	122"	141"
CONCRETE fc = 4000 PSI AT 28 DAYS	TOP	15"	25"	36"	49"	78"	97"	116"	137"	159"
	OTHER	12"	19"	28"	37"	60"	74"	90"	106"	122"
CONCRETE fc = 5000 PSI AT 28 DAYS	TOP	13"	22"	32"	44"	70"	87"	104"	123"	142"
	OTHER	12"	17"	25"	34"	54"	67"	80"	95"	109"

NOTES:
1. TOP REINFORCING IS HORIZONTAL REINFORCEMENT WITH MORE THAN TWELVE INCHES (12") OF CONCRETE PLACED BELOW IT.
2. IF THE LAP SPLICE REINFORCEMENT DOES NOT HAVE A MINIMUM SPACING 3db + 1/8 INCHES & A MINIMUM COVER OF db + 1/8 INCHES, USE WELDED SPLICE OR MECHANICAL CONNECTOR.



3. HOOKED DEVELOPMENT LENGTHS (Ldh) MAY BE USED IN LIEU OF DEVELOPMENT LENGTH (Ld) IF STANDARD HOOK IS PROVIDED AT END OF BAR.
4. MECHANICAL CONNECTORS SHALL BE TENSION-COMPRESSION TYPE WITH THE ABILITY TO DEVELOP 125% OF THE YIELD STRENGTH FOR THE SPLICED REINFORCEMENT (75 KSI). MECHANICAL CONNECTORS SHALL HAVE & BE INSTALLED PER AN ICC EVALUATION REPORT.
5. WWR SHALL LAP MINIMUM (3) BAR CROSSINGS.

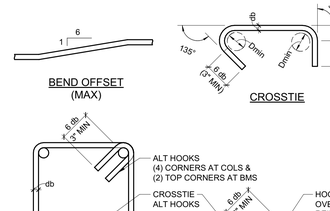
CONCRETE COVER FOR REINFORCING STEEL 'CLR'

CAST AGAINST EARTH OR GRADE . . . . . 3"

EXPOSED TO EARTH (FORMED) OR WEATHER;
#5 AND SMALLER . . . . . 1½"
#6 AND LARGER . . . . . 2"

NOT EXPOSED TO EARTH OR WEATHER;
#5 AND SMALLER . . . . . 1"
#6 AND LARGER, AND ALL BEAM STIRRUPS, COLUMN TIES AND SPIRALS . . . . . 1½"

ALL REINFORCING BARS SHALL EXTEND AS FAR AS POSSIBLE AND END IN A STANDARD 90° OR 180° HOOK UNLESS DETAILED OTHERWISE.



PRINCIPAL REINF

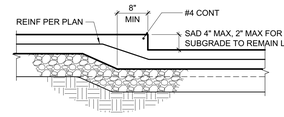
REINF	Dmin
#3 TO #8	6 db
#9 TO #11	8 db
#14 TO #18	10 db

CROSSTIES, HOOPS & STIRRUPS

REINF	Dmin
#3	1 1/2"
#4	2"
#5	2 1/2"

NOTE:
1. ALL BENDS SHALL BE MADE COLD.

1 REINFORCING LAPS AND SPLICES AND BENDS
1" = 1'-0"



2 DEPRESSED SLAB - 4" MAX
3/4" = 1'-0"

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	PC response	2019.06.24
3	PC 2- Internal coord	10.04.2019

PERMIT SUBMITTAL V2-INCREMENT #1

ZFA STRUCTURAL ENGINEERS
1390 el camino real | suite 100 zfa.com
san carlos ca 94070 650.394.8869
zfa job no.17143

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KEVIN G. ZUCCO, No. 4861, STRUCTURAL, REGISTERED PROFESSIONAL ENGINEER, STATE OF CALIFORNIA

Sheet Title

BUILDING 2 TYPICAL CONCRETE DETAILS

Drawn By:LS Checked By: SRP

Scale: As indicated

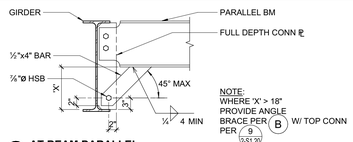
Date: July 19, 2019

Project No. 17143

2-S1.10
Drawing No.

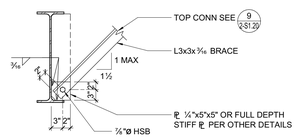
If this drawing is not 30" x 42", it is a reduced print - scale accordingly. All rights reserved. Material may not be reproduced in any form without permission from RossDrulisCusenbery Architecture, Inc.

10/9/2019 3:22:27 PM C:\revit_local\17143_B2 - Apparatus Bldg_S1TC_dtenn@zfa.com.rvt



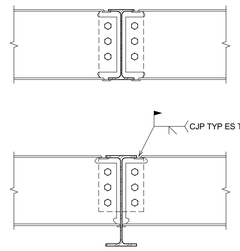
NOTE:
WHERE 'X' > 18"
PROVIDE ANGLE
BRACE PER (B) W/ TOP CONN
PER 9 / S1.20

(A) **AT BEAM PARALLEL**



(B)(C) **AT BEAM PERPENDICULAR OR DECK**

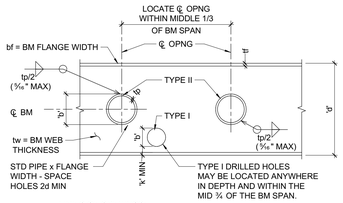
10 TYPICAL BEAM BOTTOM FLANGE BRACE
3/4" = 1'-0"



NOTES:
1. CANTILEVER BEAM SIZE TO MATCH ADJACENT BACK SPAN BEAM SIZE, UNO.
2. SHORE CANTILEVER AS REQUIRED.

FOR INFORMATION NOT NOTED SEE 3/S1.20

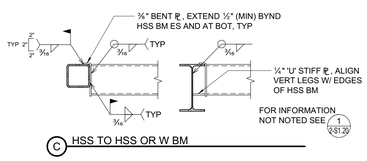
11 BEAM TO BEAM MOMENT CONNECTION



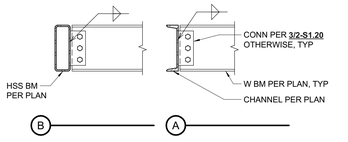
LIMITS OF OPENINGS:
TYPE I: b = 1/5d MAX
SPACED A MINIMUM OF 2d APART
TYPE II b = 2/3d MAX
SPACED A MINIMUM 2d APART

NOTES:
1. PROVIDE HOLES IN BEAMS ONLY WHERE SPECIFICALLY SHOWN ON STRUCTURAL DRAWINGS.
2. DO NOT TORCH CUT OPENINGS ON SITE. TORCH CUT OPENINGS MADE IN SHOP TO BE GROUND SMOOTH. NO OVERCUTS OF ANY TYPE ALLOWED WITHOUT REPAIR.

12 OPENING IN STEEL BEAM
3/4" = 1'-0"

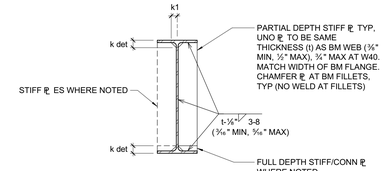


(C) HSS TO HSS OR W BM

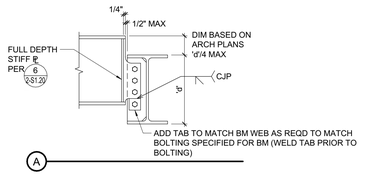


(B) (A)

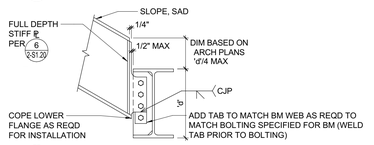
13 BEAM TO HSS OR C CHANNEL
3/4" = 1'-0"



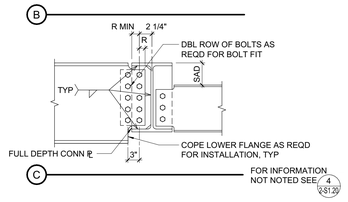
6 TYPICAL BEAM WEB STIFFENER PLATE DETAIL
3/4" = 1'-0"



(A)

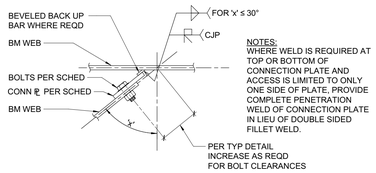


(B)



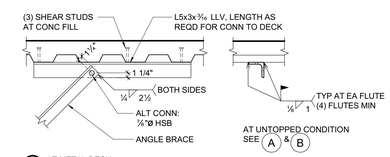
(C) FOR INFORMATION NOT NOTED SEE 4/S1.20

7 TYPICAL BEAM TO BEAM CONNECTIONS
3/4" = 1'-0"

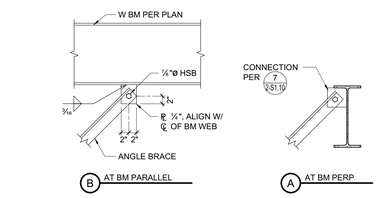


NOTES:
WHERE WELD IS REQUIRED AT TOP OR BOTTOM OF CONNECTION PLATE AND ACCESS IS LIMITED TO ONLY ONE SIDE OF PLATE, PROVIDE COMPLETE PENETRATION WELD OF CONNECTION PLATE IN LIEU OF DOUBLE SIDED FILLET WELD.

8 SKEWED BEAM CONNECTION - AT WEB
1 1/2" = 1'-0"



(C) AT METAL DECK



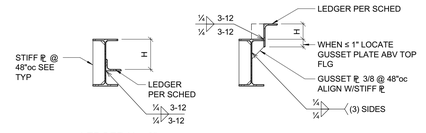
(B) AT BM PARALLEL (A) AT BM PERP

9 TOP OF BRACE
3/4" = 1'-0"

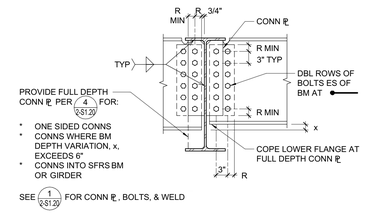
BM DEPTH	NO. BOLTS PER ROW	CONN. PLATE	WELD SIZE
W8, W10	2	₧ ¾"	5/16"
W12, W14	3	₧ ¾"	5/16"
W16	4	₧ ¾"	5/16"
W18	5	₧ ¾"	5/16"
W21	5	₧ ½"	⅜"
W24	6	₧ ½"	⅜"
W27	7	₧ ½"	⅜"
W30	8	₧ ½"	⅜"
W33	9	₧ ½"	⅜"
W36	10	₧ ½"	⅜"

NOTES:
1. R = 1¼" SEE TYP CONNECTION DETAILS. BOLT SPACING AND EDGE DISTANCE SHALL CONFORM TO AISC SPECIFICATIONS.
2. HIGH STRENGTH BOLTS (HSB) ARE GRADE A325-N UNO. PREPARE MATING SURFACES & TIGHTEN "SNUG TIGHT" AS DEFINED IN THE SPECIFICATIONS. ALL BOLTED CONNECTIONS THAT ARE PART OF THE SFRS SHALL BE A325-X "SC" BOLTS AS DEFINED IN THE SPECIFICATIONS.
3. USE ASTM A36 CONNECTION PLATES, UNO.
4. A COMPLETE PENETRATION BEVEL WELD MAY BE SUBSTITUTED FOR THE FILLET WELDS SPECIFIED.
5. HOLE SIZE = BOLT SIZE + ⅛". SHORT SLOTTED HOLES (+⅛" VERT, + ⅜" HORIZ) MAY BE SUBSTITUTED (EXCEPT AS NOTED) ROUND HOLES ARE REQUIRED AT SFRS CONNECTIONS.
6. USE SAME CONNECTIONS AT CHANNELS. FOR W6, C6 & ANGLES USE PLATE, WELD & BOLT SIZE PER W8 & SEE 5/2-S1.20

1 ⅞"ø HIGH STRENGTH BOLT (HSB) CONNECTION SCHEDULE
3/4" = 1'-0"

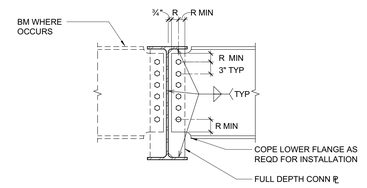


2 LEDGER DETAIL
3/4" = 1'-0"



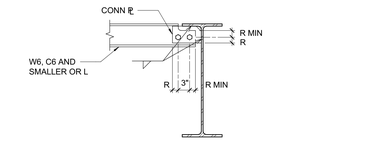
SEE 1/S1.20 FOR CONN ₧, BOLTS, & WELD

3 TYPICAL BEAM TO BEAM CONNECTION
3/4" = 1'-0"



SEE 1/S1.20 FOR CONN ₧, BOLTS, & WELD

4 TYPICAL FULL DEPTH BEAM TO BEAM CONNECTION
3/4" = 1'-0"



SEE 1/S1.20 FOR CONN ₧, BOLTS, & WELD

5 TYPICAL SHALLOW BEAM DETAIL
3/4" = 1'-0"

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	PC response	2019.06.24

PERMIT SUBMITTAL V2-INCREMENT #1

ZFA STRUCTURAL ENGINEERS
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san carlos ca 94070 650.394.8869
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LICENSED PROFESSIONAL ENGINEER KEVIN G. ZUCCO STRUCTURAL No. 4861 STATE OF CALIFORNIA

Sheet Title

BUILDING 2
TYPICAL STEEL FRAMING DETAILS

Drawn By: LS Checked By: SRP

Scale: **As indicated**

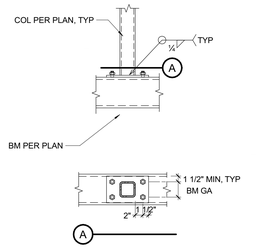
Date: **July 19, 2019**

Project No. 17143

2-S1.20
Drawing No.

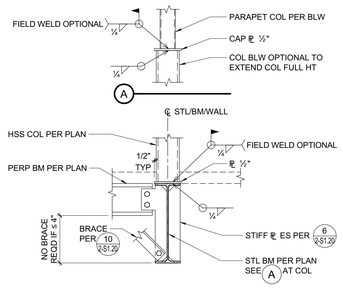
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10/8/2019 3:23:31 PM C:\revit_local\17143_B2 - Apparatus Bldg_S17C_damr@zfa.com.rvt

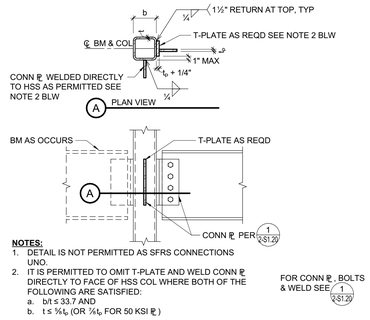


NOTES:
1. ALL COLUMN BASE PLATES SHALL BE THE SAME WIDTH AS BEAM FLANGE (OR COLUMN DIMENSION +½", WHICHEVER IS GREATER), THICKNESS SAME AS HSS WIDTH, ½" MINIMUM.
2. ALL FASTENERS TO BE ¾"Ø WTS.

16 COLUMN TO HSS BEAM CONNECTION
3/4" = 1'-0"



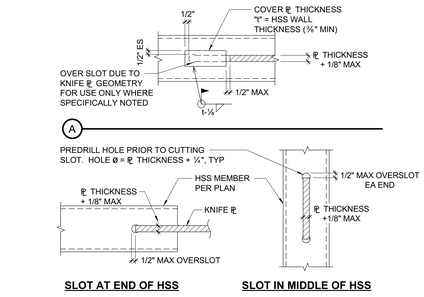
11 HSS PARAPET COLUMN TO BEAM OR TOP OF COLUMN
3/4" = 1'-0"



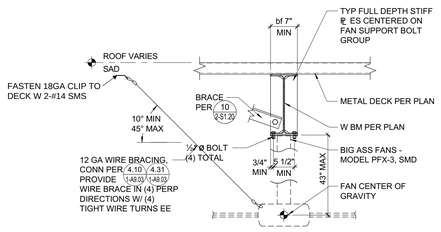
NOTES:
1. DETAIL IS NOT PERMITTED AS SFRS CONNECTIONS UNO.
2. IT IS PERMITTED TO OMIT T-PLATE AND WELD CONN ℄ DIRECTLY TO FACE OF HSS COL WHERE BOTH OF THE FOLLOWING ARE SATISFIED:
   a. b/t ≤ 33.7 AND
   b. t ≤ ⅝" (OR ¾", FOR 50 KSI ℄)

FOR CONN ℄ , BOLTS & WELD SEE 1 S1.20

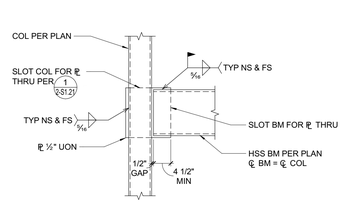
6 BEAM TO HSS COLUMN ('T' PLATE)
3/4" = 1'-0"



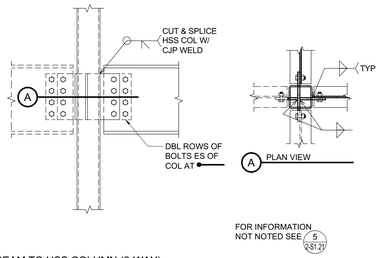
1 TYPICAL SLOTTED HSS FOR GUSSET CONNECTION
1 1/2" = 1'-0"



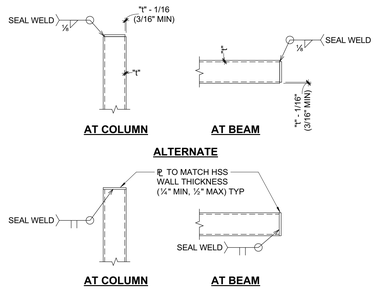
17 CEILING FAN SUPPORT
3/4" = 1'-0"



12 HSS BEAM TO HSS COLUMN
3/4" = 1'-0"



7 BEAM TO HSS COLUMN (2-WAY)
3/4" = 1'-0"



2 TYPICAL CAP PLATE
3/4" = 1'-0"

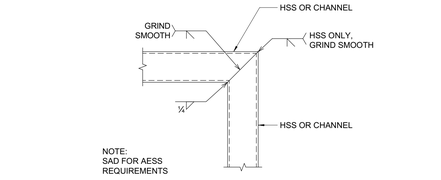
18 GRAVITY MOMENT CONNECTION AT HSS COLUMN
1 1/2" = 1'-0"

13 TYPICAL HSS TO HSS CONNECTION
3/4" = 1'-0"

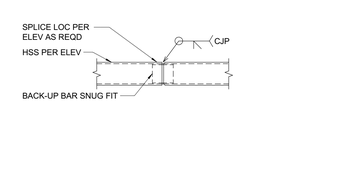
8 BEAM TO HSS COLUMN (2-WAY)
3/4" = 1'-0"

NOTES:
1. ALL COLUMN BASE PLATES SHALL BE THE SAME WIDTH AS BEAM FLANGE (OR COLUMN DIMENSION +½", WHICHEVER IS GREATER), THICKNESS SAME AS BEAM FLANGE, ½" MINIMUM.
2. ALL FASTENERS TO BE ¾"Ø HSB.

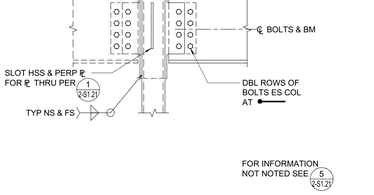
3 COLUMN TO BEAM CONNECTION
3/4" = 1'-0"



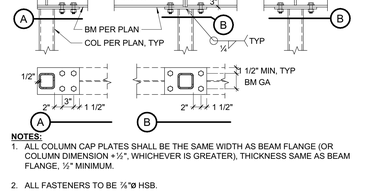
19 HSS OR CHANNEL MITERED CORNER CONNECTION
1 1/2" = 1'-0"



14 HSS SPLICE
3/4" = 1'-0"



9 BEAM TO HSS COLUMN
3/4" = 1'-0"



NOTES:
1. ALL COLUMN CAP PLATES SHALL BE THE SAME WIDTH AS BEAM FLANGE (OR COLUMN DIMENSION +½", WHICHEVER IS GREATER), THICKNESS SAME AS BEAM FLANGE, ½" MINIMUM.
2. ALL FASTENERS TO BE ¾"Ø HSB.

4 COLUMN ABOVE AND BELOW
3/4" = 1'-0"

15 HSS COLUMN BASE PLATE
3/4" = 1'-0"

NOTE:
BRACE REQUIRED IF NO PERPENDICULAR BEAM WITHIN 12" EITHER SIDE COLUMN

10 HSS BEAM TO HSS COLUMN
3/4" = 1'-0"

5 BEAM EACH SIDE TO HSS COLUMN
3/4" = 1'-0"

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: **KATHY GARCIA** DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	PC response	2019.06.24

PERMIT SUBMITTAL V2-INCREMENT #1

ZFA STRUCTURAL ENGINEERS
1390 el camino real | suite 100 zfa.com
san carlos ca 94070 650.394.8869
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KEVIN G. ZUCCO — No. 4861 — STRUCTURAL — STATE OF CALIFORNIA — PROFESSIONAL ENGINEER

Sheet Title

BUILDING 2 TYPICAL STEEL FRAMING DETAILS

Drawn By: LS Checked By: SRP

Scale: **As indicated**

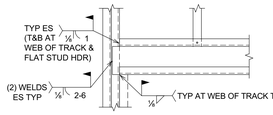
Date: **July 19, 2019**

Project No. 17143

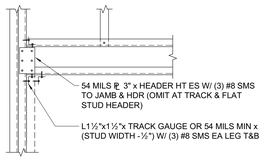
2-S1.21
Drawing No.

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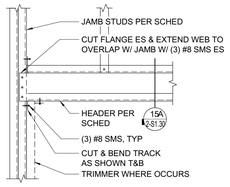
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C **WELDED CONNECTION**

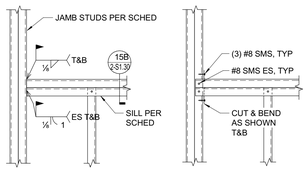


B **ALT SCREWED CONNECTION**



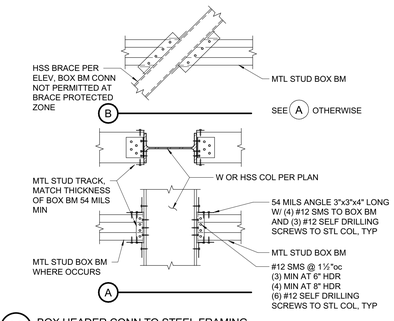
A **SCREWED CONNECTION**

16 TYPICAL HEADER CONNECTION
1" = 1'-0"

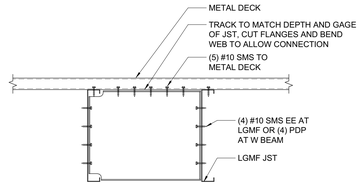


A **WELDED CONNECTION** B **ALT CONNECTION**

17 TYPICAL SILL CONNECTION
1" = 1'-0"



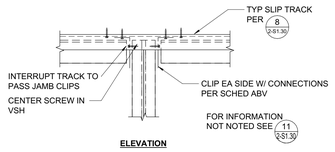
18 BOX HEADER CONN TO STEEL FRAMING
1" = 1'-0"



19 TYPICAL LGMF JOIST BLOCKING
1 1/2" = 1'-0"

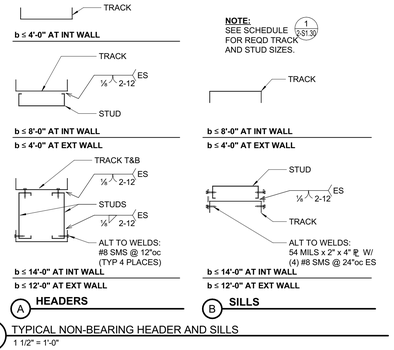
CLIP	CONN TO STUD	CONN TO ABV	MIN JAMB STUD THICKNESS	NOTES
SIMPSON SCW	(2) #14	(2) #12	43 MILS	
STL NETWORK SL CLIP	(3) #12	(3) #12	43 MILS	
4"x2"x97MILSx4" CLIP W/ ¼"x2" VSH	(2) #12	(2) #12	43 MILS	

NOTE: PROVIDE CLIP ES JAMB STUD AT ALL OPENING GREATER THAN 4'-0"



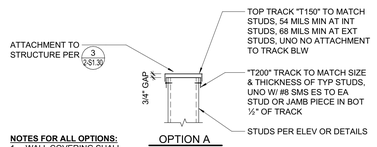
ELEVATION

12 JAMB STUD DELECTION TRACK
1 1/2" = 1'-0"

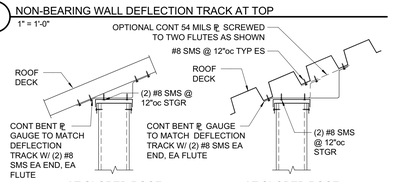


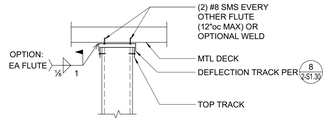
A **HEADERS** B **SILLS**

15 TYPICAL NON-BEARING HEADER AND SILLS
1 1/2" = 1'-0"

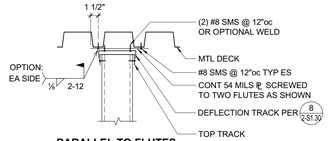


8 NON-BEARING WALL DEFLECTION TRACK AT TOP
1" = 1'-0"



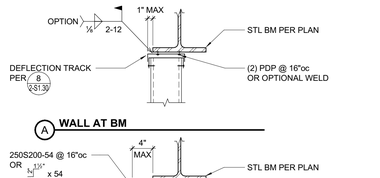


PERPENDICULAR TO FLUTES

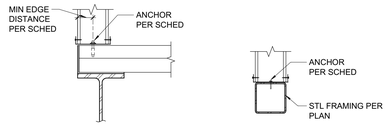


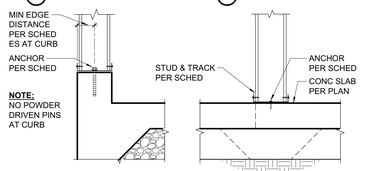
PARALLEL TO FLUTES

9 ATTACHMENT OF NON-BEARING STUDS TO METAL DECK
1" = 1'-0"



11 ATTACHMENT OF NON-BEARING STUDS TO STEEL BEAM
1" = 1'-0"

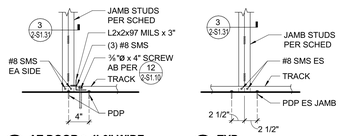


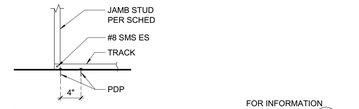


LOCATION	ANCHOR TYPE, DIAMETER AND SPACING				DETAIL
	SCREW ANCHOR	POWDER DRIVEN PINS	EXPANSION ANCHOR	CAST-IN-PLACE	
EXTERIOR WALL SLAB ON GRADE (H=15'-0" MAX)	½"ø @ 36"oc	NOT PERMITTED	½"ø @ 36"oc	½"ø @ 48"oc	A
INTERIOR WALL SLAB ON GRADE	½"ø @ 48"oc	0.157"ø @ 16"oc	½"ø @ 48"oc	½"ø @ 48"oc	B
INTERIOR WALL SLAB ON MTL DECK	NOT PERMITTED	0.157"ø @ 16"oc	¾"ø @ 48"oc	N/A	C
EXTERIOR WALL SLAB ON MTL DECK (H=15'-0" MAX)	NOT PERMITTED	NOT PERMITTED	¾"ø @ 16"oc	N/A	C
STL FRAMING (H=14'-0" MAX)	N/A	0.157"ø @ 16"oc	N/A	N/A	D
MIN CONC EDGE DISTANCE	1¾"	3"	3"	3"	
REF DETAIL & NOTES	12 S1.10	STAGGER PINS	10 S1.10	NOTE #4	

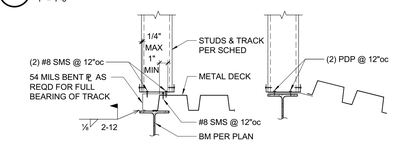
NOTES:
1. PROVIDE (2) ANCHORS MIN PER TRACK SEGMENT.
2. FOUNDATION AND SLAB REINFORCING PER OTHER DETAILS.
3. CENTER FASTENERS W/ TRACK, UNO.
4. SEE PLAN AND SCHEDULE FOR ADDITIONAL ANCHORAGE REQUIREMENTS, AS OCCURS.

4 TYPICAL BOTTOM TRACK ANCHORS AT CONCRETE
1" = 1'-0"

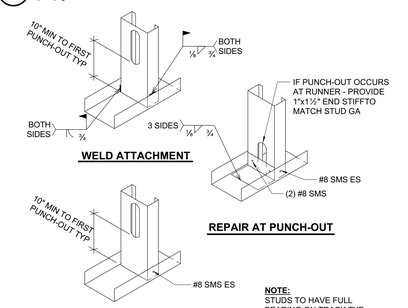




5 INTERIOR BOXED STUD BASE
1" = 1'-0"



6 ATTACHMENT OF STUDS TO METAL DECK
1" = 1'-0"



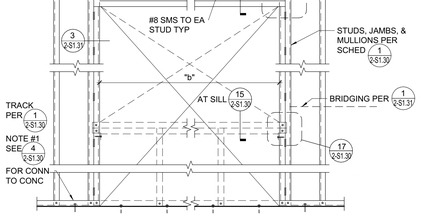
7 STUD OR JOIST TO TRACK
1" = 1'-0"

LIGHT GAUGE FRAMING SCHEDULE

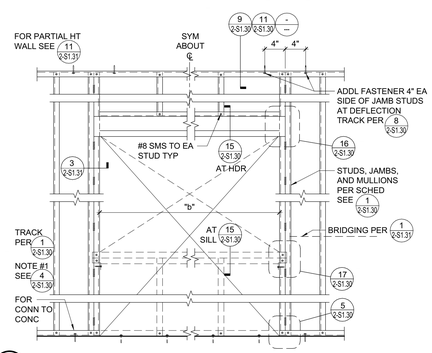
LOCATION	MINIMUM MEMBER SIZE	MAX SPAN/LENGTH	MAX SPACING UNO	REFERENCE DETAIL
EXTERIOR STUDS	400S162-43	10'-0"	16"oc	
	600S162-43	15'-0"	16"oc	
	800S162-54	20'-0"	16"oc	
EXTERIOR HEADERS	(2) 800S162-43 STUDS AND (2) 600T150-68 TRACKS	b ≤ 12'-0"		SEE 15 S1.30
	(2) 600S162-43 STUDS AND (2) 600T150-43 TRACKS	b ≤ 8'-0"		
	600S162-43 STUD AND 600T150-43 TRACK	b ≤ 4'-0"		
EXTERIOR SILLS	600S162-54 STUD AND 600T150-68 TRACK	b ≤ 12'-0"		SEE 15 S1.30
	600S162-43 STUD AND 600T150-43 TRACK	b ≤ 8'-0"		
	600T150-43	b ≤ 4'-0"		
EXTERIOR JAMBS	(3) 600S162-68	15'-0"	b ≤ 12'-0"	SEE 3 S1.31
	(2) 600S162-97	15'-0"	b ≤ 8'-0"	
	(2) 600S162-43	15'-0"	b ≤ 4'-0"	
PARAPET SILLS	600S162-54 STUD AND 600T150-54 TRACK			SEE 15 S1.30
INTERIOR STUDS	400S162-43	12'-0"	16"oc	
	600S162-33	18'-0"	16"oc	
INTERIOR STUDS W/ SHELVING OR EQUIPMENT ANCHORAGE	400S162-54	15'-0"	16"oc	
	600S162-43	15'-0"	16"oc	
INTERIOR HEADERS	(2) 600S162-33 STUDS AND (2) 400T150-43 TRACKS	b ≤ 12'-0"		SEE 15 S1.30
	(2) 800S162-54 STUDS AND (2) 600T150-33) TRACKS			
	(2) 400S162-33 STUDS AND (2) 400T150-43 TRACKS	b ≤ 8'-0"		
	400T200-43 (OR 600T200-43)	b ≤ 4'-0"		
INTERIOR SILLS	400S162-43 STUD AND 400T150-43 TRACK (OR 600S162-33 AND 600T150-33)	b ≤ 14'-0"		SEE 15 S1.30
	400T150-43 (OR 600T150-43)	b ≤ 8'-0"		
INTERIOR JAMBS	(2) 400S162-43 (OR (2) 600S162-33)	15'-0"	b ≤ 12'-0"	SEE 3 S1.31
	400S162-43 (OR 600S162-33)	15'-0"	b ≤ 4'-0"	
CEILING JOISTS	400S162-33	10'-0"	16"oc	SEE 12 S1.31
	600S162-43	17'-0"	16"oc	
CEILING HANGERS	400S162-43	h ≤ 6'-0"		SEE 14 S1.31
	400S162-43 & 400T150-43	h ≤ 8'-0"		

1. TYP TRACK TO BE SAME GAUGE AS STUD OR 43 MILS MIN, UNO. FLANGE TO BE 1⅛" MIN.
2. AT EXTERIOR WALL W/ BUMP OUT BOTH MAIN WALL & FURRING WALL ARE EXTERIOR STUDS. PROVIDE BRIDGING @ 4'-0"oc MAX PER 1/2-S1.31 AT BOTH WALLS.
3. A WALL W/ ANY PORTION HAVING EXTERIOR EXPOSURE SHALL BE FRAMED ENTIRELY AS AN EXTERIOR WALL.
4. MULTIPLE ADJACENT WINDOWS TO EACH HAVE INDIVIDUAL HEADERS AND FULL JAMB STUDS BETWEEN WINDOWS.
5. TYP WALL BRIDGING/BRLKG PER 1/2-S1.31
6. TYP STUD/JOIST TO TRACK PER 7/2-S1.30
7. COORDINATE STUD DEPTH W/ ARCH DRAWINGS. INCREASE MIN HDR, SILL OR JAMB MEMBER DEPTHS AS REQD TO MATCH ACTUAL WALL STUD DEPTH.
8. "b" INDICATES OPENING WIDTH PER 2/2-S1.30 OR 3/2-S1.30

1 SCHEDULE - LIGHT GAUGE METAL FRAMING, UNO
3/4" = 1'-0"



2 EXTERIOR NON-BEARING WALL (OPENING AS OCCURS)
1" = 1'-0"



3 INTERIOR NON-BEARING WALL (OPENING AS OCCURS)
1" = 1'-0"

APPROVED DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294 Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION	
DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	PC response	2019.06.24

PERMIT SUBMITTAL V2-INCREMENT #1

ZFA STRUCTURAL ENGINEERS
1390 el camino real | suite 100 zfa.com
san carlos ca 94070 650.394.8869
zfa job no.17143

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REGISTERED PROFESSIONAL ENGINEER KEVIN G. ZUCCO No. 4861 STRUCTURAL STATE OF CALIFORNIA

Sheet Title

BUILDING 2 TYPICAL METAL STUD ELEVATION AND CONNECTION DETAILS

Drawn By: LS Checked By: SRP

Scale: As indicated

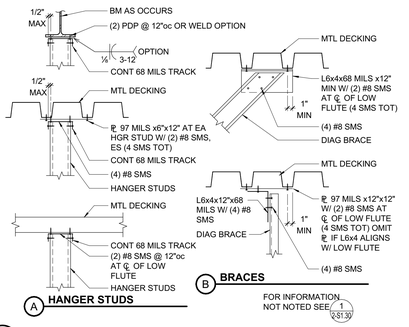
Date: July 19, 2019

Project No. 17143

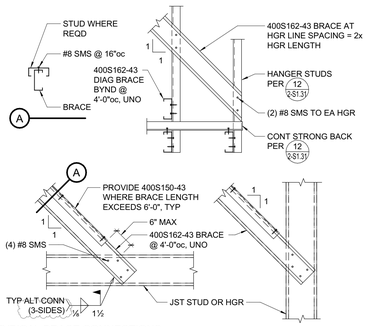
2-S1.30
Drawing No.

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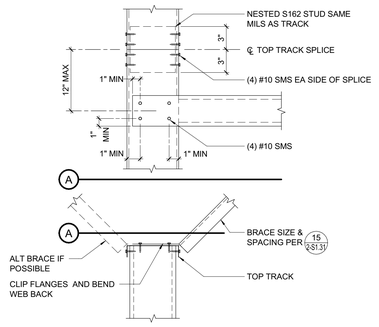
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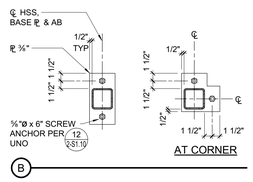
14 HANGERS & BRACES AT METAL DECK
1" = 1'-0"



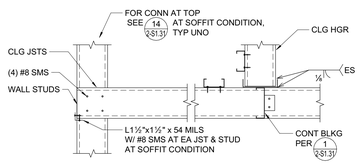
15 TYPICAL BRACE CONNECTIONS
1" = 1'-0"



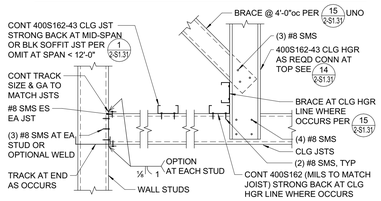
10 TYPICAL BRACE AT TOP OF PARTIAL HT WALL
1 1/2" = 1'-0"



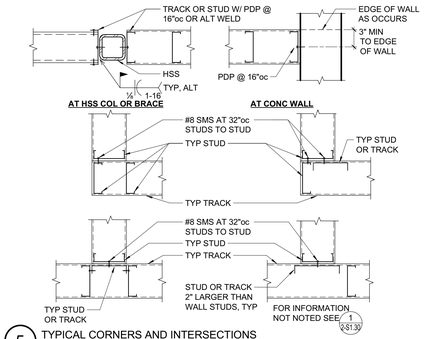
11 TYPICAL SECTION AT PARTIAL HEIGHT WALL
1" = 1'-0"



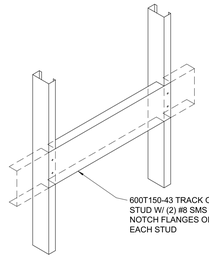
OPTIONAL ATTACHMENTS



12 TYPICAL CEILING JOIST FRMG AT FULL HEIGHT METAL STUDS
1" = 1'-0"



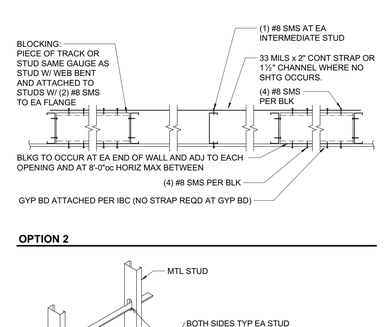
5 TYPICAL CORNERS AND INTERSECTIONS
1" = 1'-0"



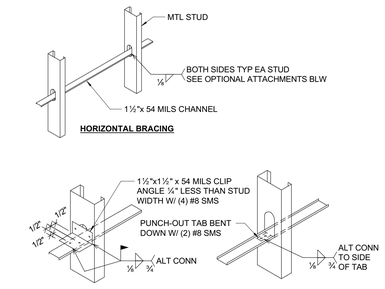
6 WALL BACKING PLATE
1" = 1'-0"

7 HEAVY DUTY WALL BACKING PLATE
1" = 1'-0"

8 INFILL AT STEEL BEAM
1 1/2" = 1'-0"



OPTION 2

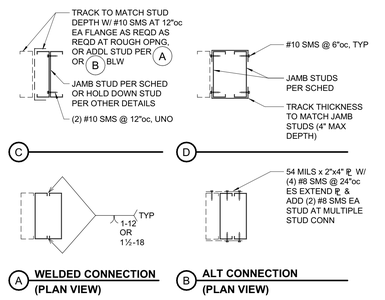


OPTION 1

NOTES:
1. BRIDGING MAY BE PER OPTION 1 OR 2.
2. PROVIDE BRIDGING @ 4'-0"oc.
3. BRIDGING IS NOT REQUIRED WHERE PROPERLY ATTACHED SHEATHING OCCURS ON BOTH SIDES OF STUDS.
4. THE MAX STUD DEPTH FOR OPTION 1 IS 8" MAX.
5. PROVIDE BLOCKING PER OPTION 2 AT LOCATIONS INDICATED ON DRAWINGS OR OTHER DETAILS

1 WALL BRIDGING/BLOCKING
1" = 1'-0"

2 TYPICAL STUD PUNCHOUT
1" = 1'-0"



3 TYPICAL MULTIPLE STUD CONNECTION
1 1/2" = 1'-0"

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	PC response	2019.06.24
3	PC 2- Internal coord	10.04.2019

PERMIT SUBMITTAL V2-INCREMENT #1

ZFA STRUCTURAL ENGINEERS
1390 el camino real | suite 100 zfa.com
san carlos ca 94070 650.394.8869
zfa job no.17143

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REGISTERED PROFESSIONAL ENGINEER KEVIN G. ZUCCO STRUCTURAL No. 4861 STATE OF CALIFORNIA

Sheet Title

BUILDING 2 TYPICAL METAL STUD SOFFIT & MISCELLANEOUS DETAILS

Drawn By: LS Checked By: SRP

Scale: As indicated

Date: July 19, 2019

Project No. 17143

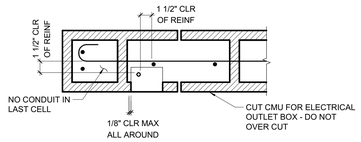
2-S1.31
Drawing No.

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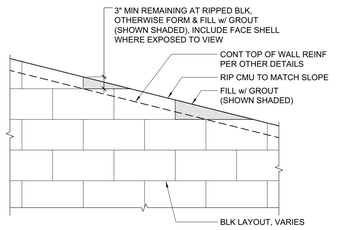
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NOTES:

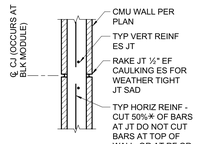
1. DO NOT TIE CONDUIT TO REINFORCING.
2. PLACE CONDUIT IN CELLS W/O REINF WHERE POSSIBLE.



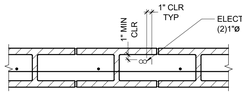
14 CONDUIT BOX IN CMU
1 1/2" = 1'-0"



15 SLOPED TOP OF MASONRY WALL
3/4" = 1'-0"



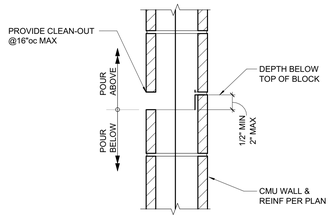
PLAN VIEW



w/o VERT REINFORCING

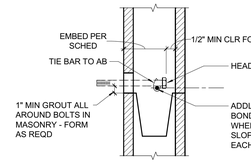
NOTES:
1. DETAILS SHOWN ARE FOR WALLS ONLY.
2. CONDUITS SHALL NOT BE LOCATED IN WALL PIERS OR UNDER BEAMS. WALL PIERS SHALL BE DEFINED AS ANY WALL SEGMENT 32" OR LESS IN LENGTH.
3. CONDUIT LOCATIONS SHALL BE SPACED 24"oc MIN.
4. DO NOT TIE CONDUIT TO REINFORCING.
5. PLACE CONDUIT IN CELLS w/ OUT REINFORCING WHERE POSSIBLE.
6. DO NOT PLACE CONDUITS IN JAMB CELLS

10 PIPES AND CONDUITS
1" = 1'-0"



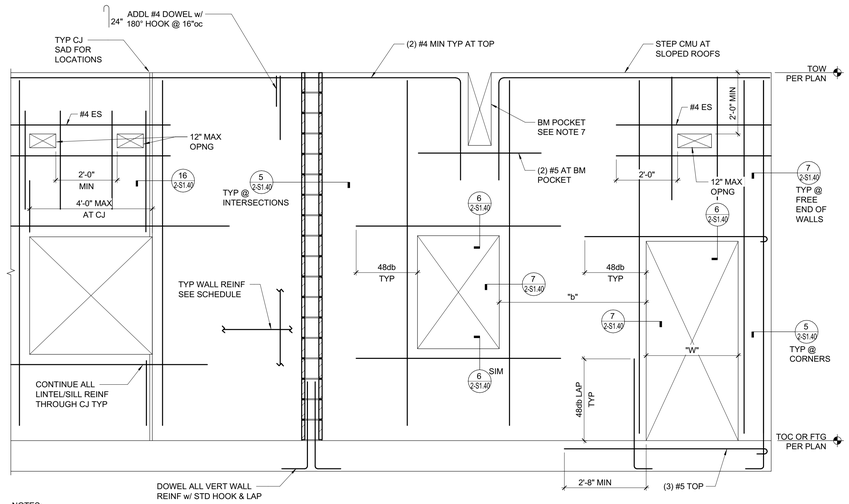
NOTE:
1. POUR HEIGHT 10'-0" MAX.

11 HORIZONTAL CONSTRUCTION JOINT
1 1/2" = 1'-0"



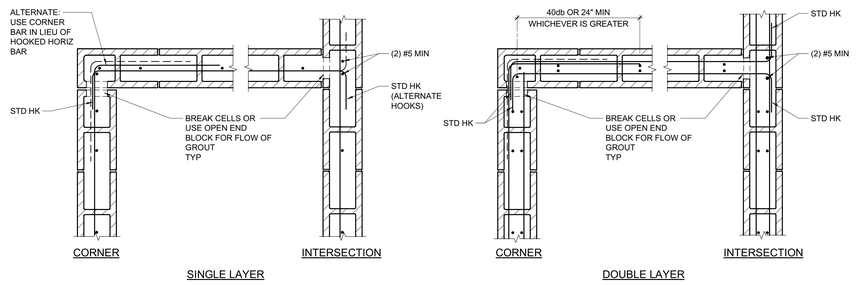
8" CMU WALL EMBEDMENT	12" CMU WALL EMBEDMENT	16" MIN PILASTER EMBEDMENT
5½"	9½"	12"

NOTE:
1. USE TEMPLATE TO SET ALL BOLTS.
2. BEDMENT TOLERANCE IS ±½" AND AS REQUIRED FOR CLEARANCE TO CMU.
3. AB SHALL PROJECT NOT LESS THAN ¼" OR MORE THAN 1" BEYOND NUT. REMOVE EXCESS THREADS WHERE NUT IS TO BE CSK FLUSH

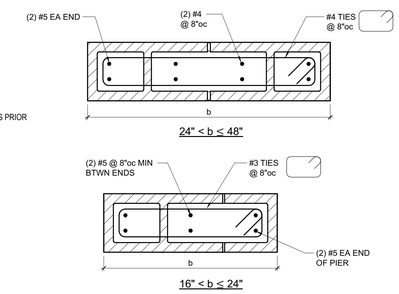


NOTES:
1. "W" DENOTES WIDTH OF OPENINGS. SEE ARCH DWGS FOR SIZE & LOCATION.
   "b" DENOTES DIMENSION BETWEEN OPENINGS. SEE ARCH DWGS.
2. DO NOT PLACE ELECTRICAL CONDUIT IN THE SAME CELL AS VERTICAL JAMB BARS. SEE **10/2-S1.40** & **14/2-S1.40** .
3. MASONRY WALL PIERS SHALL NOT BE LESS THAN 15⅝" WIDE.
4. FOR 12" CMU WALLS, REINFORCING SHOWN OCCURS AT EACH FACE.
5. ALL HORIZONTAL REINFORCING IN CMU BEARING WALLS SHALL TERMINATE WITH 90° OR 180° STANDARD HOOK.
6. FOR SLOPED TOP OF WALL, SEE **15/2-S1.40** .
7. FOR TYPE 1 WALLS PROVIDE 2" MIN 3" MAX CLEARANCE FROM UNDERSIDE OF BEAMS, SLAB & ALL SIDES OF BEAM.

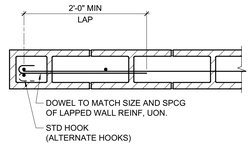
4 TYPICAL CMU WALL REINFORCING
1/2" = 1'-0"



5 REINFORCING AT WALL INTERSECTIONS
1" = 1'-0"

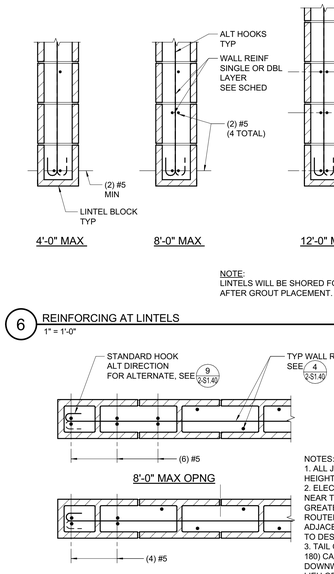


8 REINFORCING AT PIERS
1 1/2" = 1'-0"



NOTES:
1. WHERE WALL IS NOT DESIGNATED AS A SHEAR WALL, STD HOOK (90 OR 180) CAN BE ORIENTED VERTICALLY DOWNWARD INTO THE LAST CELL IN LIEU OF THE HOOK BEING WRAPPED AROUND THE VERTICAL END BARS.
2. HOOK AROUND END BARS AT NARROW PIERS.

6 REINFORCING AT LINTELS
1" = 1'-0"



NOTE:
LINTELS WILL BE SHORED FOR 28 DAYS MIN AFTER GROUT PLACEMENT.

NOTES:
1. ALL JAMB BARS SHALL BE FULL HEIGHT OF WALL.
2. ELECTRICAL CONDUIT REQUIRED NEAR THE EDGE OF ANY OPENING GREATER THAN 4'-0" SHALL BE ROUTED VERTICALLY IN FIRST OPEN ADJACENT CELL, THEN HORIZONTALLY TO DESIRED LOCATION.
3. TAIL OF STANDARD HOOK (90 OR 180) CAN BE ORIENTED VERTICALLY DOWNWARD INTO THE LAST CELL IN LIEU OF THE HOOK BEING WRAPPED AROUND THE VERTICAL END BARS WHERE WALL IS NOT DESIGNATED ON PLAN AS A SHEAR WALL. HOOK AROUND END BARS AT NARROW PIERS.

7 REINFORCING AT JAMB OR END OF CANTILEVERED WALLS
1" = 1'-0"

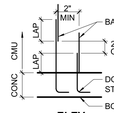
REINFORCING SCHEDULE					
TYPE	NOMINAL WALL THICKNESS "t"	HORIZ	VERT	JAMB AND END OF WALL	NOTES
1C	8"	#4 @ 24"oc	#5 @ 8"oc STAGGERED	7/2-S1.40	NON-STRUCTURAL FULLY GROUTED

NOTES:
1. USE THIS SCHEDULE WHERE SIZE OF CMU AND REINFORCING IS NOT SHOWN OTHERWISE ON PLANS, DETAILS, OR WALL ELEVATIONS. FOR TYPICAL CMU WALL ELEVATION, SEE **4/2-S1.40** .
2. FOR FOUNDATION OR SLAB CONNECTION AT CMU WALLS SEE **15/2-S4.10** .
3. VERTICAL REINF FOR WALLS SHALL BE CONTINUOUS FROM TOP OF SLAB TO TOP OF WALL OR FLOOR TO FLOOR WITHOUT SPLICE.
4. USE OPEN END BLOCK AT VERTICAL REINFORCING BARS.
5. USE SPECIAL BOND BEAM OR LINTEL BLOCK AT ALL HORIZONTAL BARS.
6. THE TERM "STANDARD HOOK" SHALL MEAN EITHER:
   - 180 HOOK PLUS AN EXTENSION OF 4 BAR DIAMETERS OR 2.5".
   - 90 HOOK PLUS AN EXTENSION OF 12 BAR DIAMETERS.
7. FOR LAP SPLICES & MIN CLEARANCES SEE **2/2-S1.40** .
8. FOR REINF AT PIERS WITH b ≤ 6t SEE **8/2-S1.40** .
9. USE 9 GA. WIRE POSITIONERS FOR ALL VERTICAL WALL REINFORCING. SPACE VERT TIES MAX 192 x (BAR DIA) oc OR 120".

1 CMU REINFORCING SCHEDULE
1" = 1'-0"

MINIMUM BAR LAPS FOR REINFORCING STEEL MASONRY STRENGTH: 2000 PSI OR GREATER (STAGGER SPLICES)		
BAR SIZE	LAP SPLICE	
	STD	SPECIAL ✳
#3	15"	22½"
#4	20"	36"
#5	25"	45"
#6	30"	54"
#7	35"	63"
#8	40"	72"
#9	59"	81"

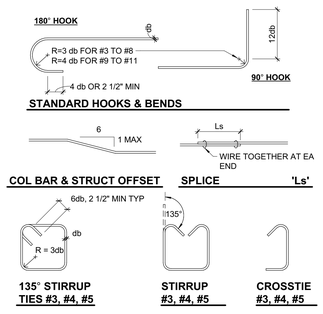
DENOTES "SPECIAL" REQUIREMENTS FOR LAP SPLICES AS FOLLOWS:
1. TRIM BARS PER **4/2-S1.40**
2. HORIZONTAL BARS WHERE NOTED.
3. VERTICAL PILASTER REINFORCING.
4. BARS SPACED CLOSER THAN 3" (2" MIN) AND SPLICE ENDS OR BEGINNINGS ARE LESS THAN 24 BAR DIA APART.
5. BARS DESIGNATED AS GRADE 60.
6. WHERE VERTICAL REINF BARS ARE SPLICED WITHIN THE MIDDLE 1/3 OF THE WALL HEIGHT BETWEEN FLOORS OR FLOOR & ROOF.



ELEV
BARS LOCATED IN THE SAME CELL

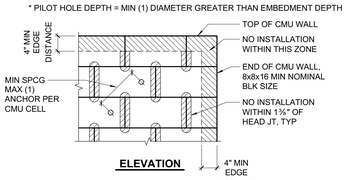
MINIMUM CLEARANCES 'CLR'
CMU TO BAR . . . . . ½"
BAR TO BAR . . . . . 2"

ALL REINFORCING BARS SHALL EXTEND AS FAR AS POSSIBLE



2 TYPICAL LAP SPLICES AND REINFORCING DETAILS (f'm = 2000 PSI MIN) IN MASONRY WALLS
3/4" = 1'-0"

16 CMU WALL CONTROL JOINT
3/4" = 1'-0"



ELEVATION

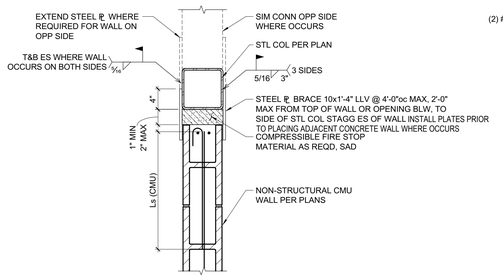
CARBON STL EXP ANCHORS IN 2000 PSI MIN CMU				
ANCHOR TYPE	ANCHOR & PILOT HOLE DIA	MINIMUM EMBEDMENT DEPTH*	MIN SPCG S_{min}	INSTALL TORQUE (FT-LB)
SIMPSON STRONG-BOLT 2 (IAPMO ES-0240)	⅜"	2⅜"	4"	30
	½"	3½"	4"	35
	⅝"	4⅜"	4"	55
	¾"	5¼"	4"	120
HILTI KWIK BOLT 3 (ICC-ESR 1385)	⅜"	2½"	8"	15
	½"	3½"	8"	25
	⅝"	4"	8"	65
	¾"	4⅝"	8"	120

* PILOT HOLE DEPTH = MIN (1) DIAMETER GREATER THAN EMBEDMENT DEPTH

NOTES:
1. INSTALLED EXPANSION ANCHORS PER MANUFACTURER'S INFORMATION AND EVALUATION REPORT INSTRUCTIONS. SPECIAL INSPECTION IS REQUIRED PER SECTION 1705A AND THE REQUIREMENTS OF THE ICC REPORT.
2. CONTRACTOR TO VERIFY MINIMUM EDGE DISTANCES, SPACING AND THICKNESS ARE IN ACCORDANCE W/ SCHEDULE PRIOR TO INSTALLING ANCHOR AND SHALL CONSIDER BOLT SPACING WHEN SELECTING ANCHOR TYPE.
3. WHEN INSTALLING DRILLED-IN ANCHORS IN EXISTING CMU, USE CARE AND CAUTION TO AVOID CUTTING OR DAMAGING THE EXISTING REINFORCING BARS. USE ROTARY DRILL ONLY. MAINTAIN A REASONABLE CLEARANCE BETWEEN REINFORCEMENT AND ANCHOR. WHEN REINFORCEMENT IS PRESENT IN DRILLED HOLE ABANDON THE HOLE. FILL ABANDONED HOLES W/ DRY PACK AND FINISH TO MATCH CMU. FILL ABANDONED HOLES W/ HIGH STRENGTH GROUT.
4. THE SPECIAL INSPECTOR MUST BE ON THE JOBSITE PERIODICALLY DURING ANCHOR INSTALLATION TO VERIFY ANCHOR TYPE, ANCHOR DIMENSIONS, HOLE CLEANLINESS, EMBEDMENT DEPTH, MASONRY TYPE, MASONRY COMPRESSIVE STRENGTH, DRILL BIT DIAMETER, HOLE DEPTH, EDGE DISTANCE(S), ANCHOR SPACING(S), MASONRY THICKNESS, AND TIGHTENING TORQUE.
5. TEST ANCHORS IN ACCORDANCE W/ CBC SECTIONS 1705A.4 AND 1910A.5.

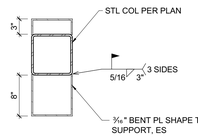
17 EXPANSION ANCHORS IN CMU
3/4" = 1'-0"

12 BOLT EMBEDMENT SCHEDULE
3/4" = 1'-0"



PLAN VIEW

13 CMU WALL JAMB TO HSS COL
1" = 1'-0"

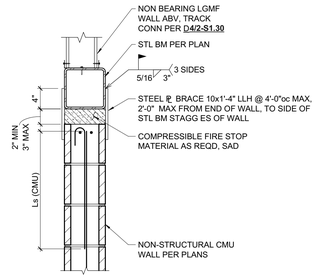


PLAN VIEW

18 CMU WALL JAMB TO HSS COL
1" = 1'-0"

9 ALTERNATE REINFORCING TERMINATION
1" = 1'-0"

3 TOP OF WALL BRACE - CMU WALL TO HSS BM
1" = 1'-0"



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DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	PC response	2019.06.24

PERMIT SUBMITTAL V2-INCREMENT #1

ZFA STRUCTURAL ENGINEERS
1390 el camino real | suite 100 zfa.com
san carlos ca 94070 650.394.8869
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REGISTERED PROFESSIONAL ENGINEER KEVIN G. ZUCCO No. 4861 STRUCTURAL STATE OF CALIFORNIA

Sheet Title

BUILDING 2
TYPICAL CMU DETAILS

Drawn By: LS Checked By: SRP

Scale: As indicated

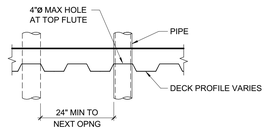
Date: July 19, 2019

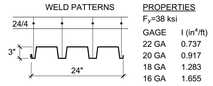
Project No. 17143

2-S1.40
Drawing No.

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PROPERTIES
F_y=38 ksi

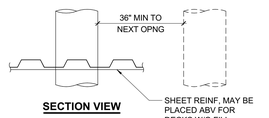
GAGE	I (in⁴/ft)
22 GA	0.737
20 GA	0.917
18 GA	1.283
16 GA	1.655

TYPE "C" DECK
VERCO PLN, N, OR APPROVED EQUAL

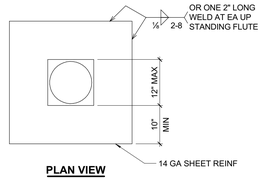
MARK	STEEL DECK GAGE & PROFILE TYPE SEE 7/2-S1.50	DECK CONNECTIONS, PER TYPICAL DETAILS THIS SHEET						MINIMUM SLAB FILL THICKNESS ABV DECK	MINIMUM SLAB FILL REINFORCING	REMARKS
		END/INT BEARING CONN (A)		SIDE BEARING CONN (B)		SIDELAP CONNECTION (C)				
		SIZE & TYPE	PATTERN	SIZE & TYPE	SPACING	SIZE & TYPE	SPACING			
3	C - 16 GA	¾"ø PW	24/4	¾"ø PW	18"	1½" TSW	18"	NO CONCRETE COVER. SAD FOR INSUL	N/A	

NOTES:
1. * = ½"ø MIN OF FUSION (EFFECTIVE WELD). ATTACH DECK TO ALL STEEL SUPPORT FRAMING AS OCCURS.
2. PW = PUDDLE WELD.
3. TSW = TOP SEAM WELD (¼" FILLET).
4. ASW = ARC SEAM WELD.
5. BP = BUTTON PUNCH.
6. VSC2 = VERCO SIDE LAP CONNECTION.
7. PINS = HILTI X-ENP-19 PER ICC ESR-2197.
8. ABOVE REFERENCED DECKS AND COMPOSITE DEPTHS ARE BASED ON ALLOWABLE DESIGN LOADS PER IAPMO ER-0217 VERCO MANUFACTURING, ESR-2047 EPIC METAL DECK CORP - EQUIVALENT DECK MUST HAVE EQUIVALENT ALLOWABLE VERTICAL LOADS, DIAPHRAGM SHEAR VALUES, AND FLEXIBILITY FACTORS.
9. SHORING OF DECK REQUIRED AT SINGLE SPAN & 2 SPAN CONDITIONS. NOT REQUIRED AT 3 SPAN CONDITIONS. AT CONTRACTOR'S OPTION, HEAVIER DECK MAY BE USED TO AVOID SHORING PER SEOR WRITTEN APPROVAL.
10. PROVIDE FULL WIDTH DECK SHEET ON EACH SIDE OF BEAMS IN THE SFRS, AND AT THE BUILDING PERIMETER.

9 TYPICAL UNREINFORCED OPENING IN DECK (≤ 4")
3/4" = 1'-0"

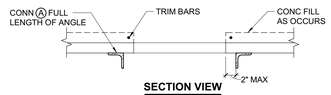


SECTION VIEW

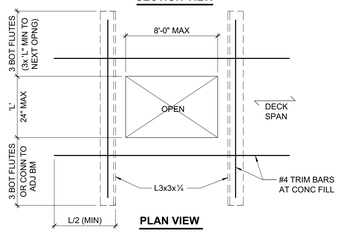


PLAN VIEW

10 TYPICAL REINFORCED OPENING IN DECK (LESS THAN 12")
3/4" = 1'-0"

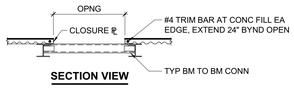


SECTION VIEW

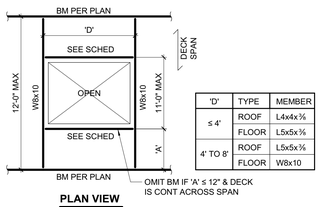


PLAN VIEW

11 TYPICAL REINFORCED OPENING IN DECK (LESS THAN 24")
1" = 1'-0"



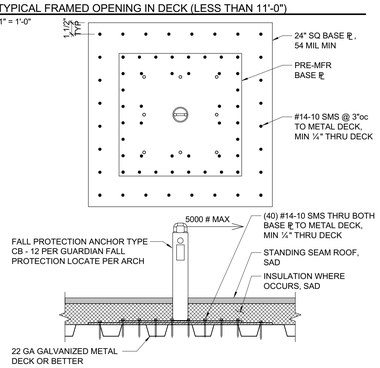
SECTION VIEW



'D'	TYPE	MEMBER
≤ 4'	ROOF	L4x4x¼
	FLOOR	L5x5x⅜
4' TO 8'	ROOF	L5x5x½
	FLOOR	W8x10

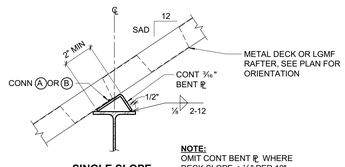
PLAN VIEW

12 TYPICAL FRAMED OPENING IN DECK (LESS THAN 11'-0")
1" = 1'-0"



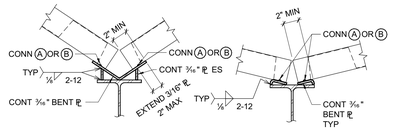
13 FALL RESTRAINT ANCHOR
1 1/2" = 1'-0"

7 DECKING TYPE AND CONNECTION PATTERN

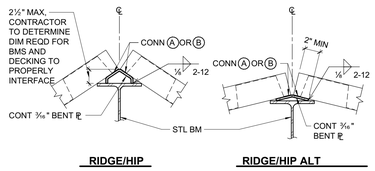


SINGLE SLOPE

NOTE:
OMIT CONT BENT ℄ WHERE DECK SLOPE < ½" PER 12"



VALLEY **VALLEY ALT**

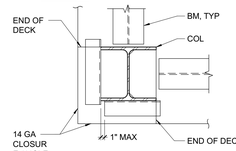


RIDGE/HIP **RIDGE/HIP ALT**

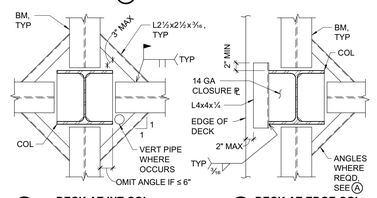
NOTE:
OMIT CONTINOUS BENT ℄ WHERE DECK SLOPE < ½" PER 12"

8 TYPICAL SLOPED DECK SUPPORT
1 1/2" = 1'-0"

1 DECKING SCHEDULE
3/4" = 1'-0"

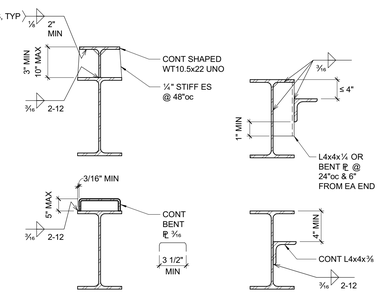


C DECK AT CORNER COL



A DECK AT INT COL **B DECK AT EDGE COL**

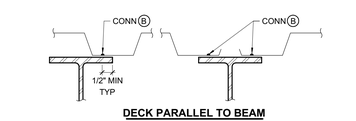
5 TYPICAL DECK SUPPORT AT COLUMN
3/4" = 1'-0"

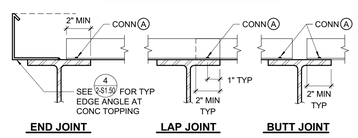


RAISED DECK **DEPRESSED DECK**

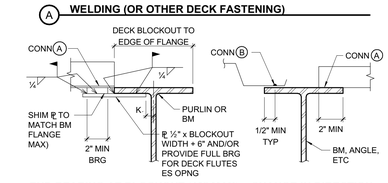
6 TYPICAL RAISED AND DEPRESSED DECK SUPPORT
1 1/2" = 1'-0"

2 TYPICAL STEEL DECK SUPPORT AND WELDING
3/4" = 1'-0"

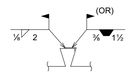




(A) WELDING (OR OTHER DECK FASTENING)



NOTES:
1. WELD OR DECK FASTENERS PER SCHEDULE. FOR DECKING SCHEDULE SEE 1/2-S1.50 AS SHOWN IN THIS DETAIL, PROVIDE ARC SEAM WELD ⌓ AT SAME SPACING AS ARC SPOT WELD "◡" PER 1/2-S1.50

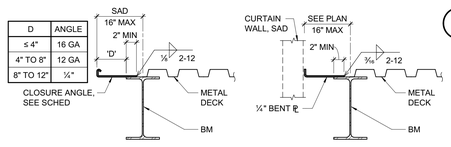


EPICORE DECK:
LAYOUT DECK SHEETS SO THAT SIDE SPLICES OCCUR ONLY AT SEAMED EDGES, AS SHOWN

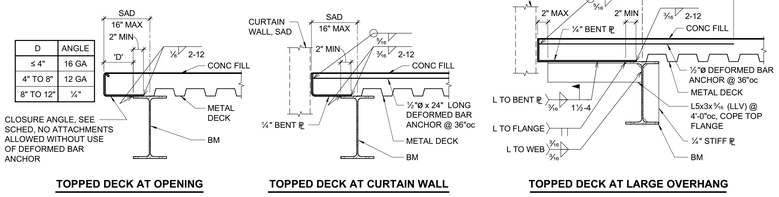


NOTE:
BUTTON PUNCH AND VERCO SIDE LAP CONN NOT SHOWN.

3 TYPICAL DECK SIDE LAP CONNECTION
3" = 1'-0"



UNTOPPED DECK AT OPENING **UNTOPPED DECK AT CURTAIN WALL**



TOPPED DECK AT OPENING **TOPPED DECK AT CURTAIN WALL** **TOPPED DECK AT LARGE OVERHANG**

4 TYPICAL EDGE OF DECK
1" = 1'-0"

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

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DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	INC 01_ADD_01_V1	12/6/2019

PERMIT SUBMITTAL 3-INCREMENT #1

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Sheet Title

BUILDING 2 TYPICAL METAL DECKING DETAILS

Drawn By: LS Checked By: SRP

Scale: **As indicated**

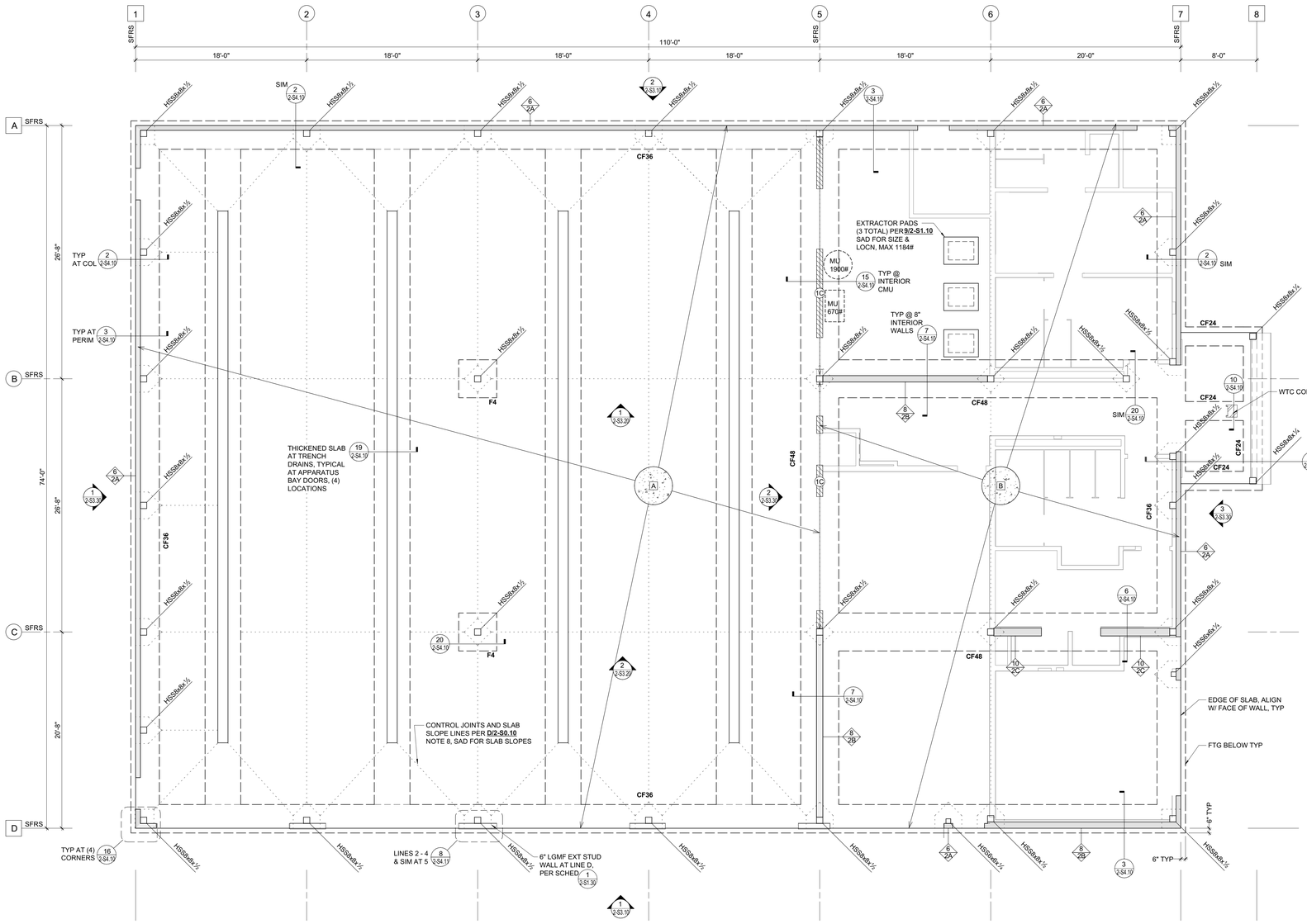
Date: **July 19, 2019**

Project No. 17143

2-S1.50
Drawing No.

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NORTH

FOUNDATION PLAN

3/16" = 1'-0"

FOUNDATION PLAN NOTES:

1. REFER TO SHEETS **2-S0.10** THROUGH **2-S1.50** FOR GENERAL NOTES AND TYPICAL DETAILS. THE FOLLOWING DETAIL REFERENCES ARE PROVIDED FOR THE CONTRACTOR'S CONVENIENCE ONLY. ALL GENERAL NOTES AND TYPICAL DETAILS NOTED ABOVE ARE APPLICABLE AND SHALL BE FOLLOWED.
2. COORDINATE ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS PRIOR TO CONSTRUCTION. NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES.
3. SEE DETAILS OR CURB PLAN FOR CURB LOCATIONS. COORDINATE WITH ARCHITECTURAL DRAWINGS PRIOR TO CONSTRUCTION. NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES.
4. PLUMBING AND ELECTRICAL CONDUIT AND GROUND STRAP SHALL NOT BE LAID WITHIN FOUNDATIONS. NO UTILITY PIPES OR CONDUITS SHALL BE LOCATED THRU COLUMN FOOTINGS OR FRAME FOOTINGS. NO PIPES OR CONDUITS THRU SILL PLATES SHALL BE WITHIN 12" OF HOLDOWN BOLTS. NO MECHANICAL, ELECTRICAL, OR PLUMBING OPENINGS SHALL BE LOCATED IN SHEAR WALLS UNLESS SHOWN AND DETAILED ON THE STRUCTURAL DRAWINGS. NO VERTICAL OR HORIZONTAL PIPES OR CONDUITS SHALL BE LOCATED THROUGH STEEL FRAMES, STEEL COLUMNS, OR STEEL BASE PLATES. PROVIDE FURRING AND/OR THICKENED CONCRETE WHERE REQUIRED TO CLEAR UTILITY SYSTEMS. NOTIFY STRUCTURAL ARCHITECT/ENGINEER PRIOR TO ANY INSTALLATION NOT CONFORMING TO THESE DETAILS.

   PIPES THROUGH FOOTINGS SHALL BE PER **4/2-S1.10** .

   PIPES PARALLEL TO FOOTINGS SHALL BE PER **6/2-S1.10**.

   PIPES AT SLAB ON GRADE SHALL BE PER **3/2-S1.10**.
5. ELEVATION OF THE TOP OF FINISHED SLAB = 0'-0", UNLESS NOTED OTHERWISE.

PLAN LEGEND

SYMBOL	REFERENCE DETAIL	DESCRIPTION
1 A	1/2-S4.13	INDICATES CAST IN PLACE CONCRETE WALL PANEL W/ THICKNESS "t" AND REINFORCING TYPE "A" PER SCHEDULE TYP, UNO.
	1/2-S1.30	INDICATES COLD FORMED STEEL WALL.
1A	1/2-S1.40	INDICATES NON-STRUCTURAL CMU WALL, TYPE "1A". SIZE AND REINFORCING PER SCHEDULE TYP, UNO.
		INDICATES STEEL COLUMN.
DS		INDICATES DEPRESSED SLAB, SEE ARCHITECTURAL AND PLUMBING DRAWINGS FOR COMPLETE LOCATIONS, DEPTH AND SLOPE INFORMATION.
		INDICATES FOUNDATION.
CF2		INDICATES CONTINUOUS FOOTING SIZE AND REINFORCING PER SCHEDULE.
F2	20/2-S4.10	INDICATES PAD FOOTING SIZE AND REINFORCING PER SCHEDULE.
88		INDICATES GRIDLINE AT FACE OF STUD.
88		INDICATES GRIDLINE AT CENTERLINE OF COLUMN.
		INDICATES STEP IN ELEVATION, SEE ARCHITECTURAL DRAWINGS.
1 S3.1		INDICATES ELEVATION.
A	21/2-S4.10	9" CONC SLAB- ON- GRADE PER D/2-S0.10 NOTE 5. SEE REFERENCE DETAIL FOR SUBGRADE SLAB PREPARATION
B	21/2-S4.10	5" CONC SLAB- ON- GRADE PER D/2-S0.10 NOTE 4. SEE REFERENCE DETAIL FOR SUBGRADE SLAB PREPARATION. ADDL 4" OF THICKENED COMPACTED GRAVEL SUBBASE MAY BE USED BELOW TO ALLOW A SINGLE PAD GRADE BETWEEN SLABS

CONTINUOUS FOOTING SCHEDULE

MARK	'b'	'd'	REINFORCING	TIES
CF24	2' - 0"	2' - 0"	#6@ 10" oct&B	#4 TIES AT 12" OC
CF36	3' - 0"	2' - 0"	#6@ 10" oct&B	#4 TIES AT 12" OC
CF48	4' - 0"	2' - 0"	#6@ 10" oct&B	#4 TIES AT 12" OC

PAD FOOTING SCHEDULE

MARK	SIZE	REINFORCING
F4	4'-0" SQ x 24" DEEP	(5) #6 T&B

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

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DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	PC response	2019.06.24
2	Plan Check Revision	8.13.2019

PERMIT SUBMITTAL V2-INCREMENT #1

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1390 el camino real | suite 100 zfa.com
san carlos ca 94070 650.394.8869
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Sheet Title

BUILDING 2 FOUNDATION PLAN

Drawn By: LS Checked By: SRP

Scale: **As indicated**

Date: **July 19, 2019**

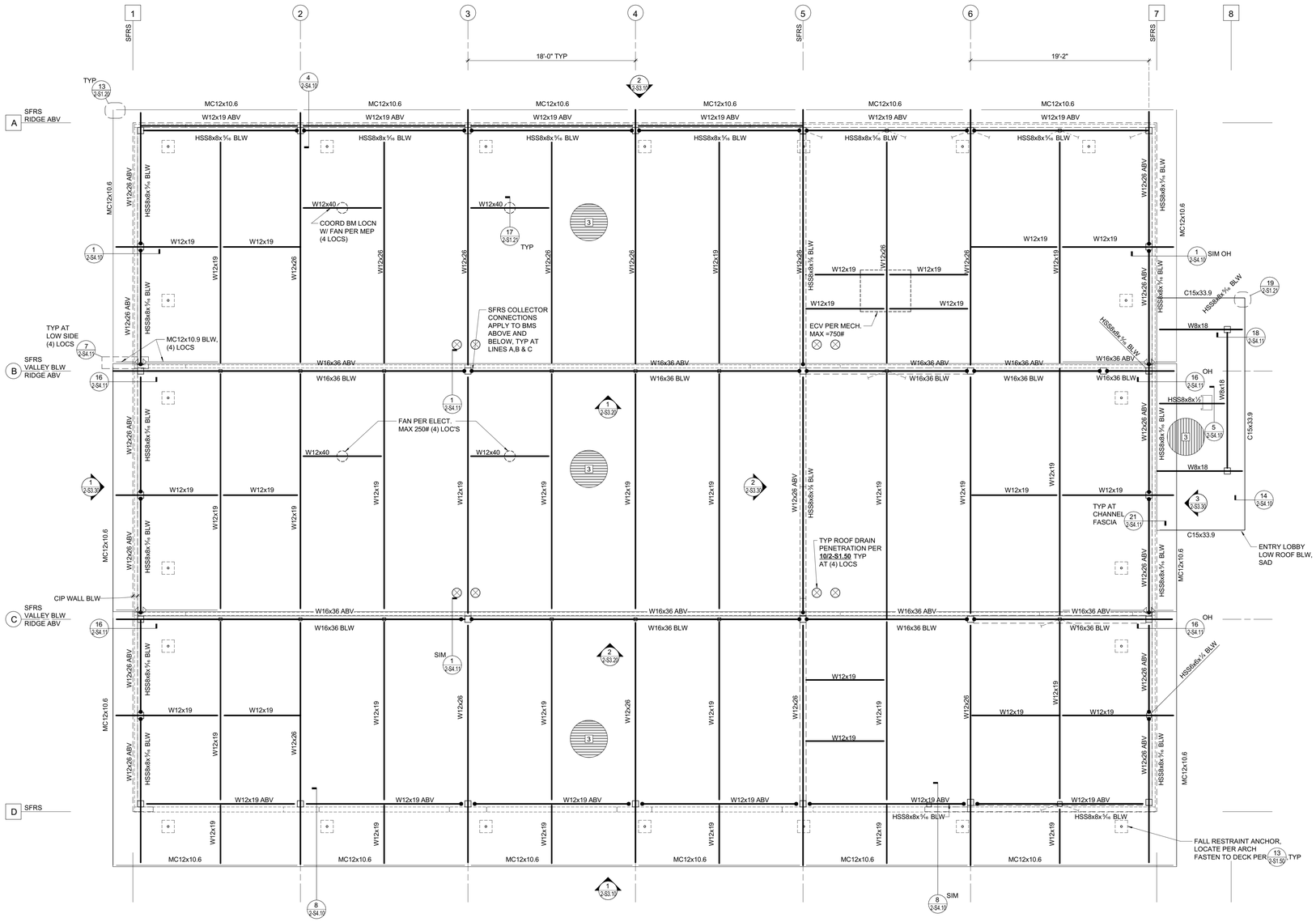
Project No. 17143

2-S2.10

Drawing No.

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ROOF FRAMING PLAN

3/16" = 1'-0"

FRAMING PLAN NOTES:

1. REFER TO SHEETS **2-S0.10** THROUGH **2-S1.50** FOR GENERAL NOTES AND TYPICAL DETAILS. THE FOLLOWING DETAIL REFERENCES ARE PROVIDED FOR THE CONTRACTOR'S CONVENIENCE ONLY. ALL GENERAL NOTES AND TYPICAL DETAIL SHEETS NOTED ABOVE ARE APPLICABLE AND SHALL BE FOLLOWED.
2. COORDINATE ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS PRIOR TO CONSTRUCTION. NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES.
3. NO VERTICAL OR HORIZONTAL PIPES OR CONDUITS SHALL BE LOCATED THROUGH STEEL FRAMING, COLUMNS, OR ASE PLATES. CONDUIT OR PLUMBING NOT ALLOWED WITHIN CONCRETE FILL ON METAL DECK. PROVIDE FURRING WHERE REQUIRED TO CLEAR UTILITY SYSTEMS. NOTIFY ARCHITECT/ENGINEER PRIOR TO ANY INSTALLATION NOT CONFORMING TO THESE RESTRICTIONS.
4. FIRE PROTECTION SYSTEM SUPPORTS TO BE LOCATED TO MAINTAIN A MAXIMUM OF (2) 500 LB MAX POINT LOADS WITH 15'-0" MINIMUM SEPARATION TO ANY STEEL BEAM. NO SUPPORTS TO BE HUNG FROM METAL DECKING.
5. SEE ARCHITECTURAL DRAWINGS FOR EDGE OF SLAB, FACE OF WALL, ETCETERA.
6. SEE ARCHITECTURAL DRAWINGS FOR TOP OF SLAB OR TO TOP OF STEEL ELEVATION.
7. BEAM CENTERLINES TO ALIGN WITH COLUMN CENTERLINES, UNLESS NOTED OTHERWISE.
8. BEAMS TO BE EQUALLY SPACED IN EACH BAY, UNLESS NOTED OTHERWISE.
9. SEISMIC GAPS WHERE NOTED ARE DIMENSIONED CLEAR BETWEEN WALL FINISHES. THIS GAP TO BE MAINTAINED ENTIRELY CLEAR TO ALLOW FOR DIFFERENTIAL BUILDING MOVEMENT. NO PIPES, CONDUITS, ETCETERA SHALL BE LOCATED WITHIN THE GAP. PROVIDE FLEXIBLE COUPLINGS AT ALL UTILITIES CROSSING SEISMIC GAPS.

PLAN LEGEND

SYMBOL	REFERENCE DETAIL	DESCRIPTION
88		INDICATES GRIDLINE AT CENTERLINE OF COLUMN.
88		INDICATES GRIDLINE AT FACE OF STUD.
		INDICATES STEEL COLUMN.
W16x26 CH1*		INDICATES BEAM SIZE AND CAMBER. WHERE NO CAMBER IS SPECIFIED FABRICATE BEAM WITH NATURAL CAMBER UP.
		INDICATES "T" PLATE BEAM CONNECTION TO COLUMN.
		INDICATES NON-FRAME MOMENT RESISTING CONNECTION.
		INDICATES FRAME MOMENT RESISTING CONNECTION.
		INDICATES SEISMIC FORCE RESISTING SYSTEM COLLECTOR CONNECTION; PROVIDE DOUBLE ROW OF BOLTS AT CONNECTION PER TYPICAL DETAILS.
		INDICATES BRACED FRAME ABOVE.
		INDICATES BRACED FRAME BELOW.
BRACE		INDICATES DIAGONAL BRACE CONNECTED TO BOTTOM FLANGE OF BEAM. HEAD OF ARROW INDICATES THE UPPER CONNECTION. SPACE BRACES EQUALLY UNLESS NOTED OTHERWISE.
		INDICATES LEDGER. SEE PLAN FOR SIZE AND ANCHORAGE.
3	1/2-S1.50	INDICATES METAL DECK (WITH CONCRETE FILL AS OCCURS) AND DIRECTION OF DECK SPAN. SEE SCHEDULE FOR ADDITIONAL INFORMATION.
DS		INDICATES DEPRESSED SLAB, SEE ARCHITECTURAL AND PLUMBING DRAWINGS FOR COMPLETE LOCATIONS, DEPTH AND SLOPE INFORMATION.
	1/2-S1.30	INDICATES COLD FORMED STEEL WALL.
MU 1,000#		INDICATES APPROXIMATE LOCATION, SIZE AND MAXIMUM WEIGHT OF MECHANICAL UNIT. SEE MECHANICAL DRAWINGS FOR ANCHORAGE AND ADDITIONAL INFORMATION.
1 S3.1		INDICATES ELEVATION.
		INDICATES STEP IN ELEVATION, SEE ARCHITECTURAL DRAWINGS.

Ross Drulis Cusenbery ARCHITECTURE
18294 Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	INC 01_ADD_01_V1	12/6/2019

PERMIT SUBMITTAL 3-INCREMENT #1

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REGISTERED PROFESSIONAL ENGINEER KEVIN G. ZUCCO STRUCTURAL No. 4861 STATE OF CALIFORNIA

Sheet Title

BUILDING 2 ROOF PLAN

Drawn By: Author Checked By: Checker

Scale: **As indicated**

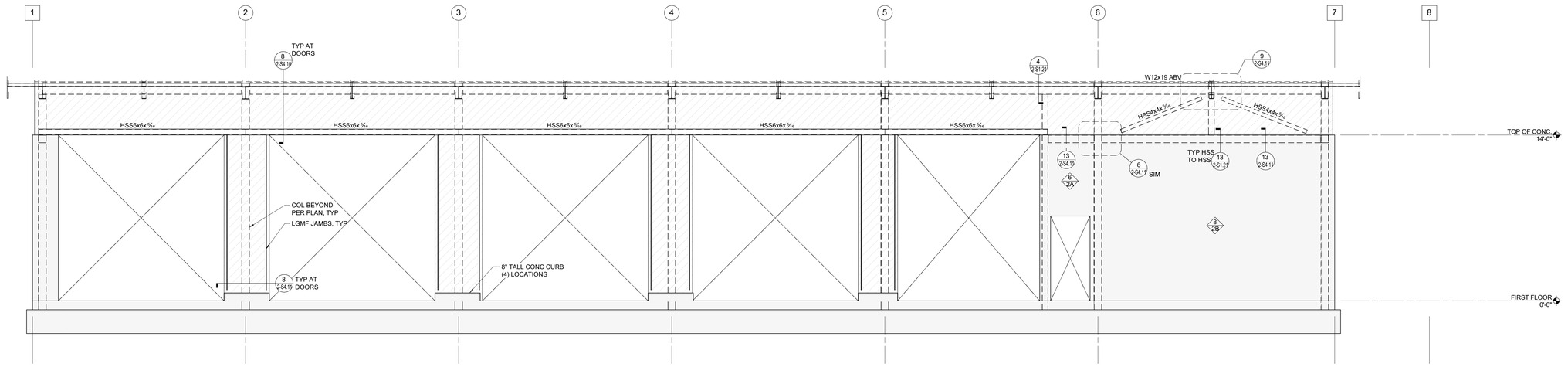
Date: **July 19, 2019**

Project No. 17143

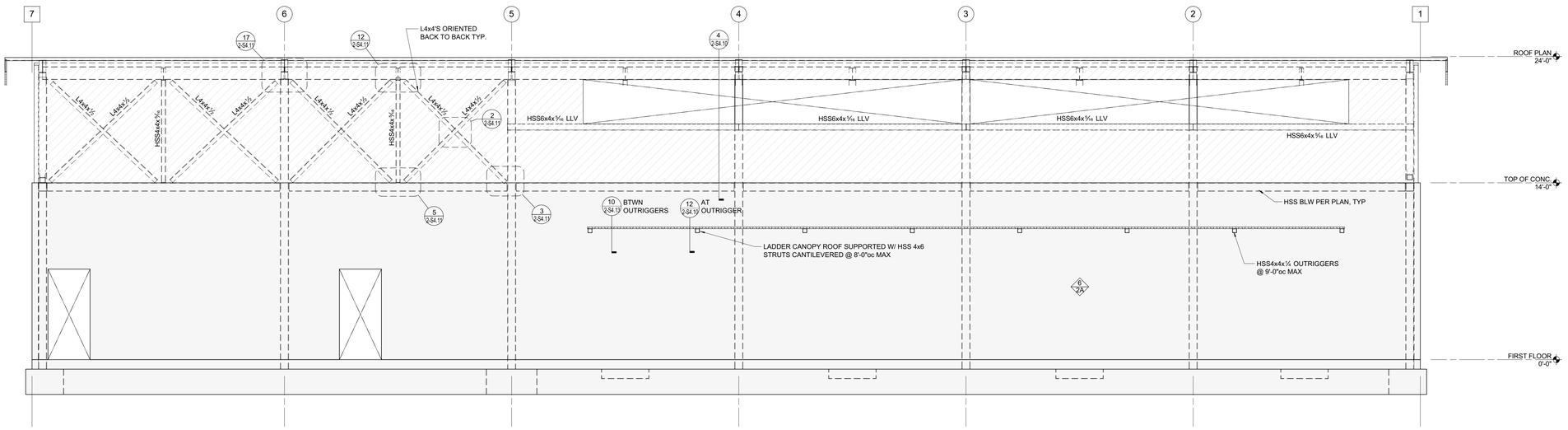
2-S2.11
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2/26/2020 5:10:01 PM C:\revit_local\17143_B2 - Apparatus Bldg_S17C_stewe@zfa.com.rvt



1 ELEVATION AT GRID D
1/4" = 1'-0"



2 ELEVATION AT GRID A
1/4" = 1'-0"

FRAME ELEVATION NOTES:

1. ELEVATION VIEWS SHOWN IN THESE PLANS ARE SCHEMATIC. THE STRUCTURAL PLANS AND DETAILS TAKE PRECEDENCE OVER ELEVATION VIEWS. SEE PLANS FOR ADDITIONAL INFORMATION.
2. SEE PLANS FOR ALL COLUMN AND BEAM SIZES.
3. SEE SHEET **2-S4.11** FOR BRACE DETAILS.
4. SEE SHEETS **2-S1.30** & **2-S1.31** FOR METAL STUD FRAMING. SAD AND SMD FOR WALL OPENINGS.
5. SAD FOR FRAMING HEIGHTS, BEAM SLOPES AND ALL DIMENSIONS.
6. NO COLUMN SPLICES PERMITTED EXCEPT WHERE NOTED.
7. ALL CONNECTIONS INDICATED ON ELEVATIONS ARE PART OF THE SFRS, ALL WELDS ARE DEMAND CRITICAL WHERE NOTED AS DCW.

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APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

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DRAWN BY:	APPROVAL REC'D:
APPROVED BY: **KATHY GARCIA** DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	PC response	2019.06.24
3	PC 2- Internal coord	10.04.2019

PERMIT SUBMITTAL V2-INCREMENT #1

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KEVIN G. ZUCCO
No. 4861
STRUCTURAL
STATE OF CALIFORNIA

Sheet Title

BUILDING 2 ELEVATIONS

Drawn By: LS Checked By: SRP

Scale: **As indicated**

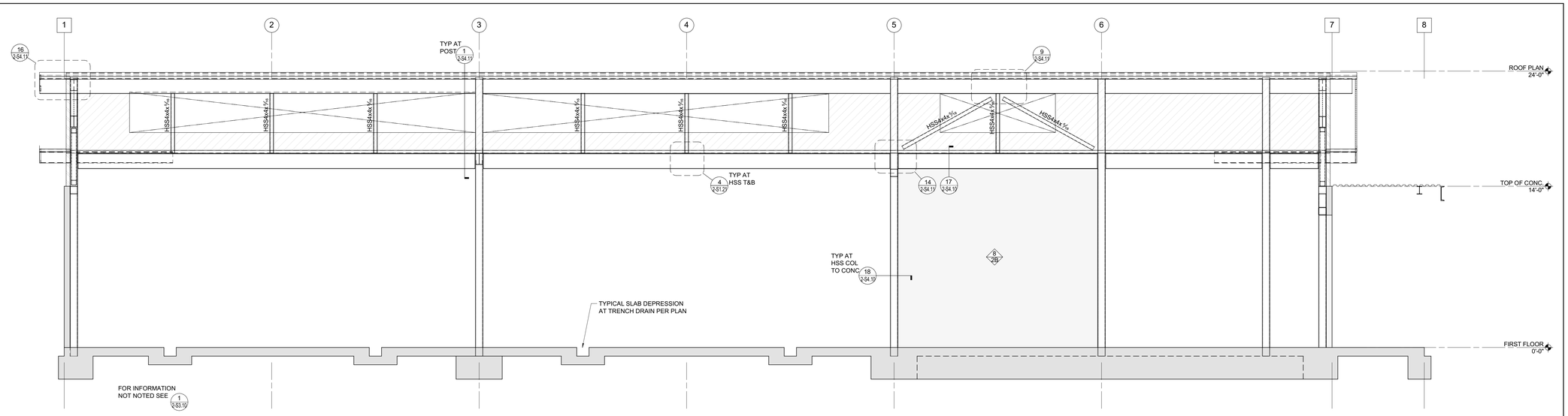
Date: **July 19, 2019**

Project No. 17143

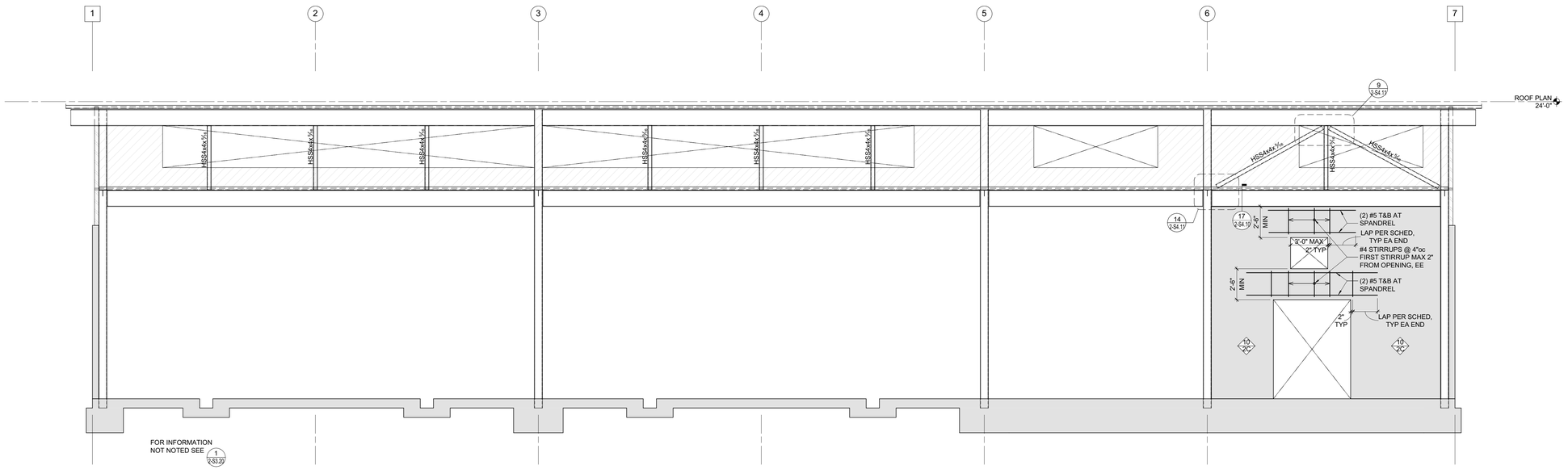
2-S3.10
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1 ELEVATION AT GRID B
1/4" = 1'-0"



2 ELEVATION AT GRID C
1/4" = 1'-0"

FRAME ELEVATION NOTES:

1. ELEVATION VIEWS SHOWN IN THESE PLANS ARE SCHEMATIC. THE STRUCTURAL PLANS AND DETAILS TAKE PRECEDENCE OVER ELEVATION VIEWS. SEE PLANS FOR ADDITIONAL INFORMATION.
2. SEE PLANS FOR ALL COLUMN AND BEAM SIZES.
3. SEE SHEET **2-S4.11** FOR BRACE DETAILS.
4. SEE SHEETS **2-S1.30** & **2-S1.31** FOR METAL STUD FRAMING. SAD AND SMD FOR WALL OPENINGS.
5. SAD FOR FRAMING HEIGHTS, BEAM SLOPES AND ALL DIMENSIONS.
6. NO COLUMN SPLICES PERMITTED EXCEPT WHERE NOTED.
7. ALL CONNECTIONS INDICATED ON ELEVATIONS ARE PART OF THE SFRS, ALL WELDS ARE DEMAND CRITICAL WHERE NOTED AS DCW.

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REVIEWED FOR
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DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION	
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DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	PC response	2019.06.24
3	PC 2- Internal coord	10.04.2019

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BUILDING 2 ELEVATIONS

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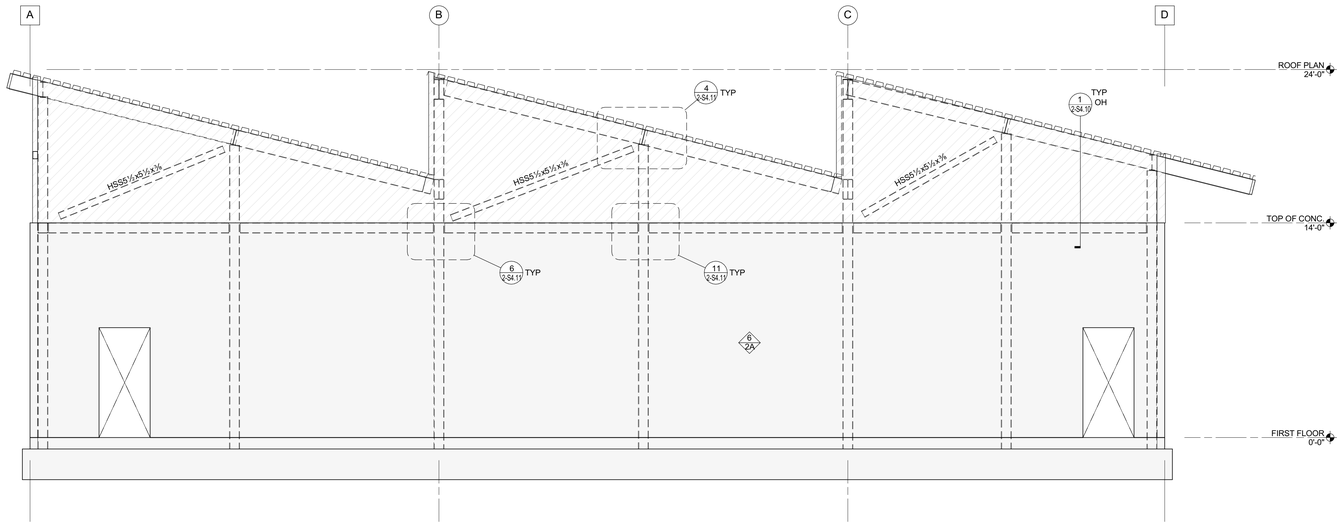
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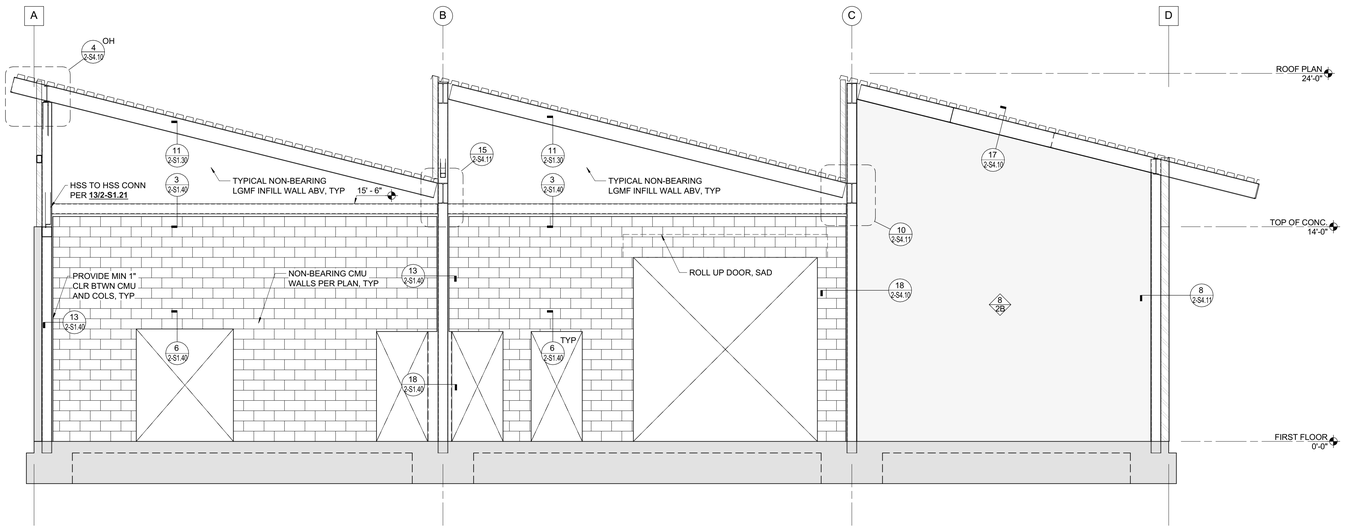
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FRAME ELEVATION NOTES:

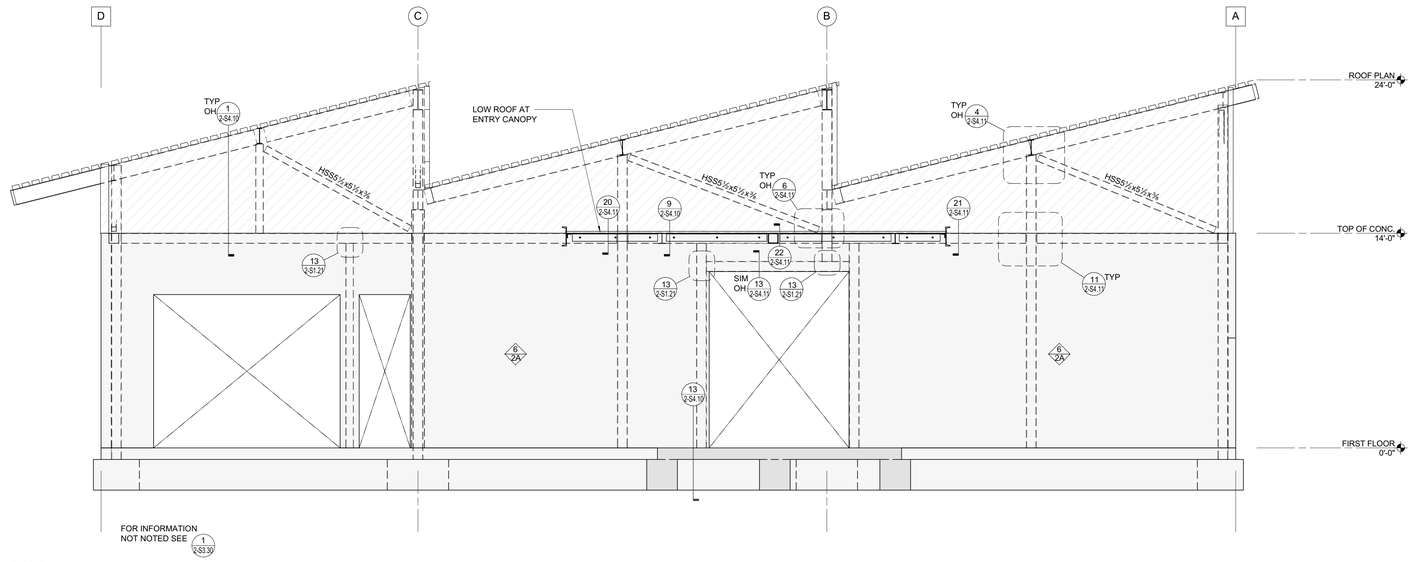
1. ELEVATION VIEWS SHOWN IN THESE PLANS ARE SCHEMATIC. THE STRUCTURAL PLANS AND DETAILS TAKE PRECEDENCE OVER ELEVATION VIEWS. SEE PLANS FOR ADDITIONAL INFORMATION.
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7. ALL CONNECTIONS INDICATED ON ELEVATIONS ARE PART OF THE SFRS, ALL WELDS ARE DEMAND CRITICAL WHERE NOTED AS DCW.



1 ELEVATION AT GRID 1
1/4" = 1'-0"



2 ELEVATION AT GRID 5
1/4" = 1'-0"



3 ELEVATION AT GRID 7
1/4" = 1'-0"

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ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

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DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

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HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	PC response	2019.06.24
3	PC 2- Internal coord	10.04.2019

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KEVIN G. ZUCCO
STRUCTURAL
No. 4861
STATE OF CALIFORNIA

Sheet Title

BUILDING 2 ELEVATIONS

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July 19, 2019

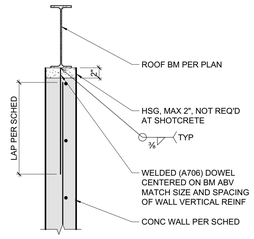
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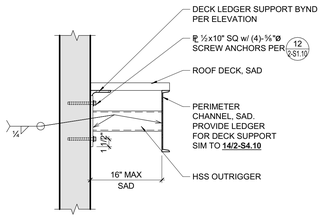
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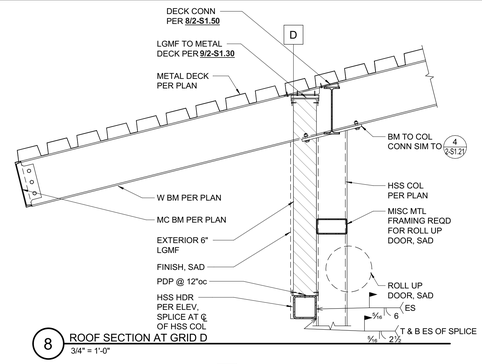
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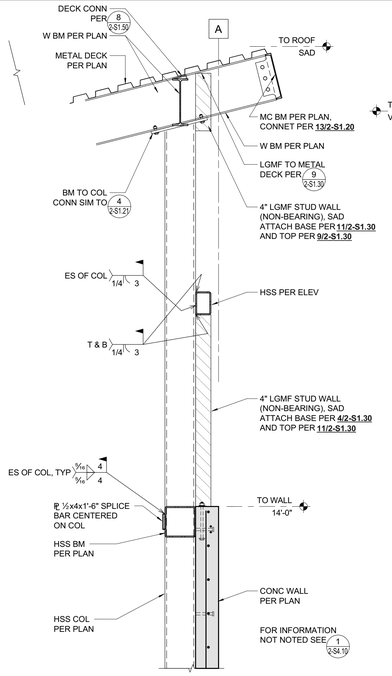
17 TOP OF CONCRETE WALL BELOW STEEL BEAM
1" = 1'-0"



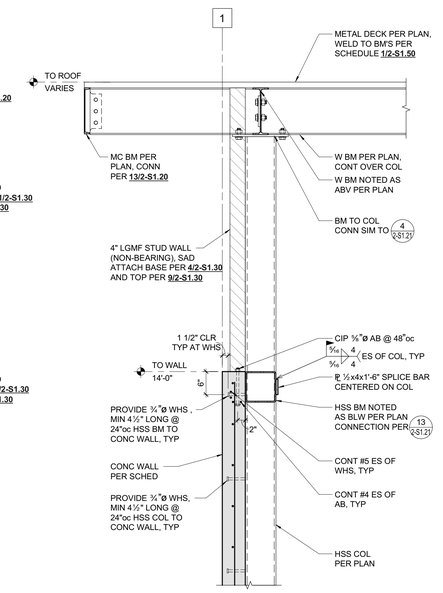
12 OUTRIGGER
1" = 1'-0"



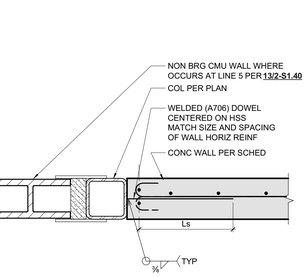
8 ROOF SECTION AT GRID D
3/4" = 1'-0"



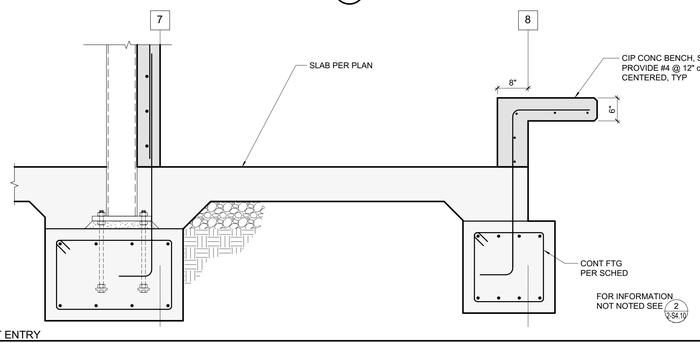
4 ROOF SECTION AT GRID A
3/4" = 1'-0"



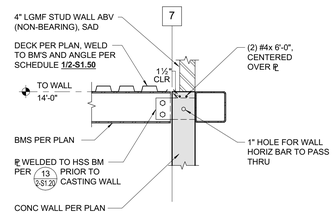
1 ROOF SECTION AT GRID 1 (GRID 7 SIM OH)
3/4" = 1'-0"

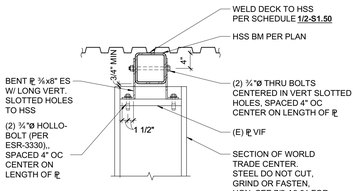


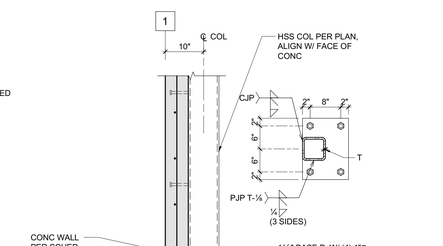
18 CONCRETE WALL TO HSS COLUMN
1" = 1'-0"



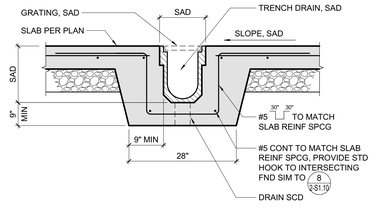
13 SECTION AT ENTRY
3/4" = 1'-0"



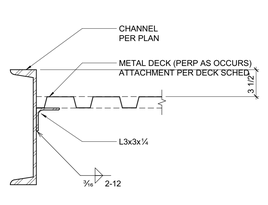




3 FOUNDATION SECTION AT PERIMETER
3/4" = 1'-0"



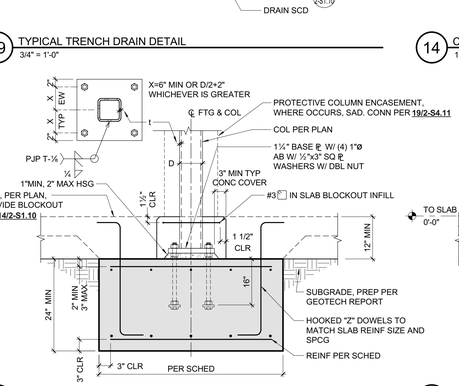
19 TYPICAL TRENCH DRAIN DETAIL
3/4" = 1'-0"



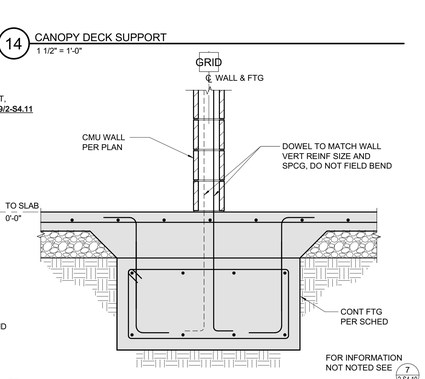
14 CANOPY DECK SUPPORT
1 1/2" = 1'-0"

9 SECTION AT ENTRY CANOPY BM
3/4" = 1'-0"

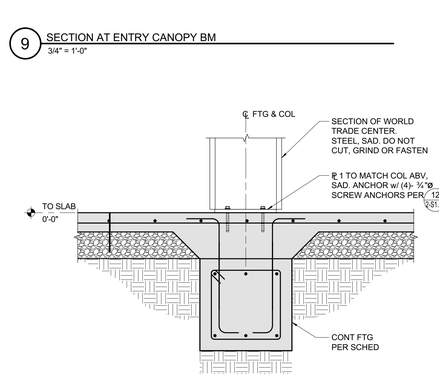
5 WTC COLUMN TOP CONNECTION
3/4" = 1'-0"



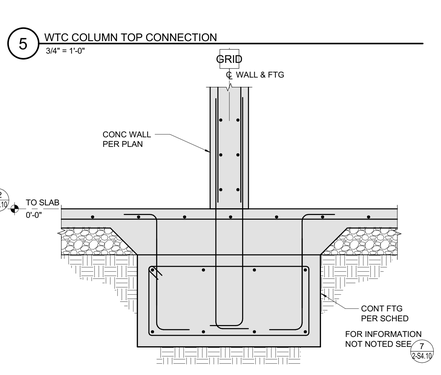
20 TYPICAL HSS COLUMN TO FOOTING
3/4" = 1'-0"



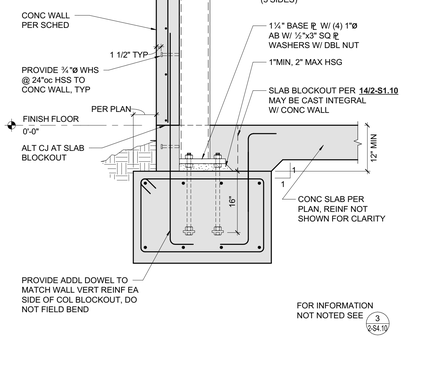
15 INTERIOR CMU WALL FOOTING
3/4" = 1'-0"



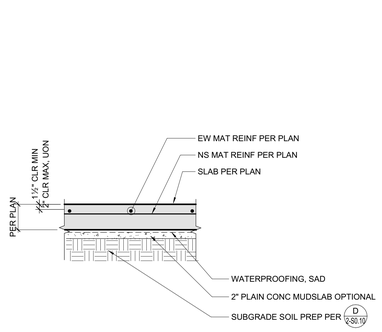
10 WTC COLUMN BASE CONNECTION
3/4" = 1'-0"



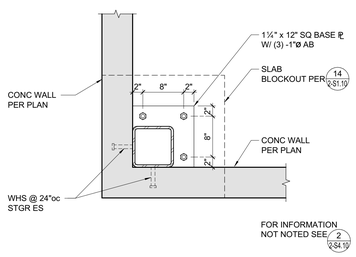
6 INTERIOR CONCRETE WALL AT FOUNDATION
3/4" = 1'-0"



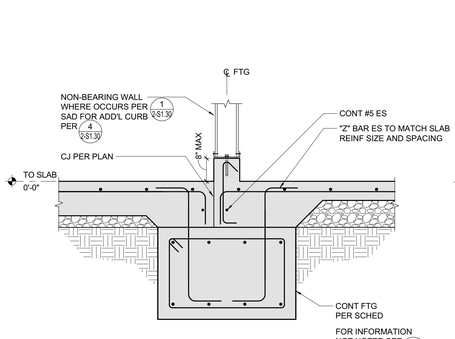
2 FOUNDATION SECTION AT COL GRID 1 (GRIDS 7, A & D SIM)
3/4" = 1'-0"



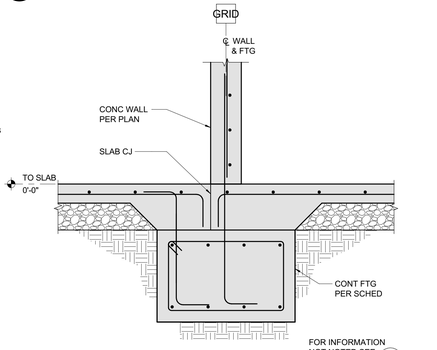
21 TYPICAL SLAB ON GRADE
1" = 1'-0"



16 CORNER HSS COLUMN GASE
1" = 1'-0"



11 INTERIOR CONCRETE FOOTING - NON BEARING WALL
3/4" = 1'-0"



7 INTERIOR CONCRETE WALL AT FOUNDATION
3/4" = 1'-0"

APPROVED
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REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

Ross Drulis Cusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date
	Intake Rev. 1	
1	PC response	2019.06.24
2	Plan Check Revision	8.13.2019

PERMIT SUBMITTAL V2-INCREMENT #1

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Sheet Title

BUILDING 2 DETAILS AND SECTIONS

Drawn By: - Checked By: -

Scale: As indicated

Date: July 19, 2019

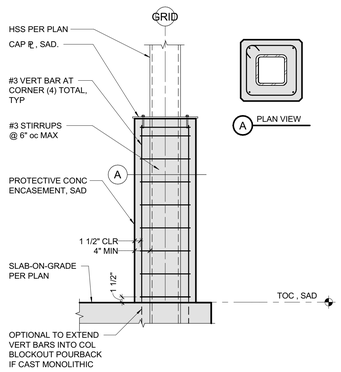
Project No. 17143

2-S4.10

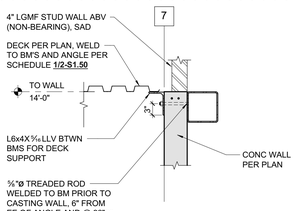
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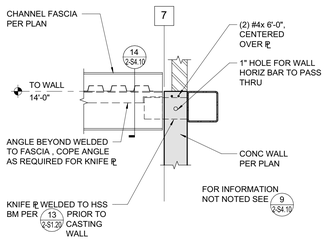
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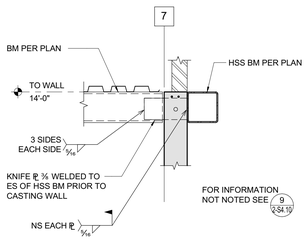
19 TYPICAL PROTECTIVE COLUMN BASE DETAIL
3/4" = 1'-0"



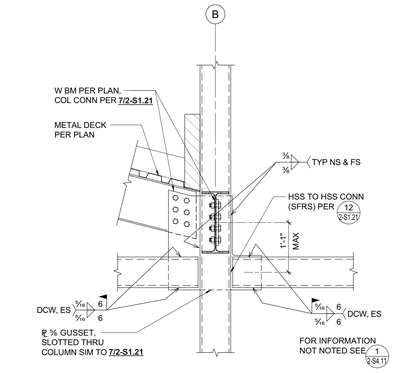
20 SECTION AT ENTRY CANOPY SUPPORT ANGLE
3/4" = 1'-0"



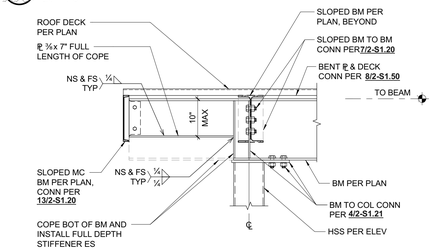
21 SECTION AT ENTRY CANOPY BM
3/4" = 1'-0"



22 SECTION AT ENTRY CANOPY BM
3/4" = 1'-0"

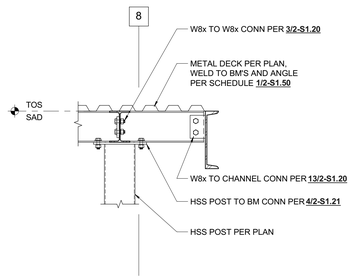


15 COLLECTOR CONNECTION LINE 5 (SFRS)
3/4" = 1'-0"

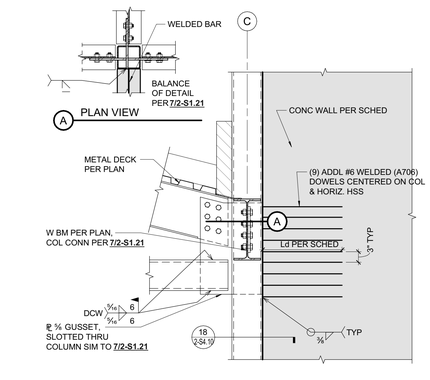


16 COPED BEAM CONNECTION AT EAVE
3/4" = 1'-0"

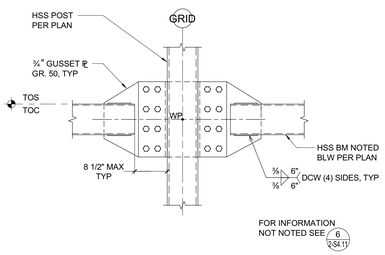
17 BRACED - BEAM CONNECTION - TOP AT COL (SFRS)
3/4" = 1'-0"



18 CANOPY FRAMING DETAIL
3/4" = 1'-0"

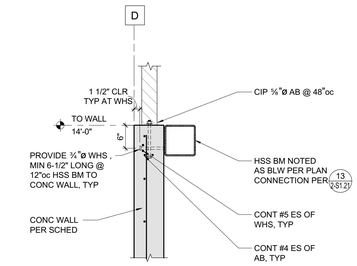


10 COLLECTOR CONNECTION LINE 5 (SFRS)
3/4" = 1'-0"

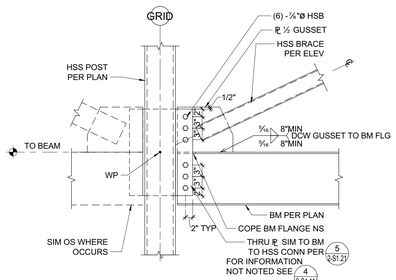


11 DRAG BM CONNECTION - BOTTOM (SFRS)
3/4" = 1'-0"

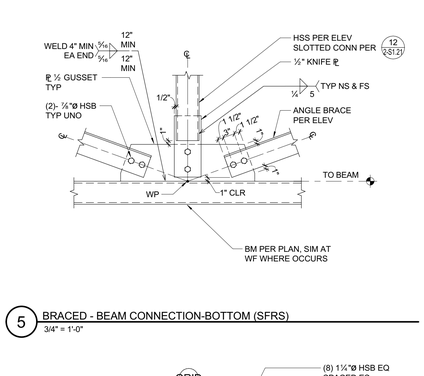
12 BRACED - BEAM CONNECTION - TOP (SFRS)
3/4" = 1'-0"



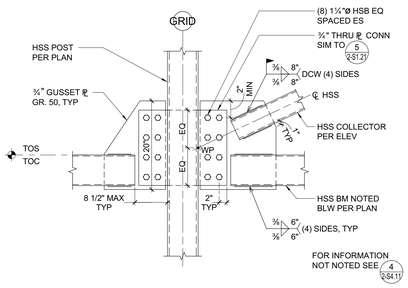
13 TOP OF CONC WALL TO HSS LINE D
3/4" = 1'-0"



14 DRAG/BRACE CONNECTION - BOTTOM (SFRS)
3/4" = 1'-0"

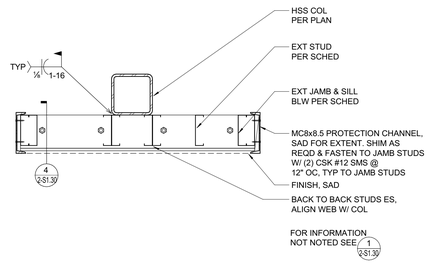


5 BRACED - BEAM CONNECTION-BOTTOM (SFRS)
3/4" = 1'-0"

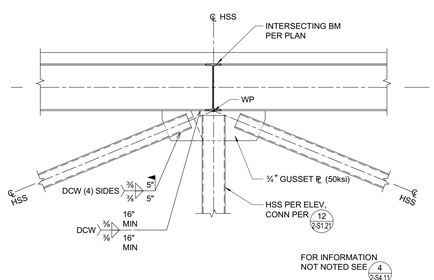


6 DRAG/BRACE CONNECTION - BOTTOM (SFRS)
3/4" = 1'-0"

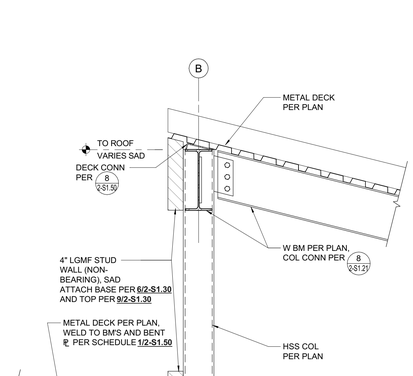
7 DETAIL AT FASCIA CHANNEL
3/4" = 1'-0"



8 SECTION AT AT APP BAY JAMB
1" = 1'-0"

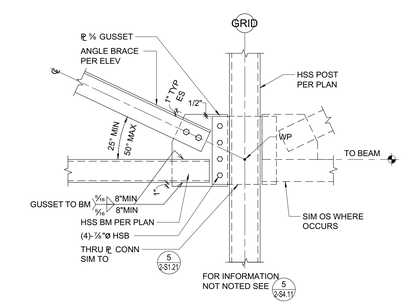


9 DRAG/BRACE CONNECTION - TOP (SFRS)
3/4" = 1'-0"

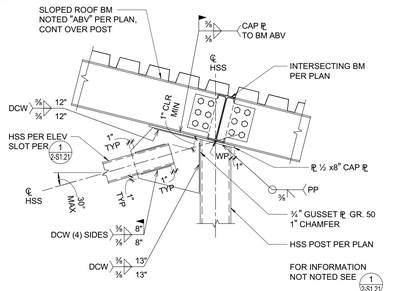


1 ROOF SECTION AT GRID C (GRID B)
3/4" = 1'-0"

2 ANGLE "X" CONNECTION
3/4" = 1'-0"



3 BRACED - BEAM TO COLUMN CONNECTION (SFRS)
3/4" = 1'-0"



4 DRAG/BRACE CONNECTION - TOP (SFRS)
3/4" = 1'-0"

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DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS FLS ACS
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION	
DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVED REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date
	Intake Rev. 1	
1	PC response	2019.06.24
3	PC 2- Internal coord	10.04.2019

PERMIT SUBMITTAL V2-INCREMENT #1

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LICENSED PROFESSIONAL ENGINEER KEVIN G. ZUCCO No. 4861 STRUCTURAL STATE OF CALIFORNIA

Sheet Title

BUILDING 2 DETAILS AND SECTIONS

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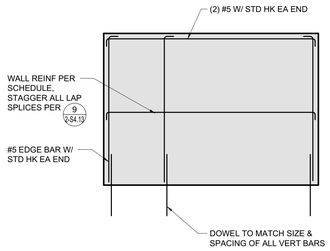
Date: July 19, 2019

Project No. 17143

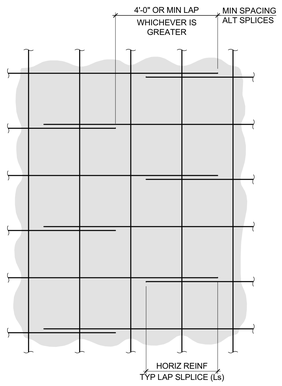
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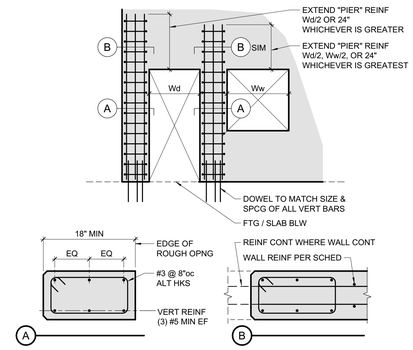
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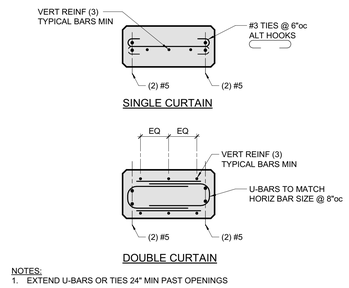
5 TYPICAL PANEL REINFORCING
1" = 1'-0"



9 TYPICAL WALL REINFORCING
1" = 1'-0"

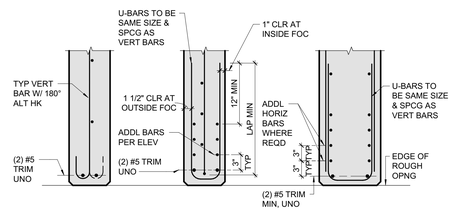


6 WALL PIER REINFORCING AT DOORS AND WINDOWS
1" = 1'-0"

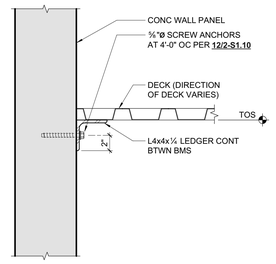


NOTES:
1. EXTEND U-BARS OR TIES 24" MIN PAST OPENINGS

7 WALL PIER REINFORCING
1" = 1'-0"



8 DOOR/WINDOW HEADER
1" = 1'-0"

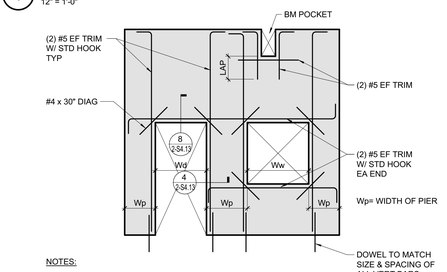


10 ANGLE LEDGER CONNECTION
1 1/2" = 1'-0"

CONCRETE WALL REINFORCING SCHEDULE						
WALL TYPE	THICKNESS (IN)	# OF CURTAINS	HORIZONTAL REINFORCING	VERTICAL REINFORCING	REFERENCE DETAIL	REMARKS
6 2-S4.13	6"	1	#5 @ 12"oc	#5 @ 12"oc, CENTERED		
8 2-S4.13	8"	1	#5 @ 12"oc	#5 @ 12"oc, CENTERED		
10 2-S4.13	10"	2	#6 @ 12"oc, EF	#6 @ 12"oc, EF		

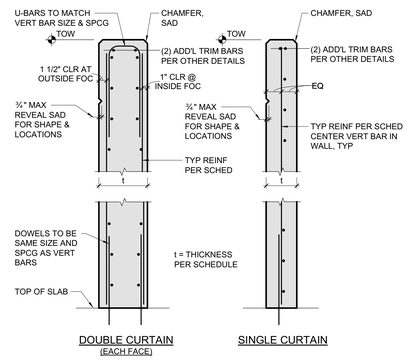
NOTES:
1. SEE CONCRETE WALL ELEVATIONS FOR ADD BAR EXTENTS, UNO.
2. FOR SOLID PANEL SECTION SEE 3 2-S4.13 .
3. FOR TYPICAL PANEL REINFORCEMENT SEE 5 2-S4.13 .
4. FOR TYPICAL TRIM STEEL AND JAMB OR END CONDITIONS, SEE 2 2-S4.13 .
5. FOR TYPICAL DOOR / WINDOW HEADER OR SILL SEE 8 2-S4.13 .

1 CONCRETE WALL SCHEDULE
12" = 1'-0"

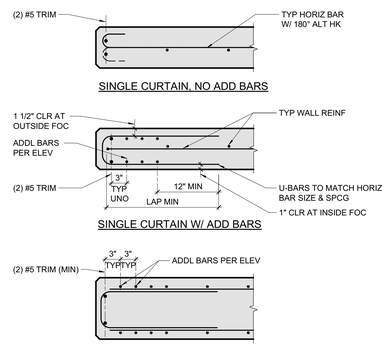


NOTES:
1. EXTEND HORIZ TRIM 24" PAST OPENING OR PROVIDE STD HOOK AT ENDS UNO.
2. WALL SEGMENTS LESS THAN 36" ARE PIERS.
3. WHERE Wd > 4'-0" OR Ww > 4'-0", Wp MUST BE ≥ 27", UNO.
4. Wp ≤ 24" SEE 6/2-S4.13 , UNO.
5. 24" < Wp TO 36" SEE 7/2-S4.13 , UNO.
6. OMIT STD HOOK AT U-BAR.

2 TYPICAL TRIM STEEL AT OPENINGS
1" = 1'-0"



3 SOLID WALL SECTION
1" = 1'-0"



4 ADDITIONAL REINFORCEMENT AT EDGE OF WALL OPENING
1" = 1'-0"

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

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1	PC response	2019.06.24
3	PC 2- Internal coord	10.04.2019

PERMIT SUBMITTAL V2-INCREMENT #1

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REGISTERED PROFESSIONAL ENGINEER KEVIN G. ZUCCO No. 4861 STRUCTURAL STATE OF CALIFORNIA

Sheet Title

BUILDING 2 CONCRETE WALL DETAILS

Drawn By: Author Checked By: Checker

Scale: As indicated

Date: July 19, 2019

Project No. 17143

2-S4.13
Drawing No.

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PLUMBING AND FIRE PROTECTION LEGEND AND ABBREVIATIONS

ABBREVIATIONS - PLUMBING

ABD	AUTOMATIC BALL DRIP
AD	AREA DRAIN
AFF	ABOVE FINISHED FLOOR
AP	ACCESS PANEL
BLDG	BUILDING
BOB	BOTTOM OF BEAM
BOP	BOTTOM OF PIPE
BT	BATH TUB
BV	BALANCING VALVE
CA	COMPRESSED AIR
CD	CONDENSATE DRAIN
CFH	CUBIC FEET PER HOUR
CFM	CUBIC FEET PER MINUTE
CFS	CUBIC FEET PER SECOND
CI	CAST IRON
CLG	CEILING
CLNA	CLEAN AGENT
CO	CLEANOUT
COTG	CLEANOUT TO GRADE
CONN	CONNECTION
CONT	CONTINUATION
CP	CIRCULATING PUMP
CV	CHECK VALVE
CW	COLD WATER
DF	DRINKING FOUNTAIN
DI	DEIONIZED WATER
DIA	DIAMETER
DER	DEIONIZED WATER RETURN
DN	DOWN
DR	DRAIN
DROP	DROP (WITHIN FLOOR)
DSP	DRY SPRINKLER
DFS	DRY FIRE STANDPIPE
DWP	DOMESTIC WATER PUMP
DWG	DRAWING
EEW	EMERGENCY EYE WASH
EL	ELEVATION
ET	EXPANSION TANK
EWC	ELECTRIC WATER COOLER
EWH	ELECTRIC WATER HEATER
FCO	FLOOR CLEANOUT
FD	FLOOR DRAIN
FDC	FIRE DEPARTMENT CONNECTION
FHC	FIRE HOSE CABINET
FHR	FIRE HOSE RACK
FHV	FIRE HOSE VALVE
FHVC	FIRE HOSE VALVE CABINET
FL	FLOOR
FLH	FLOOR HYDRANT
FS	FLOW SWITCH
FSK	FLOOR SINK
FSP	FIRE STANDPIPE
FT	FEET
FU	FIXTURE UNIT
GAL	GALLONS
GD	GARAGE DRAIN, GARBAGE DISPOSAL
GPM	GALLONS PER MINUTE
GW	GARAGE WASTE
GW&T	GARAGE WASTE AND TRAP
GV	GATE VALVE
HB	HOSE BIBB
HD	HUB DRAIN
HT	HEAT TRACING
HW	HOT WATER
HWR	HOT WATER RETURN
ID	INSIDE DIAMETER
IE	INVERT ELEVATION

ABBREVIATIONS - PLUMBING

IN	INCH
IW	INDIRECT WASTER
JP	JOCKEY PUMP
JS	JANITOR SINK
L	LAVATORY
LDR	LEADER
MAX	MAXIMUM
MG	MEDIUM PRESSURE GAS
MGA	MEDICAL GAS ALARM
MH	MANHOLE
MIN	MINIMUM
MS	MOP SINK
(N)	NEW
NC	NORMALLY CLOSED
NIC	NOT IN THIS CONTRACT
NO	NORMALLY OPEN
NPW	NON-POTABLE WATER
OD	OUTSIDE DIAMETER
OFD	OVERFLOW DRAIN
OSD	OVERFLOW STORM PIPING
OS&Y	OUTSIDE SCREW & YOKE GATE VALVE
PDR	PLANTER DRAIN
PD	PUMP DISCHARGE
P/FT	PITCH PER FOOT
PIV	POST INDICATING VALVE
POC	POINT OF CONNECTION
PRV	PRESSURE REDUCING VALVE
PSI	POUNDS PER SQUARE INCH
PSIG	POUNDS PER SQUARE INCH (GAUGE)
RC	ROOF RECEPTOR
RD	ROOF DRAIN
RISE	RISE (WITH IN FLOOR)
RW	RECLAIMED WATER
SA	SHOCK ABSORBER
SAN	SANITARY
SD	SMOKE DETECTOR
SE	SEWAGE EJECTOR
SED	SEWAGE EJECTOR DISCHARGE
SF	SQUARE FEET
SH	SHOWER
SK	SINK
SPD	SUMP PUMP DISCHARGE
SP	SUMP PUMP
SPKR	SPRINKLER
SSD	SUB SOIL DRAIN
ST	STORM PIPING
TD	TRENCH DRAIN
TDH	TOTAL DISCHARGE HEAD
TMV	TEMPERATURE MIXING VALVE
TOP	TOP OF PIPE
TOS	TOP OF SLAB
TP	TRAP PRIMER
TPV	TRAP PRIMER VALVE
TS	TAMPER SWITCH
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
UP	UP (PENETRATES FLOOR SLAB)
UR	URINAL
V	VENT
VB	VACUUM BREAKER
VP	VACUUM PUMP
VR	VENT RISE
VTR	VENT THROUGH ROOF
WC	WATER CLOSET
WH	WALL HYDRANT
W&T	WASTE AND TRAP
Z	ZONE

SYMBOL LEGEND

	Y STRAINER WITH BLOW OFF VALVE
	FLEXIBLE CONNECTION
(H) (X) (L)	EXPANSION LOOP SIZE
	SEISMIC JOINT
PIV	POST INDICATOR VALVE
	SHOCK ABSORBER
	VACUUM BREAKER
M	MANUAL AIR VENT
A	AUTOMATIC AIR VENT
	PRESSURE GAUGE AND COCK
	THERMOMETER
	WATER FLOW SWITCH
	RUNNING TRAP
	VALVE (SPECIFICATION FOR TYPE)
	CHECK VALVE
	CHECK VALVE WITH ABD
	SOLENOID VALVE
	PRESSURE REDUCING VALVE
	OS&Y (OUTSIDE SCREW & YOKE) VALVE
	AUTOMATIC FLOW CONTROL VALVE
	BUTTERFLY VALVE (MANUAL)
	GLOBE VALVE
	BALANCING VALVE
	VALVE WITH TAMPER SWITCH
	RELIEF VALVE
	ANGLE RELIEF VALVE
	TEMPERATURE MIXING VALVE
	UNION
	REDUCER
	ECCENTRIC REDUCER (E.R.)
	SLEEVE
	PUMP
M	METER
	HOSE BIBB
	WATER HAMMER ARRESTER
	FLOOR DRAIN, AREA DRAIN, PLANT DRAIN, GARAGE DRAIN
	FLOOR SINK
	ROOF RECEPTOR
	ROOF DRAIN
	OVERFLOW ROOF DRAIN

SYMBOL LEGEND

	POINT OF CONNECTION (NEW TO EXISTING)
	FIRE DEPARTMENT CONNECTION
	FIRE DEPARTMENT TEST HEADER
	FIRE HOSE VALVE
	FIRE HOSE VALVE CABINET
	FIRE DEPT. HOSE VALVE W/ CAP & CHAIN
	ROOF MANIFOLD
	SPRINKLER FLOOR CONTROL VALVE ASSEMBLY
	NEW FIRE HYDRANT
T	TAMPER SWITCH
ACV	ALARM CHECK VALVE W/ ALL RELATED APPURTENANCES
DCVA	DOUBLE CHECK VALVE ASSEMBLY
DDCA	DOUBLE DETECTOR CHECK ASSEMBLY
RPBP	REDUCED PRESSURE BACKFLOW PREVENTER ASSEMBLY
	UPRIGHT SPRINKLER HEAD
	PENDANT SPRINKLER HEAD
	CONCEALED PENDANT SPRINKLER HEAD
	SIDEWALL SPRINKLER HEAD
	EXTENDED COVERAGE SPRINKLER HEAD
	BOTTOM PIPE CONNECTION
	TOP PIPE CONNECTION
	VALVE IN VERTICAL
	P-TRAP
	UP TO CLEANOUT
	WALL CLEANOUT
	END OF PIPE CLEANOUT / PLUG
	FLOOR CLEANOUT
	GRADE CLEANOUT
	PIPE DROP UNLESS OTHERWISE NOTED
	PIPE UP UNLESS OTHERWISE NOTED
	CAP FOR FUTURE (CFF)
	CHANGE IN PIPE ELEVATION
	ARROW INDICATES DIRECTION OF FLOW
	PITCH PIPE DOWN IN DIRECTION OF ARROW
	INSULATED AND HEAT TRACED PIPING
	FRESH AIR INLET
	WALL HYDRANT

PIPING LEGEND

GAS

NG	NATURAL GAS
CA	COMPRESSED AIR PIPING
PG	PROPANE GAS PIPING

WASTE / VENT / STORM

SAN	SANITARY (ABOVE FLOOR)
SAN	SANITARY (BELOW FLOOR)
V	VENT PIPING
ST	STORM DRAIN PIPING
OST	OVERFLOW STORM PIPING
CD	CONDENSATE DRAIN PIPING
GD	GARAGE DRAIN PIPING (ABOVE FLOOR)
GD	GARAGE DRAIN PIPING (BELOW FLOOR)

POTABLE WATER

	DOMESTIC COLD WATER PIPING
	DOMESTIC HOT WATER PIPING (120°F)
	DOMESTIC HOT WATER RETURN PIPING (120°F)

FIRE PROTECTION

F	FIRE WATER SUPPLY
SP	SPRINKLER PIPING
FSP	FIRE STANDPIPE
DR	SPRINKLER DRAIN PIPING

MISCELLANEOUS

P / 1	P = SAN, VENT STACK OR DOMESTIC WATER RISER ST = STORM DRAIN LEADER RISER F = FIRE STANDPIPE RISER RISER / RISER NO.
CP / 1	EQUIPMENT DESIGNATION EQUIPMENT / EQUIPMENT NO.
1 / P2.1	DETAIL DESIGNATION DETAIL NUMBER / DWG. SHEET NO.
1	SHEET NOTE NUMBER
1	REVISION NUMBER

PLUMBING DRAWING LIST Bldg 2	
SHEET NUMBER	SHEET NAME
2-P0.01	PLUMBING LEGEND AND ABBREVATION, AND DRAWING LIST
2-P0.02	PLUMBING EQUIPMENT SCHEDULE
2-P0.03	PLUMBING TITLE 24
2-P2.00	PLUMBING APPARATUS BUILDING UNDERSLAB PLAN
2-P2.01	PLUMBING APPARATUS BUILDING FLOOR PLAN
2-P2.02	PLUMBING APPARATUS BUILDING ROOF PLAN
2-P6.01	PLUMBING DIAGRAM AND DETAILS

September 13, 2016

MEP Component Anchorage Note

All mechanical, plumbing, and electrical components shall be anchored and installed per the details on the DSA approved construction documents. Where no detail is indicated, the following components shall be anchored or braced to meet the force and displacement requirements prescribed in the 2016 CBC, Sections 1616A.1.18 through 1616A.1.26 and ASCE 7-10 Chapter 13, 26 and 30.

1. All permanent equipment and components.
2. Temporary or movable equipment that is permanently attached (e.g. hard wired) to the building utility services such as electricity, gas or water.
3. Movable equipment which is stationed in one place for more than 8 hours and heavier than 400 pounds or has a center of mass located 4 feet or more above the adjacent floor or roof level that directly support the component are required to be anchored with temporary attachments.

The following mechanical and electrical components shall be positively attached to the structure, but the attachment need not be detailed on the plans. These components shall have flexible connections provided between the component and associated ductwork, piping, and conduit.

A. Components weighing less than 400 pounds and have a center of mass located 4 feet or less above the adjacent floor or roof level that directly support the component.
B. Components weighing less than 20 pounds, or in the case of distributed systems, less than 5 pounds per foot, which are suspended from a roof or floor or hung from a wall.

For those elements that do not require details on the approved drawings, the installation shall be subject to the approval of the design professional in general responsible charge or structural engineer delegated responsibility and the DSA District Structural Engineer. The project inspector will verify that all components and equipment have been anchored in accordance with above requirements.

Piping, Ductwork, and Electrical Distribution System Bracing Note

Piping, ductwork, and electrical distribution systems shall be braced to comply with the forces and displacements prescribed in ASCE 7-10 Section 13.3 as defined in ASCE 7-10 Section 13.6.5.6, 13.6.7, 13.6.8, and 2016 CBC, Sections 1616A.1.24, 1616A.1.25 and 1616A.1.26.

The method of showing bracing and attachments to the structure for the identified distribution system are as noted below. When bracing and attachments are based on a preapproved installation guide (e.g., SMACNA or OSHPD OPM), copies of the bracing system installation guide or manual shall be available on the jobsite prior to the start of and during the hanging and bracing of the distribution systems. The Structural Engineer of Record shall verify the adequacy of the structure to support the hanger and brace loads.

Mechanical Piping (MP), Mechanical Ducts (MD), Plumbing Piping (PP), Electrical Distribution Systems (E):

MP☐MD☐PP☐ E☐ - Option 1: Detailed on the approved drawings with project specific notes and details.

MP☐MD☐PP☒ E☐ - Option 2: Shall comply with the applicable OSHPD Pre-Approval (OPM #) #OPM-0043-13 MASON WEST

MP☐MD☐PP☐ - Option 3: Shall comply with the SMACNA Seismic Restraint Manual, OSHPD Edition (2009), including any addenda. Fasteners and other attachments not specifically identified in the SMACNA Seismic Restraint Manual, OSHPD Edition, are detailed on the approved drawings with project specific notes and details. The details shall account for the applicable Seismic Hazard Level _____ and Connection Level _____ for the project and conditions.

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery ARCHITECTURE
18294 Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

WSP USA Buildings, Inc.
405 Howard St. Suite 500
San Francisco, CA 94105
(415) 398-3833
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER
TODD M. SYE
No. M30765
MECHANICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

PLUMBING LEGEND AND ABBREVATION, AND DRAWING LIST

Drawn By: Author Checked By: Checker

Scale: **12" = 1'-0"**

Date: **October 4, 2019**

Project No. B17.07369

2-P0.01
Drawing No.

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DRAINS AND CLEANOUTS SCHEDULE

ITEM	DESCRIPTION	MANUFACTURER	MODEL NO.	STRAINER	REMARKS
FD-1	FLOOR DRIAN	JR SMITH	2005B-Y-U-NB-P050	5"SQ	NO HUB, VANDAL RESISTANT, NICKEL BRONZE, PRIMER CONNECTION
TD-1	TRENCH DRAIN	ZURN	Z882-HDG-U4	12"WIDE	4" OUTLET, HEAVY DUTY GALVINIZED DUCTILE IRON GRATE, PRE-SLOPE TRENCH SYSTEM
FS-1	FLOOR SINK	JR SMITH	3101Y	8-1/2"SQ	ENAMELED CAST IRON BODY WITH NICKEL BRONZE FRAME AND 3/4 GRATE, 6" DEEP
FS-2	FLOOR SINK	JR SMITH	3201Y	16"SQ	ENAMELED CAST IRON BODY WITH NICKEL BRONZE FRAME AND 3/4 GRATE, 12" DEEP
FS-3	FLOOR SINK	JR SMITH	3007-F-C-10	12"SQ	STAINLESS STEEL BODY & GRATE, 6" DEEP, LESS GRATE, EPOXY FLANGE
RR-1	ROOF RECEPTOR	JR SMITH	3980Y-E-UDC-R	12"DIA	CAST IRON DOME & STRAINER, EXTENSION, UNDERDECK CLAMP, SUMP RECEIVER
AD-1	AREA DRAIN	JR SMITH			
RD-1	ROOF DRAIN	JR SMITH	1010Y-E-C-R-U-CID	15"DIA	CAST IRON BODY AND GRATE, NO HUB, EXTENSION, UNDERDECK CLAMP, SUMP RECEIVER, VANDAL RESISTANT
ORD-1	OVERFLOW ROOF DRAIN	JR SMITH	1080Y-E-C-R-U-CID	15"DIA	CAST IRON BODY AND GRATE, 2" DAM, NO HUB, EXTENSION, UNDERDECK CLAMP, SUMP RECEIVER, VANDAL RESISTANT
RD-2	ROOF DRAIN	JR SMITH			
RD-3	CANOPY DRAIN	JR SMITH			
WCO-1	WALL CLEANOUT	JR SMITH	4532S-Y-U	5"DIA	CAST IRON BODY, TAPERED BRONZE PLUG, HUBLESS CONNECTIONS, SS COVER WITH SCREW
FCO-1	FLOOR CLEANOUT	JR SMITH	4023Y-F-C-U	8"DIA	CAST IRON BODY, TAPERED BRONZE PLUG, FLASHING FLANG, VANDAL RESISTANT
GCO-1	GRADE CLEANOUT	JR SMITH	4223S-U	8"DIA	CAST IRON BODY, TAPERED BRONZE PLUG, ADJUSTABLE SCORIATED COVER, VANDAL RESISTANT
DSN-1	DOWNSPOUT NOZZLE	JR SMITH	1775-U	-	SCREENED DOWNSPOUT HINGED COVER, VANDAL PROOF
HB-1	HOSE BIBB	CHICAGO FAUCET	952-12XKCP	-	WALL MOUNTED, CHROME PLATED, VACUUM BREAKER, HOSE OUTLET, TEE HANDLE, 1/4 TURN
WH-1	WALL HYDRANT	JR SMITH	5518	-	CP FACE, VACUUM BREAKER, HOSE OUTLET, T-HANDLE KEY

PLUMBING FIXTURE ROUGH-IN SCHEDULE

DESIGNATION	FIXTURE TYPE	WFU	DFU	AFTER CONNECTION		WASTE CONNECTIONS				REMARKS
				DCW	DHW	TRAP	IW	SS	SV	
WC-1	WATER CLOSET	5	4	1"	-	-	-	4"	2"	VITREOUS CHINA, SIPHON JET, WALL HUNG, REAR OUTLET, TOP SPUD, 1.28 GPF, SENSOR ACTIVATED FLUSH VALVE, HINGED SEAT
HWC-1	WATER CLOSET	5	4	1"	-	-	-	4"	2"	ADA, VITREOUS CHINA, SIPHON JET, WALL MOUNTED, REAR OUTLET, TOP SPUD, 1.28 GPF, SENSOR ACTIVATED FLUSH VALVE, HINGED SEAT
UR-1	URINAL	4	2	3/4"	-	-	-	2"	2"	VITREOUS CHINA, WASH OUT, WALL MOUNTED, REAR OUTLET, TOP SPUD, 0.125 GPF, SENSOR ACTIVATED FLUSH VALVE
HUR-1	URINAL	4	2	3/4"	-	-	-	2"	2"	ADA, VITREOUS CHINA, WASH OUT, WALL MOUNTED, REAR OUTLET, TOP SPUD, 0.125 GPF, SENSOR ACTIVATED FLUSH VALVE
L-2	LAVATORY	1	1	1/2"	1/2"	1-1/2"	-	1-1/2"	1-1/2"	ADA, VITREOUS CHINA, WALL HUNG, CONCELAED ARMS, OVERFLOW, SENSOR ACTIVATED 0.35 GPM FAUCET, WRAPPED P-TRAP, SUPPLIES AND RISERS
SH-1	SHOWER	2	2	1/2"	1/2"	-	-	-	-	PRESSURE BALANCING VALVE, SINGLE LEVER CONTROL, 1.5 GPM HEAD
HSH-1	SHOWER	2	2	1/2"	1/2"	-	-	-	-	ADA, PRESSURE BALANCING VALVE, SINGLE LEVER CONTROL, DIVERTER, 1.5 GPM FIXED HEAD, 1.5 GPM FLEX HEAD ON RAIL
SK-5	SINK	1.5	2	1/2"	1/2"	1-1/2"	-	1-1/2"	1-1/2"	FREE STANDING POLYETHYLENE LAUNDRY SINK, WALL MOUNTED FAUCET WITH FIXED 8" CENTERS, 1.8 GPM, 4" WRIST BLADES
SK-6	SINK	1.5	2	1/2"	1/2"	1-1/2"	-	2"	1-1/2"	SINK INTEGRAL WITH COUNTERTOP, SINGLE LEVER FAUCET, PULL-OUT HOSE SPRAY, CRUMB STRAINER DRAIN, 1.8GPM FAUCET. DISPOSAL
EWC-1	ELECTRIC WATER COOLER			1/2"	-	1-1/2"	-	1-1/2"	1-1/2"	WALL HUNG, INTEGRAL CHILLER, DUAL HEIGHT, BOTTLE FILLER
MS-1	MOP SINK	3	3	1/2"	1/2"	3"	-	3"	2"	24"X24"X12" MOLDED STONE FLOOR MOUNTED FIXTURE WITH SERVICE SINK FAUCET, VACUUM BREAKER, BRACE, PAIL HOOK, THREADED HOSE OUTLET
IMWB-1	ICE MAKER WALL BOX			1/2"	-	-	-	-	-	
WH-1	WALL HYDRANT			3/4"	-	-	-	-	-	
HB-1	HOSE BIBB	2.5		1/2"	-	-	-	-	-	

ELECTRIC WATER HEATER SCHEDULE

TAG	DESCRIPTION	MANUFACTURER	MODEL NO.	TANK SIZE (GALLONS)	RECOVERY (GPH)	TEMP IN (F)	TEMP OUT (F)	ELECTRICAL DATA				OPERATING WEIGHT (LBS)	EMERGENCY POWER	COMMENTS
								KW	V	PH	HZ			
2-EWH-1-1	STORAGE TYPE	RUUD	EVERO150	150	443	50	140	108	480	3	60	1200	NO	LOCATE ON 4"HOUSEKEEPING PAD

PUMP SCHEDULE

TAG	DESCRIPTION	MANUFACTURER	MODEL NO.	LOCATION	FLOW (GPM)	SUCTION PRESSURE (PSI)	DISCHARGE PRESSURE (FT HD)	ELECTRICAL DATA					OPERATING WEIGHT (LBS)	COMMENTS
								HP	V	PH	HZ	EM PWR		
CP-1-1	CIRCULATING PUMP	B&G	SERIES PR	1-CP-2-1	10	45	15	1/6	115	1	60	N	32	

MISC EQUIPMENT SCHEDULE

TAG	DESCRIPTION	MANUFACTURER	MODEL NO.	CAPACITY				ELECTRICAL						OPERATING WEIGHT	REMARKS
				GAL	FT HD	PSI	GPM	CFM	CFH	HP	V	PH	HZ	EM PWR		
2-AC-1-1	AIR COMPRESSOR	KAESER	SX 5 AIRCENTER	-	-	125	-	21.5	-	5	460	3	60	N	320	INTEGRAL REFRIGERATED AIR DRYER, RECIEVER AND FILTRATION
SOI-1-1	SAND OIL INTERCEPTOR	JAY R. SMITH	8550	-	-	-	50	-	-	-	-	-	-	-	-	

DOMESTIC WATER CALCULATION

	PSI	FT
PUMP DISCHARGE	55	-
VERTICAL LOSS (20 FEET *0.433)	-8.7	-
PRESSURE @ MOST REMOTE FIXTURE	-35	-
TOTAL LENGTH	-	176
FITTINGS/ VALVES @ 25%	-	88
TOTAL DEVELOPED LENGTH	-	264
PRESSURE PER 100'	4.30	

HYDRAULIC CALCULATION FOR COLD PIPE SIZING TABLE (4.30 PSI FRICTION LOSS IN HEAD)

PIPE SIZE	FLOW GPM	MAXIMUM F.U. FLUSH TANK	MAXIMUM F.U. FLUSH VALVE
1/2"	2.8	-	-
3/4"	6.2	7	-
1"	12	14	-
1-1/4"	26	45	8
1-1/2"	35	70	20
2"	62	190	84
2-1/2"	87	300	187
3"	150	640	510

HYDRAULIC CALCULATION FOR HOT PIPE SIZING TABLE (4.30 PSI FRICTION LOSS IN HEAD)

PIPE SIZE	FLOW GPM	MAXIMUM F.U. FLUSH TANK	MAXIMUM F.U. FLUSH VALVE
1/2"	2.9	-	-
3/4"	6.3	6	-
1"	11	14	-
1-1/4"	18	25	-
1-1/2"	24	38	-
2"	40	87	-
2-1/2"	58	173	-
3"	90	346	-

RossDruliCusenbery ARCHITECTURE
18294 Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	INC 01_ADD_01_V1	12/06/2019

REGISTERED PROFESSIONAL ENGINEER TODD M SEE No. M36788 MECHANICAL STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

PLUMBING EQUIPMENT SCHEDULE

Drawn By: Author
Checked By: Checker
Scale:
Date: October 4, 2019
Project No. B17.07369

2-P0.02
Drawing No.

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STATE OF CALIFORNIA
WATER HEATING SYSTEM GENERAL INFORMATION
CEC-NRCC-PLB-01-E (Revised 01/16) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-PLB-01-E
Water Heating System General Information	(Page 2 of 2)
Project Name: Hayward Fire Building 2	Date Prepared: 11/02/2018

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

1. I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: Calvin Wong	Documentation Author Signature:
Company: WSP	Signature Date: 11/02/2018
Address: 425 Market Street, 17th Floor	CEA/ HERS Certification Identification (if applicable):
City/State/Zip: San Francisco, CA, 94105	Phone: (415)-402-2233

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer).
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name: Todd See	Responsible Designer Signature:
Company: WSP	Date Signed: 11/02/2018
Address: 425 Market Street, 17th Floor	License: 30765
City/State/Zip: San Francisco, CA, 94105	Phone: (415)-402-2292

STATE OF CALIFORNIA
WATER HEATING SYSTEM GENERAL INFORMATION
CEC-NRCC-PLB-01-E (Revised 01/16) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-PLB-01-E
Water Heating System General Information	(Page 1 of 2)
Project Name: Hayward Fire Building 2	Date Prepared: 11/02/2018

A. GENERAL INFORMATION/SYSTEM INFORMATION

01	Water Heater System Name:	2EWH1-1
02	Water Heater System Configuration:	Electric
03	Water Heater System Type:	Storage Type
04	Building Type:	Nonresidential
05	Total Number of Water Heaters in Systems:	1
06	Central DHW Distribution Type:	N/A
07	Dwelling Unit DHW Distribution Type:	N/A

B. WATER HEATER INFORMATION
Each water heater type requires a separate compliance document.

01	Water Heater Type:	Storage - Electric
02	Fuel Type:	Electricity
03	Manufacture Name:	A.O. Smith
04	Model Number:	DSE-120A
05	Number of Identical Water Heaters:	0
06	Installed Water Heater System Efficiency:	98%
07	Required Minimum Efficiency:	0
08	Standby Loss Percent or Standby Loss Total:	0
09	Rated Input:	54kW
10	Pilot Energy:	0
11	Water Heater Tank Storage Volume:	120
12	Exterior Insulation on Water Heater:	N/A
13	Volume of Supplemental Storage:	N/A
14	Internal Insulation on Supplemental Storage:	N/A
15	Exterior Insulation on Supplemental Storage:	N/A

C. PLUMBING COMPLIANCE FORMS & WORKSHEETS
Check box if worksheet is included.
For detailed instructions on the use of this and all Energy Standards compliance documents, refer to the 2016 Nonresidential Manual
Note: The Enforcement Agency may require all compliance documents to be incorporated onto the building plans.

YES	NO	Doc/Worksheet #	Title
◉	○	NRCC-PLB-01-E	Certificate of Compliance, Declaration. Required on plans for all submittals.
◉	○	NRCI-PLB-01-E	Certificate of Installation. Required on plans for all submittals.
○	◉	NRCI-PLB-02-E	Certificate of Installation, required on central systems in high-rise residential, hotel/motel application.
○	◉	NRCI-PLB-03-E	Certificate of Installation, required on single dwelling unit systems in high-rise residential, hotel/motel application.
○	◉	NRCI-PLB-21-H	Certificate of Installation, required on HERS verified central systems in high-rise residential, hotel/motel application.
○	◉	NRCI-PLB-22-H	Certificate of Installation, required on HERS verified single dwelling unit systems in high-rise residential, hotel/motel application.
○	◉	NRCI-STH-01-E	Certificate of Installation, required on any solar water heating

City and County of San Francisco
Department of Building Inspection

Edwin M. Lee, Mayor
Tom C. Hui, S.E., C.B.O., Director

NOTICE

TITLE-24 NON-RESIDENTIAL ENERGY INSPECTION REQUIREMENTS (PLUMBING)

Please note that Certificates of Installation and/or Acceptance and/or Verification are required for this project, as indicated on this form issued with this permit. Ensuring the accurate completion of this documentation is the direct responsibility of the engineer/architect of record. This documentation is required *in addition to* the called inspections performed by the Department of Building Inspection.

For questions regarding the details or extent of required documentation or testing, and if there are any field problems regarding documentation or testing, please call your District Plumbing Inspector or 415-558-6570.

Before final plumbing inspection is scheduled, documentation of energy compliance "Certificate of Installation, Acceptance, and Verification" must be completed and signed by the responsible person in charge. ***The permit will not be finalized without compliance with the energy inspection requirements.***

Energy Inspection Services Contact Information

1. **Telephone: (415) 558-6132**
2. **Fax: (415) 558-6474**
3. **Email: dbi.energyinspections@sfgov.org**
4. **In person: 3rd floor at 1660 Mission St.**

Note: We are moving towards a 'paperless' mode of operation. All special inspection submittals, including final letters, may be emailed (preferred) or faxed. We will also be shifting to a paperless fax receipt mode.

Installation, Acceptance, and Verification certificates can be found on the California Energy Commission website at http://energy.ca.gov/title24/2013standards/

Information Sheet MEP-06 provides submittal instructions for the Title-24 installation, verification, and acceptance energy certificates. MEP-06 may be found on the SFDBI website at http://sfdbi.org/information-sheets

Energy Inspection Services
1660 Mission Street– San Francisco CA 94103
Office (415) 558-6132 – FAX (415) 558-6474 – www.sfgov.org/dbi (website)

IS MEP-04
Attachment NRP

TITLE-24 NON-RESIDENTIAL ENERGY INSPECTION (PLUMBING)
A COPY OF THIS DOCUMENT SHALL BE KEPT WITH THE APPROVED DRAWING SET

JOB ADDRESS 1401 W. WINTON AVE. HAYWARD, CA 94545 APPLICATION NO._____ ADDENDUM NO._____
ENGINEER/ARCHITECT NAME Todd See PHONE NO. (415) 402-2292

Ensuring the completion of installation documentation as well as the required acceptance/verification testing is the direct responsibility of the undersigned. Installation documentation must be completed by the contractor performing the installation. Acceptance testing must be performed by an individual licensed to perform the specific testing needed. Verification testing must be completed by a certified HERS rater.

In accordance with the requirements of the 2013 California Energy Code, the following documentation is required for the **plumbing** work in this project:

1. Installation

Plumbing
[✓] NRCI-PLB-01-E: Certificate of Installation – Water Heating Systems **(IP10)**
[ ] NRCI-PLB-02-E: High Rise Residential/Hotel/Motel Central Hot Water System Distribution **(IP11)**
[ ] NRCI-PLB-03-E: High Rise Residential/Hotel/Motel Single Dwelling Unit Hot Water System Distribution **(IP12)**
[ ] NRCI-PLB-21-H: HERS High Rise Residential/Hotel/Motel Central hot Water System Distribution **(IP13)**
[ ] NRCI-PLB-22-H: HERS High Rise Residential/Hotel/Motel Single Dwelling Unit Hot Water System Distribution **(IP14)**

Solar
[ ] NRCI-STH-01-E: Solar Water Heating System **(IP15)**

2. Acceptance

Mechanical
[ ] NRCA-MCH-08-A: Valve Leakage Test **(AP1)**
[ ] NRCA-MCH-09-A: Supply Water Temperature Reset Controls **(AP2)**
[ ] NRCA-MCH-10-A: Hydronic System Variable Flow Controls **(AP3)**
[ ] NRCA-MCH-17-A: Condenser Water Temperature Reset Controls **(AP4)**

3. Verification

Plumbing
[ ] NRCV-PLB-21-H: High Rise Residential/Hotel/Motel Central Hot Water System Distribution **(VP1)**
[ ] NRCV-PLB-22-H: High Rise Residential/Hotel/Motel Single Dwelling Unit Hot Water System Distribution **(VP4)**

Prepared by: Todd See _____ Date: 11/02/2018
Engineer/Architect of Record Signature
Required information:
Fax: _____ **Email:** Todd.See@wsp.com

Review by: _____ Phone: (415) 402-2292
DBI Engineer or Plan Checker

APPROVAL (Based on submitted reports)

DATE _____ DBI Plumbing Inspector or Energy Inspection Services Staff

QUESTIONS ABOUT TITLE-24 ENERGY INSPECTION SHOULD BE DIRECTED TO:
Energy Inspection Services (415) 558-6132; or, dbi.energyinspections@sfgov.org ; or FAX (415) 558-6474

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC: 01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: **KATHY GARCIA** DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

WSP USA Buildings, Inc.
405 Howard St. Suite 500
San Francisco, CA 94105
(415) 398-3833
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER
TODD M SEE
No. M30765
MECHANICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

PLUMBING TITLE 24

Drawn By: Author Checked By: Checker

Scale:
NTS

Date:
October 4, 2019

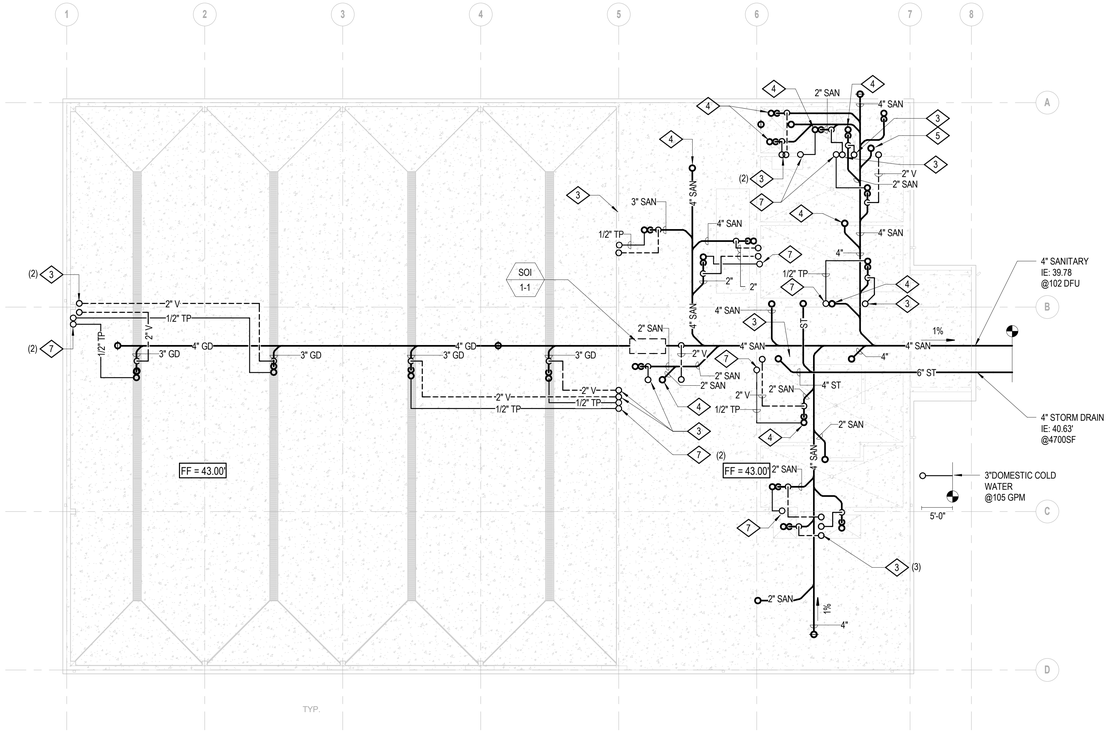
Project No. B17.07369

2-P0.03
Drawing No.

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NUMBERED NOTES:

1. 2" W&T
2. (2) 2" V UP
3. 2" V UP
4. 2" SAN UP
5. 4" SAN UP
6. 3" W&T
7. 1/2"TP-UP



1 02-PLBG APPARATUS-UNDERSLAB
1/8" = 1'-0"

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ARCHITECTURE

18294
Sonoma Highway
Sonoma
CA 95476

TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

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DRAWN BY:	APPROVAL REC'D:
APPROVED BY: **KATHY GARCIA** DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

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425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	INC 01_ADD_01_V1	12/06/2019

REGISTERED PROFESSIONAL ENGINEER
TODD M. SIE
No. M30765
MECHANICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

PLUMBING APPARATUS BUILDING UNDERSLAB PLAN

Drawn By: Author
Checked By: Checker

Scale:
1/8" = 1'-0"

Date:
October 4, 2019

Project No. B17.07369

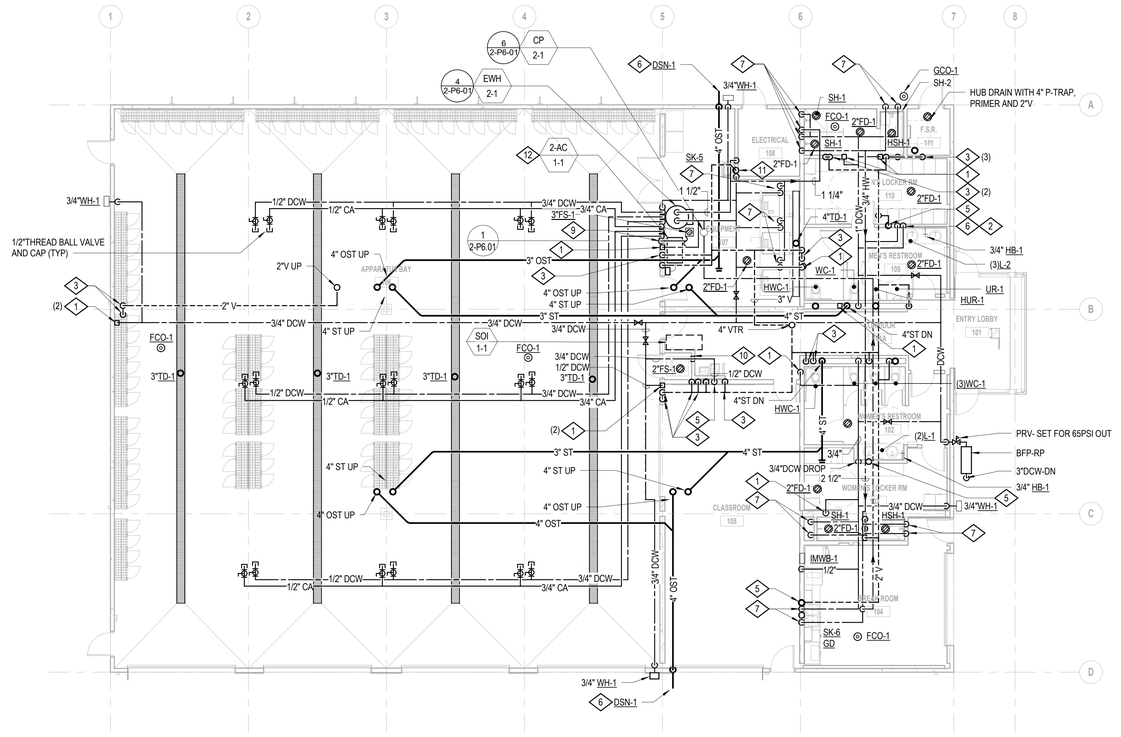
2-P2.00

Drawing No.

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NUMBERED NOTES:

1. 1/2" CW DROP TO TP, 1/2"TP DN
2. 4" SAN DN, 2"V-RISE
3. 2" V DN
4. 2" V UP.
5. 2" SAN DN, 2"V-RISE
6. SPILL OST TO 12" AFG
7. 1/2" CW DROP, 1/2" HW DROP
8. 1-1/2"CW DROP
9. 1-1/2"CA DROP
10. 3/4" DCW DROP TO ICE MAKER
11. 3" S-DN, 2" V-RISE
12. LOCATE AIR COMPRESSOR ON 5"MIN CONCRETE SLAB. PROVIDE 3/8"DIA SCREW ANCHORS AT EACH CORNER (4 TOTAL).



1 02-PLBG APPARATUS-FIRST FLOOR
1/8" = 1'-0"

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ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

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APPROVED BY: **KATHY GARCIA** DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
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San Francisco, CA 94105
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1	INC 01_ADD_01_V1	12/06/2019

REGISTERED PROFESSIONAL ENGINEER TODD M. SIE No. M30765 MECHANICAL STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

PLUMBING APPARATUS BUILDING FLOOR PLAN

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Checked By: Checker

Scale:
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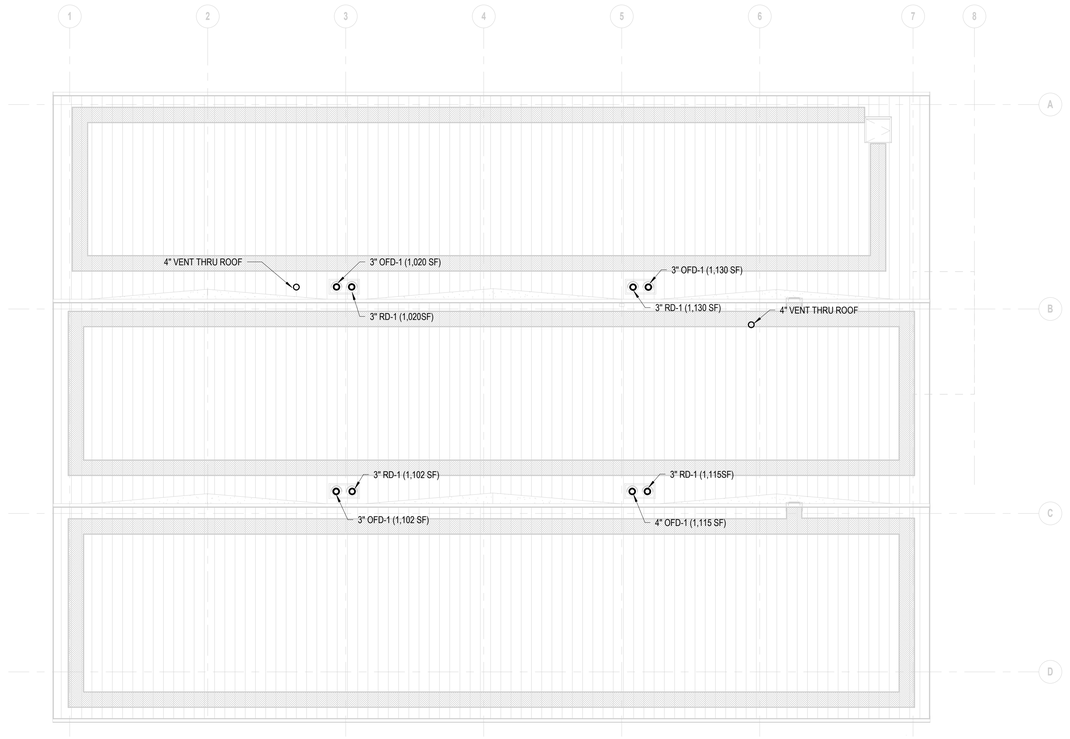
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October 4, 2019

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1 02-PLBG APPARATUS-ROOF
1/8" = 1'-0"

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ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
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APPROVED BY: **KATHY GARCIA** DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
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405 Howard St. Suite 500
San Francisco, CA 94105
(415) 398-3833
wsp.com

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HAYWARD, CA 94545

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER
TODD M SEE
No. M30765
MECHANICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

PLUMBING APPARATUS BUILDING ROOF PLAN

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Checked By: Checker

Scale:
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Date:
October 4, 2019

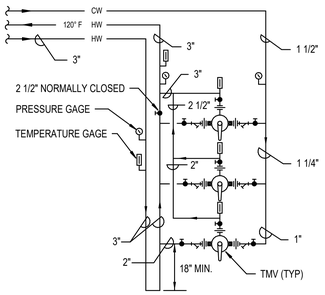
Project No. B17.07369

2-P2.02
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NOTE: REFER TO MASON OPM'S PER THE FOLLOWING:
M-ATR VERTICAL HANGARS
- CONCRETE FILLED DECK - M2.10, M2.11, M2.12, M2.20, M2.21.1, M2.23, M2.70 - DO NOT SPACE CLOSER THAN 5' OC EW
- WIDE FLANGED STEEL - M3.10 - MAX 1 CON PER BEAM UNLESS SPACED 13' OC
- COLD FORMED STEEL – M6.10, 3/1-S4.31 - DO NOT SPACE CLOSER THAN 9'6" OC EW
- BARE METAL DECK - M7.10, M7.11, M7.12 - DO NOT SPACE CLOSER THAN 2' OC EW

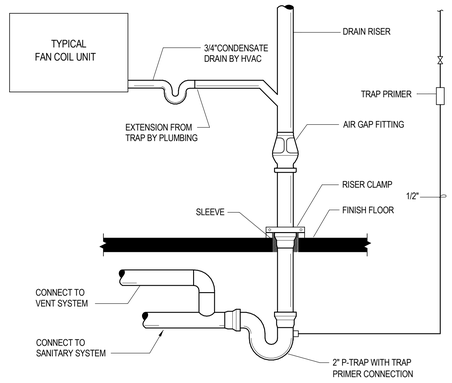
N-SEISMIC BRACKET
- CONCRETE FILLED DECK - N2.10, N2.11, N2.12, N2.20, N2.21 - DO NOT SPACE CLOSER THAN 3' OC EW
- WIDE FLANGED STEEL - N3.11, N3.15 - MAX 1 CON PER BEAM UNLESS SPACED 12' OC
- COLD FORMED STEEL – 4/1-S4.31 - DO NOT SPACE CLOSER THAN 10' OC EW
- BARE METAL DECK - N7.10 - DO NOT SPACE CLOSER THAN 1'6" OC EW



THERMOSTATIC MIXING VALVE SCHEDULE						
ID	MFG'R	MODEL NO.	GPM	DELTA P	INLETS	OUTLET
TMV	SYMMONS	5-500A	35	10	1"	1 1/4"

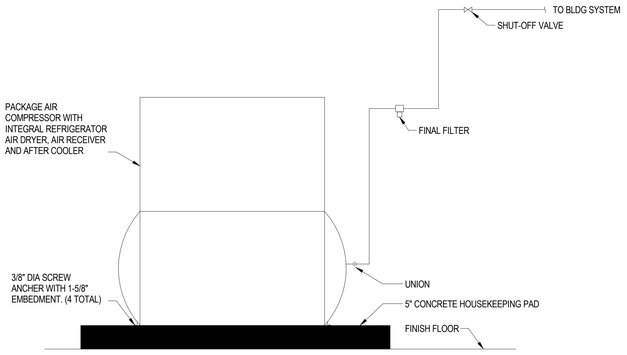
5 MASTER THERMOSTATIC MIXING VALVE ASSEMBLY

SCALE: NTS



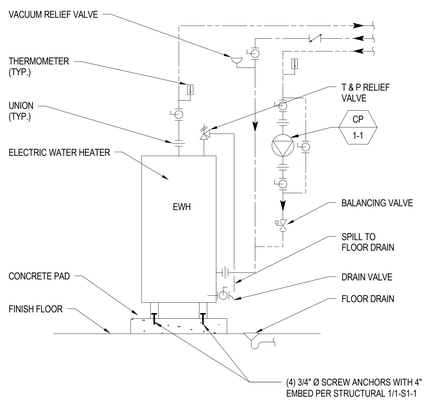
3 AIR GAP FITTING FOR CONDENSATE DRAINS

SCALE: NTS



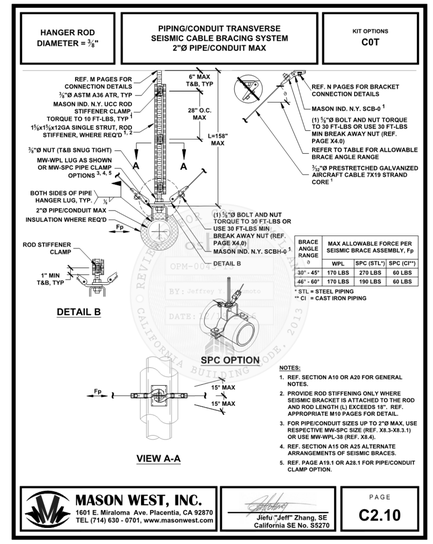
8 AIR COMPRESSOR DETAIL

SCALE: NTS



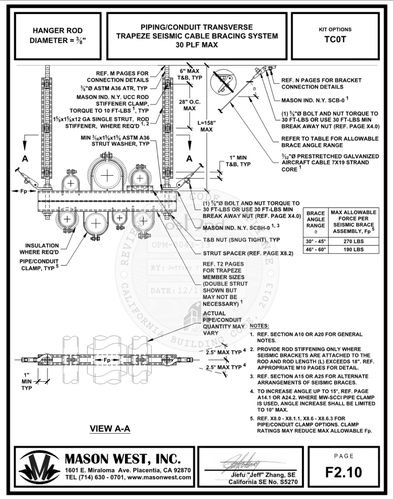
4 ELECTRIC WATER HEATER PIPING DIAGRAM

SCALE: NTS



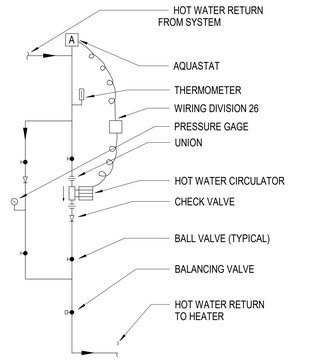
2 PIPE HANGING DETAILS

SCALE: NTS



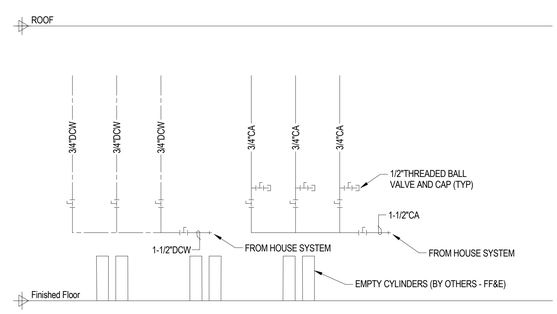
7 PIPE HANGING DETAILS

SCALE: NTS



6 PIPING DIAGRAM HOT WATER CIRCULATOR

SCALE: NTS



1 COMPRESSED AIR AND WATER CONTROL MANIFOLD

SCALE: NTS

RossDrulisCusenbery
18294 Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542
ARCHITECTURE

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION	
DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

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425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
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HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

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REVISIONS

No.	Description	Date
1	INC 01_ADD_01_V1	12/06/2019

REGISTERED PROFESSIONAL ENGINEER — TODD M. SYE — No. M30765 — MECHANICAL — STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

PLUMBING DIAGRAM AND DETAILS

Drawn By: Author Checked By: Checker

Scale: NTS

Date: October 4, 2019

Project No. B17.07369

2-P6.01
Drawing No.

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OCTOBER 03, 2019 8:39:44 a.m.
Drawing: N:\PROJ\2016\2016039\CAD\PANEL\AA-FES\BUILDING 2\FP-FES.DWG
Plotted by: Kathy Garcia

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SPRINKLERS

SYMBOL	DESCRIPTION	MANF.	MODEL	SIN	TYPE	K FACTOR	TEMP. RATING	QTY	REMARKS
◉	RECESSED PENDENT	TYCO	TY-FRB	3231	SSP	5.6	155° F	15	(1) (2) (3)
○	UPRIGHT ON BRANCH LINE	TYCO	TY-FRB	3131	SSU	5.6	200° F	69	
△	SIDEWALL	TYCO	TY-FRB	3331	SSS	5.6	200° F	10	
TOTAL SPRINKLERS (THIS SHEET)								94	
TOTAL SPRINKLERS (BUILDING 2)								94	

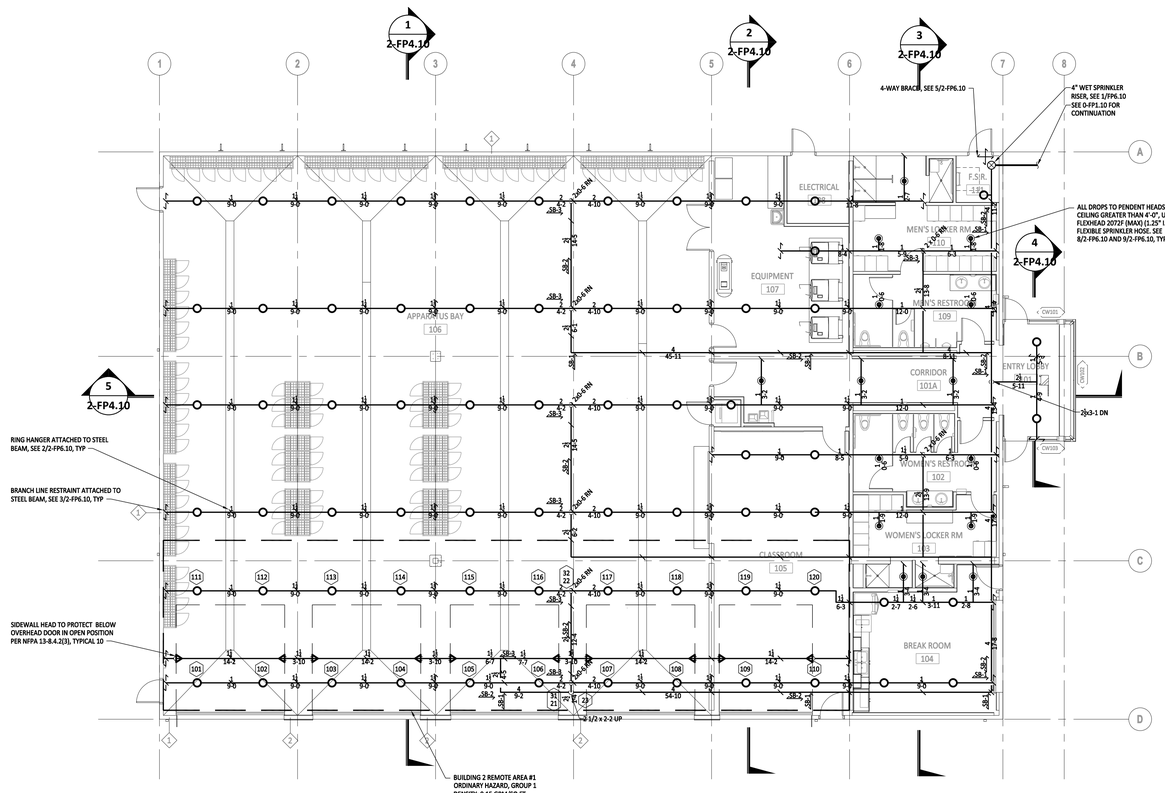
(1) FINISH TO MATCH ADJACENT MATERIAL VERIFY WITH ARCHITECT

(2) PROVIDE STYLE 10 RECESSED ESCUTCHEON. FINISH TO MATCH ADJACENT MATERIAL VERIFY WITH ARCHITECT

(3) FOR LAY IN PANEL SUSPENDED CEILINGS PROVIDE 1" ANNULAR CLEARANCE AROUND RECESSED ESCUTCHEON. CONCEAL OVERSIZE HOLE WITH VIKING 12620 EXPANSION PLATE. FINISH TO MATCH ADJACENT MATERIAL VERIFY WITH ARCHITECT

NOTES

1. ALL DIMENSIONS ARE CENTERLINE TO CENTERLINE UNLESS OTHERWISE NOTED.
2. ALL PIPE 1-1/2" AND SMALLER SHALL BE SCHEDULE 40 BLACK STEEL WITH CAST IRON THREADED FITTINGS IN ACCORDANCE WITH ANSI B16.4.
3. ALL PIPE 2" AND GREATER SHALL BE SCHEDULE 10 BLACK WITH GROOVED COUPLINGS AND WELDED OUTLETS.
4. ALL PIPE 1-1/2" AND SMALLER SHALL HAVE SUPPORT SPACING LESS THAN 12 FEET.
5. ALL PIPE 2" AND GREATER SHALL HAVE SUPPORT SPACING LESS THAN 15 FEET.
6. BRANCH LINES SHALL BE RESTRAINED AT END OF BRANCH LINE, AND AT INTERVALS NOT EXCEEDING 31 FT FOR 2"PIPE, 27 FT FOR 1 1/4" PIPE AND 26 FT FOR 1" PIPE . SEE 3/1-FP6.10, AND 5/1-FP6.10
7. PROVIDE 1" ANNULAR CLEARANCE AT ALL SPRINKLER PENETRATIONS OF LAY IN PANEL SUSPENDED CEILINGS.



BUILDING 2 PIPING PLAN - FIRE PROTECTION

SCALE: 1/8" = 1'-0"

NORTH

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DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA (DEP. DIR. PUBLIC WORKS)	ALEX AMERI (DIR. OF PUBLIC WORKS)
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

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REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3 - INCREMENT #1

Sheet Title

BUILDING 2 PIPING PLAN - FIRE PROTECTION

Drawn By: CAD Checked By: SER

Scale: **1/8" = 1' - 0"**

Date: **OCTOBER 4, 2019**

Project No. 2016039

2-FP2.10
Drawing No.

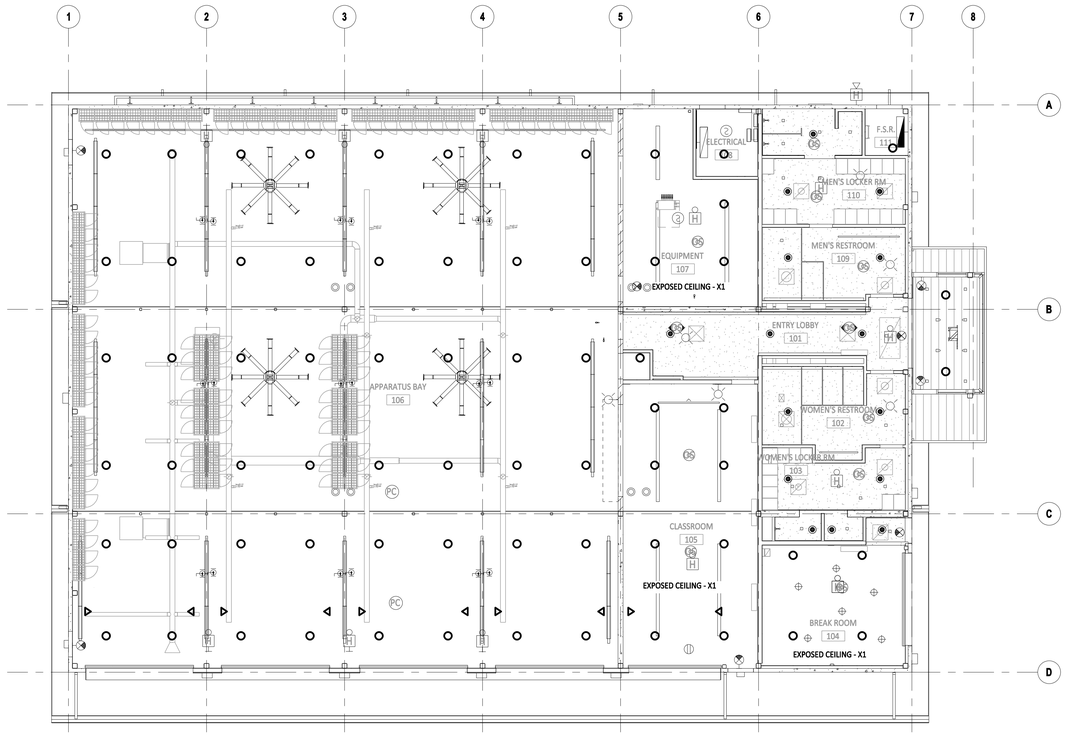
REGISTERED PROFESSIONAL ENGINEER
STEVEN E. RAWSON
No. M30657
EXP. JUNE 30, 2020
MECHANICAL
STATE OF CALIFORNIA

ph. (831) 649-8000
fx. (831) 649-8038
www.axiomengineers.com
AXIOM ENGINEERS℠
CONSULTING ENGINEERS
AE Project # : 2018#232
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Monterey, California 93940-5788

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BUILDING 2 CEILING PLAN - FIRE PROTECTION

SCALE: 1/8" = 1'-0"

NORTH

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SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION	
DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, DIR. OF PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3 - INCREMENT #1

Sheet Title

BUILDING 2 CEILING PLAN - FIRE PROTECTION

Drawn By: CAD
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Scale:
1/8" = 1' - 0"

Date:
OCTOBER 4, 2019

Project No. 2016039

2-FP3.10
Drawing No.

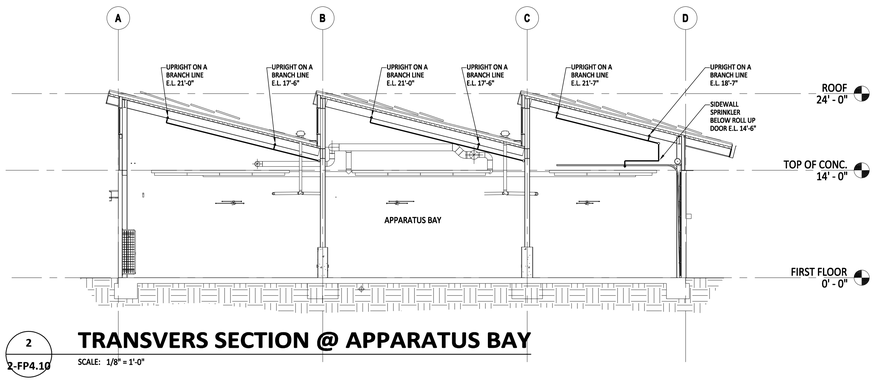
REGISTERED PROFESSIONAL ENGINEER
STEVEN E. RANKIN
No. M30657
EXP. JUNE 30, 2020
MECHANICAL
STATE OF CALIFORNIA

ph. (831) 649-8000
fx. (831) 649-8038
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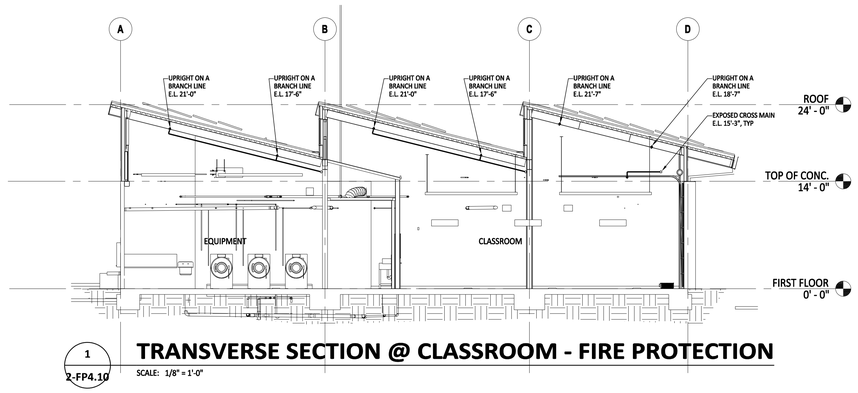
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October 24, 2019 3:39:58 p.m.
Drawing: H:\PROJECTS\2016039\CAD\ARCH\2-FP4.10.DWG
Plot: Architectural A (24.00 x 36.00in)



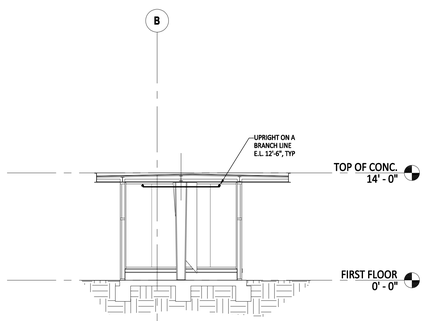
2 / 2-FP4.10 **TRANSVERS SECTION @ APPARATUS BAY**

SCALE: 1/8" = 1'-0"



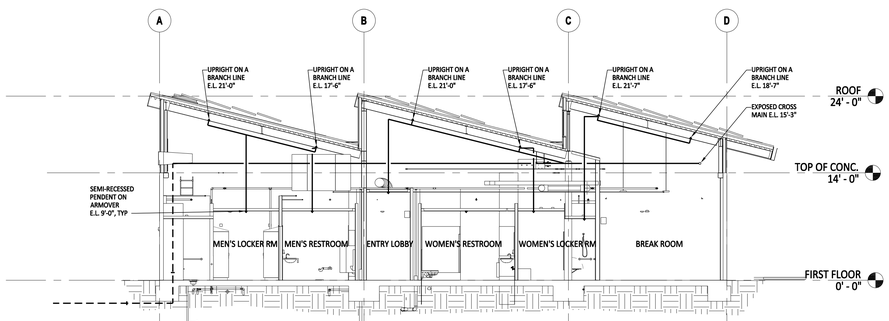
1 / 2-FP4.10 **TRANSVERSE SECTION @ CLASSROOM - FIRE PROTECTION**

SCALE: 1/8" = 1'-0"



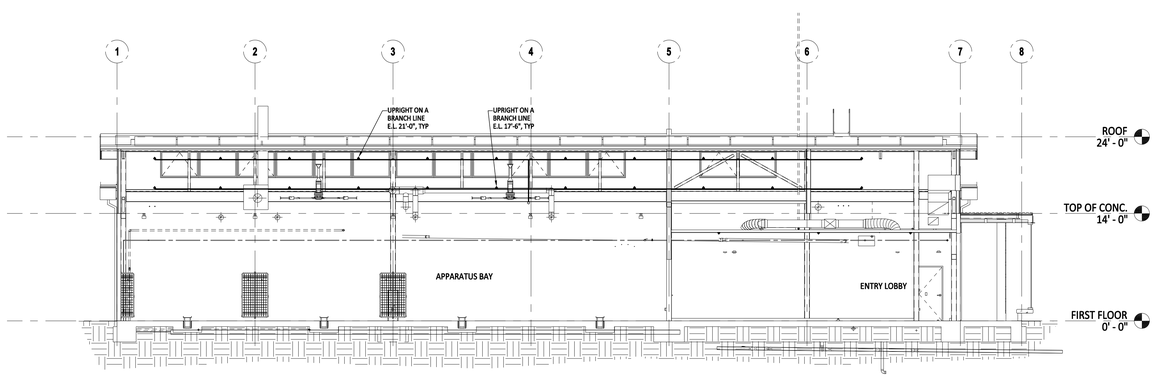
2 / 1-FP4.10 **TRANSVERSE SECTION @ LOBBY - FIRE PROTECTION**

SCALE: 1/8" = 1'-0"



3 / 1-FP4.10 **TRANSVERSE SECTION @ LOCKER ROOM - FIRE PROTECTION**

SCALE: 1/8" = 1'-0"



5 / 1-FP4.10 **LONGITUDINAL SECTION - FIRE PROTECTION**

SCALE: 1/8" = 1'-0"

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, DIR. OF PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3 - INCREMENT #1

Sheet Title

BUILDING 2 SECTIONS - FIRE PROTECTION

Drawn By: CAD Checked By: SER

Scale: **1/8" = 1' - 0"**

Date: **OCTOBER 4, 2019**

Project No. 2016039

2-FP4.10
Drawing No.

REGISTERED PROFESSIONAL ENGINEER
STEVEN E. RAWSTON
No. M30657
EXP. JUNE 30, 2020
MECHANICAL
STATE OF CALIFORNIA

ph. (831) 649-8000
fx. (831) 649-8038
www.axiomengineers.com
AXIOM ENGINEERS™
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AE Project #: 20180232
22 Lower Ragsdale Dr., Suite A
Monterey, California 93940-5788

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Drawing: H:\PROJ\2018\2018232\DRAWINGS\Arch\2018232_FP6.10.DWG
Plotted By: Mark Mitchell

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Seismic Bracing Calculations

Sheet 1 of X

Project: HAYWARD FIRE STATION #6
FIRE TRAINING CENTER
Address: 1401 W. WINTON AVE
HAYWARD, CA 94545

Axiom Engineers
22 Lower Ragsdale Drive, Suite A
Monterey, CA 93940
(831) 649 - 8000
(831) 649 - 8038 Fax

Brace Information

Maximum Spacing:	40'-0"
Maximum Brace Length:	7'-0"
Bracing Material:	1" Sch. 40
Angle from Vertical:	60° MINIMUM
Least radius of gyration:*	0.421"
L/r value:*	200
Maximum Horizontal load:	1604 lbs
NFPA 13: Table 9.3.5.11.8(b)	

Seismic Brace Attachments

Structure attachment or tension-only bracing system:
Make: TOLCO Model: FIG 909 NO THREAD SWIVEL
Listed load rating: 2015 Adjusted load rating: 1745
Sway brace (pipe attachment) fitting:
Make: TOLCO Model: FIG 1001 SWAY CLAMP
Listed load rating: 2015 Adjusted load rating: 1745

Fastener Information

Orientation of connecting surface:	NFPA Type C
Type:	THROUGH BOLT
Diameter:	1/2 in
Length:	1/2 in
Maximum load:	2550 lbs

NFPA 13: Figure 9.3.5.12.1

Seismic Brace Assembly Detail
(Provide detail on plans)

SEE DETAIL 6/2-FP6.10

SEE DETERMINATION OF SEISMIC COEFFICIENT Cp ON 0-FP0.01

NOTE: LOAD LIMITED BY FIG 800 SWAY BRACE ATTACHMENT. LOAD ALONG BEAM 1265 LB

Brace identification no. (to be used on plans): SB-1

[X] Lateral brace [ ] Longitudinal brace

Seismic Coefficient Cp= 0.93 (See Attached NFPA13: Table 9.3.5.9.3)

Diameter	Type	Length	Total (ft)	Weight per ft	Total Weight
4 in	Sch. 10 Steel	.	40	11.89 lb/ft	482.27 lb
.	.	.	.	lb/ft	. lb
.	.	.	.	lb/ft	. lb
.	.	.	.	lb/ft	. lb
.	.	.	.	lb/ft	. lb
.	.	.	.	lb/ft	. lb
Total Weight of Water Filled Piping					482.27 lb
Wp (Total Weight of Water Filled Piping x 1.15 to account for valves and fittings)					541.88 lb
Horizontal Force (NFPA13 9.3.5.9.3) Fpw = Cp x Wp =					503.95 lb

*Excludes tension-only bracing systems

Seismic Bracing Calculations

Sheet 2 of X

Project: HAYWARD FIRE STATION #6
FIRE TRAINING CENTER
Address: 1401 W. WINTON AVENUE
HAYWARD, CA 94545

Axiom Engineers
22 Lower Ragsdale Drive, Suite A
Monterey, CA 93940
(831) 649 - 8000
(831) 649 - 8038 Fax

Brace Information

Maximum Spacing:	40'-0"
Maximum Brace Length:	7'-0"
Bracing Material:	1" Sch. 40
Angle from Vertical:	60° MINIMUM
Least radius of gyration:*	0.421"
L/r value:*	200
Maximum Horizontal load:	1604 lbs
NFPA 13: Table 9.3.5.11.8(b)	

Seismic Brace Attachments

Structure attachment or tension-only bracing system:
Make: TOLCO Model: FIG 909 NO THREAD SWIVEL
Listed load rating: 2015 Adjusted load rating: 1745
Sway brace (pipe attachment) fitting:
Make: TOLCO Model: FIG 4L IN-LINE SWAY BRACE
Listed load rating: 2015 Adjusted load rating: 1745

Fastener Information

Orientation of connecting surface:	NFPA Type C
Type:	THROUGH BOLT
Diameter:	1/2 in
Length:	1/2 in
Maximum load:	2550 lbs

NFPA 13: Figure 9.3.5.12.1

Seismic Brace Assembly Detail
(Provide detail on plans)

SEE DETAIL 7/2-FP6.10
SEE DETERMINATION OF SEISMIC COEFFICIENT Cp ON 0-FP0.01

NOTE: LOAD LIMITED BY FIG 800 SWAY BRACE ATTACHMENT. LOAD ALONG BEAM 1265 LB

Brace identification no. (to be used on plans): SB-2

[ ] Lateral brace [X] Longitudinal brace

Seismic Coefficient Cp= 0.93 (See Attached NFPA13: Table 9.3.5.9.3)

Diameter	Type	Length	Total (ft)	Weight per ft	Total Weight
4 in	Sch. 10 Steel	.	40	11.78 lb/ft	471.20 lb
.	.	.	.	lb/ft	. lb
.	.	.	.	lb/ft	. lb
.	.	.	.	lb/ft	. lb
.	.	.	.	lb/ft	. lb
.	.	.	.	lb/ft	. lb
Total Weight of Water Filled Piping					471.20 lb
Wp (Total Weight of Water Filled Piping x 1.15 to account for valves and fittings)					541.88 lb
Horizontal Force (NFPA13 9.3.5.9.3) Fpw = Cp x Wp =					503.95 lb

*Excludes tension-only bracing systems

Seismic Bracing Calculations

Sheet 3 of X

Project: HAYWARD FIRE STATION #6
FIRE TRAINING CENTER
Address: 1401 W. WINTON AVE
HAYWARD, CA 94545

Axiom Engineers
22 Lower Ragsdale Drive, Suite A
Monterey, CA 93940
(831) 649 - 8000
(831) 649 - 8038 Fax

Brace Information

Maximum Spacing:	10'-0"
Maximum Brace Length:	7'-0"
Bracing Material:	1" Sch. 40
Angle from Vertical:	60° MINIMUM
Least radius of gyration:*	0.421"
L/r value:*	200
Maximum Horizontal load:	1604 lbs
NFPA 13: Table 9.3.5.11.8(b)	

Seismic Brace Attachments

Structure attachment or tension-only bracing system:
Make: TOLCO Model: FIG 909 NO THREAD SWIVEL
Listed load rating: 2015 Adjusted load rating: 1745
Sway brace (pipe attachment) fitting:
Make: TOLCO Model: FIG 4LA IN-LINE SWAY BRACE
Listed load rating: 2015 Adjusted load rating: 1745

Fastener Information

Orientation of connecting surface:	NFPA Type C
Type:	THROUGH BOLT
Diameter:	1/2 in
Length:	1/2 in
Maximum load:	2550 lbs

NFPA 13: Figure 9.3.5.12.1

Seismic Brace Assembly Detail
(Provide detail on plans)

SEE DETAIL 7/2-FP6.10
SEE DETERMINATION OF SEISMIC COEFFICIENT Cp ON 0-FP0.01

NOTE: LOAD LIMITED BY FIG 800 SWAY BRACE ATTACHMENT. LOAD ALONG BEAM 1265 LB

Brace identification no. (to be used on plans): SB-3

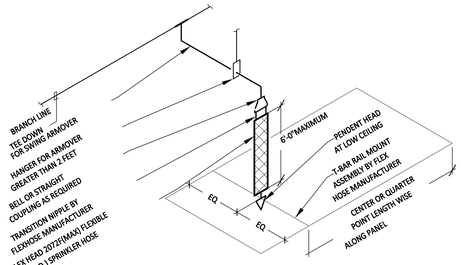
[ ] Lateral brace [X] Longitudinal brace

Seismic Coefficient Cp= 0.93 (See Attached NFPA13: Table 9.3.5.9.3)

Diameter	Type	Length	Total (ft)	Weight per ft	Total Weight
2.5 in	Sch. 10 Steel	.	14.5	5.89 lb/ft	85.41 lb
2 in	Sch. 10 Steel	.	8	4.22 lb/ft	33.76 lb
1.5 in	Sch. 40 Steel	.	36	3.61 lb/ft	129.96 lb
1.25 in	Sch. 40 Steel	.	36	2.93 lb/ft	105.48 lb
1 in	Sch. 40 Steel	.	21	2.05 lb/ft	43.05 lb
.	.	.	.	lb/ft	. lb
Total Weight of Water Filled Piping					397.66 lb
Wp (Total Weight of Water Filled Piping x 1.15 to account for valves and fittings)					457.30 lb
Horizontal Force (NFPA13 9.3.5.9.3) Fpw = Cp x Wp =					425.29 lb

*Excludes tension-only bracing systems

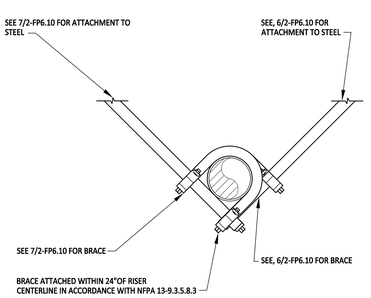
NOTE: WHERE FLEXIBLE SPRINKLER HOSE FITTINGS ARE INSTALLED AND SUPPORTED BY SUSPENDED CEILINGS, THE CEILING SHALL MEET ASTMC635 AND ASTMC636 PER NFPA13:9.2.1.3.3.2. ADDITIONALLY A LABEL LIMITING RELOCATION OF THE SPRINKLER SHALL BE PROVIDED ON THE ANCHORING COMPONENT PER NFPA13:9.2.1.3.3.2.



AT LAY IN PANEL SUSPENDED CEILINGS

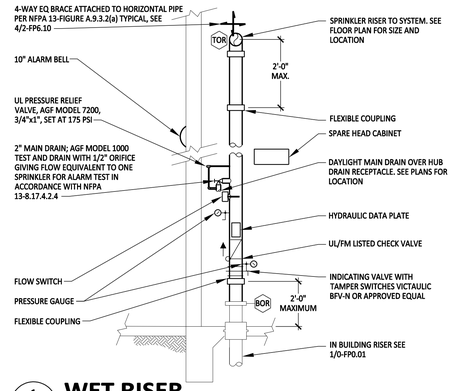
8 2-FP6.10 DROP SUSPENDED CEILING

NO SCALE



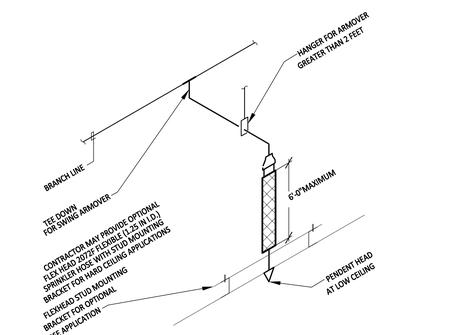
4 2-FP6.10 RISER BRACE

NO SCALE



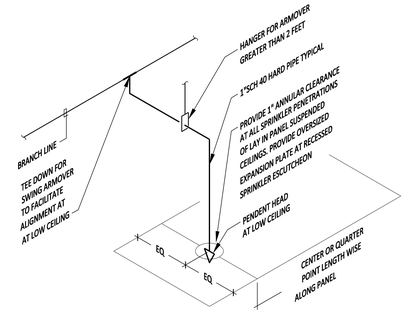
1 2-FP6.10 WET RISER

NO SCALE



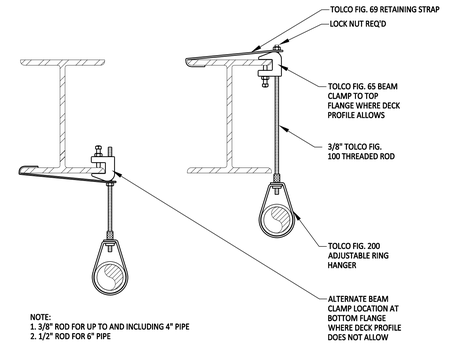
9 2-FP6.10 DROP HARD CEILING

NO SCALE



5 2-FP6.10 TYPICAL DROP TO CEILING

NO SCALE



2 2-FP-6.10 RING HANGER

NO SCALE

HYDRAULIC - SYSTEM

THIS BUILDING IS PROTECTED BY A HYDRAULIC DESIGN AUTOMATIC SPRINKLER SYSTEM

LOCATION: APPARATUS BAY 106

BASIS OF DESIGN

STANDARD: NFPA 13, 2016 EDITION
HAZARD GROUP: LIGHT HAZARD
DENSITY: 0.10
DESIGN AREA OF DISCHARGE: 1092 SQ. FT.

SPRINKLER INFORMATION

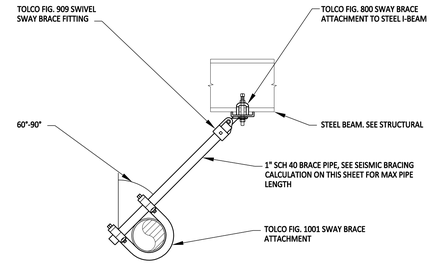
NUMBER OF FLOWING SPRINKLERS: 15
MANUFACTURER: TYCO
MODEL: 3131
TEMPERATURE: 200°
TYPE: QUICK RESPONSE
K-FACTOR: 5.6
ORIFICE: 1/2"

SYSTEM DEMAND

GPM DEMAND AT THE BASE OF THE RISER: 408.14 GPM
RESIDUAL PRESSURE AT THE BASE OF THE RISER: 55.77 PSI
GPM DEMAND AT THE WATER SUPPLY: 658.142 GPM
RESIDUAL PRESSURE AT WATER SUPPLY: 57.98 PSI
HOSE STREAM ALLOWANCE: INSIDE: 0 GPM OUTSIDE: 100 GPM TOTAL 100 GPM
REMOTE SPRINKLER FLOW GPM: 16.20 GPM @: 8.37 PSI

10 2-FP6.10 HYDRAULIC DATA PLATE

NO SCALE

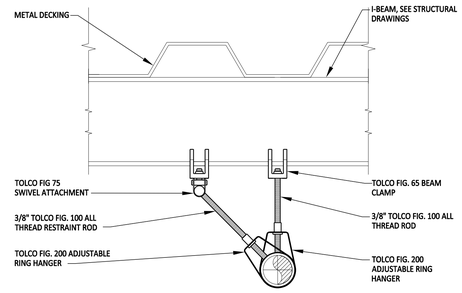


NOTE: SEE SEISMIC BRACING CALCULATION ON THIS SHEET FOR MAX BRACE SPACING

LATERAL BRACE ALONG BEAM

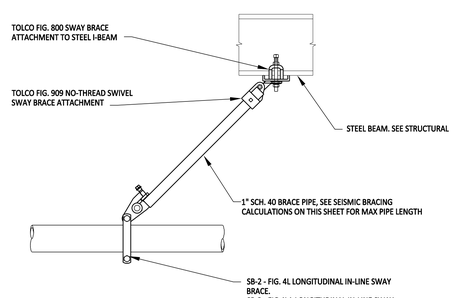
6 2-FP6.10 SEISMIC BRACE SB-1

NO SCALE



3 2-FP6.10 BRANCH LINE END RESTRAINT

NO SCALE



NOTE: SEE SEISMIC BRACING CALCULATION ON THIS SHEET FOR MAX BRACE SPACING

LONGITUDINAL BRACE

7 2-FP6.10 SEISMIC BRACE SB-2, SB-3

NO SCALE

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SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

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HEART OF THE BAY

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DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA	ALEX AMERI
DEP. DIR. PUBLIC WORKS	DIR. OF PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

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1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3 - INCREMENT #1

Sheet Title

BUILDING 2 DETAILS AND SEISMIC BRACING CALCULATIONS - FIRE PROTECTION

Drawn By: CAD
Checked By: SER

Scale: NONE

Date: OCTOBER 4, 2019

Project No. 2016039

2-FP6.10
Drawing No.

REGISTERED PROFESSIONAL ENGINEER
STEVEN E. RAMSON
No. M30657
EXP. JUNE 30, 2020
MECHANICAL
STATE OF CALIFORNIA

ph. (831) 649-8000
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MECHANICAL LEGEND AND ABBREVIATIONS

ABBREVIATIONS - MECHANICAL

ABV	ABOVE
AC	AIR CONDITIONING UNIT
ACC	AIR COOLED CONDENSER
ACD	AUTOMATIC CONTROL DAMPER
AD	ACCESS DOOR
AHU	AIR HANDLING UNIT
AL	ACOUSTICAL LINING
ARCH	ARCHITECTURAL
ATC	AUTOMATIC TEMPERATURE CONTROL
BD	BALANCING DAMPER
BDD	BACK DRAFT DAMPER
BMS	BUILDING MANAGEMENT SYSTEM
BO	BLANK OFF
BHP	BRAKE HORSE POWER
BTU	BRITISH THERMAL UNIT
CA	COMPRESSED AIR
CC	COOLING COIL
CD	CEILING DIFFUSER
CFM	CUBIC FEET PER MINUTE
CG	CEILING GRILLE
CH	CHILLER
CM	CARBON MONOXIDE
CO	CLEAN OUT
COMP	COMPRESSOR
CR	CEILING REGISTER
CU	CONDENSING UNIT
DB	DRY BULB
DIA	DIAMETER
DN	DOWN
DX	DIRECT EXPANSION
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EDB	ENTERING DRY BULB
EF	EXHAUST FAN
EFF	EFFICIENCY
ELEV	ELEVATOR
EWB	ENTERING WET BULB
EWT	ENTERING WATER TEMPERATURE
°F	DEGREES FAHRENHEIT
F	FILTER
FBO	FURNISHED BY OTHERS
FC	FLEXIBLE CONNECTION (DUCT OR PIPE)
FCC	FIRE CONTROL CENTER
FCU	FAN COIL UNIT
FD	FUSIBLE LINK FIRE DAMPER W/ DUCT ACCESS DOOR
FLR	FLOOR
FLA	FULL LOAD AMPS
FPB	FAN POWERED BOX
FPI	FINS PER INCH
FRE	FIRE RATED ENCLOSURE
FSD	COMBINATION FIRE AND SMOKE DAMPER
FT	FEET
GPM	GALLONS PER MINUTE
GX	GENERAL EXHAUST
HC	HEATING COIL
HTP	HEAT PUMP
HP	HORSE POWER
HR	HOUR
HV	HEATING AND VENTILATING UNIT
HW	HOT WATER
HX	HEAT EXCHANGER
ID	INSIDE DIMENSION
KW	KILOWATT
KWH	KILOWATT HOURS
KX	KITCHEN EXHAUST
LAT	LEAVING AIR TEMPERATURE
LBS	POUNDS
LD	LINEAR DIFFUSER (CEILING, WALL, SILL OR FLOOR)
LRA	LOCK ROTOR AMPS
LWS	LOUVER WITH WIRE SCREEN
LWT	LEAVING WATER TEMPERATURE
MAT	MIXED AIR TEMPERATURE
MAX	MAXIMUM
MBH	THOUSAND BTU PER HOUR
MFG	MANUFACTURER
MFS	MAXIMUM FUSE SIZE
MIN	MINIMUM
MUA	MAKE UP AIR UNIT
MOCP	MAXIMUM OVERCURRENT PROTECTION
NC	NORMALLY CLOSED
NFA	NET FREE AREA
NIC	NOT IN THIS CONTRACT
NK	NECK
NO	NORMALLY OPEN
NTS	NOT TO SCALE
OAI	OUTSIDE AIR INTAKE
OBD	OPPOSED BLADE DAMPER
OD	OUTSIDE DIMENSION
P	PUMP
PD	PRESSURE DROP
PRV	PRESSURE REDUCING VALVE
PSI	POUNDS PER SQUARE INCH (GAUGE)
PSIA	POUNDS PER SQUARE INCH ABSOLUTE
RA	RETURN AIR
RF	RETURN FAN
RH	RELATIVE HUMIDITY
RHC	REHEAT COIL

ABBREVIATIONS - MECHANICAL

SED	SEE ELECTRICAL DRAWINGS
SENS	SENSIBLE
SM	SHEET METAL
SP	STATIC PRESSURE
SQFT	SQUARE FEET
ST	SOUND TRAP
TF	TRANSFER FAN
TRD	TRANSFER DUCT
TRG	TRANSFER GRILLE
TX	TOILET EXHAUST
TYP	TYPICAL
UH	UNIT HEATER
UON	UNLESS OTHERWISE NOTED
VAR	VARIABLE
VAV	VARIABLE AIR VOLUME
VD	VOLUME DAMPER
VFD	VARIABLE FREQUENCY DRIVE
W/	WITH
WB	WET BULB
WG	WATER GAUGE
WMS	WIRE MESH SCREEN
WO-SIZE	WALL OPENING - [SIZE]
(300)	CUBIC FEET OR AIR PER MINUTE OR GALLONS PER MINUTE

PIPING LEGEND

RL / RL	REFRIGERANT LIQUID PIPING
RS / RS	REFRIGERANT SUCTION PIPING
R-SV / R-SV	REFRIGERANT-SAFETY VALVE RELIEF LINE
HG / HG	HOT GAS PIPING
	ARROW INDICATES DIRECTION OF FLOW
	PITCH PIPE DOWN IN DIRECTION OF ARROW
D / D	DRAIN LINE
	PIPE ANCHOR
	PIPE GUIDE
	EXPANSION COMPENSATOR
	UNION
	ELBOW TURNED UP
	ELBOW TURNED DOWN
	BOTTOM PIPE CONNECTION
	TOP PIPE CONNECTION
	SLOPED CHANGE IN PIPE ELEVATION
	FLEXIBLE CONNECTION
	SHUT-OFF VALVE
	PUMP
	DIRT POCKET
	REFRIGERANT EXPANSION VALVE
	SIGHT GLASS
	VALVE IN VERTICAL
	MANUAL AIR VENT
A	AUTOMATIC AIR VENT
	THERMOMETER
	PIPE SENSOR WELL (THERMOMETER)
	PRESSURE GAUGE AND COCK
	PRESSURE GAUGE WITH LOOP
	TEMPERATURE-PRESSURE TEST FITTING
℄	CENTER LINE
	PIPE SLEEVE
	BEAM PENETRATION

DUCTWORK LEGEND

16x6 / 8x6 / 16x6 / 8x6	DUCT SPLIT WITH SPLIT SIZE
	RADIUS ELBOW
	ELBOW WITH TURNING VANES
	RECTANGULAR BRANCH TAKEOFF WITH BALANCING DAMPER
	RECTANGULAR SUPPLY DUCT UP
	RECTANGULAR SUPPLY DUCT DOWN
	RECTANGULAR RETURN OR EXHAUST DUCT UP
	RECTANGULAR RETURN OR EXHAUST DUCT DOWN
	ROUND DUCT, UP
	ROUND DUCT, DOWN
	BEAM PENETRATION
R	SLOPING RISE IN DUCTWORK
D	SLOPING DROP IN DUCTWORK
18x12 / 18x12	DUCT SIZE (CLEAR INSIDE DIMENSION) FIRST FIGURE INDICATES PLAN SIZE
18 ◊ / 18 ◊	ROUND DUCT DIAMETER SIZE (CLEAR INSIDE DIMENSION)
18 ⟺ / 18 ⟺	OVAL DUCT SIZE
	SIDE, TOP OR BOTTOM DUCT ACCESS DOOR
	ACOUSTIC LINING IN DUCT (DUCT SIZE NOTED INDICATES INSIDE DIMENSIONS)
	RECTANGULAR OR SQUARE TO ROUND OR OVAL TRANSITION
	FLEXIBLE CONNECTION
	DUCT END/CAP
	FLEXIBLE DUCT
	DUCT COIL WITH ACCESS DOOR
	VOLUME DAMPER IN DUCT
	AUTOMATIC CONTROL DAMPER
	FUSIBLE LINK FIRE DAMPER WITH DUCT ACCESS DOOR
	SMOKE DAMPER WITH DUCT ACCESS DOOR
	COMBINATION FIRE AND SMOKE DAMPER WITH DUCT ACCESS DOOR
	BACK DRAFT DAMPER WITH DUCT ACCESS DOOR
	LINEAR DIFFUSER
	LINEAR DIFFUSER WITH PLENUM

DUCTWORK LEGEND (CONTINUED)

CEILING DIFFUSER	1-WAY BLOW / 3-WAY BLOW / 2-WAY BLOW / 4-WAY BLOW
	CEILING DIFFUSER WITH FLEXIBLE DUCT CONNECTION
	RETURN/EXHAUST REGISTER OR GRILLE
	RETURN/EXHAUST REGISTER OR GRILLE WITH FLEXIBLE DUCT CONNECTION
	ROUND CEILING DIFFUSER WITH FLEXIBLE DUCT CONNECTION
	ROUND CEILING DIFFUSER
	FIRE RATED ENCASED DUCT
	TRANSFER GRILLES ON BOTH SIDES OF PARTITION OR WALL (SIZE)
WO-SIZE	WALL OPENING ABOVE HUNG CEILING (SIZE)
SR-A 12x8 (200) / SR-A 12x8 (200)	SUPPLY REGISTER WITH AIR OUTLET DEVICE DESIGNATION
ER-C 12x8 (200) / ER-C 12x8 (200)	RETURN OR EXHAUST REGISTER OR GRILLE WITH AIR INLET DEVICE DESIGNATION
ACCESS AREA	TERMINAL UNIT WITH/WITHOUT HEATING COIL

CONTROLS LEGEND

E	EMERGENCY BREAK GLASS SWITCH FOR EQUIPMENT SHUT-DOWN
	FLOW SWITCH
CO #	CARBON MONOXIDE SENSOR WITH ZONE DESIGNATION
CD #	CARBON DIOXIDE SENSOR WITH ZONE DESIGNATION
T #	TEMPERATURE SENSOR/THERMOSTAT WITH ZONE OR EQUIPMENT DESIGNATION
H #	HUMIDISTAT/HUMIDITY SENSOR WITH HUMIDIFIER DESIGNATION
S	DUCT SMOKE DETECTOR SUPPLIED BY ELECTRICAL TRADE, INSTALLED BY MECHANICAL TRADE
P #	STATIC PRESSURE SENSOR WITH DESIGNATION
R #	REFRIGERANT SENSOR WITH DESIGNATION

MISCELLANEOUS

DP	DIFFERENTIAL PRESSURE SENSOR
DP	DIFFERENTIAL PRESSURE SWITCH
	OVAL
∅	DIAMETER
U	UNDERCUT DOOR
HW 1	RISER DESIGNATION — RISER SERVICE / RISER NUMBER
2 M3.1	SECTION DESIGNATION — SECTION NUMBER / DRAWING NUMBER
1 M2.1	DETAIL DESIGNATION — DETAIL NUMBER / DRAWING NUMBER
CT 1-1	EQUIPMENT DESIGNATION — EQUIPMENT TYPE / EQUIPMENT FLOOR AND NUMBER
3-24	TERMINAL DESIGNATION — 3-24: THE NUMBER ON THE FLOOR / FLOOR OR LEVEL
CD-1.12x12 (550)	AIR OUTLET/INLET DEVICE DESIGNATION — CD-1.12x12 (550): TYPE / NECK OR FACE SIZE / CFM
LD-A.48x1.8/ (300)	LINEAR DIFFUSER DEVICE DESIGNATION — LD-A.48x1.8/ (300): TYPE / LENGTH & SLOT SIZE / PLENUM INLET SIZE / CFM

HAYWARD FIRE TRAINING FACILITY						
BUILDING 2 - MECHANICAL DRAWING LIST						
11/2/2018						
WSP PROJECT: B17.07369.000						
DRAWING NUMBER	**DRAWING NAME**	**SCALE**	**80%DD**	**100%DD**	**50%CD**	**90%CD**
			8/11/2017	9/1/2017	1/17/2018	11/2/2018
2-M0.01	MECHANICAL LEGEND, ABBREVIATIONS AND DRAWING LIST	NTS	X	X	X	X
2-M0.02	MECHANICAL SCHEDULES	NTS	X	X	X	X
2-M0.03	MECHANICAL TITLE 24 DOCUMENTATION	NTS				X
2-M0.04	MECHANICAL TITLE 24 DOCUMENTATION	NTS				X
2-M0.05	MECHANICAL TITLE 24 DOCUMENTATION	NTS				X
2-M2.01	MECHANICAL APPARATUS BUILDING FLOOR PLAN	1/8" = 1'	X	X	X	X
2-M4.01	BUILDING 2 MECHANICAL VRF DIAGRAM	NTS				X
2-M5.01	MECHANICAL DETAILS	NTS				X
2-M5.02	MECHANICAL DETAILS	NTS				X
2-M5.03	MECHANICAL DETAILS	NTS				X

GENERAL NOTES:

A. ALL DUCT INSULATION SHALL BE INSTALLED IN COMPLIANCE WITH 2016 CALIFORNIA BUILDING ENERGY EFFICIENCY STANDARDS SECTION 120.4.
B. ALL PIPING INSULATION SHALL BE INSTALLED IN COMPLIANCE WITH 2016 CALIFORNIA BUILDING ENERGY EFFICIENCY STANDARDS SECTION 120.3.

September 13, 2016

MEP Component Anchorage Note

All mechanical, plumbing, and electrical components shall be anchored and installed per the details on the DSA approved construction documents. Where no detail is indicated, the following components shall be anchored or braced to meet the force and displacement requirements prescribed in the 2016 CBC, Sections 1616A.1.18 through 1616A.1.26 and ASCE 7-10 Chapter 13, 26 and 30.

1. All permanent equipment and components.
2. Temporary or movable equipment that is permanently attached (e.g. hard wired) to the building utility services such as electricity, gas or water.
3. Movable equipment which is stationed in one place for more than 8 hours and heavier than 400 pounds or has a center of mass located 4 feet or more above the adjacent floor or roof level that directly support the component are required to be anchored with temporary attachments.

The following mechanical and electrical components shall be positively attached to the structure, but the attachment need not be detailed on the plans. These components shall have flexible connections provided between the component and associated ductwork, piping, and conduit.

A. Components weighing less than 400 pounds and have a center of mass located 4 feet or less above the adjacent floor or roof level that directly support the component.
B. Components weighing less than 20 pounds, or in the case of distributed systems, less than 5 pounds per foot, which are suspended from a roof or floor or hung from a wall.

For those elements that do not require details on the approved drawings, the installation shall be subject to the approval of the design professional in general responsible charge or structural engineer delegated responsibility and the DSA District Structural Engineer. The project inspector will verify that all components and equipment have been anchored in accordance with above requirements.

Piping, Ductwork, and Electrical Distribution System Bracing Note

Piping, ductwork, and electrical distribution systems shall be braced to comply with the forces and displacements prescribed in ASCE 7-10 Section 13.3 as defined in ASCE 7-10 Section 13.6.5.6, 13.6.7, 13.6.8, and 2016 CBC, Sections 1616A.1.24, 1616A.1.25 and 1616A.1.26.

The method of showing bracing and attachments to the structure for the identified distribution system are as noted below. When bracing and attachments are based on a preapproved installation guide (e.g., SMACNA or OSHPD OPM), copies of the bracing system installation guide or manual shall be available on the jobsite prior to the start of and during the hanging and bracing of the distribution systems. The Structural Engineer of Record shall verify the adequacy of the structure to support the hanger and brace loads.

Mechanical Piping (MP), Mechanical Ducts (MD), Plumbing Piping (PP), Electrical Distribution Systems (E):

MP☐MD☐PP☐ E☐ - Option 1: Detailed on the approved drawings with project specific notes and details.

MP☒MD☒PP☐ E☐ - Option 2: Shall comply with the applicable OSHPD Pre-Approval (OPM #) OPM-0043-13 MASON WEST

MP☐MD☐PP☐ - Option 3: Shall comply with the SMACNA Seismic Restraint Manual, OSHPD Edition (2009), including any addenda. Fasteners and other attachments not specifically identified in the SMACNA Seismic Restraint Manual, OSHPD Edition, are detailed on the approved drawings with project specific notes and details. The details shall account for the applicable Seismic Hazard Level _____ and Connection Level _____ for the project and conditions.

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC: 01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery ARCHITECTURE
18294 Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER — TODD M. SIE — No. M30765 — MECHANICAL — STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

MECHANICAL LEGEND, ABBREVIATIONS AND DRAWING LIST

Drawn By: MCE Checked By: TMS

Scale: 1" = 1'-0"

Date: October 4, 2019

Project No. B17.07369

2-M0.01
Drawing No.

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VRV HEAT RECOVERY BOXES

DESIGNATION	DAIKIN MODEL NUMBER	CONDENSING UNIT SERVED	ELECTRICAL DATA		OPERATING WEIGHT (LBS)	NOTES
			VOLTAGE/ PHASE	MCA		
BS-B2-1	BS60S4TVJ	CU-2-1	230/1	0.6	70	
BS-B2-2	BSQ60TVJ	CU-2-1	230/1	0.1	27	

NOTES:

SPLIT HEAT PUMP SCHEDULE (OUTDOOR UNIT)

DESIGNATION	LOCATION / SERVICE	MANUFACTURER / MODEL NUMBER	REFRIGERANT	COMPRESSOR TYPE	CAPACITY	COOLING DATA		HEATING DATA		ELECTRIC DATA				EER	COP	OPER. WEIGHT (LBS)	NOTES
					NOMINAL COOLING CAPACITY (TONS)	CAPACITY (BTU/HR)	EAT DB (°F)	CAPACITY (BTU/HR)	EAT DB (°F)	MCA	MOCP	FLA	VOLTAGE/ PHASE				
CU-B2-1	BUILDING 2	DAIKIN REYQ168TAYDU	R410A	SCROLL	14.0	171,214	92	135,118	32	36.1	40	19	460/3	11.6	3.7	794	1

NOTES:
1. CONDENSER LOCATED ON PAD LOCATED ON GRADE.

SPLIT HEAT PUMP SCHEDULE (INDOOR UNIT)

DESIGNATION	LOCATION / SERVICE	MANUF. MODEL NUMBER	ASSOCIATED OUTDOOR UNIT DESIGNATION	SUPPLY FAN	COOLING DATA				HEATING DATA	ELECTRIC DATA					OPER. WEIGHT (LBS)	NOTES
				CFM	TONS	NOMINAL COOLING CAPACITY (BTU/HR)	EAT DB (°F)	EAT WB (°F)	CAPACITY (BTU/HR)	MCA	HP (W)	MOCP	FLA	VOLTAGE/ PHASE		
AC-B2-1	CORRIDOR	DAIKIN FXAQ24PVJU	CU-B2-1	635	2	24,000	80	67	26,500	0.6	43	15	0.5	230/1	31	1
AC-B2-2	BREAK ROOM	DAIKIN FXAQ24PVJU	CU-B2-1	635	2	24,000	80	67	26,500	0.6	43	15	0.5	230/1	31	1
AC-B2-3	CLASSROOM	DAIKIN FXAQ24PVJU	CU-B2-1	635	2	24,000	80	67	26,500	0.6	43	15	0.5	230/1	31	1
AC-B2-4	CLASSROOM	DAIKIN FXAQ24PVJU	CU-B2-1	635	2	24,000	80	67	26,500	0.6	43	15	0.5	230/1	31	1
AC-B2-5	CLASSROOM	DAIKIN FXAQ24PVJU	CU-B2-1	635	2	24,000	80	67	26,500	0.6	43	15	0.5	230/1	31	1
AC-B2-6	ELECTRICAL ROOM	DAIKIN FXAQ24PVJU	CU-B2-1	635	2	24,000	80	67	26,500	0.6	43	15	0.5	230/1	31	1
FCU-B2-1	VEHICLE BAY	DAIKIN FXSQ24TAVJU	CU-B2-1	742	2	24,000	80	67	27,000	1.8	230	15	1.4	230/1	77	1
FCU-B2-2	VEHICLE BAY	DAIKIN FXSQ24TAVJU	CU-B2-1	742	2	24,000	80	67	27,000	1.8	230	15	1.4	230/1	77	1

NOTES:
1. PROVIDE CONDENSATE PUMP WITH UNIT.

AIR OUTLETS AND INLETS

DESIGNATION	TITUS MODEL NUMBER	TYPE OF SERVICE	FACE DIMENSIONS	NOTES
CD-A	PAS	SUPPLY	24x24	1, 2, 4
CR-A	PAR	RETURN/EXHAUST	24x24	2, 4
SR-A	272FL	SUPPLY	SEE PLANS	2
EG-A	3FL	RETURN/EXHAUST	SEE PLANS	2, 3

NOTES:
1. INCREASE ONE NECK SIZE FOR 3-WAY BLOW, INCREASE TWO NECK SIZES FOR 2-WAY BLOW.
2. CONFIRM BORDER TYPE AND FINISH OF ALL AIR INLETS AND OUTLETS WITH ARCHITECT.
3. PROVIDE ALUMINUM SCREWS FOR ALL INLETS AND OUTLETS LOCATED IN SHOWER ROOMS OR ASSOCIATED WITH SHOWER ROOM DUCTWORK.
4. NECK SIZE UNLESS OTHERWISE NOTED: 0-110 CFM =6"Ø; 111-180 CFM =8"Ø; 181-275 CFM =10"Ø; 276-380 CFM =12"Ø; 381-570 CFM = 14"Ø

VEHICLE EXHAUST TRACK SYSTEM

DESIGNATION	PLYMOVENT MODEL NUMBER	LOCATION / SERVICE	TYPE	NOTES
VR-B2-1	PLYMOVENT - VRSA-40	APPARATUS BAY / BACK-IN VEHICLE	VERTICAL STACK RAIL	2
VR-B2-2	PLYMOVENT - STB	APPARATUS BAY / TANDEM BACK-IN VEHICLE	STRAIGHT RAIL	1, 2
VR-B2-3	PLYMOVENT - STB	APPARATUS BAY / TANDEM BACK-IN VEHICLE	STRAIGHT RAIL	1, 2
VR-B2-4	PLYMOVENT - STB	APPARATUS BAY / TANDEM BACK-IN VEHICLE	STRAIGHT RAIL	1, 2

NOTES:
1. EXHAUST RAIL TO BE MOUNTED 6 FEET FROM FRONT OF APPARATUS BAY, 5 FEET FROM REAR OF APPARATUS BAY, 2 FEET TO SIDE OF VEHICLE, AND 13 FOOT 6 INCHES A.F.F.
2. AIRFLOW CFM TO BE DETERMINED BY TYPE OF VEHICLE CONNECTED. FAN MODEL TO BE SELECTED SPECIFIC TO COMBINED VEHICLE TYPES.

FANS

DESIGNATION	MANUF. / MODEL NUMBER	LOCATION/ SERVICE	TYPE	CFM	STATIC PRESSURE (IN. WG.)	BHP	MOTOR		EMERG. POWER	OPERATING WEIGHT (LBS)	NOTES
							HP	VOLTAGE/ PHASE			
EF-B2-1	PLYMOVENT - TEV-745-60	APPARATUS BAY / VEHICLE EXHAUST FAN	CENTRIFUGAL	3,895	9.5	-	10	460/3	N	377	1, 2, 4
CF-B2-1	BIG ASS FANS - PFX3-10	APPARATUS BAY / APPARATUS BAY HIGH VOLUME FAN	CEILING	255	-	-	1	460/3	N	231	3
CF-B2-2	BIG ASS FANS - PFX3-10	APPARATUS BAY / APPARATUS BAY HIGH VOLUME FAN	CEILING	255	-	-	1	460/3	N	231	3
CF-B2-3	BIG ASS FANS - PFX3-10	APPARATUS BAY / APPARATUS BAY HIGH VOLUME FAN	CEILING	255	-	-	1	460/3	N	231	3
CF-B2-4	BIG ASS FANS - PFX3-10	APPARATUS BAY / APPARATUS BAY HIGH VOLUME FAN	CEILING	255	-	-	1	460/3	N	231	3

NOTES:
1. PROVIDE UNIVERSAL MOUNTING BRACKET FOR CEILING MOUNTING.
2. SCHEDULED CFM IS CODE MINIMUM REQUIRED AMOUNT. FINAL CFM TO BE DETERMINED BY TYPE OF VEHICLES CONNECTED.
3. MAIN FAN BODY TO BE DIRECTLY MOUNTED TO STRUCTURAL BEAMS.
4. SCHEDULED CFM, STATIC PRESSURE, AND BRAKE HORSEPOWER ARE AT CODE REQUIRED MINIMUM CFM.

ENERGY CORE VENTILATOR (ECV)

DESIGNATION	GREENHECK MODEL NUMBER	CFM OA	ESP OA (IN. W.G.)	SUPPLY FAN (HP)	CFM EA	ESP EA (IN. W.G.)	EXHAUST FAN (HP)	COOLING						HEATING						AIR FILTER (SUPPLY / EXHAUST)	ELECTRICAL DATA			WEIGHT (LBS)	NOTES
								EFFECTIVENESS	OA EAT		OA LAT		EA EAT	EA LAT	EFFECTIVENESS	OA EAT		OA LAT		EA EAT	EA LAT		VOLTAGE/ PHASE	MCA	MOCP		
									DB (°F)	WB (°F)	DB (°F)	WB (°F)	DB (°F)	DB (°F)		DB (°F)	WB (°F)	DB (°F)	WB (°F)	DB (°F)	DB (°F)						
ECV-B2-1	ECV-20H	1,585	1.5	1-1/2	1,200	1.5	1-1/2	62%	92	66	81.2	63.1	74	88.2	73.5%	31.0	26.2	54.3	43.5	54.4	39.2	MERV 13 / MERV 8	460/3	6.8	15	715	1

NOTES:
1. PROVIDE WITH LOW LEAKAGE BYPASS DAMPER.

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY:	
KATHY GARCIA DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER
TODD M SEE
No. M30765
MECHANICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

MECHANICAL SCHEDULES

Drawn By: MCE Checked By: TMS

Scale:
12" = 1'-0"

Date:
October 4, 2019

Project No. B17.07369

2-M0.02

Drawing No.

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STATE OF CALIFORNIA

MECHANICAL SYSTEMS

CEC-NRCC-MCH-01-E (Revised 05/15) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE — NRCC-MCH-01-E

Mechanical Systems — (Page 3 of 3)

Project Name: Hayward Fire Training Center — Date Prepared: 9/14/2018

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

1. I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name:	Michael Estrada	Documentation Author Signature:	
Company:	WSP USA	Signature Date:	
Address:	405 Howard Street Suite #500	CEA/ HERS Certification Identification (if applicable):	-
City/State/Zip:	San Francisco, CA 94105	Phone:	415-398-3833

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer).
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name:	Todd See	Responsible Designer Signature:	
Company :	WSP USA	Date Signed:	
Address:	405 Howard Street Suite #500	License:	M30765
City/State/Zip:	San Francisco, CA 94105	Phone:	415-398-3833

STATE OF CALIFORNIA

MECHANICAL SYSTEMS

CEC-NRCC-MCH-01-E (Revised 05/15) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE — NRCC-MCH-01-E

Mechanical Systems — (Page 2 of 3)

Project Name: Hayward Fire Training Center — Date Prepared: 9/14/2018

MECHANICAL HVAC ACCEPTANCE FORMS (check box for required forms)

Designer:

This form is to be used by the designer and attached to the plans. Listed below are all the acceptance tests for HVAC systems. The designer is required to check the applicable boxes for all acceptance tests that apply and list all equipment that requires an acceptance test. All equipment of the same type that requires a test, list the equipment description and the number of systems.

Installing Contractor:

The contractor who installed the equipment is responsible to either conduct the acceptance test them self or have a qualified entity run the test for them. If more than one person has responsibility for the acceptance testing, each person shall sign and submit the Certificate of Acceptance applicable to the portion of the construction or installation for which they are responsible. The following tests require a

Enforcement Agency:

Plancheck – The NRCC-MCH-01-E form is not considered a completed form and is not to be accepted by the building department unless the correct boxes are checked. Inspector -Before occupancy permit is granted all newly installed process systems must be tested to ensure proper operations.

Test Description		MCH-12A	MCH-13A	MCH-14A	MCH-15A	MCH-16A	MCH-17A	MCH-18A
Equipment Requiring Testing or Verification	# of units	Fault Detection & Diagnostics for DX Units	Automatic Fault Detection & Diagnostics for Air & Zone	Distributed Energy Storage DX AC Systems	Thermal Energy Storage (TES) Systems	Supply Air Temperature Reset Controls	Condenser Water Reset Controls	ECMS
ECV-B2-1	1	☐	☑	☐	☐	☑	☐	☑
AC-B2-1 TO B2-6	6	☐	☐	☐	☐	☐	☐	☑
CU-B2-1	1	☐	☐	☐	☐	☐	☐	☑
FCU-B2-1, B2-2	2	☐	☐	☐	☐	☐	☐	☑
EF-B2-1	1	☐	☐	☐	☐	☐	☐	☑
CF-B2-1 TO B2-4	4	☐	☐	☐	☐	☐	☐	☑

STATE OF CALIFORNIA

MECHANICAL SYSTEMS

CEC-NRCC-MCH-01-E (Revised 05/15) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE — NRCC-MCH-01-E

Mechanical Systems — (Page 1 of 3)

Project Name: Hayward Fire Training Center — Date Prepared: 9/14/2018

MECHANICAL COMPLIANCE FORMS & WORKSHEETS (check box if worksheet is included)

For detailed instructions on the use of this and all Energy Efficiency Standards compliance forms, refer to the 2013 Nonresidential Manual
Note: The Enforcement Agency may require all forms to be incorporated onto the building plans.

YES	NO	Form/Worksheet #	Title
☑	☐	NRCC-MCH-01-E (Part 1 of 3)	Certificate of Compliance, Declaration. Required on plans for all submittals.
☑	☐	NRCC-MCH-01-E (Part 2 of 3)	Certificate of Compliance, Required Acceptance Tests (MCH-02A to 11A). Required on plans for all submittals.
☑	☐	NRCC-MCH-01-E (Part 3 of 3)	Certificate of Compliance, Required Acceptance Tests (MCH-12A to 18A). Required on plans where applicable.
☑	☐	NRCC-MCH-02-E (Part 1 of 2)	Mechanical Dry Equipment Summary is required for all submittals with Central Air Systems. It is optional on plans.
☐	☑	NRCC-MCH-02-E (Part 2 of 2)	Mechanical Wet Equipment Summary is required for all submittals with chilled water, hot water or condenser water systems. It is optional on plans.
☑	☐	NRCC-MCH-03-E	Mechanical Ventilation and Reheat is required for all submittals with multiple zone heating and cooling systems. It is optional on plans.
☐	☑	NRCC-MCH-07-E (Part 1 of 2)	Power Consumption of Fans. Required on plans where applicable.
☐	☑	NRCC-MCH-07-E (Part 2 of 2)	Power Consumption of Fans, Declaration. Required on plans where applicable.

MECHANICAL HVAC ACCEPTANCE FORMS (check box for required forms)

Test Performed By:

Designer:

This form is to be used by the designer and attached to the plans. Listed below are all the acceptance tests for HVAC systems. The designer is required to check the applicable boxes for all acceptance tests that apply and list all equipment that requires an acceptance test. All equipment of the same type that requires a test, list the equipment description and the number of systems.

Installing Contractor:

The contractor who installed the equipment is responsible to either conduct the acceptance test them self or have a qualified entity run the test for them. If more than one person has responsibility for the acceptance testing, each person shall sign and submit the Certificate of Acceptance applicable to the portion of the construction or installation for which they are responsible.

Enforcement Agency:

Plancheck – The NRCC-MCH-01-E form is not considered a completed form and is not to be accepted by the building department unless the correct boxes are checked. Inspector - Before occupancy permit is granted all newly installed process systems must be tested to ensure proper operations.

Test Description		MCH-02A	MCH-03A	MCH-04A	MCH-05A	MCH-06A	MCH-07A	MCH-08A	MCH-09A	MCH-10A	MCH-11A
Equipment Requiring Testing or Verification	# of units	Outdoor Air	Single Zone Unitary	Air Distribution Ducts	Economizer Controls	Demand Control Ventilation (DCV)	Supply Fan VAV	Valve Leakage Test	Supply Water Temp. Reset	Hydronic System Variable Flow Control	Automatic Demand Shed Control
ECV-B2-1	1	☑	☐	☐	☑	☑	☑	☐	☐	☐	☐
AC-B2-1 TO B2-6	6	☐	☐	☐	☐	☐	☑	☐	☐	☐	☐
CU-B2-1	1	☐	☐	☐	☐	☐	☑	☐	☐	☐	☐
FCU-B2-1, B2-2	2	☐	☐	☐	☐	☐	☑	☐	☐	☐	☐
EF-B2-1	1	☐	☐	☐	☐	☐	☑	☐	☐	☐	☐
CF-B2-1 TO B2-4	4	☐	☐	☐	☐	☐	☑	☐	☐	☐	☐

STATE OF CALIFORNIA

HVAC SYSTEM REQUIREMENTS

CEC-NRCC-MCH-02-E (Revised 05/15) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE — NRCC-MCH-02-E

HVAC Wet System Requirements — (Page 3 of 3)

Project Name: Hayward Fire Training Center — Date Prepared: 9/14/2018

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

1. I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name:	Michael Estrada	Documentation Author Signature:	
Company:	WSP USA	Signature Date:	
Address:	405 Howard Street Suite #500	CEA/ HERS Certification Identification (if applicable):	-
City/State/Zip:	San Francisco, CA 94105	Phone:	415-398-3833

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer).
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name:	Todd See	Responsible Designer Signature:	
Company :	WSP USA	Date Signed:	
Address:	405 Howard Street Suite #500	License:	M30765
City/State/Zip:	San Francisco, CA 94105	Phone:	415-398-3833

STATE OF CALIFORNIA

HVAC WET SYSTEM REQUIREMENTS

CEC-NRCC-MCH-02-E (Revised 05/15) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE — NRCC-MCH-02-E

HVAC Wet System Requirements — (Page 2 of 3)

Project Name: Hayward Fire Training Center — Date Prepared: 9/14/2018

Equipment Tags and System Description[1]		N/A		
MANDATORY MEASURES	***T-24 Sections***	***Reference to the Requirements in the Contract Documents [2]***		
Heating Hot Water Equipment Efficiency[3]	110.1	N/A		
Cooling Chilled and Condensor Water Equipment Efficiency[3]	110.1, 140.4(i)	N/A		
Open and Closed Circuit Cooling Towers conductivity or flow-based controls	110.2(e)1	N/A		
Open and Closed Circuit Cooling Towers Maximum Achievable Cycles of Concentration (LSI)[3]	110.2(e)2	N/A		
Open and Closed Circuit Cooling Towers Flow Meter with analog output	110.2(e)3	N/A		
Open and Closed Circuit Cooling Towers Overflow Alarm	110.2(e)4	N/A		
Open and Closed Circuit Cooling Towers Efficient Drift Eliminators	110.2(e)5	N/A		
Pipe Insulation	120.3	N/A		
PRESCRIPTIVE MEASURES				
Cooling Tower Fan Controls	140.4(h)2, 140.4(h)5	N/A		
Cooling Tower Flow Controls	140.4(h)3	N/A		
Centrifugal Fan Cooling Towers[4]	140.4(h)4	N/A		
Air-Cooled Chiller Limitations[5]	140.4(j)	N/A		
Variable Flow System Design	140.4(k)	N/A		
Chiller and Boiler Isolation	140.4(k)	N/A		
CHW and HHW Reset Controls	140.4(k)	N/A		
WLHP Isolation Valves	140.4(k)	N/A		
VSD on CHW, CW & WLHP Pumps >5HP	140.4(k)	N/A		
DP Sensor Location	140.4(k)	N/A		

Notes:

1. Provide equipment tags (e.g. CH 1 to 3) or system description (e.g. CHW loop) as appropriate. Multiple units with common requirements can be grouped together.
2. Provide references to plans (i.e. Drawing Sheet Numbers) and/or specifications (including Section name/number and relevant paragraphs) where each requirement is specified. Enter "N/A" if the requirement is not applicable to this system.
3. The referenced plans and specifications must include all of the following information: equipment tag, equipment nominal capacity, Title 24 minimum efficiency requirements, and actual rated equipment efficiencies. Where multiple efficiency requirements are applicable (e.g. full- and part-load) include all. For chillers operating at non-standard efficiencies provide the Kadj values. For chillers also note whether the efficiencies are Path A or Path B.
4. Identify if cooling towers have propeller fans. If towers use centrifugal fans document which exception is used.
5. If air-cooled chillers are used, document which exceptions have been used to comply with 140.4(j) and the total installed design capacity of the air-cooled chillers in the chilled water plant.
6. Identify the existence of a completed MCH-06-E \when open or closed circuit cooling towers are specified to be installed, otherwise enter "N/A".

STATE OF CALIFORNIA

HVAC SYSTEM REQUIREMENTS

CEC-NRCC-MCH-02-E (Revised 05/15) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE — NRCC-MCH-02-E

HVAC Dry System Requirements — (Page 1 of 3)

Project Name: Hayward Fire Training Center — Date Prepared: 9/14/2018

Equipment Tags and System Description[1]		ECV-B2-1	EF-B2-1	CF-B2-1 TO B2-4
MANDATORY MEASURES	***T-24 Sections***	***Reference to the Requirements in the Contract Documents [2]***		
Heating Equipment Efficiency[3]	110.1 or 110.2(a)	N/A	N/A	N/A
Cooling Equipment Efficiency[3]	110.1 or 110.2(a)	N/A	N/A	N/A
HVAC or Heat Pump Thermostats	110.2(b), 110.2(c)	2-M2.01	N/A	N/A
Furnace Standby Loss Control	110.2(d)	N/A	N/A	N/A
Low leakage AHUs	110.2(f)	N/A	N/A	N/A
Ventilation[4]	120.1(b)	2-M0.02	N/A	N/A
Demand Control Ventilation[5]	120.1(c)4	0-M0.02 TO 0-M0.03	N/A	N/A
Occupant Sensor Ventilation Control[6]	120.1(c)5, 120.2(e)3	0-M0.02 TO 0-M0.03	N/A	N/A
Shutoff and Reset Controls[7]	120.2(e)	0-M0.02 TO 0-M0.03	N/A	N/A
Outdoor Air and Exhaust Damper Control	120.2(f)	0-M0.02 TO 0-M0.03	N/A	N/A
Isolation Zones	120.2(g)	N/A	N/A	N/A
Automatic Demand Shed Controls	120.2(h)	N/A	N/A	N/A
Economizer FDD	120.2(i)	N/A	N/A	N/A
Duct Insulation	120.4	2-M0.01	2-M0.01	N/A
PRESCRIPTIVE MEASURES				
Equipment is sized in conformance with 140.4 (a & b)	140.4(a & b)	Y	Y	Y
Supply Fan Pressure Control	140.4(c)	N/A	N/A	N/A
Simultaneous Heat/Cool[8]	140.4(d)	0-M0.02 TO 0-M0.03	N/A	N/A
Economizer	140.4(e)	N/A	N/A	N/A
Heat and Cool Air Supply Reset	140.4(f)	N/A	N/A	N/A
Electric Resistance Heating[9]	140.4(g)	N/A	N/A	N/A
Duct Leakage Sealing and Testing[10]	140.4(i)	N/A	N/A	N/A

Notes:

1. Provide equipment tags (e.g. AHU 1 to 10) and system description (e.g. Single Duct VAV reheat) as appropriate. Multiple units with common requirements can be grouped together.
2. Provide references to plans (i.e. Drawing Sheet Numbers) and/or specifications (including Section name/number and relevant paragraphs) where each requirement is specified. Enter "N/A" if the requirement is not applicable to this system.
3. The referenced plans and specifications must include all of the following information: equipment tag, equipment nominal capacity, Title 24 minimum efficiency requirements, and actual rated equipment efficiencies. Where multiple efficiency requirements are applicable (e.g. full- and part-load) include all. Where appliance standards apply (110.1), identify where equipment is required to be listed per Title 20 1601 et seq.
4. Identify where the ventilation requirements are documented for each central HVAC system. Include references to both central unit schedules and sequences of operation. If one or more space is naturally ventilated identify where this is documented in the plans and specifications. Multiple zone central air systems must also provide a MCH-03-E form.
5. If one or more space has demand controlled ventilation identify where it is specified including the sensor specifications and the sequence of operation.
6. If one or more space has occupant sensor ventilation control identify where it is specified including the sensor specifications and the sequence of operation.
7. If the system is DDC identify the sequences for the system start/stop, optimal start, setback (if required) and setup (if required). For all systems identify the specification for the thermostats and time clocks (if applicable).
8. Identify where the heating, cooling and deadband airflows are scheduled for this system. Include a reference to the specification of the zone controls. Provide a MCH-03-E form.
9. Enter N/A if there is no electric heating. If the system has electric heating indicate which exception to 140.4(g) applies.
10. If duct leakage sealing and testing is required, a MCH-04-A form must be submitted.

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC: 01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery ARCHITECTURE
18294 Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY:	
KATHY GARCIA DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER — TODD M SEE — No. M30765 — MECHANICAL — STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

MECHANICAL TITLE 24 DOCUMENTATION

Drawn By: MCE — Checked By: TMS

Scale:

Date: **October 4, 2019**

Project No. B17.07369

2-M0.03

Drawing No.

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STATE OF CALIFORNIA

MECHANICAL VENTILATION AND REHEAT

CEC-NRCC-MCH-03-E (Revised 05/15) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE — NRCC-MCH-03-E

Mechanical Ventilation & Reheat — (Page 2 of 2)

Project Name: Hayward Fire Training Center — Date Prepared: 9/14/2018

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

1. I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name:	Michael Estrada	Documentation Author Signature:	
Company:	WSP USA	Signature Date:	
Address:	405 Howard Street Suite #500	CEA/ HERS Certification Identification (if applicable):	-
City/State/Zip:	San Francisco, CA 94105	Phone:	415-398-3833

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer).
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name:	Todd See	Responsible Designer Signature:	
Company:	WSP USA	Date Signed:	
Address:	405 Howard Street Suite #500	License:	M30765
City/State/Zip:	San Francisco, CA 94105	Phone:	415-398-3833

CA Building Energy Efficiency Standards - 2016 Nonresidential Compliance — January 2016

STATE OF CALIFORNIA

MECHANICAL VENTILATION AND REHEAT

CEC-NRCC-MCH-03-E (Revised 05/15) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE — NRCC-MCH-03-E

Mechanical Ventilation & Reheat — (Page 1 of 2)

Project Name: Hayward Fire Training Center — Date Prepared: 9/14/2018

ACTUAL DESIGN INFO (FROM EQUIPMENT SCHEDULES, ETC)					AREA BASIS			OCCUPANCY BASIS			MINIMUM		VAV Reheated Primary Air CFM		VAV Deadband Primary Air CFM		
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
ZONE/SYSTEM TAG, VAV BOX TAG	DESIGN PRIMARY COOLING AIRFLOW (CFM)	DESIGN PRIMARY DEADBAND AIRFLOW (CFM)	DESIGN PRIMARY HEATING AIRFLOW (CFM)	CNTRL TYPE DDC (Y/N)	TRANSFER AIRFLOW (CFM)	CONDITIONED AREA (SQ)	MIN CFM PER AREA	MIN CFM PER AREA	NUM. OF PEOPLE	CFM PER PERSON	OCCUPANT	REQ'D VENT. AIRFLOW (MAX OF I OR L) (CFM)	COMPLIES	BASED DESIGN MINIMUM (60% DDC-30% NON-DDC) (CFM)	MAXIMUM REHEAT (CFM) (MAX OF M OR O)	COMPLIES?	DDC (CFM) (50% NON-DDC)	NON-DDC (CFM) (100% DDC)	Larger of M or R (CFM)	COMPLIES
ECV-B2-1	1585	0	1585	Y	0	2500	0.15	375	26	15	390	390	N/A	-	-	N/A	-	-	N/A

Yellow shaded cells require user input. Remaining cells are protected and automatic.

B. The largest amount of primary air supplied by the terminal unit when it's operating in the cooling mode.
C. The smallest amount of primary air supplied by the terminal unit in the deadband mode.
D. The largest amount of primary air supplied by the terminal unit when it's operating in the heating mode.
E. A terminal unit can be controlled with DDC controls, or non-DDC controls. Each control category has different reheat limitations in code.
F. Transfer Air must be provided where Required Ventilation Airflow (Column M) is greater than the Design Primary Deadband Airflow (Column C).
H. Minimum ventilation rate per Section §120.1. Table 120.1-A.
J. Based on number of fixed seats where applicable or the greater of the expected number of occupants and 50% of the CBC occupant load for egress purposes for spaces without fixed seating.
M. Required Ventilation Airflow (Req'd Ventilation Airflow) is the larger of the ventilation rates calculated on an AREA BASIS or OCCUPANCY BASIS (Column I or L)
N. This column identifies whether or not the Design Primary Deadband Airflow complies or not. It compares the value in column M to the value in column C and column F.
O. Design Primary Cooling Airflow * 0.50 for DDC, Design Primary Cooling Airflow * 0.30 for Non-DDC. If the Design Primary Cooling Airflow is less than 300 cfm, then this is not applicable.
P. Maximum of Column M and Column O. If the Design Primary Cooling Airflow is 300 cfm or less, then this is not applicable.
Q. This column identifies whether or not the Design Primary Deadband Airflow at the zone level, complies or not. It compares the value in column P to the value in column D.
R. Design Primary Cooling Airflow * 0.20 for DDC. Not applicable for Non-DDC zones or zones where Design Primary Cooling Airflow is 300 cfm or less.
S. Maximum of Column M and Column R. Not applicable if the Design Primary Cooling Airflow is 300 cfm or less.
T. This column identifies whether or not the Design Primary Deadband Airflow at the zone level, complies or not. It compares the value in column S to the value in column C.

CA Building Energy Efficiency Standards - 2016 Nonresidential Compliance — January 2016

STATE OF CALIFORNIA

REQUIRED ACCEPTANCE TESTS

CEC-NRCC-MCH-04-E (Revised 05/15) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE — NRCC-MCH-04-E

Required Acceptance Tests — (Page 3 of 3)

Project Name: Hayward Fire Training Center — Date Prepared: 9/14/2018

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

1. I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name:	Michael Estrada	Documentation Author Signature:	
Company:	WSP USA	Signature Date:	
Address:	405 Howard Street Suite #500	CEA/ HERS Certification Identification (if applicable):	-
City/State/Zip:	San Francisco, CA 94105	Phone:	415-398-3833

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer).
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name:	Todd See	Responsible Designer Signature:	
Company:	WSP USA	Date Signed:	
Address:	405 Howard Street Suite #500	License:	M30765
City/State/Zip:	San Francisco, CA 94105	Phone:	415-398-3833

CA Building Energy Efficiency Standards - 2016 Nonresidential Compliance — January 2016

STATE OF CALIFORNIA

REQUIRED ACCEPTANCE TESTS

CEC-NRCC-MCH-04-E (Revised 05/15) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE — NRCC-MCH-04-E

Required Acceptance Tests — (Page 2 of 3)

Project Name: Hayward Fire Training Center — Date Prepared: 9/14/2018

Designer:
This form is to be used by the designer and attached to the plans. Listed below are all the acceptance tests for mechanical systems. The designer is required to check the applicable boxes by all acceptance tests that apply and list all equipment that requires an acceptance test. If all equipment of a certain type requires a test, list the equipment description and the number of systems. The NA number designates the Section in the Appendix of the Nonresidential Reference Appendices Manual that describes the test. Since this form will be part of the plans, completion of this section will allow the responsible party to budget for the scope of work appropriately.

Enforcement Agency:

Systems Acceptance. Before occupancy permit is granted for a newly constructed building or space, or a new space-conditioning system serving a building or space is operated for normal use, all control devices serving the building or space shall be certified as meeting the Acceptance Requirements for Code Compliance.

Systems Acceptance. Before occupancy permit is granted. All newly installed HVAC equipment must be tested using the Acceptance Requirements. .

The NRCC-MCH-04-E form is not considered a completed form and is not to be accepted by the building department unless the correct boxes are checked. The equipment requiring testing, person performing the test (Example: HVAC installer, TAB contractor, controls contractor, PE in charge of project) and what Acceptance test must be conducted. The following checked-off forms are required for ALL newly installed and replaced equipment. In addition a Certificate of Acceptance forms shall be submitted to the building department that certifies plans, specifications, installation certificates, and operating and maintenance information meet the requirements of Section 10-103(b) and Title 24 Part 6. The building inspector must receive the properly filled out and signed forms before the building can receive final occupancy.

Test Description		MCH-02A	MCH-03A	MCH-04A	MCH-05A	MCH-06A	MCH-07A	MCH-11A	MCH-12A	MCH-14A	MCH-18A	Test Performed By:
Equipment Requiring Testing or Verification	# of units	Outdoor Air	Single Zone Unitary	Air Distribution Ducts	Economizer Controls	Demand Control Ventilation (DCV)	Supply Fan VAV	Automatic Demand Shed Control	FDD for Packaged DX Units	Distributed Energy Storage DX AC Systems	Energy Management Control System	
AC-B2-1 TO B2-6 & FCU-B2-1 & FCU-B2-2/CU-B2-1	9		X						X			HVAC INSTALLER

CA Building Energy Efficiency Standards - 2016 Nonresidential Compliance — January 2016

STATE OF CALIFORNIA

REQUIRED ACCEPTANCE TESTS

CEC-NRCC-MCH-04-E (Revised 05/15) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE — NRCC-MCH-04-E

Required Acceptance Tests — (Page 1 of 3)

Project Name: Hayward Fire Training Center — Date Prepared: 9/14/2018

MECHANICAL COMPLIANCE FORMS & WORKSHEETS (indicate if worksheet is included)

For detailed instructions on the use of this and all Energy Efficiency Standards compliance forms, refer to the 2013 Nonresidential Manual Note: The Enforcement Agency may require all forms to be incorporated onto the building plans. Forms NRCC-MCH-04-E and NRCC-MECH-05-E are alternative forms to NRCC-MCH-01-E, NRCC-MCH-02-E and NRCC-MCH-03-E for projects using only single zone packaged HVAC systems.

YES	NO	Form	Title
X		NRCC-MCH-04-E (1 of 2)	Certificate of Compliance. Required on plans when used.
X		NRCC-MCH-04-E (2 of 2)	Mechanical Acceptance Tests. Required on plans when used.
X		NRCC-MCH-05-E (1 of 2)	HVAC Prescriptive Requirements. It is required on plans when used.
	X	NRCC-MCH-05-E (2 of 2)	Mechanical SWH Equipment Summary is required for all submittals with service water heating, pools or spas. It is required on plans where applicable.

CA Building Energy Efficiency Standards - 2016 Nonresidential Compliance — January 2016

STATE OF CALIFORNIA

REQUIREMENTS FOR PACKAGED SINGLE ZONE UNITS

CEC-NRCC-MCH-05-E (Revised 05/15) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE — NRCC-MCH-05-E

Requirements for Packaged Single-Zone Units — (Page 2 of 2)

Project Name: Hayward Fire Training Center — Date Prepared: 9/14/2018

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

1. I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name:	Michael Estrada	Documentation Author Signature:	
Company:	WSP USA	Signature Date:	
Address:	405 Howard Street Suite #500	CEA/ HERS Certification Identification (if applicable):	-
City/State/Zip:	San Francisco, CA 94105	Phone:	415-398-3833

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer).
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name:	Todd See	Responsible Designer Signature:	
Company:	WSP USA	Date Signed:	
Address:	405 Howard Street Suite #500	License:	M30765
City/State/Zip:	San Francisco, CA 94105	Phone:	415-398-3833

CA Building Energy Efficiency Standards - 2016 Nonresidential Compliance — January 2016

STATE OF CALIFORNIA

REQUIREMENTS FOR PACKAGED SINGLE ZONE UNITS

CEC-NRCC-MCH-05-E (Revised 05/15) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE — NRCC-MCH-05-E

Requirements for Packaged Single-Zone Units — (Page 1 of 2)

Project Name: Hayward Fire Training Center — Date Prepared: 9/14/2018

Equipment Tag(s)1		AC-B2-1 TO B2-6 & FCU-B2-1 & FCU-B2-2/CU-B2-1					
MANDATORY MEASURES	***T-24 Sections***	***Requirement*** 2	***As Scheduled*** 2	***Requirement*** 3	***As Scheduled*** 3	***Requirement*** 3	***As Scheduled*** 3
Heating Equipment Efficiency4	110.1 or 110.2(a)	3.2 COP	3.7 COP				
Cooling Equipment Efficiency4	110.1 or 110.2(a)	11.2 EER	11.6 EER				
Thermostats5	110.2(b), 110.2(c)	N/A	1-M2.01, 1-M2.02				
Furnace Standby Loss Controls	110.2(d)	N/A	N/A				
Low Leakage AHU	110.2(f)	N/A	N/A				
Ventilation7	120.1(b)	N/A	N/A				
Demand Control Ventilation8	120.1(c)4	N/A	N/A				
Occupant Sensor Ventilation Controls	120.1(c)5, 120.2(e)3	N/A	N/A				
Shutoff and Reset Controls9	120.2(e)	N/A	N/A				
Outdoor Air and Exhaust Damper Control	120.2(f)	N/A	N/A				
Automatic Demand Shed Controls	120.2(h)	N/A	N/A				
Economizer FDD	120.2(i)	N/A	N/A				
Duct Insulation	120.4	1-M0.01	1-M0.01				
PRESCRIPTIVE MEASURES							
Equipment is sized in conformance with 140.4 (a & b)	140.4(a & b)	Y	Y				
Economizer	140.4(e)	N/A	N/A				
Electric Resistance Heating10	140.4(g)	N/A	N/A				
Duct Leakage Sealing and Testing.11	140.4(l)	N/A	N/A				

Notes:

1. Provide equipment tags (e.g. AC1 or AC1 to 10). Multiple units of the same make and model with the same application and accessories can be grouped together.
2. Enter the following information as appropriate: Unit Manufacturer; Unit Model Number (including all accessories); Description of the unit (e.g. gas-pack or heat pump; rated heating capacity (enter "N/A" if no heating); and, rated cooling capacity (enter "N/A" if no cooling). For unit capacities include the units (e.g. kBtuh or tons).
3. For each requirement, enter the minimum requirement from the Standard In the left column (under "Standard Requirement"). In the right column (under "As Scheduled") enter the value for the units as specified.
4. Where there is more than one requirement (e.g. full and part load efficiency) enter both with the appropriate labels (e.g. COP and IEER).
5. In the left column identify the thermostatic requirements from the standard (e.g. programmable setback thermostat or heatpump with electric heat), . In the right column indicate the capabilities of the thermostat as scheduled.
6. If the unit has a furnace which is rated at >=225,000 Btuh of capacity, indicate the rated standby loss and ignition source (e.g. IID). If there is no furnace or the unit is rated for <225,000 Btuh indicate "N/A".
7. In the left column, enter both the required ventilation value from Table 120.1A and for the number of occupants times 15 cfm/person. In the right column enter the actual minimum ventilation as scheduled. If the space is naturally ventilated enter "N/A" in the left column and "the space is naturally ventilated" in the right column.
8. If the space is required to have either DCV or Occupant Sensor Ventilation Control indicate "required" in the left column (otherwise indicate "N/A" in the left column). If either DCV or Occupant Sensor Ventilation Control is provided indicate "provided" in the right column (otherwise indicate "N/A" in the right column)
9. In the left column indicate the required time controls from the standard. In the right column identify the device that provides this functionality (e.g. EMCS or programmable timeclock).
10. Enter N/A if there is no electric heating. If the system has electric heating indicate which exception to 140.4(g) applies.
11. If duct leakage sealing and testing is required, a ***MCH-04-A*** *form must be submitted.*

CA Building Energy Efficiency Standards - 2016 Nonresidential Compliance — January 2016

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER
TODD M SEE
No. M30765
MECHANICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

MECHANICAL TITLE 24 DOCUMENTATION

Drawn By: MCE — Checked By: TMS

Scale:

Date: **October 4, 2019**

Project No. B17.07369

2-M0.04

Drawing No.

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STATE OF CALIFORNIA

PROCESS COMPLIANCE FORMS AND WORKSHEETS

CEC-NRCC-PRC-01-E (Revised 05/15) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE — NRCC-PRC-01-E

Process Compliance Forms & Checklists — (Page 3 of 3)

Project Name: Hayward Fire Training Center — Date Prepared: 9/14/2018

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

1. I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name:	Michael Estrada	Documentation Author Signature:	
Company:	WSP USA	Signature Date:	
Address:	405 Howard Street Suite #500	CEA/ HERS Certification Identification (if applicable):	-
City/State/Zip:	San Francisco, CA 94105	Phone:	415-398-3833

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer).
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4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name:	Todd See	Responsible Designer Signature:	
Company :	WSP USA	Date Signed:	
Address:	405 Howard Street Suite #500	License:	M30765
City/State/Zip:	San Francisco, CA 94105	Phone:	415-398-3833

STATE OF CALIFORNIA

PROCESS COMPLIANCE FORMS AND WORKSHEETS

CEC-NRCC-PRC-01-E (Revised 05/15) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE — NRCC-PRC-01-E

Process Compliance Forms & Checklists — (Page 2 of 3)

Project Name: Hayward Fire Training Center — Date Prepared: 9/14/2018

PROCESS ACCEPTANCE FORMS (check box for required forms)

Designer:
This form is to be used by the designer and attached to the plans. Listed below are all the acceptance tests for process systems. The designer is required to check the applicable boxes for all acceptance tests that apply and list all equipment that requires an acceptance test. If all equipment of the same type requires a test, list the equipment description and the number of systems.

Installing Contractor:
The contractor who installed the equipment is responsible to either conduct the acceptance test them self or have a qualified entity run the test for them. If more than one person has responsibility for the acceptance testing, each person shall sign and submit the Certificate of Acceptance applicable to the portion of the construction or installation for which they are responsible.

Enforcement Agency:
Plancheck - The NRCC-PRC-01-E form is not considered a completed form and is not to be accepted by the building department unless the correct boxes are checked.
Inspector - Before occupancy permit is granted all newly installed process systems must be tested to ensure proper operations.

Test Description	PRC-01A	PRC-02A	PRC-03A	PRC-04A	PRC-05A	PRC-06A	PRC-07A	PRC-08A
Equipment Requiring Testing or Verification	# of units	Compressed Air Systems	Garage Exhaust	Kitchen Exhaust	RHW Evap Fan Motor Controls	RHW Evap Condenser Controls	RHW Air-Cooled Condenser Controls	RHW Variable Speed Compressors	RHW Elect. Underslab Heating
EF-B2-1	1	☐	☑	☐	☐	☐	☐	☐	☐
		☐	☐	☐	☐	☐	☐	☐	☐
		☐	☐	☐	☐	☐	☐	☐	☐
		☐	☐	☐	☐	☐	☐	☐	☐
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		☐	☐	☐	☐	☐	☐	☐	☐

STATE OF CALIFORNIA

PROCESS COMPLIANCE FORMS AND WORKSHEETS

CEC-NRCC-PRC-01-E (Revised 05/15) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE — NRCC-PRC-01-E

Process Compliance Forms & Checklists — (Page 1 of 3)

Project Name: Hayward Fire Training Center — Date Prepared: 9/14/2018

PROCESS COMPLIANCE FORMS & WORKSHEETS (check box if worksheet is included)

For detailed instructions on the use of this and all Energy Efficiency Standards compliance forms, refer to the 2008 Nonresidential Manual Note: The Enforcement Agency may require all forms to be incorporated onto the building plans.

YES	NO	Form/Worksheet #	Title
☑	☐	PRC-01-E (1 of 2)	Covered Process Certificate of Compliance. Required on plans for all submittals with covered processes.
☑	☐	PRC-01-E (2 of 2)	Certificate of Compliance, Required Acceptance Tests (PRC-02-A to PRC-8-A). Required on plans for all submittals.
☑	☐	PRC-02-E	Compliance Form for Enclosed Parking Garage Exhaust Fans
☐	☑	PRC-03-E	Compliance Form for Commercial Kitchens
☐	☑	PRC-04-E	Compliance Form for Computer Rooms
☐	☑	PRC-05-E	Compliance Form for Commercial Refrigeration
☐	☑	PRC-06-E	Compliance Form for **ALL** Refrigerated Warehouses
☐	☑	PRC-07-E	Compliance Form for Refrigerated Warehouse ≥ 3,000 ft2
☐	☑	PRC-08-E	Compliance Form for Refrigerated Warehouse Where **Multiple** Spaces that (i) comprise a total of 3,000 square feet or more; and (ii) are collectively served by the same refrigeration system compressor(s) and condenser(s) (central systems).
☐	☑	PRC-09-E	Compliance Form for Laboratory Exhaust
☐	☑	PRC-10-E	Compliance Form for Compressed Air Systems
☐	☑	PRC-11-E	Compliance Form for Process Boilers

STATE OF CALIFORNIA

GARAGE EXHAUST

CEC-NRCC-PRC-02-E (Revised 05/15) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE — NRCC-PRC-02-E

Garage Exhaust — (Page 2 of 2)

Project Name: Hayward Fire Training Center — Date Prepared: 9/14/2018

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

1. I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name:	Michael Estrada	Documentation Author Signature:	
Company:	WSP USA	Signature Date:	
Address:	405 Howard Street Suite #500	CEA/ HERS Certification Identification (if applicable):	-
City/State/Zip:	San Francisco, CA 94105	Phone:	415-398-3833

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Responsible Designer Name:	Todd See	Responsible Designer Signature:	
Company :	WSP USA	Date Signed:	
Address:	405 Howard Street Suite #500	License:	M30765
City/State/Zip:	San Francisco, CA 94105	Phone:	415-398-3833

STATE OF CALIFORNIA

GARAGE EXHAUST

CEC-NRCC-PRC-02-E (Revised 05/15) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE — NRCC-PRC-02-E

Garage Exhaust — (Page 1 of 2)

Project Name: Hayward Fire Training Center — Date Prepared: 9/14/2018

DESIGN EXHAUST AIRFLOW (CFM)1:	**EXCEPTIONS2:**	3,895
Equipment Tags and System Description3		EF-B2-1
MANDATORY MEASURES	***T-24 Sections***	***Reference to the Requirements in theContract Documents4***
Exhaust Fan Control	120.6 (c)1 & 2	2-M0.02, 2-M2.01
CO Sensor Location	120.6 (c)3	N/A
CO Sensor Setpoint	120.6 (c)4	N/A
Minimum Ventilation	120.6 (c)5	N/A
Garage Pressurization	120.6 (c)6	N/A
CO Sensor Requirements	120.6 (c)7	N/A
Ventilation System Acceptance Testing	120.6 (c)8	N/A

Notes:
1. Enter the airflow (cfm) of garage exhaust that is being installed under this project.
2. Detail any exceptions that apply to this project. Reference appropriate exception number from §120.6 where applicable.
3. Provide equipment tags (e.g. EF-1 & 2 for garage exhaust fans that are part of this project)
4. Provide references to plans (i.e. Drawing Sheet Numbers) and/or specifications (including Section name/number and relevant paragraphs) where each requirement is specified. Enter "N/A" if the requirement is not applicable to this system.

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC: 01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: **KATHY GARCIA** DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER — TODD M SEE — No. M30765 — MECHANICAL — STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

MECHANICAL TITLE 24 DOCUMENTATION

Drawn By: MCE — Checked By: TMS

Scale:

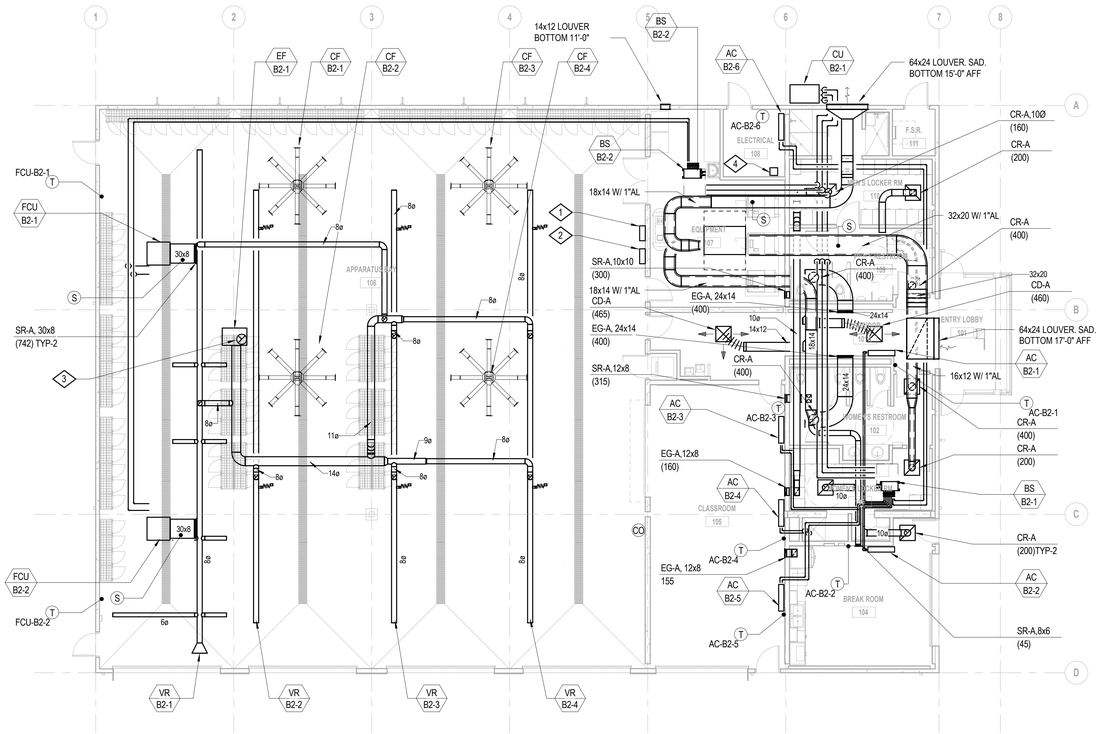
Date: **October 4, 2019**

Project No. B17.07369

2-M0.05

Drawing No.

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NUMBERED NOTES:

1. VEHICLE EXHAUST FAN CONTROL PANEL
2. CEILING FAN CONTROL PANEL
3. XXØ FIRE WRAPPED, SELF SUPPORTING VEHICLE EXHAUST STACK. TERMINATE EXHAUST DUCTWORK AT MINIMUM OF 42 INCHES ABOVE ROOF SURFACE WITH NO-LOSS STACKHEAD.
4. BACNET DIRECT DIGITAL BUILDING CONTROLLER. COORDINATE FINAL LOCATION AND POWER REQUIREMENTS WITH ELECTRICAL CONTRACTOR.

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	INC 01_ADD_01_V1	12/06/2019

REGISTERED PROFESSIONAL ENGINEER
TODD M SAE
No. M30765
MECHANICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

MECHANICAL APPARATUS BUILDING FLOOR PLAN

Drawn By: MCE
Checked By: TMS

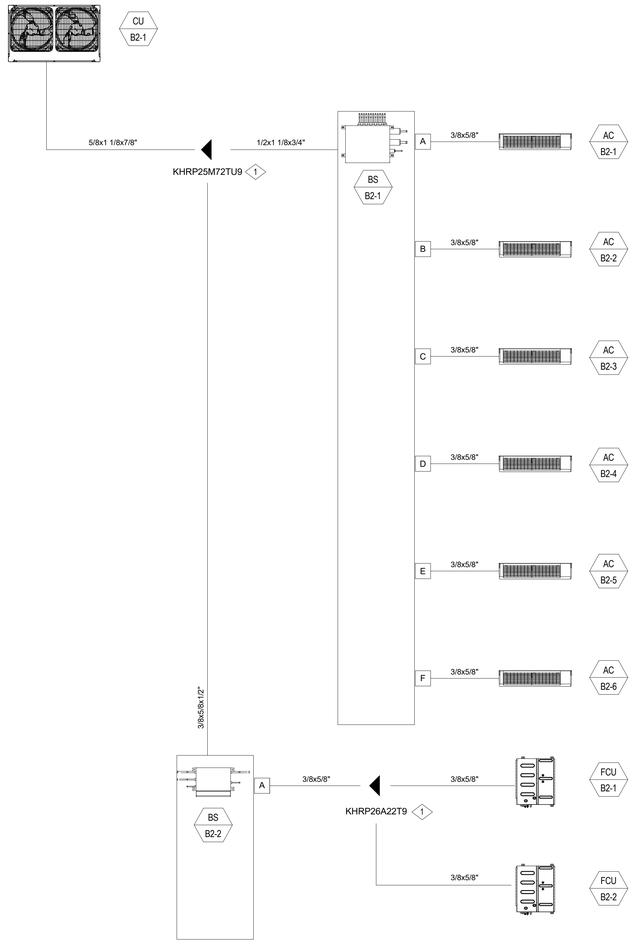
Scale: 1/8" = 1'-0"

Date: October 4, 2019

Project No. B17.07369

2-M2.01
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NUMBERED NOTE:

1 REFNET REFRIGERANT PIPE FITTING. PROVIDED BY VRF MANUFACTURER.

RossDrulisCusenbery
ARCHITECTURE

18294
Sonoma Highway
Sonoma
CA 95476

TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY:	

KATHY GARCIA DEP. DIR. PUBLIC WORKS **ALEX AMERI** INTERIM DIR. PUBLIC WORKS

PROJ. NO. 07481 & 07482 **FILE NO. E-2157**

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HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	INC 01_ADD_01_V1	12/06/2019

REGISTERED PROFESSIONAL ENGINEER
TODD M. [illegible]
No. M36765
MECHANICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

BUILDING 2 MECHANICAL VRF DIAGRAM

Drawn BY: JCE Checked BY: MS

Scale:
NTS

Date:
October 4, 2019

Project No: B17.07369

2-M4.01

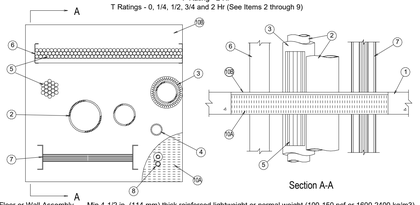
Drawing No.

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System No. C-AJ-8113

F Rating - 2 Hr

T Ratings - 0, 1/4, 1/2, 3/4 and 2 Hr (See Items 2 through 9)



1. Floor or Wall Assembly - Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m3) concrete. Wall may also be constructed of any UL Classified Concrete Blocks* . Max area of opening is 1024 sq in. (0.66 m2) with a max height of 32 in. (813 mm) when installed in a wall or a max width of 32 in. (813 mm) when installed in a floor.

See Concrete Blocks (CAZT) category in the Fire Resistance Directory for names of manufacturers.

2. Metallic Penetrants - One or more metallic pipes, conduits or tubes to be installed within the opening. Annulus between penetrants is min 0 in. (point contact) to max 5 in. (127 mm). Annulus between penetrants and periphery of opening is 0 in. (point contact) to max 6 in. (152 mm). Penetrants rigidly supported on both sides of floor or wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:

A. Steel Pipe - Nom 12 in. (305 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.

B. Iron Pipe - Nom 12 in. (305 mm) diam (or smaller) cast or ductile iron pipe.

C. Conduit - Nom 6 in. (152 mm) diam (or smaller) rigid steel conduit, nom 4 in. (102 mm) diam (or smaller) electrical metallic tubing (EMT), or nom 4 in. (102 mm) diam (or smaller) steel Flexible Metal Conduit#.

D. Copper Pipe or Tube - Nom 6 in. (152 mm) diam (or smaller) Regular (or heavier) copper pipe or Type M (or heavier) copper tube.

Type of Metallic Penetrant	Max Dim of Throught Penetrants, In.(mm)	T Rating, Hr
Steel or Iron Pipe, Conduit	12 (305)	0
Copper Pipe or Tube	6 (152)	0
Steel or iron Pipe, Conduit or EMT	4 (102)	1/4
Steel or iron Pipe, Conduit or EMT	2 (51)	1/2
Steel or iron Pipe, Conduit or EMT	1(25)	3/4

3. Pipe Insulation - (Optional) - The following types of pipe insulations may be installed on one or more of the max 4 in. (102 mm) diam metallic pipes or tubes:

A. Pipe and Equipment Covering Materials* - Nom 1 in. (25 mm) thick hollow cylindrical heavy density (min 3.5 pcf or 56 kg/m3) glass fiber units jacketed on the outside with an all service jacket. Longitudinal joints sealed with metal fasteners or factory-applied self-sealing lap tape. Transverse joints secured with metal fasteners or with butt tape supplied with the product. When Item 3A is used, T Rating is 3/4 Hr .

See Pipe and Equipment Covering Materials (BRGU) category in the Building Materials Directory for names of manufacturers. Any pipe covering meeting the above specifications and bearing the UL Classification Marking with a Flame Spread Index of 25 or less and a Smoke Developed Index of 50 or less may be used.

B. Pipe Covering Materials* - Nom 2 in. (51 mm) thick unfaced mineral fiber pipe insulation having a nom density of 3.5 pcf (56 kg/m3) (or heavier) and sized to the outside diam of the pipe or tube. Pipe insulation secured with min 8 AWG steel wire spaced max 12 in. (305 mm) OC. When Item 3B is used, T Rating is 2 Hr

IIG MINWOOL L L C - High Temperature Pipe Insulation 1200, High Temperature Pipe Insulation BWT and High Temperature Pipe Insulation Thermaloc

C. Sheathing Material* - Use in conjunction with Item 3B. Foil-scrim-kraft or all service jacket material shall be wrapped around the outer circumference of the pipe insulation (Item 3B) with the kraft side exposed. Longitudinal and transverse joints sealed with metal fasteners or butt tape.

See Sheathing Materials (BVDV) category in the Building Materials Directory for names of manufacturers. Any sheathing material meeting the above specifications and bearing the UL Classification Marking with a Flame Spread Index of 25 or less and a Smoke Developed Index of 50 or less may be used.

D. Tube Insulation-Plastics## - Nom 3/4 in. (19 mm) thick acrylonitrile butadiene/polyvinyl chloride (AB/PVC) flexible foam furnished in the form of tubing. When Item 3D is used, T Rating is 1/2 Hr

See Plastics (QMFZ2) category in the Plastics Recognized Component Directory for names of manufacturers. Any Recognized Component tube insulation meeting the above specifications and having a UL 94 Flammability Classification of 94-5VA may be used.

E. Pipe Covering Materials* - Cellular Glass Insulation - Nom 2 to 3 in. (51 to 76 mm) thick cellular glass units sized to the outside diam of the pipe or duct and supplied in nom 24 in. (610 mm) long half sections or nom 18 in.(457 mm) long segments. Pipe insulation installed on pipe in accordance with the manufacturer's instructions. When Item 3E is used, T Rating is 2 Hr.

PITTSBURGH CORNING CORP - FOAMGLAS

F. Metal Jacket - Used in conjunction with Item 3E. Min 12 in. (305 mm) long jacket formed from min 0.010 in. (0.25 mm) thick aluminum sheet cut to wrap tightly around the pipe insulation with a min 2 in. (51 mm) lap and secured using bands and seals of a similar material or min No. 18 AWG steel tie wire. Bands or steel tie wire to be located within 2 in. (51 mm) of each end of the jacket and spaced max 10 in. (254 mm) OC. Jacket installed with edge abutting surface of fill material (Item 9A) on top surface of floor or both surfaces of wall. Metal jacket to be used in addition to any other jacketing material which may be required on the pipe covering.

G. Pipe and Equipment Covering Materials* - Nom 2 to 3 in. (51 to 76 mm) thick hollow cylindrical calcium silicate (min 14 pcf or 224 kg/m3) units sized to the outside diam of the pipe or tube. Pipe insulation secured with stainless steel bands or min 8 AWG stainless steel wire spaced max 12 in. (305 mm) OC. When Item 3G is used, T Rating is 2 Hr.

4. Nonmetallic Penetrants - One or more nonmetallic pipes, conduits or tubes to be installed within the opening. Annulus between penetrants and periphery of opening is min 1 in. (25 mm) to max 6 in. (152 mm). Separation between metallic and nonmetallic penetrants is min 6 in. Penetrants rigidly supported on both sides of floor or wall assembly. The following types and sizes of nonmetallic pipes, conduits or tubing may be used:

A. Polyvinyl Chloride (PVC) Pipe - Nom 2 in. (51 mm) diam (or smaller) solid or cellular core Schedule 40 PVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.

B. Chlorinated Polyvinyl Chloride (CPVC) Pipe - Nom 2 in. (51 mm) diam (or smaller) SDR13.5 CPVC pipe for use in closed (process or supply) piping systems.

C. Rigid Nonmetallic Conduit+ - Nom 2 in. (51 mm) diam (or smaller) Schedule 40 PVC conduit installed in accordance with the National Electrical Code (NFPA 70).

D. Electrical Nonmetallic Tubing (ENT)+ - Nom 2 in. (51 mm) diam (or smaller) corrugated wall ENT formed of polyvinyl chloride (PVC) installed in accordance with the National Electrical Code (NFPA 70).

E. Optical Fiber Raceway+ - Nom 2 in. (51 mm) diam (or smaller) optical fibner raceway (innerduct). Optical fiber raceway installed in accordance with Article 770 of the National Electrical Code (NFPA 70).

When Item 4 is used, the T Rating of the firestop system is 2 hr.

5. Cables - Nom 4 in. (102 mm) diam (or smaller) tight bundle of cables. Annulus between cable bundle and periphery of opening is min 0 in. (point contact) to max 6 in. (152 mm). Separation between cable bundle and metallic or nonmetallic penetrants shall be min 6 in. (152 mm). Cable bundle rigidly supported on both sides of floor or wall assembly. The following types and sizes of cables may be used:

A. Max 1/C - 1000 kcmil cable with polyvinyl chloride (PVC) or cross-linked polyethylene (XLPE) insulation and jacket.

B. Max 7/C - No. 12 AWG cable with PVC-nylon insulation and PVC jacket.

C. Max 400 pair - No. 24 AWG copper conductor telephone cable with PVC insulation and jacket.

D. Max RG/U coaxial cables with fluorinated ethylene jacket and insulation.

E. Multiple fiber optic cables with PVC insulation.

F. Through Penetrating Products* - Max 4/C with ground No. 2/O AWG Metal-Clad Cable+.

AFC CABLE SYSTEMS INC

When cables are used, T Rating is 1/2 hr.

6. Cable Tray - Max 30 in. (762 mm) wide by max 6 in. (152 mm) deep open ladder cable tray with channel-shaped side rails formed from min 0.060 in. (1.5 mm) thick (No. 16 MSG) galv steel or min 0.060 in. (1.5 mm) thick aluminum with rungs spaced max 9 in. (229 mm) OC. A max of two cable trays may be installed within the opening with a min separation of 6 in. (203 mm) between trays. Annulus between the cable tray and the periphery of the opening is min 0 in. (point contact) to max 6 in. (152 mm). Separation between cable tray and metallic or nonmetallic penetrants is min 6 in. (152 mm). Cable trays to be rigidly supported on both sides of the floor or wall assembly. Aggregate cross-sectional area of cables in cable tray not to exceed 40 percent of the cross-sectional area of the cable tray based on a max 3 in. (76 mm) cable loading depth within tray. Any combination of the cable types specified in Item 5 may be used. When cable tray is used, T Rating is 1/2 hr.

7. Busway+ - Nom 19 in. (483 mm) wide (or smaller) by 6 in. (152 mm) deep "I" shaped aluminum enclosure containing factory-mounted copper bars rated for 600 V, 5000 A or max 26 in. (660 mm) wide by max 6 in. (152 mm) deep "I" shaped aluminum enclosure containing factory-mounted aluminum bars rated for 600 V, 4000 A . A max of two busways may be installed within the opening. The annular space between the busway and the periphery of the opening shall be a min 0 in. (point contact) to a max 5 in. (125 mm). Busways spaced min 6 in. (152 mm) from all other penetrants. Busway to be rigidly supported on both sides of floor or wall assembly. The busway shall bear the UL Listing Mark and shall be installed in accordance with all provisions of the National Electrical Code, NFPA 70. When busway is used, the T Rating is 1/4 hr.

8. Air Conditioning (AC) Line Set - One or more AC line sets installed within opening. Each AC line set consists of two pipes or tubes (Item 8A), tubing insulation (Item 8B) and a thermostat cable (Item 8C). The space between the AC line sets shall be min 2 in. (51 mm). The space between the AC line sets and the periphery of the opening shall be min 0 in. (point contact) to max 6 in. (152 mm). The AC line sets shall be spaced min 6 in. from uninsulated metallic penetrants and shall be rigidly supported on both sides of the floor or wall assembly.

8A. Through Penetrant - A max of two pipes or tubes to be installed in each AC line set. Of the two pipes or tubes, only one may have a nom diam greater than 1/2 in. (13 mm). The following types and sizes of through penetrants may be used:

A. Steel Pipe - Nom 1 in. (25 mm) diam (or smaller) Schedule 5 (or heavier) steel pipe.

B. Iron Pipe - Nom 1 in. (25 mm) diam (or smaller) cast or ductile iron pipe.

C. Copper Pipe - Nom 1 in. (25 mm) diam (or smaller) Regular (or heavier) copper pipe.

D. Copper Tube - Nom 1 in. (25 mm) diam (or smaller) Type L (or heavier) copper tube.

8B. Tube Insulation - Plastics## - Nom 3/4 in. (19 mm) thick acrylonitrile butadiene/polyvinyl chloride (AB/PVC) flexible foam furnished in the form of tubing. The tube insulation may be installed on one max 3/4 in. (19 mm) diam pipe or tube in each AC line set. The space between the insulated and uninsulated pipes or tubes within each AC line set shall be 0 in. (point contact).

See Plastics (QMFZ2) category in the Plastics Recognized Component Directory for names of manufacturers. Any Recognized Component tube insulation meeting the above specifications and having a UL 94 Flammability Classification of 94SVA may be used.

8C. Cable - One 4 pair No. 18 AWG (or smaller) thermostat cable with polyvinyl chloride (PVC) insulation and jacket materials may be installed with each AC line set.

When Item 8 is used, the T Rating of the firestop system is 1/4 hr.

9. Steel Duct - (Not Shown) Nom 12 in. (305 mm) diameter (or smaller) No. 30 GA (or heavier) steel duct installed within opening when opening contains no cables or cable tray. A max of two steel ducts may be installed within the through-opening. Ducts to be spaced min 4 in. (102 mm) apart and min 8 in. (203 mm) from insulated penetrants and nonmetallic penetrants. Annulus between the steel duct and the periphery of the opening shall be min 0 in. (point contact) to max 6 in. (0 to 152 mm). Steel ducts to be rigidly supported on both sides of floor or wall assembly. When steel duct is used, the T Rating is 0 hr.

10. Firestop System - The firestop system shall consist of the following items:

A. Packing Material - Min 4 in. (102 mm) thickness of min 4 pcf (64 kg/m3) mineral wool batt insulation tightly packed into opening. Packing material recessed from top surface of floor assembly or from both surfaces of wall or precast concrete units to accommodate the required thickness of fill material.

B. Fill, Void or Cavity Materials*-Sealant - Min 1/2 in. (13 mm) depth of fill material applied within the annulus, flush with top surface of floor assembly or with both surfaces of the wall assembly. Additional fill material forced into interstices of grouped cables and grouped cables within cable trays. At point contact location between through penetrant and concrete, a min 3/8 in. (9.6 mm) diam of fill material shall be applied at through penetrant/concrete interface on top surface of floor or both surfaces of the wall.

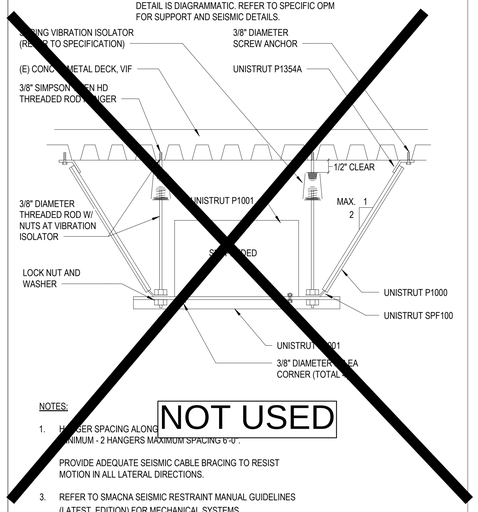
SPECIFIED TECHNOLOGIES INC - SpecSeal Series SSS Sealant or SpecSeal LCI Sealant

*Bearing the UL Classification Mark

#Bearing the UL Recognized Components Mark

+Bearing the UL Listing Mark

6 UL FIRE STOPPING SYSTEM C-AJ-813 — NO SCALE

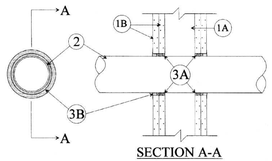


2 SUSPENDED EQUIPMENT (ECV-B2-1, BS-B2-1, BS-B2-2, FCU-B2-1, FCU-B2-2, EF-B2-1) — NO SCALE

System No. W-L-1089

F Ratings— 1 and 2 Hr (See Item 1)

T Rating—0 Hr



SECTION A-A

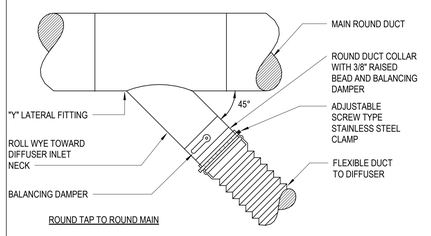
1. **Wall Assembly**—The fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner described in the individual U300 or U400 Series Wall or Partition Design in the UL Fire Resistance Directory and shall include the following construction features:
   A. **Studs**—Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 in. OC. Steel studs to be min 2-1/2 in. wide and spaced max 24 in. OC. When steel studs are used and the diam of opening exceeds the width of stud cavity, the opening shall be framed on all sides using lengths of steel stud installed between the vertical studs and screw-attached to the steel studs at each end. The framed opening in the wall shall be 4 to 6 in. wider and 4 to 6 in. higher than the diam of the penetrating item such that, when the penetrating item is installed in the opening, a 2 to 3 in. clearance is present between the penetrating item and the framing in all four sides.
   B. **Wallboard Gypsum***—5/8 in. thick, 4 ft wide with square or tapered edges. The gypsum wallboard type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300 or U400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 24-5/8 in. for steel stud walls. Max diam of opening is 14-1/2 in. for wood stud walls.

   The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.
2. **Through Penetrant**—One metallic pipe, conduit or tubing to be installed either concentrically or eccentrically within the firestop system. The annular space between pipe, conduit or tubing and the periphery of opening shall be min 1/8 in. to max 1/2 in. Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:
   A. **Steel Pipe**—Nom 24 in diam (or smaller) Schedule 10 (or heavier) steel pipe.
   B. **Iron Pipe**—Nom 24 in. diam (or smaller) cast or ductile iron pipe.
   C. **Conduit**—Nom 4 in. diam (or smaller) steel electrical metallic tubing or 6 in. diam steel conduit.
   D. **Copper Tubing**—Nom 6 in. diam (or smaller) Type L (or heavier) copper tubing.
   E. **Copper Pipe**—Nom 6 in. diam (or smaller) Regular (or heavier) copper pipe.
3. **Firestop System**—The firestop system shall consist of the following:
   A. **Packing Material**—In 2 hr fire-rated assemblies, min 2 in. thickness of min 4 pcf mineral wool batt insulation firmly packed into opening as a permanent form on both sides of wall. Packing material to be recessed from both surfaces of the wall as required to accommodate the required thickness of fill material. In 1 hr fire-rated assemblies, min 3-3/4 in. thickness of min 4 pcf mineral wool batt insulation firmly packed into opening as a permanent form. Packing material to be flush with both surfaces of the wall.
   B. **Fill, Void or Cavity Material*—Sealant**—In 2 hr fire-rated assemblies, 1/4 in. thickness of fill material applied within the annulus on both surfaces of wall. Additional fill material to be installed such that a min 1-1/4 in. thick crown is formed around the penetrating item and lapping a min 1/4 in. beyond the periphery of the opening. In 1 hr fire-rated assemblies, a min 1/2 in. thick crown is formed around the penetrating item and lapping a min 1/2 in. beyond the periphery of the opening on both surfaces of wall.

International Protective Coatings Corp.—FS 1900 Sealant

*Bearing the UL Classification Marking

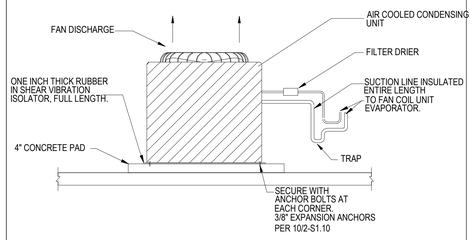
5 GYPSUM WALL PENETRATIONS W-L-1089 — NO SCALE



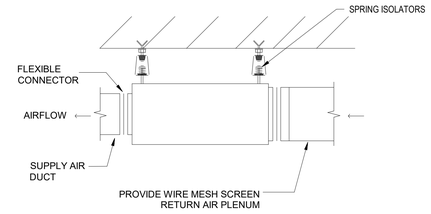
FLAT OVAL EQUIVALENT ROUND	
ROUND Ø	FLAT OVAL INCHES
6"	4x9
7"	5x10
8"	6x11
10"	6x11
12"	7x20
14"	8x22
16"	8x30

ROUND TAP TO RECTANGULAR MAIN (TAP LARGER THAN MAIN)

4 LOW PRESSURE BRANCH DUCT CONNECTIONS — NO SCALE



3 CONDENSING UNIT DETAIL (FLOOR MOUNTED) — NO SCALE



NOTES:

1. REFER TO 2/2-M5.01 FOR SUPPORT AND SEISMIC RESTRAINT DETAILS FOR SUSPENDED EQUIPMENT.

2. PROVIDE FLEXIBLE CONNECTIONS AT UNIT SUPPLY.

1 FAN COIL UNIT/ENERGY CORE VENTILATOR DETAIL — NOT TO SCALE

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery ARCHITECTURE
18294 Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA (DEP. DIR. PUBLIC WORKS)	ALEX AMERI (INTERIM DIR. PUBLIC WORKS)
PROJ. NO. 07481 & 07482	FILE NO. E-2157

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER TODD M. SIE No. M30765 MECHANICAL STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

MECHANICAL DETAILS

Drawn By: MCE Checked By: TMS

Scale: As indicated

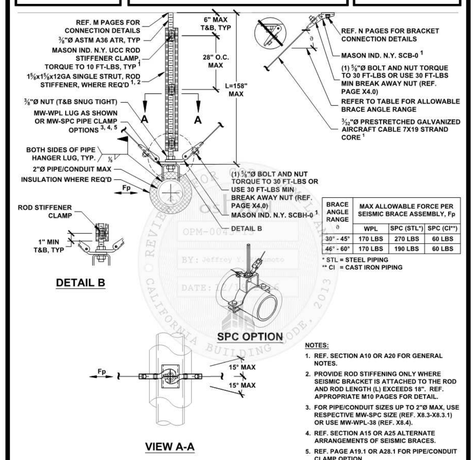
Date: October 4, 2019

Project No. B17.07369

2-M5.01
Drawing No.

If this drawing is not 30" x 42", it is a reduced print - scale accordingly. All rights reserved. Material may not be reproduced in any form without permission from RossDrulisCusenbery Architecture, Inc.

HANGER ROD DIAMETER = ⅜"	PIPING/CONDUIT TRANSVERSE SEISMIC CABLE BRACING SYSTEM 2"Ø PIPE/CONDUIT MAX	KIT OPTIONS C0T



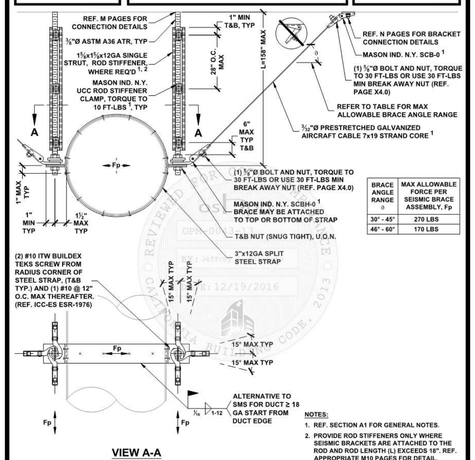
BRACE ANGLE RANGE ∂	MAX ALLOWABLE FORCE PER SEISMIC BRACE ASSEMBLY, Fp		
	WPL	SPC (STL)	SPC (CI**)
30° - 45°	170 LBS	270 LBS	60 LBS
46° - 60°	170 LBS	190 LBS	60 LBS

* STL = STEEL PIPING
** CI = CAST IRON PIPING

NOTES:
1. REF. SECTION A10 OR A20 FOR GENERAL NOTES.
2. PROVIDE ROD STIFFENING ONLY WHERE SEISMIC BRACKET IS ATTACHED TO THE ROD AND ROD LENGTH (L) EXCEEDS 18". REF. APPROPRIATE M10 PAGES FOR DETAIL.
3. FOR PIPE/CONDUIT SIZES UP TO 2"Ø MAX, USE RESPECTIVE MW-SPC SIZE (REF. X8.3-X8.3.1) OR USE MW-WPL-38 (REF. X6.4).
4. REF. SECTION A15 OR A25 ALTERNATE ARRANGEMENTS OF SEISMIC BRACES.
5. REF. PAGE A19.1 OR A28.1 FOR PIPE/CONDUIT CLAMP OPTION.

MASON WEST, INC.	Jiefu "Jeff" Zhang, SE	PAGE
1601 E. Miraloma Ave. Placentia, CA 92870 TEL (714) 630 - 0701, www.masonwest.com	California SE No. S5270	C2.10

HANGER ROD DIAMETER = ⅜"	ROUND DUCT ALL-DIRECTIONAL SEISMIC CABLE BRACING SYSTEM 30 PLF MAX	KIT OPTIONS TC0A

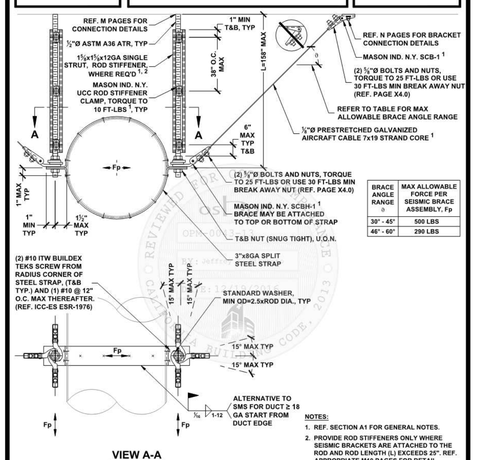


BRACE ANGLE RANGE ∂	MAX ALLOWABLE FORCE PER SEISMIC BRACE ASSEMBLY, Fp
30° - 45°	270 LBS
46° - 60°	170 LBS

NOTES:
1. REF. SECTION A1 FOR GENERAL NOTES.
2. PROVIDE ROD STIFFENERS ONLY WHERE SEISMIC BRACKETS ARE ATTACHED TO THE ROD AND ROD LENGTH (L) EXCEEDS 18". REF. APPROPRIATE M10 PAGES FOR DETAIL.

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HANGER ROD DIAMETER = ½"	ROUND DUCT ALL-DIRECTIONAL SEISMIC CABLE BRACING SYSTEM 60 PLF MAX	KIT OPTIONS TC1A

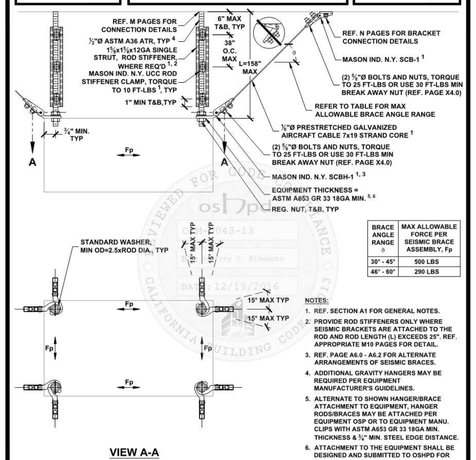


BRACE ANGLE RANGE ∂	MAX ALLOWABLE FORCE PER SEISMIC BRACE ASSEMBLY, Fp
30° - 45°	500 LBS
46° - 60°	290 LBS

NOTES:
1. REF. SECTION A1 FOR GENERAL NOTES.
2. PROVIDE ROD STIFFENERS ONLY WHERE SEISMIC BRACKETS ARE ATTACHED TO THE ROD AND ROD LENGTH (L) EXCEEDS 25". REF. APPROPRIATE M10 PAGES FOR DETAIL.

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HANGER ROD DIAMETER = ½"	SUSPENDED EQUIPMENT SEISMIC CABLE BRACING SYSTEM 375 LB MAX VERTICAL LOAD PER HANGER	KIT OPTIONS C1SE

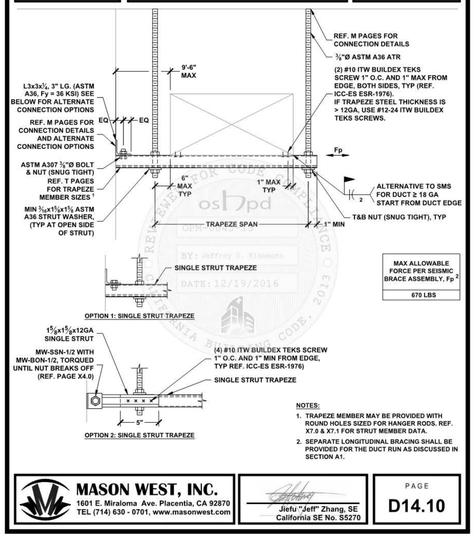


BRACE ANGLE RANGE ∂	MAX ALLOWABLE FORCE PER SEISMIC BRACE ASSEMBLY, Fp
30° - 45°	500 LBS
46° - 60°	290 LBS

NOTES:
1. REF. SECTION A1 FOR GENERAL NOTES.
2. PROVIDE ROD STIFFENERS ONLY WHERE SEISMIC BRACKETS ARE ATTACHED TO THE ROD AND ROD LENGTH (L) EXCEEDS 25". REF. APPROPRIATE M10 PAGES FOR DETAIL.
3. REF. PAGE A6.0 - A6.2 FOR ALTERNATE ARRANGEMENTS OF SEISMIC BRACES.
4. ADDITIONAL GRAVITY HANGERS MAY BE REQUIRED PER EQUIPMENT MANUFACTURER'S GUIDELINES.
5. ALTERNATE TO SHOWN HANGER/BRACE ATTACHMENT TO EQUIPMENT, HANGER RODS/BRACES MAY BE ATTACHED PER EQUIPMENT OSP OR TO EQUIPMENT MANU. CLIPS WITH ASTM A653 GR 33 18GA MIN THICKNESS & ½" MIN. STEEL EDGE DISTANCE.
6. ATTACHMENT TO THE EQUIPMENT SHALL BE DESIGNED AND SUBMITTED TO OSHPD FOR APPROVAL.

MASON WEST, INC.	Jiefu "Jeff" Zhang, SE	PAGE
1601 E. Miraloma Ave. Placentia, CA 92870 TEL (714) 630 - 0701, www.masonwest.com	California SE No. S5270	D12.11

HANGER ROD DIAMETER = ⅜"	RECTANGULAR DUCT TRANSVERSE TRAPEZE SEISMIC SOLID BRACING SYSTEM 30 PLF MAX	KIT OPTIONS TW38T

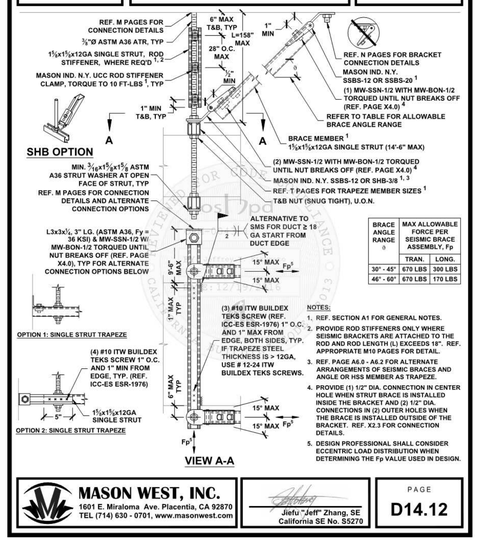


MAX ALLOWABLE FORCE PER SEISMIC BRACE ASSEMBLY, Fp [2]
670 LBS

NOTES:
1. TRAPEZE MEMBER MAY BE PROVIDED WITH ROUND HOLES SIZED FOR HANGER RODS. REF. X7.0 & X7.1 FOR STRUT MEMBER DATA.
2. SEPARATE LONGITUDINAL BRACING SHALL BE PROVIDED FOR THE DUCT RUN AS DISCUSSED IN SECTION A1.

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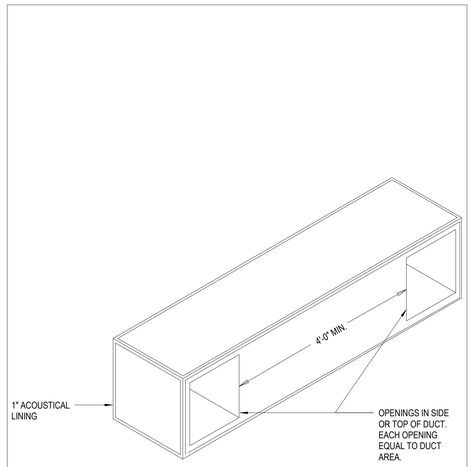
HANGER ROD DIAMETER = ⅜"	RECTANGULAR DUCT ALL-DIRECTIONAL TRAPEZE SEISMIC SOLID BRACING SYSTEM 30 PLF MAX	KIT OPTIONS TW38A



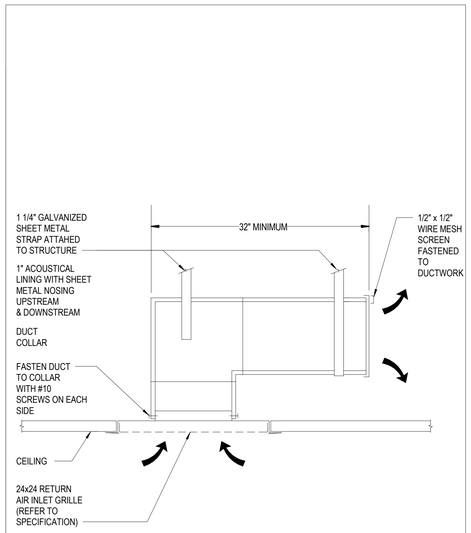
BRACE ANGLE RANGE ∂	MAX ALLOWABLE FORCE PER SEISMIC BRACE ASSEMBLY, Fp	
	TRAN.	LONG.
30° - 45°	670 LBS	300 LBS
46° - 60°	670 LBS	170 LBS

NOTES:
1. REF. SECTION A1 FOR GENERAL NOTES.
2. PROVIDE ROD STIFFENERS ONLY WHERE SEISMIC BRACKETS ARE ATTACHED TO THE ROD AND ROD LENGTH (L) EXCEEDS 18". REF. APPROPRIATE M10 PAGES FOR DETAIL.
3. REF. PAGE A6.0 - A6.2 FOR ALTERNATE ARRANGEMENTS OF SEISMIC BRACES AND ANGLE OR HSS MEMBER AS TRAPEZE.
4. PROVIDE (1) 1/2" DIA. CONNECTION IN CENTER HOLE WHEN STRUT BRACE IS INSTALLED INSIDE THE BRACKET AND (2) 1/2" DIA. CONNECTIONS IN (2) OUTER HOLES WHEN THE BRACE IS INSTALLED OUTSIDE OF THE BRACKET. REF. X2.3 FOR CONNECTION DETAILS.
5. DESIGN PROFESSIONAL SHALL CONSIDER ECCENTRIC LOAD DISTRIBUTION WHEN DETERMINING THE Fp VALUE USED IN DESIGN.

MASON WEST, INC.	Jiefu "Jeff" Zhang, SE	PAGE
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5 ACOUSTICAL TRANSFER BOOT — NO SCALE



1 ACOUSTICAL ELBOW ON RETURN AIR INLET — NO SCALE

NOTE: REFER TO MASON OPM'S PER THE FOLLOWING:
M-ATR VERTICAL HANGARS
- CONCRETE FILLED DECK - M2.10, M2.11, M2.12, M2.20, M2.21.1, M2.23, M2.70 - DO NOT SPACE CLOSER THAN 5' OC EW
- WIDE FLANGED STEEL - M3.10 - MAX 1 CON PER BEAM UNLESS SPACED 13' OC
- COLD FORMED STEEL – M6.10, 3/1-S4.31 - DO NOT SPACE CLOSER THAN 9'6" OC EW
- BARE METAL DECK - M7.10, M7.11, M7.12 - DO NOT SPACE CLOSER THAN 2' OC EW

N-SEISMIC BRACKET
- CONCRETE FILLED DECK - N2.10, N2.11, N2.12, N2.20, N2.21 - DO NOT SPACE CLOSER THAN 3' OC EW
- WIDE FLANGED STEEL – N3.11, N3.15 - MAX 1 CON PER BEAM UNLESS SPACED 12' OC
- COLD FORMED STEEL – 4/1-S4.31 - DO NOT SPACE CLOSER THAN 10' OC EW
- BARE METAL DECK - N7.10 - DO NOT SPACE CLOSER THAN 1'6" OC EW

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery ARCHITECTURE
18294 Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER
No. M35293
J M BRUSUSKIE
ELECTRICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

MECHANICAL DETAILS

Drawn By: Author
Checked By: Checker

Scale:
12" = 1'-0"

Date:
October 4, 2019

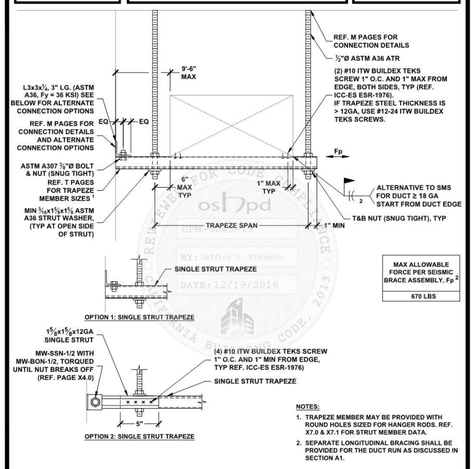
Project No. B17.07369

2-M5.02

Drawing No.

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HANGER ROD DIAMETER = ½"	RECTANGULAR DUCT TRANSVERSE TRAPEZE SEISMIC SOLID BRACING SYSTEM 60 PLF MAX	KIT OPTIONS TW50T



MAX ALLOWABLE FORCE PER SEISMIC BRACE ASSEMBLY, Fp [4]
670 LBS

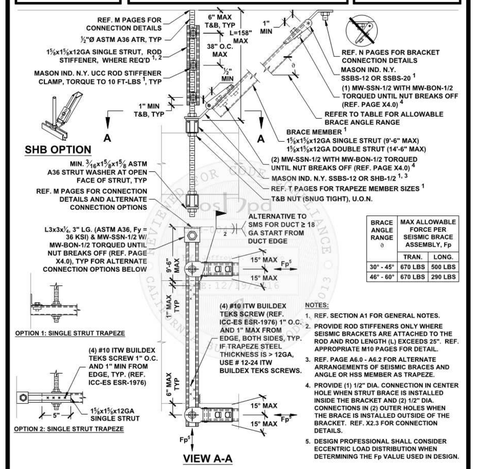
NOTES:
1. TRAPEZE MEMBER MAY BE PROVIDED WITH ROUND HOLES SIZED FOR HANGER RODS. REF. X7.0 & X7.1 FOR STRUT MEMBER DATA.
2. SEPARATE LONGITUDINAL BRACING SHALL BE PROVIDED FOR THE DUCT RUN AS DISCUSSED IN SECTION A1.

MASON WEST, INC.
1601 E. Miraloma Ave. Placentia, CA 92870
TEL (714) 630 - 0701, www.masonwest.com

Jiefu "Jeff" Zhang, SE
California SE No. S5270

PAGE **D14.20**

HANGER ROD DIAMETER = ½"	RECTANGULAR DUCT ALL-DIRECTIONAL TRAPEZE SEISMIC SOLID BRACING SYSTEM 60 PLF MAX	KIT OPTIONS TW50A



BRACE ANGLE RANGE ◊	MAX ALLOWABLE FORCE PER SEISMIC BRACE ASSEMBLY, Fp	
	TRAN.	LONG.
30° - 45°	670 LBS	500 LBS
46° - 60°	670 LBS	290 LBS

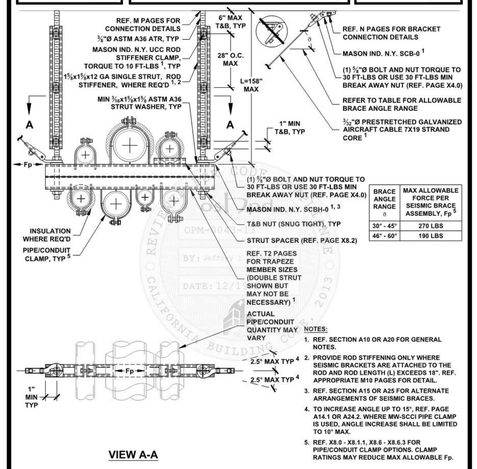
NOTES:
1. REF. SECTION A1 FOR GENERAL NOTES.
2. PROVIDE ROD STIFFENERS ONLY WHERE SEISMIC BRACKETS ARE ATTACHED TO THE ROD AND ROD LENGTH (L) EXCEEDS 25". REF. APPROPRIATE M10 PAGES FOR DETAIL.
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4. PROVIDE (1) 1/2" DIA. CONNECTION IN CENTER HOLE WHEN STRUT BRACE IS INSTALLED INSIDE THE BRACKET AND (2) 1/2" DIA. CONNECTIONS IN (2) OUTER HOLES WHEN THE BRACE IS INSTALLED OUTSIDE OF THE BRACKET. REF. X2.3 FOR CONNECTION DETAILS.
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TEL (714) 630 - 0701, www.masonwest.com

Jiefu "Jeff" Zhang, SE
California SE No. S5270

PAGE **D14.22**

HANGER ROD DIAMETER = ⅜"	PIPING/CONDUIT TRANSVERSE TRAPEZE SEISMIC CABLE BRACING SYSTEM 30 PLF MAX	KIT OPTIONS TC0T



BRACE ANGLE RANGE ◊	MAX ALLOWABLE FORCE PER SEISMIC BRACE ASSEMBLY, Fp [5]
30° - 45°	270 LBS
46° - 60°	190 LBS

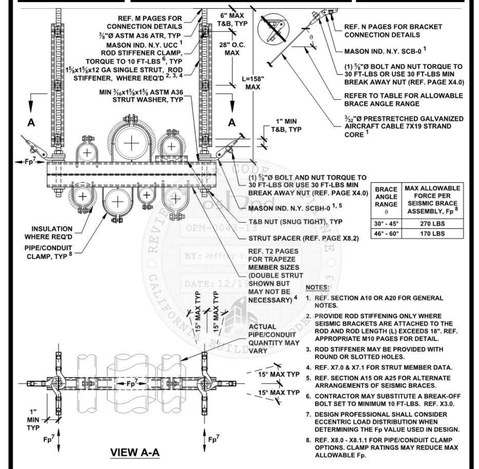
NOTES:
1. REF. SECTION A10 OR A20 FOR GENERAL NOTES.
2. PROVIDE ROD STIFFENING ONLY WHERE SEISMIC BRACKETS ARE ATTACHED TO THE ROD AND ROD LENGTH (L) EXCEEDS 18". REF. APPROPRIATE M10 PAGES FOR DETAIL.
3. REF. SECTION A15 OR A25 FOR ALTERNATE ARRANGEMENTS OF SEISMIC BRACES.
4. TO INCREASE ANGLE UP TO 15°, REF. PAGE A14.1 OR A24.2. WHERE MW-SCC PIPE CLAMP IS USED, ANGLE INCREASE SHALL BE LIMITED TO 15° MAX.
5. REF. X8.0 - X8.1.1, X8.6 - X8.6.3 FOR PIPE/CONDUIT CLAMP OPTIONS. CLAMP RATINGS MAY REDUCE MAX ALLOWABLE Fp.

MASON WEST, INC.
1601 E. Miraloma Ave. Placentia, CA 92870
TEL (714) 630 - 0701, www.masonwest.com

Jiefu "Jeff" Zhang, SE
California SE No. S5270

PAGE **F2.10**

HANGER ROD DIAMETER = ⅜"	PIPING/CONDUIT ALL-DIRECTIONAL TRAPEZE SEISMIC CABLE BRACING SYSTEM 30 PLF MAX	KIT OPTIONS TC0A



BRACE ANGLE RANGE ◊	MAX ALLOWABLE FORCE PER SEISMIC BRACE ASSEMBLY, Fp [5]
30° - 45°	270 LBS
46° - 60°	170 LBS

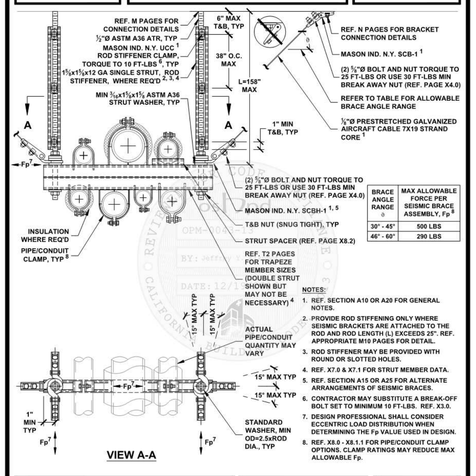
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3. ROD STIFFENER MAY BE PROVIDED WITH ROUND OR SLOTTED HOLES.
4. REF. X7.0 & X7.1 FOR STRUT MEMBER DATA.
5. REF. SECTION A15 OR A25 FOR ALTERNATE ARRANGEMENTS OF SEISMIC BRACES.
6. CONTRACTOR MAY SUBSTITUTE A BREAK-OFF BOLT SET TO MINIMUM 10 FT-LBS. REF. X3.0.
7. DESIGN PROFESSIONAL SHALL CONSIDER ECCENTRIC LOAD DISTRIBUTION WHEN DETERMINING THE Fp VALUE USED IN DESIGN.
8. REF. X8.0 - X8.1.1 FOR PIPE/CONDUIT CLAMP OPTIONS. CLAMP RATINGS MAY REDUCE MAX ALLOWABLE Fp.

MASON WEST, INC.
1601 E. Miraloma Ave. Placentia, CA 92870
TEL (714) 630 - 0701, www.masonwest.com

Jiefu "Jeff" Zhang, SE
California SE No. S5270

PAGE **F2.12**

HANGER ROD DIAMETER = ½"	PIPING/CONDUIT ALL-DIRECTIONAL TRAPEZE SEISMIC CABLE BRACING SYSTEM 60 PLF MAX	KIT OPTIONS TC1A



BRACE ANGLE RANGE ◊	MAX ALLOWABLE FORCE PER SEISMIC BRACE ASSEMBLY, Fp [5]
30° - 45°	500 LBS
46° - 60°	290 LBS

NOTES:
1. REF. SECTION A10 OR A20 FOR GENERAL NOTES.
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8. REF. X8.0 - X8.1.1 FOR PIPE/CONDUIT CLAMP OPTIONS. CLAMP RATINGS MAY REDUCE MAX ALLOWABLE Fp.

MASON WEST, INC.
1601 E. Miraloma Ave. Placentia, CA 92870
TEL (714) 630 - 0701, www.masonwest.com

Jiefu "Jeff" Zhang, SE
California SE No. S5270

PAGE **F2.22**

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- CONCRETE FILLED DECK - M2.10, M2.11, M2.12, M2.20, M2.21.1, M2.23, M2.70 - DO NOT SPACE CLOSER THAN 5' OC EW
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- BARE METAL DECK - M7.10, M7.11, M7.12 - DO NOT SPACE CLOSER THAN 2' OC EW

N-SEISMIC BRACKET
- CONCRETE FILLED DECK - N2.10, N2.11, N2.12, N2.20, N2.21 - DO NOT SPACE CLOSER THAN 3' OC EW
- WIDE FLANGED STEEL - N3.11, N3.15 - MAX 1 CON PER BEAM UNLESS SPACED 12' OC
- COLD FORMED STEEL – 4/1-S4.31 - DO NOT SPACE CLOSER THAN 10' OC EW
- BARE METAL DECK - N7.10 - DO NOT SPACE CLOSER THAN 1'6" OC EW

APPROVED
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RossDrulisCusenbery ARCHITECTURE
18294 Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
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DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER
No. M35285
J M BROWNEE
MECHANICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title
MECHANICAL DETAILS

Drawn By: Author Checked By: Checker

Scale: **12" = 1'-0"**

Date: **October 4, 2019**

Project No. B17.07369

2-M5.03
Drawing No.

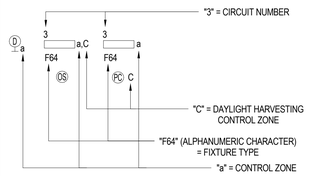
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ELECTRICAL LEGEND AND ABBREVIATIONS

FLOOR BOX LEGEND

POKE THROUGH PEDESTAL	
◑	COMBINATION DUPLEX RECEPTACLE/TELECOM OUTLET: 125V
◕	COMBINATION DOUBLE DUPLEX RECEPTACLE/ TELECOM OUTLET: 125V
▽	TELECOM OUTLET
⊙	POWER CONNECTION TO ELECTRIFIED FURNITURE SYSTEM
▼	TELECOM CONNECTION TO ELECTRIFIED FURNITURE SYSTEM
POKE THROUGH FLUSH	
◑	COMBINATION DUPLEX RECEPTACLE/TELECOM OUTLET: 125V
RECESSED FLUSH	
▯	SINGLE RECEPTACLE OUTLET: 125V
▯	DUPLEX RECEPTACLE OUTLET: 125V
▯	DUPLEX RECEPTACLE OUTLET: 125V, DEDICATED
▯	DOUBLE DUPLEX RECEPTACLE OUTLET: 125V
◑	COMBINATION DUPLEX RECEPTACLE/TELECOM OUTLET: 125V
◕	COMBINATION DOUBLE DUPLEX RECEPTACLE/TELECOM OUTLET: 125V
▽	TELECOM OUTLET
◕	RAISED FLOOR ACCESS BOX, COMBINATION DOUBLE DUPLEX RECEPTACLE/TELECOM: 125V

LIGHTING & CONTROL DEVICE SUBSCRIPT LEGEND



NOTE: OCCUPANCY SENSOR TYPICALLY CONTROLS ALL LIGHTS IN ROOM, UON.

CONTROL ZONE SUBSCRIPT KEY

a-z =	ZONE CONTROLLED BY MANUAL DEVICES AND OCCUPANCY SENSORS INDICATED
A-Z =	DAYLIGHT HARVESTING ZONE CONTROLLED BY PHOTOCELL INDICATED

EQUIPMENT NAMING LEGEND

E O U S - ATS BUS DPH DPL DSH DSL LP LPH LRC MCC MP MS PDU T TB TC - B 2 A / 1,3,5

- 1,3,5 = CIRCUIT NUMBER(S)
- A = FIRST OF THIS TYPE ON FLOOR
- 2 = BUILDING NUMBER
- B = BUILDING

ATS	AUTOMATIC TRANSFER SWITCH
BUS	BUSWAY
DPH	DISTRIBUTION PANEL 277/480V
DPL	DISTRIBUTION PANEL 120/208V
DSH	DISTRIBUTION SWITCHBOARD 277/480V
DSL	DISTRIBUTION SWITCHBOARD 120/208V
LP	BRANCH CIRCUIT PANELBOARD 120/208V
LPH	BRANCH CIRCUIT PANELBOARD 277/480V
LRC	LIGHTING RELAY CABINET
MCC	MOTOR CONTROL CENTER
MP	MECHANICAL EQUIPMENT PANELBOARD
MS	MAIN SWITCHBOARD
PDU	POWER DISTRIBUTION UNIT
T	TRANSFORMER
TB	TELECOM BACKBOARD
TC	TELECOM CABINET

E	EMERGENCY LIFE SAFETY
O	POWER OPTIONAL STANDBY
U	UPS POWER
S	LEGALLY REQUIRED STANDBY

WIRING DEVICE LEGEND

	SINGLE RECEPTACLE OUTLET: 125V; WALL MOUNTED
	DUPLEX RECEPTACLE OUTLET: 125V; WALL MOUNTED
	DUPLEX RECEPTACLE OUTLET: 125V TOP HALF SWITCHED
	DUPLEX RECEPTACLE OUTLET: 125V, DEDICATED; WALL MOUNTED
	DOUBLE DUPLEX RECEPTACLE OUTLET: 125V; WALL MOUNTED
	SPECIAL PURPOSE RECEPTACLE OUTLET: RATING AS INDICATED; WALL MOUNTED
	SINGLE RECEPTACLE OUTLET: 125V; CEILING MOUNTED
	DUPLEX RECEPTACLE OUTLET: 125V; CEILING MOUNTED
	DUPLEX RECEPTACLE OUTLET: 125V, DEDICATED; CEILING MOUNTED
	DOUBLE DUPLEX RECEPTACLE OUTLET: 125V; CEILING MOUNTED
	SPECIAL PURPOSE RECEPTACLE OUTLET: RATING AS INDICATED; CEILING MOUNTED
	PUSH BUTTON
	POWER TYPE PLUGSTRIP OR SURFACE RACEWAY, LENGTH APPROXIMATELY AS SHOWN
	POWER/TELECOM TYPE PLUGSTRIP OR SURFACE RACEWAY, LENGTH APPROXIMATELY AS SHOWN
	TELECOM OUTLET
TV	TELEVISION OUTLET
$	SINGLE POLE SWITCH
$2	DOUBLE POLE SWITCH
$3	THREE WAY SWITCH
$4	FOUR WAY SWITCH
$F	FAN SWITCH
$H	ILLUMINATED HANDLE SWITCH
$K	KEY SWITCH
D	WALL DIMMER
LV	LOW VOLTAGE SWITCH
PC	PHOTOCELL
OS	OCCUPANCY SENSOR; WALL MOUNTED
OS	2 WAY OCCUPANCY SENSOR; CEILING MOUNTED
OS	1 WAY OCCUPANCY SENSOR; CEILING MOUNTED
OS	CORRIDOR OCCUPANCY SENSOR; CEILING MOUNTED

WIRING DEVICE SUBSCRIPT LEGEND

AC	AC = ABOVE COUNTER
GFI	GFI = GROUND FAULT INTERRUPTER
IG	IG = ISOLATED GROUND
WP	WP = WEATHERPROOF
a	a = LOWER CASE LETTER INDICATES SWITCH CONTROL
6	6 = NUMBER INDICATES CIRCUIT NUMBER
IG	IG = ISOLATED GROUND (ONE OF DOUBLE DUPLEX)
$a	a = LOWER CASE INDICATES SWITCH CONTROL
D	FOR WALL DIMMER DEVICES INDICATING MULTIPLE ZONES, PROVIDE CAPABILITY TO DIM EACH ZONE SEPARATELY. PROVIDE BUTTONS/DEVICE QUANTITY AS REQUIRED TO MEET INTENT.

FIRE ALARM LEGEND

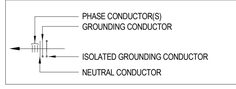
P	MANUAL PULL STATION
2	AREA SMOKE DETECTOR, CEILING MOUNTED (SMOKE DETECTOR, SEMI-FLUSH MOUNTED IN CEILING)
2	AREA SMOKE DETECTOR, WALL MOUNTED
2	DUCT TYPE SMOKE DETECTOR
I	HEAT DETECTOR, CEILING MOUNTED
W	SPRINKLER WATER FLOW SWITCH
T	SPRINKLER TAMPER SWITCH
H	FIRE ALARM HORN; CEILING MOUNTED
H	FIRE ALARM HORN; WALL MOUNTED
H	COMBINATION FIRE ALARM HORN/VISUAL ALARM; WALL MOUNTED
	VISUAL ALARM; CEILING MOUNTED
	VISUAL ALARM; WALL MOUNTED
H	MAGNETIC DOOR HOLDER
	FIRE ALARM BELL
FSD	FIRE/SMOKE DAMPER
SD	SMOKE DAMPER
FACP	FIRE ALARM AND CONTROL PANEL
FARP	FIRE ALARM REMOTE PANEL
FATC	FIRE ALARM TERMINAL CABINET
FARA	FIRE ALARM REMOTE ANNUNCIATOR
FTS	FIREFIGHTER'S TELEPHONE SYSTEM
VCS	VOICE COMMUNICATION SYSTEM
FCIP	FIREFIGHTER'S CONTROL AND INDICATING PANEL
FPSP	FIRE PUMP REMOTE STATUS PANEL
GSP	GENERATOR REMOTE STATUS PANEL

PROGRAMMABLE LIGHTING & RECEPTACLE CONTROL SYSTEM DEVICE LEGEND

$	SWITCH
D	DIMMER
PC	PHOTOCELL
OS	OCCUPANCY SENSOR; WALL MOUNTED
OS	2 WAY OCCUPANCY SENSOR; CEILING MOUNTED
OS	1 WAY OCCUPANCY SENSOR; CEILING MOUNTED
OS	CORRIDOR OCCUPANCY SENSOR; CEILING MOUNTED
#B	MULTI-BUTTON KEYPAD, # INDICATES QTY OF BUTTONS
#S	MULTI-BUTTON PRESET SCENE CONTROLLER WITH MASTER RAISE/LOWER, # INDICATES QTY OF SCENE BUTTONS
C	GRAPHICAL INTERFACE CONTROLLER

RACEWAY LEGEND

	CONDUIT CONCEALED ABOVE CEILING OR WITHIN WALL
	CONDUIT BELOW GRADE OR EMBEDDED WITHIN SLAB
	CONDUIT UP
	CONDUIT DOWN
	CONDUIT STUBBED OUT WITH BUSHING NOTE: PROVIDE PULLSTRING IN EACH EMPTY RACEWAY
	CONDUIT STUBBED OUT AND CAPPED NOTE: PROVIDE PULLSTRING IN EACH EMPTY RACEWAY
AV	AUDIO/VISUAL SYSTEM RACEWAY
E	ELECTRICAL SYSTEM RACEWAY
G	GROUNDING SYSTEM RACEWAY
FA	FIRE ALARM SYSTEM RACEWAY
S	SECURITY SYSTEM RACEWAY NOTE: PROVIDE PULLSTRING IN EACH EMPTY RACEWAY
T	TELECOM SYSTEM RACEWAY NOTE: PROVIDE PULLSTRING IN EACH EMPTY RACEWAY
	CONDUIT HOMERUN, MAXIMUM OF (3) BRANCH CIRCUITS, UON NOTE: MAXIMUM OF THREE BRANCH CIRCUITS FOR EACH HOMERUN, UON



POWER LEGEND

	ATS, CPC, DPH, DPL, DSH, DSL, MCC OR MS: SIZE APPROXIMATELY AS SHOWN. DOUBLE LINE INDICATES FRONT.
	SURFACE MOUNTED LPH, LRC, MP OR TC: SIZE APPROXIMATELY AS SHOWN
	RECESSED MOUNTED LPH, LRC, MP OR TC: SIZE APPROXIMATELY AS SHOWN
	SURFACE MOUNTED LP: SIZE APPROXIMATELY AS SHOWN
	RECESSED MOUNTED LP: SIZE APPROXIMATELY AS SHOWN
	TB: LENGTH APPROXIMATELY AS SHOWN
T/F	STEP DOWN TRANSFORMER
G	GENERATOR IN WP ENCLOSURE
	AUTOMATIC TRANSFER SWITCH
	HEAVY DUTY DISCONNECT SWITCH
	HEAVY DUTY DISCONNECT SWITCH WITH FUSE
	MOTOR STARTER
MS	MOTOR STARTER, NOT PROVIDED UNDER ELECTRICAL SCOPE
	COMBINATION MOTOR STARTER/DISCONNECT SWITCH
MS	COMBINATION MOTOR STARTER/DISCONNECT SWITCH, NOT PROVIDED UNDER ELECTRICAL SCOPE
VFD	VFD WITH DISCONNECT, NOT PROVIDED UNDER ELECTRICAL SCOPE
VFD	VFD WITHOUT DISCONNECT, NOT PROVIDED UNDER ELECTRICAL SCOPE
EPO	EMERGENCY POWER OFF BUTTON
$MD	MOTORIZED DOOR CONTROLLER (FURNISHED WITH DOOR)
$MS	MOTORIZED SHADE CONTROLLER (FURNISHED WITH SHADES)
$PS	PROJECTION SCREEN CONTROLLER (FURNISHED WITH SCREEN)
$T	THERMAL OVERLOAD/DISCONNECT SWITCH
M	MOTOR CONNECTION
J	JUNCTION BOX, CEILING MOUNTED
J	JUNCTION BOX, WALL MOUNTED
P/B	PULL BOX
G	GROUND BUS CABINET
	GROUND ROD
	GROUND TEST WELL
	CIRCUIT BREAKER
	SWITCH AND FUSE
	CIRCUIT BREAKER IN ENCLOSURE
M	CURRENT TRANSFORMER COMPARTMENT AND KWH METER
GFR	GROUND FAULT RELAY
	NORMALLY OPEN CONTACT
	NORMALLY CLOSED CONTACT
	TRANSFORMER
R	PILOT LIGHT; A = AMBER LIGHT, G = GREEN LIGHT R = RED LIGHT, Y = YELLOW LIGHT
CT 1-1	EQUIPMENT DESIGNATION (EQUIPMENT TYPE / NUMERICAL DESIGNATION) REFER TO EQUIPMENT CONNECTION SCHEDULE FOR CONNECTION DETAILS

LIGHTING LEGEND

	LIGHTING FIXTURE; CEILING MOUNTED
	LIGHTING FIXTURE; WALL MOUNTED
	LIGHTING FIXTURE, SIZE APPROXIMATELY AS SHOWN; CEILING MOUNTED
	LIGHTING FIXTURE, SIZE APPROXIMATELY AS SHOWN; WALL MOUNTED
	LIGHTING FIXTURE CONNECTED TO EMERGENCY POWER SYSTEM
	LIGHTING FIXTURE, CONTINUOUS ROW; CEILING MOUNTED
	LIGHTING FIXTURE, WALL WASHER; CEILING MOUNTED
	LIGHTING FIXTURE(S); POLE MOUNTED
2 a / A	LIGHTING FIXTURE SUBSCRIPTIONS: NUMBER INDICATES CIRCUIT, LOWERCASE LETTER INDICATES SWITCH CONTROL UPPERCASE LETTER INDICATES FIXTURE TYPE
EXIT SIGNS	ARROWS AS SHOWN, ILLUMINATED FACE AS INDICATED BY SHADING, CONNECT TO EMERGENCY POWER SYSTEM
	EXIT SIGN; WALL MOUNTED
	EXIT SIGN; CEILING MOUNTED
R	EXIT SIGN; RECESSED IN WALL
P	EXIT SIGN; PENDENT MOUNTED
L	EXIT SIGN, LOW LEVEL; RECESSED IN WALL

ABBREVIATIONS

℄	CENTER LINE
AFF	ABOVE FINISHED FLOOR
AIC	AMPERES INTERRUPTING CAPACITY
AF/AS	AMPERE RATING OF FUSE/SWITCH
AT/AF	AMPERE RATING OF CIRCUIT, BREAKER TRIP/FRAME
A/V	AUDIO/VISUAL
BMS	BUILDING MANAGEMENT SYSTEM
CKT	CIRCUIT
COPS	CRITICAL OPERATIONS POWER SYSTEM
DPDT	DOUBLE POLE DOUBLE THROW
DPST	DOUBLE POLE SINGLE THROW
EC	EMPTY CONDUIT
ELEV	ELEVATOR
EMT	ELECTRICAL METALLIC TUBING
FCC	FIRE CONTROL CENTER
GFI	GROUND FAULT INTERRUPTOR
GND	GROUND
IDF	INTERMEDIATE DISTRIBUTION FRAME ROOM
IG	ISOLATED GROUND
MCP	MOTOR CIRCUIT PROTECTOR
MDF	MAIN DISTRIBUTION FRAME ROOM
MIC	MINERAL INSULATED CABLE
MS	MAIN SWITCHBOARD
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
NTS	NOT TO SCALE
PVC	POLYVINYL CHLORIDE CONDUIT
RAC	RIGID ALUMINUM CONDUIT
RSC	RIGID STEEL CONDUIT
SCC	SECURITY CONTROL CENTER
SPDT	SINGLE POLE DOUBLE THROW
SPST	SINGLE POLE SINGLE THROW
TEL	TELECOM
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSION
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
UPS	UNINTERRUPTIBLE POWER SUPPLY
WP	WEATHERPROOF
WT	WATERTIGHT
XP	EXPLOSION PROOF

HAYWARD FIRE TRAINING FACILITY
BUILDING 2 - ELECTRICAL DRAWING LIST
7/19/2019
WSP PROJECT: B17.07369.000

DRAWING NUMBER	DRAWING NAME	SCALE	50%CD 1/17/2018	90%CD 11/2/2018	100%CD 7/19/2019
2-E0.01	ELECTRICAL LEGEND, ABBREVIATIONS AND DRAWING LIST	NTS	X	X	X
2-E0.02	ELECTRICAL SCHEDULES	NTS	X	X	X
2-E0.03	ELECTRICAL SCHEDULES	NTS		X	X
2-E0.10	ELECTRICAL LIGHT FIXTURE SCHEDULES	NTS	X	X	X
2-E0.11	ELECTRICAL LIGHT FIXTURE SCHEDULES	NTS		X	X
2-E0.20	ELECTRICAL TITLE 24	NTS		X	X
2-E0.21	ELECTRICAL TITLE 24	NTS		X	X
2-E0.22	ELECTRICAL TITLE 24	NTS		X	X
2-E0.23	ELECTRICAL TITLE 24	NTS		X	X
2-E2.01	ELECTRICAL APPARATUS BUILDING FLOOR PLAN	1/8" = 1'-0"	X	X	X
2-E5.01	ELECTRICAL RISER DIAGRAM	NTS	X	X	X
2-E5.02	ELECTRICAL GROUNDING DIAGRAM	NTS	X	X	X
2-E5.03	LIGHTING CONTROL SINGLE LINE DIAGRAM	NTS		X	X
2-E6.01	ELECTRICAL DETAILS	NTS		X	X
2-E6.02	ELECTRICAL DETAILS	NTS			X

September 13, 2016

MEP Component Anchorage Note

All mechanical, plumbing, and electrical components shall be anchored and installed per the details on the DSA approved construction documents. Where no detail is indicated, the following components shall be anchored or braced to meet the force and displacement requirements prescribed in the 2016 CBC, Sections 1616A.1.18 through 1616A.1.26 and ASCE 7-10 Chapter 13, 26 and 30.

1. All permanent equipment and components.
2. Temporary or movable equipment that is permanently attached (e.g. hard wired) to the building utility services such as electricity, gas or water.
3. Movable equipment which is stationed in one place for more than 8 hours and heavier than 400 pounds or has a center of mass located 4 feet or more above the adjacent floor or roof level that directly support the component are required to be anchored with temporary attachments.

The following mechanical and electrical components shall be positively attached to the structure, but the attachment need not be detailed on the plans. These components shall have flexible connections provided between the component and associated ductwork, piping, and conduit.

A. Components weighing less than 400 pounds and have a center of mass located 4 feet or less above the adjacent floor or roof level that directly support the component.
B. Components weighing less than 20 pounds, or in the case of distributed systems, less than 5 pounds per foot, which are suspended from a roof or floor or hung from a wall.

For those elements that do not require details on the approved drawings, the installation shall be subject to the approval of the design professional in general responsible charge or structural engineer delegated responsibility and the DSA District Structural Engineer. The project inspector will verify that all components and equipment have been anchored in accordance with above requirements.

Piping, Ductwork, and Electrical Distribution System Bracing Note

Piping, ductwork, and electrical distribution systems shall be braced to comply with the forces and displacements prescribed in ASCE 7-10 Section 13.3 as defined in ASCE 7-10 Section 13.6.5.6, 13.6.7, 13.6.8, and 2016 CBC, Sections 1616A.1.24, 1616A.1.25 and 1616A.1.26.

The method of showing bracing and attachments to the structure for the identified distribution system are as noted below. When bracing and attachments are based on a preapproved installation guide (e.g., SMACNA or OSHPD OPM), copies of the bracing system installation guide or manual shall be available on the jobsite prior to the start of and during the hanging and bracing of the distribution systems. The Structural Engineer of Record shall verify the adequacy of the structure to support the hanger and brace loads.

Mechanical Piping (MP), Mechanical Ducts (MD), Plumbing Piping (PP), Electrical Distribution Systems (E):

MP☐MD☐PP☐ E☐ - Option 1: Detailed on the approved drawings with project specific notes and details.

MP☐MD☐PP☐ E☒ - Option 2: Shall comply with the applicable OSHPD Pre-Approval (OPM #) # OPM-0043-13 MASON WEST

MP☐MD☐PP☐ - Option 3: Shall comply with the SMACNA Seismic Restraint Manual, OSHPD Edition (2009), including any addenda. Fasteners and other attachments not specifically identified in the SMACNA Seismic Restraint Manual, OSHPD Edition, are detailed on the approved drawings with project specific notes and details. The details shall account for the applicable Seismic Hazard Level _____ and Connection Level _____ for the project and conditions.

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC: 01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
A ARCHITECTURE
18294 Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

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HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

No.

REVISIONS

No.	Description	Date

PE

REGISTERED PROFESSIONAL ENGINEER
AMANDA J. BROWNLEE
No. E17287
ELECTRICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

ELECTRICAL LEGEND, ABBREVIATIONS AND DRAWING LIST

Drawn By ELW Checked By AJB

Scale: NTS

Date: October 4, 2019

Project No. B17.07369

2-E0.01
Drawing No.

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PRELIMINARY DESIGN NOT FOR CONSTRUCTION

10/14/2019 5:30:55 PM BIM 360://B17.07369-HWD Fire Training Center/07369_Hayward_Fire_Training_Center_MEPT_2017.rvt

EQUIPMENT CONNECTION DESIGNATIONS LEGEND

DESIGNATION	DESCRIPTION	DESIGNATION	DESCRIPTION	DESIGNATION	DESCRIPTION
AC	AIR CONDITIONING UNIT	EWH	ELECTRIC WATER HEATER	P	PUMP
ACC	AIR COOLED CONDENSER	FCU	FAN COIL UNIT	PS	PROJECTION SCREEN
AHU	AIR HANDLING UNIT	FOA	FUEL OIL ALARM PANEL	REF	REFRIGERATOR
BC	BATTERY CHARGER	FOP	FUEL OIL PUMP	RF	RETURN FAN
BMS	BMS PANEL	FMS	FMS PANEL	RTU	ROOF TOP UNIT
CA	COMPRESSOR AIR	FP	FIRE PUMP	SD	SMOKE DAMPER
CF	CEILING FAN	FPB	FAN POWER BOX	SE	SEWAGE EJECTOR
CH	CHILLER	FSD	FIRE/SMOKE DAMPER	SF	SUPPLY FAN
COMP	COMPRESSOR	GD	GARBAGE DISPOSAL	SP	SUMP PUMP
COP	COPIER	GS	GRAPHIC SIGNAGE	UH	UNIT HEATER
CP	CIRCULATING PUMP	HP	HEAT PUMP	VAV	VAV BOX ELECTRIC HEAT
CU	CONDENSING UNIT	HV	HEATING/VENTILATING UNIT	VM	VENDING MACHINE
DA	DRIER AIR	IH	INSTANT HOT WATER HEATER	VFD	VARIABLE FREQUENCY DRIVE
DF	DUCT FURNACE	IM	ICE MACHINE	TYPE DP	DUPLEX PUMP
DWBP	DOMESTIC WATER BOOSTER PUMP	JP	JOCKEY PUMP	TYPE FR	FRACTIONAL HP MOTOR
ECH	ELECTRIC CABINET HEATER	JWH	JACKET WATER HEATER	TYPE FWS	FURNISHED WITH STARTER
ECV	ENERGY CORE VENTILATOR	MCS	MOTOR CONNECTION SCHEDULE	TYPE M	MOTOR WITH STARTER
EDH	ELECTRIC DUCT HEATER	MD	MOTORIZED DOOR OR GATE	TYPE SPC	SINGLE POINT CONNECTION
EF	EXHAUST FAN	MS	MOTORIZED SHADE	TYPE VFD	VARIABLE FREQUENCY DRIVE
EHC	ELECTRIC HEATING COIL	MUA	MAKE UP AIR UNIT		
ELEV	ELEVATOR	MW	MICROWAVE OVEN		
EUH	ELECTRIC UNIT HEATER	OH	OIL HEATER		
EWC	ELECTRIC WATER COOLER				

EQUIPMENT CONNECTION SCHEDULE

DESIGNATION	HP	FLA	KVA	VOLT-AGE	PH	POWER SOURCE	CONNECTION TYPE	BRANCH CIRCUIT WIRING	REMARKS
CU-B2-1		19.00		480	3	LPH-B2A	SPC	3#8, 1#10G, 0.75"C	
BS-B2-1		0.60		208	1	LP-B2A	SPC	2#12, 1#12G, 0.5"C	
BS-B2-2		0.10		208	1	LP-B2A	SPC	2#12, 1#12G, 0.5"C	
AC-B2-1		0.6		230	1	LPH-B2A	SPC	2#12, 1#12G, 0.5"C	PROVIDE CONDENSATE PUMP, SAME CKT AS OUTDOOR UNIT CU-B2-1
AC-B2-2		0.6		230	1	LPH-B2A	SPC	2#12, 1#12G, 0.5"C	PROVIDE CONDENSATE PUMP, SAME CKT AS OUTDOOR UNIT CU-B2-1
AC-B2-3		0.6		230	1	LPH-B2A	SPC	2#12, 1#12G, 0.5"C	PROVIDE CONDENSATE PUMP, SAME CKT AS OUTDOOR UNIT CU-B2-1
AC-B2-4		0.6		230	1	LPH-B2A	SPC	2#12, 1#12G, 0.5"C	PROVIDE CONDENSATE PUMP, SAME CKT AS OUTDOOR UNIT CU-B2-1
AC-B2-5		0.6		230	1	LPH-B2A	SPC	2#12, 1#12G, 0.5"C	PROVIDE CONDENSATE PUMP, SAME CKT AS OUTDOOR UNIT CU-B2-1
AC-B2-6		0.6		230	1	LPH-B2A	SPC	2#12, 1#12G, 0.5"C	PROVIDE CONDENSATE PUMP, SAME CKT AS OUTDOOR UNIT CU-B2-1
FCU-B2-1		1.4		208	1	LPH-B2A	SPC	2#12, 1#12G, 0.5"C	PROVIDE CONDENSATE PUMP, SAME CKT AS OUTDOOR UNIT CU-B2-1
FCU-B2-2		1.4		208	1	LPH-B2A	SPC	2#12, 1#12G, 0.5"C	PROVIDE CONDENSATE PUMP, SAME CKT AS OUTDOOR UNIT CU-B2-1
EF-B2-1	7 1/2			480	3	LPH-B2A	SPC	MCS	
CF-B2-1	1			480	3	LPH-B2A	SPC	MCS	
CF-B2-2	1			480	3	LPH-B2A	SPC	MCS	
CF-B2-3	1			480	3	LPH-B2A	SPC	MCS	
ECV-B2-1		6.8		480	3	LPH-B2A	SPC	3#12, 1#12G, 0.5"C	
RCP-2-1		1.75		120	1	LP-B2A	SPC	2#12, 1#12G, 0.5"C	
CA-2-1	5			208	1	LP-B2A	SPC	2#8, 1#10G, 0.75"C	
DA-2-1	5			208	1	LP-B2A	SPC	2#8, 1#10G, 0.75"C	

MOTOR CONNECTION SCHEDULE: 208V-3 PHASE

HP	SHORT-CIRCUIT & GROUND FAULT		SWITCH AMPS	OVERLOAD FUSE AMPS	BRANCH CIRCUIT AMPACITY	GROUNDING CONDUCTOR SIZE	STARTER SIZE NEMA
	CIRCUIT BREAKER	FUSE SIZE					
1/2	15A	6A	30	2.5	15	#12	1
3/4	15A	10A	30	3.5	15	#12	1
1	15A	10A	30	5	15	#12	1
1 1/2	15A	15A	30	7	15	#12	1
2	15A	15A	30	9	15	#12	1
3	20A	20A	30	15	20	#12	1
5	35A	30A	30	20	30	#10	1
7 1/2	50A	45A	60	30	40	#10	2
10	60A	60A	60	40	50	#10	3
15	90A	90A	100	60	70	#8	3
20	100A	110A	100	80	80	#6	3
25	125A	150A	100	90	100	#6	4
30	150A	175A	200	110	125	#6	4
40	200A	200A	200	150	175	#6	5
50	250A	300A	200	175	200	#4	5
60	300A	300A	400	200	225	#4	5
75	350A	400A	400	250	300	#2	6
100	450A	500A	400	350	400	#2	6
125	600A	600A	600	450	450	#1	6
150	700A	700A	600	500	600	#1/0	6

REFER TO WIRING SCHEDULE FOR BRANCH CIRCUIT REQUIREMENTS
SIZES BASED ON COPPER CONDUCTORS

MOTOR CONNECTION SCHEDULE: 480V-3 PHASE

HP	SHORT-CIRCUIT & GROUND FAULT		SWITCH AMPS	OVERLOAD FUSE AMPS	BRANCH CIRCUIT AMPACITY	GROUNDING CONDUCTOR SIZE	STARTER SIZE NEMA
	CIRCUIT BREAKER	FUSE SIZE					
1/2	15A	4A	30	1.125	15	#12	1
3/4	15A	4A	30	1.6	15	#12	1
1	15A	6A	30	2	15	#12	1
1 1/2	15A	6A	30	2.8	15	#12	1
2	15A	6A	30	4	15	#12	1
3	15A	10A	30	5.6	15	#12	1
5	15A	15A	30	9	20	#12	1
7 1/2	25A	20A	30	15	20	#10	1
10	35A	25A	30	17.5	20	#10	2
15	45A	40A	30	25	30	#10	2
20	50A	50A	60	35	40	#10	2
25	70A	60A	60	40	50	#8	3
30	70A	70A	60	45	50	#8	3
40	100A	100A	100	60	70	#8	3
50	125A	125A	100	80	90	#6	4
60	150A	150A	200	90	100	#6	4
75	150A	175A	200	110	125	#6	4
100	175A	225A	200	150	175	#4	5
125	250A	300A	200	200	200	#4	5
150	300A	350A	400	225	225	#2	5
200	400A	450A	400	300	300	#2	5

REFER TO WIRING SCHEDULE FOR BRANCH CIRCUIT REQUIREMENTS
SIZES BASED ON COPPER CONDUCTORS

120V, 1-PHASE COPPER WIRE

MAXIMUM LENGTH OF CONDUCTOR IN FT TO BE USED PER VA AND WIRE SIZE

kVA	CONDUCTOR SIZE						
	#12	#10	#8	#6	#4	#2	#1
0.4	280ft	446ft	694ft	1,100ft	1,753ft	2,784ft	3,506ft
0.8	140ft	223ft	347ft	550ft	877ft	1,392ft	1,753ft
1.2	93ft	149ft	231ft	367ft	584ft	928ft	1,169ft
1.6	70ft	112ft	174ft	275ft	438ft	696ft	877ft
2.0	56ft	89ft	139ft	220ft	351ft	557ft	701ft
2.4	47ft	74ft	116ft	183ft	292ft	464ft	584ft
2.8	-	64ft	99ft	157ft	250ft	398ft	501ft
3.2	-	56ft	87ft	137ft	219ft	348ft	438ft
3.6	-	50ft	77ft	122ft	195ft	309ft	390ft
4.0	-	-	69ft	110ft	175ft	278ft	351ft
4.4	-	-	63ft	100ft	159ft	253ft	319ft
4.8	-	-	58ft	92ft	146ft	232ft	292ft
5.2	-	-	-	85ft	135ft	214ft	270ft
5.6	-	-	-	79ft	125ft	199ft	250ft
6.0	-	-	-	73ft	117ft	186ft	234ft
6.4	-	-	-	69ft	110ft	174ft	219ft
6.8	-	-	-	-	103ft	164ft	206ft
7.2	-	-	-	-	97ft	155ft	195ft
7.6	-	-	-	-	92ft	147ft	185ft
8.0	-	-	-	-	88ft	139ft	175ft
8.4	-	-	-	-	83ft	133ft	167ft
8.8	-	-	-	-	-	127ft	159ft
9.2	-	-	-	-	-	121ft	152ft
9.6	-	-	-	-	-	116ft	146ft
10.0	-	-	-	-	-	111ft	140ft
10.4	-	-	-	-	-	107ft	135ft
10.8	-	-	-	-	-	103ft	130ft
11.2	-	-	-	-	-	99ft	125ft
11.6	-	-	-	-	-	-	121ft
12.0	-	-	-	-	-	-	117ft
12.4	-	-	-	-	-	-	113ft
12.8	-	-	-	-	-	-	110ft
13.2	-	-	-	-	-	-	106ft
13.6	-	-	-	-	-	-	-
14.0	-	-	-	-	-	-	-
14.4	-	-	-	-	-	-	-
14.8	-	-	-	-	-	-	-
15.2	-	-	-	-	-	-	-
15.6	-	-	-	-	-	-	-
16.0	-	-	-	-	-	-	-

BASED ON 3% VOLTAGE DROP ALLOWED FOR BRANCH CIRCUITS PER TITLE 24 2013.

VOLTAGE DROP = (CIRCUIT AMPS) X (TWICE THE LENGTH OF CONDUCTOR) X (WIRE RESISTANCE)

208V, 1-PHASE COPPER WIRE

MAXIMUM LENGTH OF CONDUCTOR IN FT TO BE USED PER VA AND WIRE SIZE

kVA	CONDUCTOR SIZE						
	#12	#10	#8	#6	#4	#2	#1
0.7	480ft	766ft	1,192ft	1,888ft	3,010ft	4,779ft	6,020ft
1.4	240ft	383ft	596ft	944ft	1,505ft	2,389ft	3,010ft
2.1	160ft	255ft	397ft	629ft	1,003ft	1,593ft	2,007ft
2.8	120ft	192ft	298ft	472ft	753ft	1,195ft	1,505ft
3.5	96ft	153ft	238ft	378ft	602ft	956ft	1,204ft
4.2	80ft	128ft	199ft	315ft	502ft	796ft	1,003ft
4.9	-	109ft	170ft	270ft	430ft	683ft	860ft
5.6	-	96ft	149ft	236ft	376ft	597ft	753ft
6.3	-	85ft	132ft	210ft	334ft	531ft	669ft
7.0	-	-	119ft	189ft	301ft	478ft	602ft
7.7	-	-	108ft	172ft	274ft	434ft	547ft
8.4	-	-	99ft	157ft	251ft	398ft	502ft
9.1	-	-	-	145ft	232ft	368ft	463ft
9.8	-	-	-	135ft	215ft	341ft	430ft
10.5	-	-	-	126ft	201ft	319ft	401ft
11.2	-	-	-	118ft	188ft	299ft	376ft
11.9	-	-	-	-	177ft	281ft	354ft
12.6	-	-	-	-	167ft	265ft	334ft
13.3	-	-	-	-	158ft	252ft	317ft
14.0	-	-	-	-	151ft	239ft	301ft
14.7	-	-	-	-	-	228ft	287ft
15.4	-	-	-	-	-	217ft	274ft
16.1	-	-	-	-	-	208ft	262ft
16.8	-	-	-	-	-	199ft	251ft
17.5	-	-	-	-	-	191ft	241ft
18.2	-	-	-	-	-	184ft	232ft
18.9	-	-	-	-	-	177ft	223ft
19.6	-	-	-	-	-	171ft	215ft
20.3	-	-	-	-	-	-	208ft
21.0	-	-	-	-	-	-	201ft
21.7	-	-	-	-	-	-	194ft
22.4	-	-	-	-	-	-	188ft
23.1	-	-	-	-	-	-	-
23.8	-	-	-	-	-	-	-
24.5	-	-	-	-	-	-	-
25.2	-	-	-	-	-	-	-
25.9	-	-	-	-	-	-	-
26.6	-	-	-	-	-	-	-
27.3	-	-	-	-	-	-	-
28.0	-	-	-	-	-	-	-

BASED ON 3% VOLTAGE DROP ALLOWED FOR BRANCH CIRCUITS PER TITLE 24 2013.

VOLTAGE DROP = (CIRCUIT AMPS) X (TWICE THE LENGTH OF CONDUCTOR) X (WIRE RESISTANCE)

208V, 3-PHASE COPPER WIRE

MAXIMUM LENGTH OF CONDUCTOR IN FT TO BE USED PER VA AND WIRE SIZE

kVA	CONDUCTOR SIZE								
	1/0	2/0	3/0	4/0	250KCM	300KCM	350KCM	400KCM	500KCM
3.4	1,204ft	1,520ft	1,918ft	2,417ft	2,853ft	3,425ft	4,004ft	4,577ft	5,695ft
6.8	602ft	760ft	959ft	1,208ft	1,427ft	1,713ft	2,002ft	2,289ft	2,848ft
10.2	401ft	507ft	639ft	806ft	951ft	1,142ft	1,335ft	1,526ft	1,898ft
13.6	301ft	380ft	480ft	604ft	713ft	856ft	1,001ft	1,144ft	1,424ft
17.0	241ft	304ft	384ft	483ft	571ft	685ft	801ft	915ft	1,139ft
20.4	201ft	253ft	320ft	403ft	476ft	571ft	667ft	763ft	949ft
23.8	172ft	217ft	274ft	345ft	408ft	489ft	572ft	654ft	814ft
27.2	151ft	190ft	240ft	302ft	357ft	428ft	500ft	572ft	712ft
30.6	134ft	169ft	213ft	269ft	317ft	381ft	445ft	509ft	633ft
34.0	120ft	152ft	192ft	242ft	285ft	343ft	400ft	458ft	570ft
37.4	109ft	138ft	174ft	220ft	259ft	311ft	364ft	416ft	518ft
40.8	100ft	127ft	160ft	201ft	238ft	285ft	334ft	381ft	475ft
44.2	93ft	117ft	148ft	186ft	219ft	263ft	308ft	352ft	438ft
47.6	86ft	109ft	137ft	173ft	204ft	245ft	286ft	327ft	407ft
51.0	80ft	101ft	128ft	161ft	190ft	228ft	267ft	305ft	380ft
54.4	-	95ft	120ft	151ft	178ft	214ft	250ft	286ft	356ft
57.8	-	89ft	113ft	142ft	168ft	201ft	236ft	269ft	335ft
61.2	-	84ft	107ft	134ft	159ft	190ft	222ft	254ft	316ft
64.6	-	-	101ft	127ft	150ft	180ft	211ft	241ft	300ft
68.0	-	-	96ft	121ft	143ft	171ft	200ft	229ft	285ft
71.4	-	-	91ft	115ft	136ft	163ft	191ft	218ft	271ft
74.8	-	-	-	110ft	130ft	156ft	182ft	208ft	259ft
78.2	-	-	-	105ft	124ft	149ft	174ft	199ft	248ft
81.6	-	-	-	101ft	119ft	143ft	167ft	191ft	237ft
85.0	-	-	-	-	114ft	137ft	160ft	183ft	228ft
88.4	-	-	-	-	110ft	132ft	154ft	176ft	219ft
91.8	-	-	-	-	106ft	127ft	148ft	170ft	211ft
95.2	-	-	-	-	-	122ft	143ft	163ft	203ft
98.6	-	-	-	-	-	118ft	138ft	158ft	196ft
102.0	-	-	-	-	-	114ft	133ft	153ft	190ft
105.4	-	-	-	-	-	-	129ft	148ft	184ft
108.8	-	-	-	-	-	-	125ft	143ft	178ft
112.2	-	-	-	-	-	-	-	139ft	173ft
115.6	-	-	-	-	-	-	-	135ft	168ft
119.0	-	-	-	-	-	-	-	131ft	163ft
122.4	-	-	-	-	-	-	-	-	158ft
125.8	-	-	-	-	-	-	-	-	154ft
129.2	-	-	-	-	-	-	-	-	150ft
132.6	-	-	-	-	-	-	-	-	146ft
136.0	-	-	-	-	-	-	-	-	142ft

BASED ON 2% VOLTAGE DROP ALLOWED FOR FEEDERS PER TITLE 24 2016.

VOLTAGE DROP = (CIRCUIT AMPS) X (TWICE THE LENGTH OF CONDUCTOR) X (WIRE RESISTANCE)

277V, 1-PHASE COPPER WIRE

MAXIMUM LENGTH OF CONDUCTOR IN FT TO BE USED PER VA AND WIRE SIZE

kVA	CONDUCTOR SIZE						
	#12	#10	#8	#6	#4	#2	#1
0.9	663ft	1,057ft	1,644ft	2,605ft	4,152ft	6,592ft	8,304ft
1.8	331ft	528ft	822ft	1,302ft	2,076ft	3,296ft	4,152ft
2.7	221ft	352ft	548ft	868ft	1,384ft	2,197ft	2,768ft
3.6	166ft	264ft	411ft	651ft	1,038ft	1,648ft	2,076ft
4.5	133ft	211ft	329ft	521ft	830ft	1,318ft	1,661ft
5.4	110ft	176ft	274ft	434ft	692ft	1,099ft	1,384ft
6.3	-	151ft	235ft	372ft	593ft	942ft	1,186ft
7.2	-	132ft	205ft	326ft	519ft	824ft	1,038ft
8.1	-	117ft	183ft	289ft	461ft	732ft	923ft
9.0	-	-	164ft	260ft	415ft	659ft	830ft
9.9	-	-	149ft	237ft	377ft	599ft	755ft
10.8	-	-	137ft	217ft	346ft	549ft	692ft
11.7	-	-	-	200ft	319ft	507ft	639ft
12.6	-	-	-	186ft	297ft	471ft	593ft
13.5	-	-	-	174ft	277ft	439ft	554ft
14.4	-	-	-	163ft	260ft	412ft	519ft
15.3	-	-	-	153ft	244ft	388ft	488ft
16.2	-	-	-	-	231ft	366ft	461ft
17.1	-	-	-	-	219ft	347ft	437ft
18.0	-	-	-	-	208ft	330ft	415ft
18.9	-	-	-	-	198ft	314ft	395ft
19.8	-	-	-	-	-	300ft	377ft
20.7	-	-	-	-	-	287ft	361ft
21.6	-	-	-	-	-	275ft	346ft
22.5	-	-	-	-	-	264ft	332ft
23.4	-	-	-	-	-	254ft	319ft
24.3	-	-	-	-	-	244ft	308ft
25.2	-	-	-	-	-	235ft	297ft
26.1	-	-	-	-	-	227ft	286ft
27.0	-	-	-	-	-	-	277ft
27.9	-	-	-	-	-	-	268ft
28.8	-	-	-	-	-	-	260ft
29.7	-	-	-	-	-	-	252ft
30.6	-	-	-	-	-	-	-
31.5	-	-	-	-	-	-	-
32.4	-	-	-	-	-	-	-
33.3	-	-	-	-	-	-	-
34.2	-	-	-	-	-	-	-
35.1	-	-	-	-	-	-	-
36.0	-	-	-	-	-	-	-

BASED ON 3% VOLTAGE DROP ALLOWED FOR BRANCH CIRCUITS PER TITLE 24 2013.

VOLTAGE DROP = (CIRCUIT AMPS) X (TWICE THE LENGTH OF CONDUCTOR) X (WIRE RESISTANCE)

480V, 3-PHASE COPPER WIRE

MAXIMUM LENGTH OF CONDUCTOR IN FT TO BE USED PER VA AND WIRE SIZE

kVA	CONDUCTOR SIZE						
	#12	#10	#8	#6	#4	#2	#1
2.7	511ft	814ft	1,267ft	2,007ft	3,199ft	5,079ft	6,399ft
5.4	255ft	407ft	633ft	1,003ft	1,600ft	2,540ft	3,199ft
8.1	170ft	271ft	422ft	669ft	1,066ft	1,693ft	2,133ft
10.8	128ft	204ft	317ft	502ft	800ft	1,270ft	1,600ft
13.5	102ft	163ft	253ft	401ft	640ft	1,016ft	1,280ft
16.2	85ft	136ft	211ft	334ft	533ft	847ft	1,066ft
18.9	-	116ft	181ft	287ft	457ft	726ft	914ft
21.6	-	102ft	158ft	251ft	400ft	635ft	800ft
24.3	-	90ft	141ft	223ft	355ft	564ft	711ft
27.0	-	-	127ft	201ft	320ft	508ft	640ft
29.7	-	-	115ft	182ft	291ft	462ft	582ft
32.4	-	-	106ft	167ft	267ft	423ft	533ft
35.1	-	-	-	154ft	246ft	391ft	492ft
37.8	-	-	-	143ft	229ft	363ft	457ft
40.5	-	-	-	134ft	213ft	339ft	427ft
43.2	-	-	-	125ft	200ft	317ft	400ft
45.9	-	-	-	118ft	188ft	299ft	376ft
48.6	-	-	-	-	178ft	282ft	355ft
51.3	-	-	-	-	168ft	267ft	337ft
54.0	-	-	-	-	160ft	254ft	320ft
56.7	-	-	-	-	152ft	242ft	305ft
59.4	-	-	-	-	-	231ft	291ft
62.1	-	-	-	-	-	221ft	278ft
64.8	-	-	-	-	-	212ft	267ft
67.5	-	-	-	-	-	203ft	256ft
70.2	-	-	-	-	-	195ft	246ft
72.9	-	-	-	-	-	188ft	237ft
75.6	-	-	-	-	-	181ft	229ft
78.3	-	-	-	-	-	175ft	221ft
81.0	-	-	-	-	-	-	213ft
83.7	-	-	-	-	-	-	206ft
86.4	-	-	-	-	-	-	200ft
89.1	-	-	-	-	-	-	194ft
91.8	-	-	-	-	-	-	-
94.5	-	-	-	-	-	-	-
97.2	-	-	-	-	-	-	-
99.9	-	-	-	-	-	-	-
102.6	-	-	-	-	-	-	-
105.3	-	-	-	-	-	-	-
108.0	-	-	-	-	-	-	-

BASED ON 2% VOLTAGE DROP ALLOWED FOR FEEDERS PER TITLE 24 2016.

VOLTAGE DROP = (CIRCUIT AMPS) X (TWICE THE LENGTH OF CONDUCTOR) X (WIRE RESISTANCE)

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY:	
KATHY GARCIA DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER
AMANDA J. BROWN, CE
No. E17287
ELECTRICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

ELECTRICAL SCHEDULES

Drawn By: ELW Checked By: AJB

Scale: **NTS**

Date: **October 4, 2019**

Project No. B17.07369

2-E0.02
Drawing No.

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BUSSING: 50A, 10,000 AIC SYMMETRICAL
MAIN CB: 50A/3P

ELPH-B2A

LOCATION:ELECTRICAL ROOM
MOUNTING: SURFACE

270/480V, 3 PHASE, 4 WIRE
100% RATED NEUTRAL + GROUND

TYPE	DESCRIPTION	LOAD	DEVICE	CKT	A	B	C	CKT	DEVICE	LOAD	DESCRIPTION	TYPE
	SPARE	0	20/1	1	●			2	20/1	205	APP. BAY	L
	SPARE	0	20/1	3		●		4	20/1	950.7	APP_CLASS,LOBBY,EQPMT,LCKR,EXIT	
	SPARE	0	20/1	5			●	6	20/1	0	SPARE	
	SPARE	0	20/1	7	●			8		1000		
	SPARE	0	20/1	9		●		10	50/3	1000	ELP=B2A VIA ETK-B2A	
	SPARE	0	20/1	11			●	12		0		
	TOTAL ALL PHASES (VA)	PHASE A (VA)		PHASE B (VA)			PHASE C (VA)				TOTAL ALL PHASES (AMPS)	
	3155.7	1205		1950.7			0				4	

LOAD SUMMARY BY TYPE	CONN. LOAD	DEMAND FACTOR	NEC LOAD
E = EQUIPMENT	2000 VA	1.00	2000 VA
H = ELECTRIC HEAT	0 VA	1.00	0 VA
K = KITCHEN EQUIPMENT	0 VA	1.00	0 VA
L = LIGHTING	1156 VA	1.25	1445 VA
M = MOTOR	0 VA	1.00	0 VA
M = LARGEST MOTOR		1.25	0 VA
R = RECEPTACLE	0 VA	NEC DEMAND	0 VA

CONNECTED LOAD SUMMARY
3156 VA
4 AMPS

NEC LOAD SUMMARY
3445 VA
4 AMPS

DPL-B2A

BUS AMPACITY: 800A
MAIN: 400A

120/208V, 3 PHASE, 4 WIRE
LOCATION: ELECTRICAL ROOM
AIC RMS: 65,000

CIRCUIT	LOAD SERVED	DEVICE RATING	LOAD (VA)	REMARKS
1	LP-B2A	225AT/225AF	64,797	
2	LP-B4A	225AT/225AF	51,846	
3	SPACE	225AF	0	
4	SPACE	225AF	0	
		TOTAL	116,643	

LOAD SUMMARY BY TYPE	CONNECTED LOAD	DEMAND FACTOR	NEC LOAD
E = EQUIPMENT	40196 VA	1.00	40196 VA
H = ELECTRIC HEAT	0 VA	1.00	0 VA
K = KITCHEN	0 VA	1.00	0 VA
L = LIGHTING	640 VA	1.25	800 VA
M = MOTOR	13377 VA	1.00	13377 VA
M = LARGEST MOTOR	16774 VA	1.25	20968 VA
R = RECEPTACLE	45656 VA	NEC DEMAND	27828 VA
EL = ELEVATOR	0 VA	1.00	0 VA

CONNECTED LOAD SUMMARY
116643 VA
324 A

NEC LOAD SUMMARY
103169 VA
287 A

LOAD SUMMARY: MS-B1A

CIRCUIT	LOAD SERVED	LOAD (VA)	REMARKS
1	DPH-B1A	92,223	
2	EDPH-B1A	313,757	VIA ATS-E1C
3	ELPH-B1A	129,511	VIA ATS-E1A
4	ELPH-B1B	4,629	VIA ATS-E1B
5	LPH-B9A	184,610	
6	LPH-B2A	181,704	
	TOTAL	906,434	

LOAD SUMMARY BY TYPE	CONNECTED LOAD	DEMAND FACTOR	NEC LOAD
E = EQUIPMENT	250771 VA	1.00	250771 VA
H = ELECTRIC HEAT	6240 VA	1.00	6240 VA
K = KITCHEN	8720 VA	1.00	8720 VA
L = LIGHTING	34678 VA	1.25	43347 VA
M = MOTOR	431229 VA	1.00	431229 VA
M = LARGEST MOTOR	30000 VA	1.25	37500 VA
R = RECEPTACLE	144796 VA	NEC DEMAND	77398 VA
EL = ELEVATOR	0 VA	1.00	0 VA

CONNECTED LOAD SUMMARY
906434 VA
1092 A

NEC LOAD SUMMARY
855205 VA
1030 A

EMERGENCY LOAD SUMMARY
855205 VA
1030 A

BUSSING: 50A, 10,000 AIC SYMMETRICAL
MAIN CB: 50A/3P

ELP-B2A

LOCATION:ELECTRICAL ROOM
MOUNTING: SURFACE

120/208V, 3 PHASE, 4 WIRE
100% RATED NEUTRAL + GROUND

TYPE	DESCRIPTION	LOAD	DEVICE	CKT	A	B	C	CKT	DEVICE	LOAD	DESCRIPTION	TYPE
E	BUILDING 2 FIRE ALARM	1000	20/1	1	●			2	20/1	750	TELECOM RECEPTACLE	E
E	BUILDING 2 FIRE ALARM	1000	20/1	3		●		4	20/1	750	TELECOM RECEPTACLE	E
	SPARE		20/1	5			●	6	20/1	750	TELECOM RECEPTACLE	E
	SPARE		20/1	7	●			8	20/1	750	TELECOM RECEPTACLE	E
	SPARE		20/1	9		●		10	20/1			
	SPARE		20/1	11			●	12	20/1			
	TOTAL ALL PHASES (VA)	PHASE A (VA)		PHASE B (VA)			PHASE C (VA)				TOTAL ALL PHASES (AMPS)	
	5000	2500		1750			750				14	

LOAD SUMMARY BY TYPE	CONN. LOAD	DEMAND FACTOR	NEC LOAD
E = EQUIPMENT	5000 VA	1.00	5000 VA
H = ELECTRIC HEAT	0 VA	1.00	0 VA
K = KITCHEN EQUIPMENT	0 VA	1.00	0 VA
L = LIGHTING	0 VA	1.25	0 VA
M = MOTOR	0 VA	1.00	0 VA
M = LARGEST MOTOR		1.25	0 VA
R = RECEPTACLE	0 VA	NEC DEMAND	0 VA

CONNECTED LOAD SUMMARY
5000 VA
14 AMPS

NEC LOAD SUMMARY
5000 VA
14 AMPS

BUSSING: 225A, 10,000 AIC SYMMETRICAL
MAIN CB: MLO

LP-B2A

LOCATION:ELECTRICAL ROOM
MOUNTING: SURFACE

120/208V, 3 PHASE, 4 WIRE
100% RATED NEUTRAL + GROUND

TYPE	DESCRIPTION	LOAD	DEVICE	CKT	A	B	C	CKT	DEVICE	LOAD	DESCRIPTION	TYPE
E		960		1	●			2	20/1	720	BUILDING 3 RECEPTCS	R
E	EXTRACTOR	960	20/3	3		●		4	20/1	320	BUILDING 3 LTS	L
E		960		5			●	6	20/1	360	BREAK RM RECEPTS	R
E		960		7	●			8	20/1	1000	MICROWAVE BREAK RM	E
E	EXTRACTOR	960	20/3	9		●		10	20/1	1000	MICROWAVE BREAK RM	E
E		960		11			●	12	20/1	1000	PROJECTOR CLASSROOM	E
E		960		13	●			14	20/1	900	BREAK RM 110 RECEPTS	R
E	EXTRACTOR	960	20/3	15		●		16	20/1	300	SCREEN MOTOR	M
E		960		17			●	18	20/1	1080	CLASSROOM 105 RECEPTS	R
R	EQUIPMENT 107 RECEPTS	900	20/1	19	●			20	20/1	600	ICE MACHINE APPARATUS 106	E
R	FSR 111 RECEPTS	180	20/1	21		●		22	20/1	1000	PROJECTOR APPARATUS 106	E
R	MEN'S RESTROOM 109	720	20/1	23			●	24	20/1	720	APP BAY EAST 106 RECEPTS	R
R	CORRIDOR AND LOBBY RECEPTS	540	20/1	25	●			26	20/1	540	APP BAY SOUTH 106 RECEPTS	R
R	WOMEN'S RESTROOM 102	540	20/1	27		●		28	20/1	900	APP BAY WEST 106 RECEPTS	R
R	BREAK RM RECEPTS 104	540	20/1	29			●	30	20/1	540	APP BAY NORTH 106 RECEPTS	R
E	REFRIGERATOR BREAK RM	800	20/1	31	●			32	20/1	720	APP BAY 106 RECEPTS	R
E	ICE MACHINE BREAK RM	600	20/1	33		●		34	20/1	1000	MOTORIZED DOOR	E
E	DISHWASHER BREAK RM	1000	20/1	35			●	36	20/1	1000	MOTORIZED DOOR	E
E	VEHICLE EXH FAN CNTRL PANEL	500	20/1	37	●			38	20/1	1000	MOTORIZED DOOR	E
E	CEILING FAN CNTRL PANEL	500	20/1	39		●		40	20/1	1000	MOTORIZED DOOR	E
M	RCP-2-1	210	20/1	41			●	42	20/1	540	EXTERIOR RECEPTS	R
M	CA-2-1	4004	40/2	43	●			44	20/2	62	BS-B2-1	M
M		4004		45		●		46		62		M
M	DA-2-1	4004	40/2	47			●	48	20/2	62	BS-B2-2	M
M		4004		49	●			50		62		M
E	BUILDING 3 TELECOM	2496	30/2	51		●		52	30/2	2496	BUILDING 2 TELECOM RACK	E
E		2496		53			●	54		2496		E
R	EXTERIOR RECEPTACLE	180	20/1	55	●			56	20/1	200	LTG CONTROLS	E
E	SMOKE GENERATOR	1000	20/1	57		●		58	20/1	2880	BUILDING 2 TELECOM RACK	E
	SPARE	0	20/1	59			●	60	20/1		SPARE	
M		793		61	●			62	20/1		SPARE	
M	3-SP-1-1	793	20/1	63		●		64	20/1		SPARE	
M		793		65			●	66	20/1		SPARE	
	SPARE		20/1	67	●			68	20/1		SPARE	
	SPARE		20/1	69		●		70	20/1		SPARE	
	SPARE		20/1	71			●	72	20/1		SPARE	
	SPARE		20/1	73	●			74	20/1		SPARE	
	SPARE		20/1	75		●		76	20/1		SPARE	
	SPARE		20/1	77			●	78	20/1		SPARE	
	SPACE			79	●			80			SPACE	
	SPACE			81		●		82			SPACE	
	SPACE			83			●	84			SPACE	
	TOTAL ALL PHASES (VA)	PHASE A (VA)		PHASE B (VA)			PHASE C (VA)				TOTAL ALL PHASES (AMPS)	
	32887	9305		13731			9851				91	

LOAD SUMMARY BY TYPE	CONN. LOAD	DEMAND FACTOR	NEC LOAD
E = EQUIPMENT	34704 VA	1.00	34704 VA
H = ELECTRIC HEAT	0 VA	1.00	0 VA
K = KITCHEN EQUIPMENT	0 VA	1.00	0 VA
L = LIGHTING	320 VA	1.25	400 VA
M = MOTOR	11145 VA	1.00	11145 VA
M = LARGEST MOTOR	8008 VA	1.25	10010 VA
R = RECEPTACLE	10620 VA	NEC DEMAND	10310 VA

CONNECTED LOAD SUMMARY
64797 VA
180 AMPS

NEC LOAD SUMMARY
66569 VA
185 AMPS

BUSSING: 400A, 14,000 AIC SYMMETRICAL
MAIN CB: 400A/3P

LPH-B2A

LOCATION:ELECTRICAL ROOM
MOUNTING: SURFACE

277/480V, 3 PHASE, 4 WIRE
100% RATED NEUTRAL + GROUND

TYPE	DESCRIPTION	LOAD	DEVICE	CKT	A	B	C	CKT	DEVICE	LOAD	DESCRIPTION	TYPE
L	EQUIP, ELEC, MEN'S LOCKER - LTS	3946	20/1	1	●			2		10004		M
L	APPARATUS BAY - LTS	1500	20/1	3		●		4	40/3	10004	CU-B2-1	M
L	EXTERIOR - LTS	544	20/1	5			●	6		10004		M
	SPARE	0	20/1	7	●			8		3048		M
L	SITE LIGHTING	2059	20/1	9		●		10	20/3	3048	EF-B2-1	M
L	SITE LIGHTING	897	20/1	11			●	12		3048		M
M		2106		13	●			14		582		M
M	4CA-1-1	2106	20/3	15		●		16	20/3	582	CF-B2-1	M
M		2106		17			●	18		582		M
	SPARE	0	20/1	19	●			20		582		M
	SPARE	0	20/1	21		●		22	20/3	582	CF-B2-2	M
	SPARE	0	20/1	23			●	24		582		M
	SPARE	0	20/1	25	●			26		582		M
	SPARE	0	20/1	27		●		28	20/3	582	CF-B2-3	M
	SPARE	0	20/1	29			●	30		582		M
	SPARE	0	20/1	31	●			32		1801		M
	SPARE	0	20/1	33		●		34	20/3	1801	ECV-B2-1	M
	SPARE	0	20/1	35			●	36		1801		M
		38881.0		37	●			38		0		
	DPL-B2A VIA T-B2A	38881.0	175A/3	39		●		40	175/3	0	LPH-B2B	
		38881.0		41			●	42		0		
	TOTAL ALL PHASES (VA)	PHASE A (VA)		PHASE B (VA)			PHASE C (VA)				TOTAL ALL PHASES (AMPS)	
	181703.9	61531.9		61145			59027				219	

LOAD SUMMARY BY TYPE	CONN. LOAD	DEMAND FACTOR	NEC LOAD
E = EQUIPMENT	40196 VA	1.00	40196 VA
H = ELECTRIC HEAT	0 VA	1.00	0 VA
K = KITCHEN EQUIPMENT	0 VA	1.00	0 VA
L = LIGHTING	9586 VA	1.25	11982 VA
M = MOTOR	56264 VA	1.00	56264 VA
M = LARGEST MOTOR	30002 VA	1.25	37503 VA
R = RECEPTACLE	45656 VA	NEC DEMAND	27828 VA

CONNECTED LOAD SUMMARY
181704 VA
219 AMPS

NEC LOAD SUMMARY
173773 VA
209 AMPS

BUSSING 225A, 14,000 AIC SYMMETRICAL
MAIN CB: 175A/3P

LPH-B2B

LOCATION:ELECTRICAL ROOM
MOUNTING: SURFACE

277/480V, 3 PHASE, 4 WIRE
100% RATED NEUTRAL + GROUND

TYPE	DESCRIPTION	LOAD	DEVICE	CKT	A	B	C	CKT	DEVICE	LOAD	DESCRIPTION	TYPE
	SPARE	0	20/1	1	●			2	20/1	0	SPARE	
	SPARE	0	20/1	3		●		4	20/1	0	SPARE	
	SPARE	0	20/1	5			●	6	20/1	0	SPARE	
	SPARE	0	20/1	7	●			8	20/1	0	SPARE	
	SPARE	0	20/1	9		●		10	20/1	0	SPARE	
	SPARE	0	20/1	11			●	12	20/1	0	SPARE	
	SPARE	0	20/1	13	●			14	20/1	0	SPARE	
	SPARE	0	20/1	15		●		16	20/1	0	SPARE	
	SPARE	0	20/1	17			●	18	20/1	0	SPARE	
	SPARE	0	20/1	19	●			20	20/1	0	SPARE	
	SPARE	0	20/1	21		●		22	20/1	0	SPARE	
	SPARE	0	20/1	23			●	24	20/1	0	SPARE	
	SPARE	0	20/1	25	●			26	20/1	0	SPARE	
	SPARE	0	20/1	27		●		28	20/1	0	SPARE	
	SPARE	0	20/1	29			●	30	20/1	0	SPARE	
E		0		31	●			32		0		E
E	B3 METER	0	15/3	33		●		34	15/3	0	B2 METER	E
E		0		35			●	36		0		E
E		0		37	●			38		0		E
E	B3 PV INVERTERS	0	60/3	39		●		40	125/3	0	B2 PV INVERTERS	E
E		0		41			●	42		0		E
	TOTAL ALL PHASES (VA)	PHASE A (VA)		PHASE B (VA)			PHASE C (VA)				TOTAL ALL PHASES (AMPS)	
	0	0		0			0				0	

LOAD SUMMARY BY TYPE	CONN. LOAD	DEMAND FACTOR	NEC LOAD
E = EQUIPMENT	0 VA	1.00	0 VA
H = ELECTRIC HEAT	0 VA	1.00	0 VA
K = KITCHEN EQUIPMENT	0 VA	1.00	0 VA
L = LIGHTING	0 VA	1.25	0 VA
M = MOTOR	0 VA	1.00	0 VA
M = LARGEST MOTOR		1.25	0 VA
R = RECEPTACLE	0 VA	NEC DEMAND	0 VA

CONNECTED LOAD SUMMARY
0 VA
0 AMPS

NEC LOAD SUMMARY
0 VA
0 AMPS

	ELPH-B2A	DPL-B2A	MS-B1A
	ELP-B2A	LP-B2A	LPH-B2A
			LPH-B2B

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	INC 01_ADD_01_V1	12/06/2019

REGISTERED PROFESSIONAL ENGINEER
AMANDA J. BROWNEE
No. E17287
ELECTRICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

ELECTRICAL SCHEDULES

Drawn By: ELW
Checked By: AJB

Scale:
NTS

Date:
October 4, 2019

Project No. B17.07369

2-E0.03
Drawing No.

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LIGHTING FIXTURE SCHEDULE

PROJECT: HAYWARD FIRE TRAINING CENTER
ISSUE: PERMIT SUBMITTAL V3 - INCREMENT #1
DATE: 10/16/2019

FIXTURE TYPE	DESCRIPTION	LOCATION	LIGHT SOURCE	COLOR TEMPERATURE (K)	INPUT WATTS (W)	UNIT	BALLAST / TRANSFORMER / DRIVER	VOLTAGE	REFLECTOR	MOUNTING	FIXTURE WEIGHT (LBS)	SHIELDING	FINISH	MANUFACTURER / CATALOG #	REMARKS
F1	4' NOMINAL LENGTH LED LINEAR PENDANT	APPARATUS BAY	WHITE LED MODULE, 83 CRI, 5512 DELIVERED LUMENS, L70 110,000 HOURS	3500K	50	EA	INTEGRAL, ELECTRONIC, 0-10V, DIM TO 1%	120-277V	22 GA STEEL, WHITE POWERED COAT	MOUNTED TO SUSPENDED UNISTRUT	10 (PER 4')	FROSTED POLYCARBONATE	BLACK	BEGHELLI LUCE, ILLUMINA SERIES BS100LED-4-(OPERATION)-LO-WT-35-120-277V-(MOUNTING)-OPTIONS AS REQ'D-B	1. FINISH TO BE SELECTED BY ARCHITECT. 2. CONTRACTOR TO SELECT MOUNTING TO MOUNT FIXTURE TO UNISTRUT AND COORDINATE FINAL FIXTURE LOCATION AND UNISTRUT LOCATION WITH DUCTS AND FANS TO AVOIDE CONFLICT PER SITE CONDITION PRIOR TO INSTALLING. 3. TYPE F1 AND F1A FIXTURES TO BE MOUNTED END TO END WITH MINIMUM GAP BETWEEN FIXTURES. 4. REFER TO DRAWINGS FOR MOUNTING HEIGHTS.
F1A	2' NOMINAL LENGTH LED LINEAR PENDANT	APPARATUS BAY	WHITE LED MODULE, 83 CRI, 3585 DELIVERED LUMENS, L70 110,000 HOURS	3500K	30	EA	INTEGRAL, ELECTRONIC, 0-10V, DIM TO 1%	120-277V	22 GA STEEL, WHITE POWERED COAT	MOUNTED TO SUSPENDED UNISTRUT	5 (PER 2')	FROSTED POLYCARBONATE	BLACK	BEGHELLI LUCE, ILLUMINA SERIES BS100LED-2-(OPERATION)-LO-WT-35-120-277V-(MOUNTING)-OPTIONS AS REQ'D-B	1. FINISH TO BE SELECTED BY ARCHITECT. 2. CONTRACTOR TO SELECT MOUNTING TO MOUNT FIXTURE TO UNISTRUT AND COORDINATE FINAL FIXTURE LOCATION AND UNISTRUT LOCATION WITH DUCTS AND FANS TO AVOIDE CONFLICT PER SITE CONDITION PRIOR TO INSTALLING. 3. TYPE F1 AND F1A FIXTURES TO BE MOUNTED END TO END WITH MINIMUM GAP BETWEEN FIXTURES. 4. REFER TO DRAWINGS FOR MOUNTING HEIGHTS.
F3	LED LINEAR PENDANT	CLASSROOM	WHITE LED MODULE, 80 CRI, 1180 DELIVERED LUMENS PER LINEAR FT, 150,000 HOURS, L70	3500K	13	PER LF	REMOTE IN CEILING, ELECTRONIC, 0-10V, DIMMABLE TO 1%	120-277V	HIGH DIFFUSE REFLECTOR FILM, DIRECT INDIRECT	SUSPENDED	5 (PER FT)	-	STANDARD FINISH, TBD	PRUDENTIAL LTG. STOV -LED-35-SO-(LENGTH)-(FINISH)-D1-SYM-SC-UNV-CA(XX)-(CEILING SYSTEM)-X(XX)-(BOX/FINISH)-DM01	1. FINISH TO BE SELECTED BY ARCHITECT. 2. REFER TO ARCHITECTURAL DRAWINGS FOR FIXTURE LENGTHS AND LENGTHS OF CONTINUOUS RUNS. 3. REFER TO DRAWINGS FOR MOUNTING HEIGHTS. CONTRACTOR TO PROVIDE CABLE LENGTH AS REQUIRED. PROVIDE STRAIGHT POWER CORD AS REQUIRED. 4. CONTRACTOR TO SELECT CEILING SYSTEM. 5. REMOTE DRIVER TO BE LOCATED ABOVE CEILING. CONTRACTOR TO SELECT X1 OR X3 AS REQUIRED.
F4	LED LINEAR PENDANT - WALL WASHER OPTIC	CLASSROOM	WHITE LED MODULE, 80 CRI, 550 DELIVERED LUMENS PER LINEAR FT, 150,000 HOURS, L70	3500K	7	PER LF	REMOTE IN CEILING, ELECTRONIC, 0-10V, DIMMABLE TO 1%	120-277V	HIGH DIFFUSE REFLECTOR FILM	SUSPENDED	11 (PER FT)	-	STANDARD FINISH, TBD	PRUDENTIAL LTG. BIO2-LIN-LED35-MO-(LENGTH)-(FINISH)-MWG-D1G-NU-SC-UNV-CA(XX)-(CEILING SYSTEM)-X(XX)- (BOX/FINISH)-DM01	1. FINISH TO BE SELECTED BY ARCHITECT. 2. REFER TO ARCHITECTURAL DRAWINGS FOR FIXTURE LENGTHS AND LENGTHS OF CONTINUOUS RUNS. 3. REFER TO DRAWINGS FOR MOUNTING HEIGHTS. CONTRACTOR TO PROVIDE CABLE LENGTH AS REQUIRED. PROVIDE STRAIGHT POWER CORD AS REQUIRED. 4. CONTRACTOR TO SELECT CEILING SYSTEM. 5. REMOTE DRIVER TO BE LOCATED ABOVE CEILING. CONTRACTOR TO SELECT X1 OR X3 AS REQUIRED 6. CONTRACTOR TO INSTALL FIXTURE IN APPROPRIATE ORIENTATION SO THAT LIGHT GRAZE ADJACENT WALL.
F7	RECESSED 4" WIDE CONTINUOUS PERIMETER LED COVE LIGHT	VARIES	WHITE LED MODULE, 80CRI, 602 DELIVERED LUMENS PER LINEAR FT, 200,000 HOURS, L70	3500K	7.1	PER LF	INTEGRAL, ELECTRONIC, 0-10V, DIMMABLE TO 10%	277V	WHITE POWDER COATED	CEILING RECESSED AT WALL PERIMETER	5.6 (PER FT)	-	WHITE POWDER COAT	FINELITE HP2 SERIES HP-WS-4W-4D-(LENGTH)-H-835-277V-SC-(MOUNTING)-SW-TP-(TELESCOPING END CONDITIONS)-(CEILING TYPE)	1. REFER TO ARCHITECTURAL DRAWINGS FOR FIXTURE LENGTHS AND LENGTHS OF CONTINUOUS RUNS. CONTRACTOR SHALL FIELD VERIFY EACH RUN LENGTH PRIOR TO ORDERING. 2. FIXTURE SHALL BE INSTALLED IN A CONTINUOUS WALL-TO-WALL INSTALLATION FOR FIXTURES THAT BUTT UP AGAINST AN END WALL. FIXTURES THAT DO NOT BUTT UP AGAINST AN END WALL SHALL RUN THE FULL LENGTH OF THE WALL BEING ILLUMINATED. PROVIDE EXTENSIONS, AND END CAPS AS REQUIRED FOR INSTALLATION OF A COMPLETE SYSTEM. FIXTURE SHALL HAVE CLEAN, TIGHT BUTT JOINTS. LIGHT SHALL APPEAR CONTINUOUS. 3. CONTRACTOR TO SELECT MOUNTING OPTIONS, TELESCOPINGEND CONDITIONS AND CEILING TYPE AS REQUIRED FOR INSTALLATION OF A COMPLETE SYSTEM.
F7A	RECESSED 4" WIDE CONTINUOUS PERIMETER LED COVE LIGHT	VARIES	WHITE LED MODULE, 80CRI, 398 DELIVERED LUMENS PER LINEAR FT, 200,000 HOURS, L70	3500K	4.6	PER LF	INTEGRAL, ELECTRONIC, 0-10V, DIMMABLE TO 10%	277V	WHITE POWDER COATED	CEILING RECESSED AT WALL PERIMETER	5.6 (PER FT)	-	WHITE POWDER COAT	FINELITE HP2 SERIES HP-WS-4W-4D-(LENGTH)-B-835-277V-SC-(MOUNTING)-SW-TP-(TELESCOPING END CONDITIONS)-(CEILING TYPE)	1. REFER TO ARCHITECTURAL DRAWINGS FOR FIXTURE LENGTHS AND LENGTHS OF CONTINUOUS RUNS. CONTRACTOR SHALL FIELD VERIFY EACH RUN LENGTH PRIOR TO ORDERING. 2. FIXTURE SHALL BE INSTALLED IN A CONTINUOUS WALL-TO-WALL INSTALLATION FOR FIXTURES THAT BUTT UP AGAINST AN END WALL. FIXTURES THAT DO NOT BUTT UP AGAINST AN END WALL SHALL RUN THE FULL LENGTH OF THE WALL BEING ILLUMINATED. PROVIDE EXTENSIONS, AND END CAPS AS REQUIRED FOR INSTALLATION OF A COMPLETE SYSTEM. FIXTURE SHALL HAVE CLEAN, TIGHT BUTT JOINTS. LIGHT SHALL APPEAR CONTINUOUS. 3. CONTRACTOR TO SELECT MOUNTING OPTIONS, TELESCOPINGEND CONDITIONS AND CEILING TYPE AS REQUIRED FOR INSTALLATION OF A COMPLETE SYSTEM.
F9	LENSED LINEAR LED STRIP	UNDER CABINET, VANITY MIRROR	WHITE LED MODULE, 93CRI, 438 DELIVERED LUMENS PER FT, 65,000 RATED HOURS	3500K	5.6	PER LF	REMOTE, ELECTRONIC, 0-10V, DIMMABLE TO 1%	PRIMARY 110-277V, SECONDARY 24V	-	SURFACE MOUNTED IN MILLWORK DETAIL		FROSTED LENS	STANDARD FINISH, TBD	AION HOUSING: AT-801-(LENGTH)-FROSTED LENS-(FINISH) TAPE: 8924-35-LE DRIVER: D100-Z2-24	1. FINISH TO BE SELECTED BY ARCHITECT. 2. REFER TO ARCHITECTURAL DRAWINGS FOR FIXTURE LENGTHS AND LENGTHS OF CONTINUOUS RUNS. 3. LOCATE REMOTE DRIVERS IN A SECURE, CONCEALED, ACCESSIBLE AND WELL VENTILATED LOCATION IN COMPLIANCE WITH MANUFACTURER'S RECOMMENDATIONS. CONTRACTOR TO SELECT WATTAGE AND QUANTITY OF REMOTE DRIVER AS REQUIRED FOR COMPLETE INSTALLATIONS.
F10	RECESSED 4.5" APERTURE SQUARE LED DOWNLIGHT	GYP CEILING	WHITE LED MODULE, 80CRI, 2050 DELIVERED LUMENS, L70 50,000 HOURS	3500K	24	EA	INTEGRAL, ELECTRONIC, 0-10V, DIMMABLE TO 10%	277V	50° BEAM SPREAD	CEILING RECESSED	8 (EA)	SOLITE LENS	STANDARD FINISH, TBD	USAI BEVELED 2.1 SERIES 3110-B1-S-(FINISH) LSTD4-9024-C3-35KS-50-(HOUSING TYPE)-277V-DIML2	1. FINISH TO BE SELECTED BY ARCHITECT. 2. CONTRACTOR TO SELECT HOUSING TYPE.
F14	DECORATIVE LED PENDANT	BREAK ROOM	WHITE LED MODULE, 98CRI	3500K	13.3	EA	REMOTE , ELECTRONIC, 0-10V, DIMMABLE TO 10%	120-277V	TBD	SUSPENDED BY RIGGID STEM WITH SWIVEL	2.6 (EA)	TBD	STANDARD FINISH, TBD	V2 LIGHTING MODO MSBP-D-R-V-D-13-98-60-D-N-(FINISH)-SS(STEM LENGTH) REMOTE DRIVER BY V2 LIGHTING	1. FINAL FIXTURE STYLE AND SIZE TO BE REVIEWED BY ARCHITECT. 2. FINISH TO BE SELECTED BY ARCHITECT. 3. ARCHITECT TO SELECT MOUNTING HEIGHTS. CONTRACTOR TO PROVIDE STEM LENGTH AS REQUIRED. PROVIDE STRAIGHT POWER CORD AS REQUIRED.
FE2	16" WIDE WET LISTED WALL MOUNTED LED SCONCE TYPE 4 DISTRIBUTION IP66	EXTERIOR BUILDING FAÇADE	WHITE LED MODULE, 70CRI, 5316 DELIVERED LUMENS, L70 100,000 HOURS	4000K	32	EA	INTEGRAL, ELECTRONIC, 0-10V, DIMMABLE	277V	TYPE 4 DISTRIBUTION	WALL MOUNTED		UV STABILIZEDPOLYMER REFLECTOR LENS	STANDARD FINISH, TBD	GARDCO 101L SERIES 101L-32L-530-NWG1-4-277V-DD-(FINISH)	1. FINISH TO BE SELECTED BY ARCHITECT. 2. REFER TO DRAWINGS FOR MOUNTING HEIGHTS.
FE3	12" WIDE WET LISTED WALL MOUNTED LED SCONCE TYPE 3 DISTRIBUTION IP66	EXTERIOR BUILDING FAÇADE	WHITE LED MODULE, 70CRI, 3591 DELIVERED LUMENS, L70 100,000 HOURS	4000K	40	EA	INTEGRAL, ELECTRONIC, 0-10V, DIMMABLE	277V	TYPE 3 DISTRIBUTION	WALL MOUNTED		DIFFUSING LENS	STANDARD FINISH, TBD	GARDCO 111L SERIES 111L-16-750-NW-G2-3-277V-DD-DL-(FINISH)	1. FINISH TO BE SELECTED BY ARCHITECT. 2. REFER TO DRAWINGS FOR MOUNTING HEIGHTS.
FE13	WET LISTED WALL BRACKET MOUNTED LED FLOODLIGHT, IP55	EXTERIOR BLDG.02 NORTH	WHITE LED MODULE, 80CRI, 4570 DELIVERED LUMENS	4000K	55	EA	INTEGRAL, ELECTRONIC, 0-10V, DIMMABLE TO 10%	277V	LINEAR SPREAD	ARM MOUNTED		LINEAR SPREAD LENS WITH CLEAR TEMPERED GLASS LENS	STANDARD FINISH, TBD	WE-EF 665-9477-(FINISH) GLARE SHIELD 665-9242 LINEAR SPREAD LENS: 665-8149	1. FINISH TO BE SELECTED BY ARCHITECT. 2. REFER TO DRAWINGS FOR MOUNTING HEIGHTS. 3. RIBS OF LINEAR SPREAD LENS SHALL BE PARALLEL WITH FIXTURE ARM, SO LIGHT SPREADS TO SIDE TO SIDE. MANUFACTURER TO ENSURE TO PLACE LINEAR SPREAD LENS IN IN APPROPRIATE ORIENTATION.

GENERAL NOTES:
1. REFER TO SPECIFICATION SECTION 26 51 00 ARCHITECTURAL LIGHTING FOR ADDITIONAL REQUIREMENTS.
2. REFER TO SPECIFICATION SECTION 26 09 26 FOR NETWORKED LIGHTING CONTROL.
3. FIXTURE SHALL BE ORDERED WITH NECESSARY POWER SUPPLIES, DRIVERS, LEADER CABLES, JUMPER CABLES, POWER FEEDS, TERMINATORS AND CONTROL INTERFACES FOR INSTALLATION OF A COMPLETE WORKING SYSTEM.

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER
1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER
AMISH J. BROWN, CE
No. E17287
ELECTRICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title
ELECTRICAL LIGHT FIXTURE SCHEDULES

Drawn By: ELW Checked By: AJB

Scale: 12" = 1'-0"

Date: October 4, 2019

Project No. B17.07369

2-E0.10
Drawing No.

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LIGHTING CONTROL INTENT MATRIX AND SEQUENCE OF OPERATIONS

SPACE TYPE	LED DIMMING				AUTOMATIC CONTROL: OCCUPANCY SENSOR				PHOTOCELL		CONTROL DEVICE LOCATION		NORMAL BUSINESS HOURS		AFTER HOURS		OVERRIDE			EMERGENCY LTG STRATEGY	AUTOMATIC DEMAND RESPONSE
	MINIMUM AS REQUIRED BY TITLE-24 (2016)	MINIMUM AS REQUIRED BY LEED BD+C V4	DIMMING PERCENTAGE DOWN TO	WSP RECOMMENDATION	MINIMUM AS REQUIRED BY TITLE-24 (2016)	SENSOR DELAY SETPOINT	WSP RECOMMENDATION	AS REQUIRED BY T-24	PHOTOCELL SETPOINT	REMARKS	MINIMUM AS REQUIRED BY LEED BD+C V4	WSP RECOMMENDATION	LIGHTING	RECEPTACLES	LIGHTING	RECEPTACLES	LIGHTING	RECEPTACLES	DURATION	LIGHTING	
BLDG.2 - APPARATUS BUILDING (T24 NON-RESIDENTIAL)																					
ENTRY IN LOBBY AND HALLWAY	CONTINUOUS DIMMING 10-100 PERCENT	DIMMING AT 3 LEVELS (ON/OFF/MIDLEVEL)	10%	CONTINUOUS DIMMING TO 10%	AUTO FULL ON AUTO PARTIAL OFF	5 MINUTES	AUTO FULL ON AUTO PARTIAL OFF	REQUIRED IN DAYLIGHT ZONES	TBD	DAYLIGHT DIMMING RESPONSE	LOCAL	LOCAL		ON/OFF PER TIMECLOCK		ON/OFF PER OVERRIDE	ON/OFF VIA MANUAL DIMMER	ON/OFF VIA MANUAL SWITCH	2 HOURS	UL 924 DEVICE REQUIRED TO BRING EGRESS LIGHTING UP TO FULL BRIGHTNESS UPON LOSS OF NORMAL POWER OR FIRE ALARM SIGNAL	NOT REQUIRED
BREAK ROOM	CONTINUOUS DIMMING 10-100 PERCENT	DIMMING AT 3 LEVELS (ON/OFF/MIDLEVEL)	10%	CONTINUOUS DIMMING TO 10%	AUTO FULL ON AUTO PARTIAL OFF	5 MINUTES	AUTO FULL ON AUTO PARTIAL OFF	REQUIRED IN DAYLIGHT ZONES	TBD	DAYLIGHT DIMMING RESPONSE	LOCAL	LOCAL	ON/OFF PER MANUAL CONTROLS AND OFF PER OCCUPANCY SENSOR	NA	ON/OFF PER MANUAL CONTROLS AND OFF PER OCCUPANCY SENSOR	NA	ON/OFF VIA MANUAL DIMMER	NA	NA	UL 924 DEVICE REQUIRED TO BRING EGRESS LIGHTING UP TO FULL BRIGHTNESS UPON LOSS OF NORMAL POWER OR FIRE ALARM SIGNAL	NOT REQUIRED
RESTROOM/ SHOWER/ LOCKERS	CONTINUOUS DIMMING 10-100 PERCENT	DIMMING AT 3 LEVELS (ON/OFF/MIDLEVEL)	10%	CONTINUOUS DIMMING TO 10%	AUTO ON AUTO OFF	15 MINUTES	AUTO ON AUTO OFF	NO	--	--	LOCAL	LOCAL	ON/OFF PER MANUAL CONTROLS AND OFF PER OCCUPANCY SENSOR	NA	ON/OFF PER MANUAL CONTROLS AND OFF PER OCCUPANCY SENSOR	NA	ON/OFF VIA MANUAL DIMMER	NA	NA	UL 924 DEVICE REQUIRED TO BRING EGRESS LIGHTING UP TO FULL BRIGHTNESS UPON LOSS OF NORMAL POWER OR FIRE ALARM SIGNAL	NOT REQUIRED
CLASS ROOM	CONTINUOUS DIMMING 10-100 PERCENT	DIMMING AT 3 LEVELS (ON/OFF/MIDLEVEL)	1%	CONTINUOUS DIMMING TO 1%	MANUAL ON AUTO OFF	5 MINUTES	MANUAL ON AUTO OFF	REQUIRED IN DAYLIGHT ZONES	TBD	DAYLIGHT DIMMING RESPONSE	LOCAL	LOCAL	PRESET SCENE CONTROL (MANUAL) AND OFF PER OCCUPANCY SENSOR	ON/OFF PER NEAREST OCC SENSOR	OFF, UNLESS OVERRIDDEN VIA MANUAL CONTROLS. THEN CONTROLLED AS NORMAL AND OFF PER OCCUPANCY SENSOR	ON/OFF PER NEAREST OCC SENSOR	ON/OFF VIA MANUAL KEYPAD	ON/OFF PER NEAREST OCC SENSOR	NA	UL 924 DEVICE REQUIRED TO BRING EGRESS LIGHTING UP TO FULL BRIGHTNESS UPON LOSS OF NORMAL POWER OR FIRE ALARM SIGNAL	NOT REQUIRED
APPARATUS BAY	CONTINUOUS DIMMING 10-100 PERCENT	DIMMING AT 3 LEVELS (ON/OFF/MIDLEVEL)	10%	CONTINUOUS DIMMING TO 10%	AUTO FULL ON AUTO PARTIAL OFF	15 MINUTES	AUTO FULL ON AUTO PARTIAL OFF	REQUIRED IN DAYLIGHT ZONES	TBD	DAYLIGHT DIMMING RESPONSE	LOCAL	LOCAL								UL 924 DEVICE REQUIRED TO BRING EGRESS LIGHTING UP TO FULL BRIGHTNESS UPON LOSS OF NORMAL POWER OR FIRE ALARM SIGNAL	NOT REQUIRED
APPARATUS BAY & SIMULATION AREA	CONTINUOUS DIMMING 10-100 PERCENT	DIMMING AT 3 LEVELS (ON/OFF/MIDLEVEL)	10%	CONTINUOUS DIMMING TO 10%	AUTO FULL ON AUTO PARTIAL OFF	15 MINUTES	AUTO FULL ON AUTO PARTIAL OFF	REQUIRED IN DAYLIGHT ZONES	TBD	DAYLIGHT DIMMING RESPONSE	(2)location, one in curtain one not	(2)location, one in curtain one not		N/A		N/A		N/A	N/A	UL 924 DEVICE REQUIRED TO BRING EGRESS LIGHTING UP TO FULL BRIGHTNESS UPON LOSS OF NORMAL POWER OR FIRE ALARM SIGNAL	NOT REQUIRED
BOH SPACES	NOT REQUIRED IF UNDER 0.5 W/SF NOT REQUIRED IF UNDER 100 SQ. FT.	DIMMING AT 3 LEVELS (ON/OFF/MIDLEVEL)	--	SUGGEST NO DIMMING IF NOT REQUIRED BY CODE	MANUAL ON AUTO OFF	5 MINUTES	MANUAL ON MANUAL OFF	NO	--	--			ON/OFF PER MANUAL CONTROLS AND OFF PER OCCUPANCY SENSOR	N/A	ON/OFF PER MANUAL CONTROLS AND OFF PER OCCUPANCY SENSOR	N/A		N/A	N/A	UL 924 DEVICE REQUIRED TO BRING EGRESS LIGHTING UP TO FULL BRIGHTNESS UPON LOSS OF NORMAL POWER OR FIRE ALARM SIGNAL	NOT REQUIRED

NOTES:
1. THE INTENT OF THIS SCHEDULE IS TO CLARIFY THE PROGRAMMING AND FUNCTION OF CONTROLS THAT MAY BE LOCATED IN EACH SPACE TYPE.
2. THIS SCHEDULE IS NOT INTENDED TO DEFINE WHICH CONTROLS ARE TO BE INSTALLED IN EACH SPACE TYPE.
3. FOR ACTUAL CONTROL DEVICES TO BE INSTALLED IN EACH SPACE, REFER TO PLANS.
4. ALL SETPOINTS AND TIME SCHEDULES TO BE VERIFIED WITH OWNER PRIOR TO PROGRAMMING.
5. FOOTCANDLE LEVELS ARE BASED ON THE IESNA LIGHTING STANDARDS AND ARE TO BE USED AS A BASELINE DEFAULT FOR PROGRAMMING. LEVELS SUBJECT TO CHANGE PER ENERGY CODE COMPLIANCE AND OWNER REQUEST.
6. PER TITLE 24, BUILDING LIGHTING CONTROL SYSTEM TO BE DEMAND RESPONSE CAPABLE AND ABLE TO REDUCE TOTAL LIGHTING POWER BY AT LEAST 15%.
7. NA = NOT APPLICABLE WITH CONTROL DESIGN.

LIGHTING ZONE SUMMARY

PROJECT: HAYWARD FIRE TRAINING CENTER
ISSUE: PERMIT SUBMITTAL
DATE: 9/18/2018

GENERAL NOTES:
* CONTRACTOR TO COORDINATE DIRECTLY TO THE OWNER FOR REQUIRED ZONES AND SCENES.
SCENE NAMES SHOWN IN THIS TABLE ARE ONLY PLACE HOLDER.
* LIGHTING CONTROL MANUFACTURE TO PROVIDE FOUR PRESET.
* OWNER TO VERIFY DURING SUBMITTAL PHASE.

LOCATION: BLDG.2 APARATUS BAY #106
SCENE 1: GENERAL ALL
SCENE 2: GENERAL, NO SIMULATION

LIGHTING ZONE	FIXTURE TYPE	ZONE NAME	LOAD (W)
a	F1	GENERAL LINEAR AT APPARATUS BAY	REFER ELECTRICAL PANELS SCHEDULES.
b	F1	GENERAL LINEAR AT APPARATUS BAY	REFER ELECTRICAL PANELS SCHEDULES.
e	F20	WALL, TURNOUT LOCKER	REFER ELECTRICAL PANELS SCHEDULES.

LOCATION: BLDG.2 CLASSROOM #105
SCENE 1: GENERAL
SCENE 2: USE OF LCD SCREEN
SCENE 3: CLEANING

LIGHTING ZONE	FIXTURE TYPE	ZONE NAME	LOAD (W)
a	F4	FRONT WALL	REFER ELECTRICAL PANELS SCHEDULES.
b	F3	GENERAL	REFER ELECTRICAL PANELS SCHEDULES.

BOH LIGHTING FIXTURE SCHEDULE

TYPE	DESCRIPTION	MANUFACTURER/CATALOG NO.	COLOR TEMP.	DESCRIPT	WATTS	VOLTS	REMARKS
W1	SURFACE OR PENDANT MOUNTED INDUSTRIAL CORROSION-RESISTANT 4 FOOT LONG FIXTURE. LAMPS IN SECTION, POLYURETHANE GASKET, UV STABILIZED PATTERN ACRYLIC HIGH IMPACT DIFFUSER, INTEGRAL ELECTRONIC DRIVER AND DIMMING.	WILLIAMS 17-4-L55-835-A-DIM-UNV PARAMOUNT STARDUSTER C5-2-L-4-3-D3-277-35K DAYBRITE: DWAE43L-835-4-UNV-OPTIONS	3500K	LED	40	277	BACK OF HOUSE SPACES
X1	LED EDGE-LIT EXIT SIGN CONNECTED TO EMERGENCY SYSTEM. NUMBER OF FACES AND SURFACE, WALL, CEILING OR PENDANT MOUNTED EXIT SIGN WITH DIRECTIONAL ARROWS AS INDICATED. GREEN LETTERS, WHITE FINISH.	EMERGI-LITE PRESTIGE X40 SERIES EVENLITE TELESIS LITHONIA LRP-EL-N SERIES-120/277	N/A	LED	5	277	

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294 Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY
DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER
AMANDA J. BROWNLEE
No. E17387
ELECTRICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title
ELECTRICAL LIGHT FIXTURE SCHEDULES

Drawn By: ELW Checked By: AJB

Scale: 12" = 1'-0"

Date: October 4, 2019

Project No. B17.07369

2-E0.11
Drawing No.

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STATE OF CALIFORNIA
INDOOR LIGHTING
CEC-NRCC-LTI-01-E (Revised 04/16) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-01-E
Indoor Lighting	(Page 1 of 6)

Project Name: Hayward Fire Training Center - Building 2 — Date Prepared: 7/16/2019

A. General Information

Climate Zone: 3	Conditioned Floor Area: 7,868 Unconditioned Floor Area: 0						
Building Type:	☑	Nonresidential	☐	High-Rise Residential	☐	Hotel/Motel	
☐ Schools	☐	Relocatable Public Schools	☑	Conditioned Spaces	☐	Unconditioned Spaces	
Phase of Construction:	☑	New Construction	☐	Addition	☐	Alteration	
Method of Compliance:	☐	Complete Building	☑	Area Category	☐	Tailored	

Project Address: 1401 W. Winton Ave.

B. Lighting Compliance Documents (select yes for each document included)

For detailed instructions on the use of this and all Energy Efficiency Standards compliance documents, refer to the Nonresidential Manual published by the California Energy Commission.

YES	NO	COMP. DOC.	TITLE
☑	☐	NRCC-LTI-01-E	Certificate of Compliance. All Pages required on plans for all submittals.
☑	☐	NRCC-LTI-02-E	Lighting Controls, Certificate of Compliance, and PAF Calculation. All Pages required on plans for all submittals.
☑	☐	NRCC-LTI-03-E	Indoor Lighting Power Allowance
☐	☑	NRCC-LTI-04-E	Tailored Method Worksheets
☐	☑	NRCC-LTI-05-E	Line Voltage Track Lighting Worksheets
☐	☑	NRCC-LTI-06-E	Indoor Lighting Existing Conditions

STATE OF CALIFORNIA
Electrical Power Distribution
CEC-NRCC-ELC-01-E (Revised 04/16) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-ELC-01-E
Electrical Power Distribution	(Page 4 of 6)

Project Name: Hayward Fire Training Center - Building 2 — Date Prepared: 7/16/2019

B. Separation of Electrical Circuits for Electrical Energy Monitoring

Check all boxes below if the electrical power distribution system is in compliance with Section 130.5(b).

☒ The electrical power distribution system meets the separation of electrical circuits for electrical energy monitoring requirement of Section 130.5(b). The electrical power distribution systems is designed so that measurement devices can monitor the electrical energy usage of load types listed in Table 130.5-A.

☒ Describe the electrical power distribution system installed and the compliance method chosen in meeting the requirement of Section 130.5(b). Use the space below to include the information. Examples of compliance methods are detailed in Nonresidential Compliance Manual Chapter 8.

Fill out Column 1 thru 3 with the compliance information.

General information	Electrical Power Distribution System information and Method of compliance	Electrical Service Rating	Enforcement Agency
01	02	03	04
Electrical Service Designation/Location/Description	Describe the electrical power distribution system installed and the compliance method used.	kVA	Check that the system complies
LPH-B2A	PANELBOARD DISAGGREGATION	174	☐
LPH-B2B	PANELBOARD DISAGGREGATION	150	
DPL-B2A	PANELBOARD DISAGGREGATION	225	
LP-B2A	PANELBOARD DISAGGREGATION	67	

Field Inspector Notes:

STATE OF CALIFORNIA
Electrical Power Distribution
CEC-NRCC-ELC-01-E (Revised 04/16) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-ELC-01-E
Electrical Power Distribution	(Page 1 of 6)

Project Name: Hayward Fire Training Center - Building 2 — Date Prepared: 7/16/2019

General Information

Project Address:	Climate Zone:	Conditioned Floor Area: 7,868 Unconditioned Floor Area: 0
1401 W. Winton Ave.	3	
Building Type: ☑ Nonresidential ☐ High-Rise Residential ☐ Hotel/Motel		
Phase of Construction: ☐ Schools ☐ Relocatable Public Schools ☐ Alteration ☑ New Construction ☐ Addition		

In the table below identify all applicable construction documents that specify the requirements for the scope of responsibility reported by this certificate. Use additional pages as needed to list all construction documents related to compliance of Section 130.5.

Document Number	Document Title / Descriptions (include description information for Table or Schedule if it contains compliance information)	Document Sheet # or Page #	Indicate which subsection of Section 130.5 is related to the document (e.g. 130.5(a) for service electrical metering)
2-E2.01	ELECTRICAL APPARATUS BUILDING FLOO		d
2-E501	ELECTRICAL RISER DIAGRAM		a,b
2-E0.02	ELECTRICAL SCHEDULES		c

STATE OF CALIFORNIA
INDOOR LIGHTING
CEC-NRCC-LTI-01-E (Revised 04/16) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-01-E
Indoor Lighting	(Page 2 of 6)

Project Name: Hayward Fire Training Center - Building 2 — Date Prepared: 7/16/2019

C. Summary of Allowed Lighting Power

Conditioned and Unconditioned space Lighting must not be combined for compliance

	Indoor Lighting Power for Conditioned Spaces		Watts	Indoor Lighting Power for Unconditioned Spaces		Watts
01	**Installed** Lighting NRCC-LTI-01-E, Table H, page 5	+	5,188	**Installed** Lighting NRCC-LTI-01-E, Table H, page 5	+	0
02	Portable Only for Offices NRCC-LTI-01-E, Table G, page 4	+				
03	Minus Lighting Control Credits NRCC-LTI-02-E, page 2	-	0	Minus Lighting Control Credits NRCC-LTI-02-E, page 2	-	0
04	Adjusted **Installed** Lighting Power (row 1 plus row 2 minus row 3)	=	5,188	Adjusted **Installed** Lighting Power (row 1 minus row 3)	=	0
	Complies ONLY if **Installed** ≤ **Allowed** (Box 04 < Box 05)			Complies ONLY if **Installed** ≤ **Allowed** (Box 04 < Box 05)		
05	**Allowed** Lighting Power Conditioned NRCC-LTI-03-E, page 1 Alterations with replacement luminaires that have at least 50/35% lower power compared to the original existing luminaires, may instead use the allowed wattage from NRCC-LTI-06, page 2		7,054	**Allowed** Lighting Power Unconditioned NRCC-LTI-03-E, page 1 Alterations with replacement luminaires that have at least 50/35% lower power compared to the original existing luminaires, may instead use the allowed wattage from NRCC-LTI-06, page 2		0

D. Declaration of Required Certificates of Installation

Declare by selecting yes for all of the Certificates that will be submitted. (Retain copies and verify forms are completed and signed.)

YES	NO	Compliance Document/Title	
☑	☐	NRCI-LTI-01-E - Must be submitted for all buildings	☐ Field Inspector
☑	☐	NRCI-LTI-02-E - Must be submitted for a lighting control system, or for an Energy Management Control System (EMCS), to be recognized for compliance.	☐ Field Inspector
☐	☑	NRCI-LTI-03-E - Must be submitted for a line-voltage track lighting integral current limiter, or for a supplementary overcurrent protection panel used to energize only line-voltage track lighting, to be recognized for compliance.	☐ Field Inspector
☐	☑	NRCI-LTI-04-E - Must be submitted for two interlocked systems serving an auditorium, a convention center, a conference room, a multipurpose room, or a theater to be recognized for compliance.	☐ Field Inspector
☐	☑	NRCI-LTI-05-E - Must be submitted for a Power Adjustment Factor (PAF) to be recognized for compliance.	☐ Field Inspector
☐	☑	NRCI-LTI-06-E - Must be submitted for additional wattage installed in a video conferencing studio to be recognized for compliance.	☐ Field Inspector

STATE OF CALIFORNIA
Electrical Power Distribution
CEC-NRCC-ELC-01-E (Revised 04/16) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-ELC-01-E
Electrical Power Distribution	(Page 5 of 6)

Project Name: Hayward Fire Training Center - Building 2 — Date Prepared: 7/16/2019

bution system is in compliance with Section 130.5(c).

ts the voltage drop requirement of Section 130.5(c). The maximum rs and branch circuit conductors to the farthest connected load or

compliance to Section 130.5(c) are submitted as part of the

Receptacles and Controlled Receptacles

Check all boxes below for the electrical power distribution requirements of Section 130.5(d) for the electrical power distribution

ng OFF. The controlled receptacles when the space is typically t level. For the automatic time switch control, it incorporates an ng OFF feature that turns OFF all loads for at least 24 hours and then . Countdown timer switches are not be used to comply with the s. The controls meet the requirement of Section 130.5(d)1.

thin 6 ft from each uncontrolled receptacle. Where receptacles are e area, at least one controlled receptacle is installed at each rement of Section 130.5(d)2.

Field Inspector Check that the system complies

Enforcement Agency Check that the system complies	☐	☐	☐	☐	☐

th at least one controlled and one uncontrolled receptacle. Where ed receptacle or circuits to differentiate them from uncontrolled lugs meet the requirement of Section 130.5(d)3.

controlled receptacles for at least one half of the 120-volt coils serving controlled receptacles in guestrooms are installed to ng controls, or automatic controls so the power is switched off no m has been vacated. The receptacles meet the requirement of

poses are excepted from Section 130.5(d):
d water dispensers in kitchen areas.
ove the floor that are specifically for clocks.
ices, A/V and data equipment shall be permitted to be connected to ply (UPS) that are intended to be in continuous use, 24 amperes.
are marked to differentiate them from other uncontrolled

STATE OF CALIFORNIA
Electrical Power Distribution
CEC-NRCC-ELC-01-E (Revised 04/16) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-ELC-01-E
Electrical Power Distribution	(Page 2 of 6)

Project Name: Hayward Fire Training Center - Building 2 — Date Prepared: 7/16/2019

C. Voltage Drop

Check all boxes below if the electrical power distribution system is in compliance with Section 130.5(c).

☒ The electrical power distribution system meets the voltage drop requirement of Section 130.5(c). The maximum combined voltage drop on feeder conductors and branch circuit conductors to the farthest connected load or outlet, do not exceed 5%.

☒ Voltage drop calculation documents showing compliance to Section 130.5(c) are submitted as part of the compliance document submittal.

D. Circuit Controls for 120-Volt Receptacles and Controlled Receptacles

Check one or more boxes below for applicable requirements of Section 130.5(d) for the electrical power distribution system.

☒ The control is capable of automatically shutting OFF the controlled receptacles when the space is typically unoccupied, either at the receptacle or circuit level. For the automatic time switch control, it incorporates an automatic holiday "shut-OFF" feature that turns OFF all loads for at least 24 hours and then is initiated and an automatic holiday "shut-OFF" feature that turns OFF all loads for at least 24 hours and then resumes the normally scheduled operation. Countdown timer switches are not be used to comply with the automatic time switch control requirements. The controls meet the requirement of Section 130.5(d)1.

☐ There is at least one controlled receptacle within 6 Ft from each uncontrolled receptacle. Where receptacles are installed in modular furniture in open office area, at least one controlled receptacle is installed at each workstation. The receptacles meet the requirement of Section 130.5(d)2.

☐ There are installed split wired receptacles with at least one controlled receptacle and one uncontrolled receptacle. Where receptacles are installed in modular furniture in open office area, at least one controlled receptacle is installed at each workstation. The receptacles meet the requirement of Section 130.5(d)3.

☒ Permanent and durable marking for controlled receptacles or circuits to differentiate them from uncontrolled receptacles or circuits is provided. The markings meet the requirement of Section 130.5(d)3.

☐ For hotel and motel guest rooms, there are controlled receptacles for at least one half of the 120-volt receptacles in each guest room. Electric circuits serving controlled receptacles in guestrooms are installed to have captive key controls, occupancy sensing controls, or automatic controls so the power is switched off no longer than 30 minutes after the guest room has been vacated. The receptacles meet the requirement of Section 130.5(d)4.

☐ Receptacles that are only for the following purposes are excepted from Section 130.5(d):
-Receptacles specifically for refrigerators and water dispensers in kitchen areas.
-Receptacles located a minimum of six ft above the floor that are specifically for clocks.
-Receptacles for fire/smoke detectors, life safety, security devices, A/V and data equipment shall be permitted to be connected to an uninterruptible power supply (UPS) that are intended to be in continuous use, 24 hours per day, 7 days per week, and are marked to differentiate them from other uncontrolled receptacles or circuits.

STATE OF CALIFORNIA
Electrical Power Distribution
CEC-NRCC-ELC-01-E (Revised 04/16) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-ELC-01-E
Electrical Power Distribution	(Page 3 of 6)

Project Name: Hayward Fire Training Center - Building 2 — Date Prepared: 7/16/2019

A. Service Electrical Metering

Check one of the three boxes below if the electrical power distribution system is in compliance with Section 130.5(a). Fill out Column 1 thru 7 of table below.

☒ *For newly installed electrical service in newly constructed buildings, Service Electrical Metering is required according to Section 130.5(a). Fill out Column 1 thru 7 of table below.*

☐ *For tenant retrofit electrical service equipment in existing buildings, Service Electrical Metering is required according to Section 141.0(b)2H. Fill out Columns 1 thru 6 of table below.*

☒ EXCEPTION to Electrical Service Metering: Service or Feeder for which the utility company provides a metering system that indicates instantaneous kW demand and kWh for a utility defined period. *Fill out Column 1, 2 and 6 of table below with the compliance information.*

Fill out a separate line for each electrical service that is connected to the building. If additional table space is needed for electrical service information, submit additional page with the information.

Electrical Service Schedule	Electrical Service Rating	Metering Capabilities (check all that are present)				Exception to 130.5(a)	Field Inspector
01	02	03	04	05	06	07	08
Electrical Service Designation/Location/Description	kVA	Instantaneous kW (at the time)	Historical peak kW	Tracking kWh for a user-definable period	kWh per rate period	Utility metering system	Check that the metering complies
REFER TO PACKAGE 1 FOR ELECTRICAL SERVICE SCHEDULE		☐	☐	☐	☐	☐	☐
		☐	☐	☐	☐	☐	☐

STATE OF CALIFORNIA
INDOOR LIGHTING
CEC-NRCC-LTI-01-E (Revised 04/16) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-01-E
Indoor Lighting	(Page 3 of 6)

Project Name: Hayward Fire Training Center - Building 2 — Date Prepared: 7/16/2019

E. Declaration of Required Certificates of Acceptance

Declare by selecting yes for all of the Certificates that will be submitted. (Retain copies and verify forms are completed and signed.)

YES	NO	Compliance Document/Title	
☑	☐	NRCA-LTI-02-A - Must be submitted for occupancy sensors and automatic time switch controls.	☐ Field Inspector
☑	☐	NRCA-LTI-03-A - Must be submitted for automatic daylight controls.	☐ Field Inspector
☐	☑	NRCA-LTI-04-A - Must be submitted for demand responsive lighting controls.	☐ Field Inspector
☐	☑	NRCA-LTI-05-A – Must be submitted for institutional tuning power adjustment factor (PAF).	☐ Field Inspector

A Separate Lighting Schedule Must Be Filled Out for Conditioned and Unconditioned Spaces. Installed Lighting Power listed on this Lighting Schedule is only for:
☑ **CONDITIONED SPACE** ☐ **UNCONDITIONED SPACE**

F. Indoor Lighting Schedule and Field Inspection Energy Checklist

☑ The actual indoor lighting power listed on the next 2 pages includes all installed permanent and planned portable lighting systems.
☐ When Complete Building Method is used for compliance, list each different type of luminaire on separate lines.
☑ When Area Category Method or Tailored Method is used for compliance, list each different type of luminaire by each different function area on separate lines
☐ Also include track lighting in schedule, and submit the track lighting compliance document (NRCC-LTI-05-E) when line-voltage track lighting is installed.

STATE OF CALIFORNIA
Electrical Power Distribution
CEC-NRCC-ELC-01-E (Revised 04/16) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-ELC-01-E
Electrical Power Distribution	(Page 6 of 6)

Project Name: Hayward Fire Training Center - Building 2 — Date Prepared: 7/16/2019

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

1. I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: Hayley Vero — Documentation Author Signature: Hayley Vero
Company: WSP — Signature Date: 7/16/2019
Address: 425 Market Street, 17th floor — CEA/HERS certification identification (if applicable):
City/State/Zip: San Francisco, CA 94105 — Phone: 415-243-4600

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.
2. I am the responsible person who is legally entitled to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer).
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and any subsequent amendments to this Certificate of Compliance shall be made available prior to inspection. If this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name: Amanda Brownlee — Responsible Designer Signature: Amanda Brownlee
Company: WSP — Date Signed: 7/16/2019
Address: 425 Market Street, 17th Floor — License: E17287
City/State/Zip: San Francisco, CA 94105 — Phone: 415-243-4600

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
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DATE: 11/12/2019

Ross Drulis Cusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY:	
KATHY GARCIA DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
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HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER
AMANDA J. BROWNLEE
No. E17287
ELECTRICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

ELECTRICAL TITLE 24

Drawn By: ELW — Checked By: AJB

Scale: **NTS**

Date: **October 4, 2019**

Project No. B17.07369

2-E0.20
Drawing No.

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STATE OF CALIFORNIA
INDOOR LIGHTING – LIGHTING CONTROLS
CEC-NRCC-LTI-02-E (Revised 01/16) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-02-E
Indoor Lighting - Lighting Controls	(Page 3 of 3)
Project Name: Hayward Fire Training Center - Building 2	Date Prepared: 7/16/2019

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

1. I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name:	Hayley Vero	Documentation Author Signature:	Hayley Vero
Company:	WSP	Signature Date:	7/16/2019
Address:	425 Market Street, 17th floor	CEA Certification Identification (if applicable):	
City/State/Zip:	San Francisco, CA 94105	Phone:	415-243-4600

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer).
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name:	Amanda Brownlee	Responsible Designer Signature:	Amanda Brownlee
Company:	WSP	Date Signed:	7/16/2019
Address:	425 Market Street, 17th Floor	License:	E17287
City/State/Zip:	San Francisco, CA 94105	Phone:	415-243-4600

STATE OF CALIFORNIA
INDOOR LIGHTING
CEC-NRCC-LTI-01-E (Revised 04/16) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-01-E
Indoor Lighting	(Page 6 of 6)
Project Name: Hayward Fire Training Center - Building 2	Date Prepared: 7/16/2019

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

1. I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name:	Hayley Vero	Documentation Author Signature:	Hayley Vero
Company:	WSP	Signature Date:	7/16/2019
Address:	425 Market Street, 17th floor	CEA Certification Identification (if applicable):	
City/State/Zip:	San Francisco, CA 94105	Phone:	415-243-4600

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer).
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name:	Amanda Brownlee	Responsible Designer Signature:	Amanda Brownlee
Company:	WSP	Date Signed:	7/16/2019
Address:	425 Market Street, 17th Floor	License:	E17287
City/State/Zip:	San Francisco, CA 94105	Phone:	415-243-4600

STATE OF CALIFORNIA
INDOOR LIGHTING
CEC-NRCC-LTI-01-E (Revised 04/16) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-01-E
Indoor Lighting	(Page 4 of 6)
Project Name: Hayward Fire Training Center - Building 2	Date Prepared: 7/16/2019

G. Installed Portable Luminaires in Offices – Exception to Section 140.6(a)

☐ This section shall be filled out ONLY for portable luminaires in offices (As defined in §100.1). All other planned portable luminaires shall be documented on next page of this compliance document.
☐ This section is used to determine if greater than 0.3 watts of portable lighting is planned for any office
☐ Fill out a separate line for each different office. Small offices that are typical (having the same general and portable lighting) may be grouped together. This allowance shall not be traded between offices having different lighting systems.

Office Portable Luminaire Schedule	Office Installed Portable Luminaire W/ft^2							Office Location	Field Inspector	
1	2	3	4	5	6	7	8	9	10	
Complete Luminaire Description (i.e., LED, under cabinet, furniture mounted direct/indirect)	Watts per Luminaire	Number of Luminaires	Installed portable luminaire watts in this office (G02 x G03)	Square feet of this office	Watts per square foot (G04 / G05)	If G06 ≤ 0.3, enter zero; if G06 > 0.3, (G06-0.3)	(G05 x G07)	Identify Office area in which these portable luminaires are installed	Pass	Fail
									☐	☐
									☐	☐
									☐	☐
									☐	☐
									☐	☐
Total installed portable luminaire watts that are greater than 0.3 W/ft^2 per office:								Enter sum total of all pages into NRCC-LTI-01-E; Page 1		

STATE OF CALIFORNIA
INDOOR LIGHTING POWER ALLOWANCE
CEC-NRCC-LTI-03-E (Revised 04/16) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-03-E
Certificate of Compliance - Indoor Lighting Power Allowance	(Page 1 of 4)
Project Name: Hayward Fire Training Center - Building 2	Date Prepared: 7/16/2019

A separate page must be filled out for Conditioned and Unconditioned Spaces. This page is only for:
☑ CONDITIONED spaces ☐ UNCONDITIONED spaces

A. SUMMARY TOTALS OF LIGHTING POWER ALLOWANCES

☐ If using Complete Building Method for compliance, use only the total in column (a) as total allowed building watts.
☐ If using Area Category Method, Tailored Method, or a combination of Area Category and Tailored Method for compliance, use only the total in column (b) as the total allowed building watts

	(a)	(b)
01 Complete Building Method Allowed Watts. Documented in section B of NRCC-LTI-03-E (below on this page)		
02 Area Category Method Allowed Watts. Documented in section C-1 of NRCC-LTI-03-E (below on this page)		7,054
03 Tailored Method Allowed Watts. Documented in section A of NRCC-LTI-04-E		0
TOTAL ALLOWED BUILDING WATTS. Enter number into correct cell on NRCC-LTI-01, Page 2, Row 1		7,054

☐ Check here if building contains both conditioned and unconditioned areas.

B. COMPLETE BUILDING METHOD LIGHTING POWER ALLOWANCE

01	02		03		04
TYPE OF BUILDING (From §140.6 Table 140.6-B)	WATTS PER ft^2	X	COMPLETE BLDG. AREA	=	ALLOWED WATTS
Total Area:					
Total Watts. Enter Total Watts into section A, row 1 (Above on this page)					

C -1 AREA CATEGORY METHOD TOTAL LIGHTING POWER ALLOWANCES — **Watts**

Total from section C-2	7,054
Total from section C-3	0
Total Watts. Enter Total Watts into section A, row 2 (Above on this page)	7,054
For Alterations Only – Reduced lighting power option (Total Allowed Watts x 0.85). Enter this value into section A, row 2 if using this option.	

STATE OF CALIFORNIA
INDOOR LIGHTING – LIGHTING CONTROLS
CEC-NRCC-LTI-02-E (Revised 01/16) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-02-E
Indoor Lighting - Lighting Controls	(Page 1 of 3)
Project Name: Hayward Fire Training Center - Building 2	Date Prepared: 7/16/2019

A. Mandatory Lighting Control Declaration Statements (Indicate if the measure applies by checking yes or no below.)

YES	NO	Control Requirements
☑	☐	Lighting shall be controlled by self-contained lighting control devices which are certified to the Energy Commission according to the Title 20 Appliance Efficiency Regulations in accordance with Section 110.9.
☑	☐	Lighting shall be controlled by a lighting control system or energy management control system in accordance with §110.9. An Installation Certificate shall be submitted in accordance with Section 130.4(b).
☐	☑	One or more Track Lighting Integral Current Limiters shall be installed which have been certified to the Energy Commission in accordance with §110.9 and §130.0. Additionally, an Installation Certificate shall be submitted in accordance with Section 130.4(b).
☐	☑	A Track Lighting Supplementary Overcurrent Protection Panel shall be installed in accordance with Section 110.9 and Section 130.0. Additionally, an Installation Certificate shall be installed in accordance with Section 130.4(b).
☑	☐	All lighting controls and equipment shall comply with the applicable requirements in §110.9 and shall be installed in accordance with the manufacturer's instructions in accordance with Section 130.1.
☑	☐	All luminaires shall be functionally controlled with manually switched ON and OFF lighting controls in accordance with Section 130.1(a).
☑	☐	General lighting shall be separately controlled from all other lighting systems in an area. Floor and wall display, window display, case display, ornamental, and special effects lighting shall each be separately controlled on circuits that are 20 amps or less. When track lighting is used, general, display, ornamental, and special effects lighting shall each be separately controlled; in accordance with Section 130.1(a)4.
☑	☐	The general lighting of any enclosed area 100 square feet or larger, with a connected lighting load that exceeds 0.5 watts per square foot shall meet the multi-level lighting control requirements in accordance with Section 130.1(b).
☑	☐	All installed indoor lighting shall be equipped with controls that meet the applicable Shut-OFF control requirements in Section 130.1(c).
☑	☐	Lighting in all Daylit Zones shall be controlled in accordance with the requirements in Section 130.1(d) and daylit zones are shown on the plans.
☐	☑	Lighting power in buildings larger than 10,000 square feet shall be capable of being automatically reduced in response to a Demand Responsive Signal in accordance with Section 130.1(e).
☑	☐	Before an occupancy permit is granted for a newly constructed building or area, or a new lighting system serving a building, area, or site is operated for normal use, indoor lighting controls serving the building, area, or site shall be certified as meeting the Acceptance Requirements for Code Compliance in accordance with Section 130.4.(a). The controls required to meet the Acceptance Requirements include automatic daylight controls, automatic shut-OFF controls, and demand responsive controls.

STATE OF CALIFORNIA
INDOOR LIGHTING
CEC-NRCC-LTI-01-E (Revised 04/16) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-01-E
Indoor Lighting	(Page 5 of 6)
Project Name: Hayward Fire Training Center - Building 2	Date Prepared: 7/16/2019

A Separate Lighting Schedule Must Be Filled Out for Conditioned and Unconditioned Spaces. Installed Lighting Power listed on this Lighting Schedule is only for:
☑ **CONDITIONED SPACE** ☐ **UNCONDITIONED SPACE**

H. Indoor Lighting Schedule and Field Inspection Energy Checklist

Luminaire Schedule		Installed Watts				Location	Field Inspector [2]	
01	02	03	04	05	06	07	08	
Name or Item Tag	Complete Luminaire Description (i.e, 3 lamp fluorescent troffer, F32T8, one dimmable electronic ballast)	Watts per Luminaire	How wattage was determined: CEC Default from NA8	How wattage was determined: According to §130.0(c)	Number Luminaires	Total Installed Watts in this area (H03 x H05)	Primary Function area in which these luminaires are installed	Pass / Fail
F1	F1	50.0	☐	☑	8	400	Commercial, Industrial Storage	☐ ☐
F10	F10	24.0	☐	☑	5	120	Locker/Dressing Room	☐ ☐
F10	F10	24.0	☐	☑	5	120	Lobby, Main Entry	☐ ☐
F10	F10	24.0	☐	☑	3	72	Corridor/Restroom/Support	☐ ☐
F10A	F10A	24.0	☐	☑	1	24	Kitchenette	☐ ☐
F10A	F10A	24.0	☐	☑	6	144	Locker/Dressing Room	☐ ☐
F11A	F11A	33.0	☐	☑	4	132	Lobby, Main Entry	☐ ☐
F14	F14	50.0	☐	☑	6	300	Kitchenette	☐ ☐
F17 (1')	F17 (1')	4.9	☐	☑	26	127	Locker/Dressing Room	☐ ☐
				INSTALLED WATTS PAGE TOTAL:		1,439	Enter sum total of all pages into NRCC-LTI-01-E; Page 2	

STATE OF CALIFORNIA
INDOOR LIGHTING POWER ALLOWANCE
CEC-NRCC-LTI-03-E (Revised 04/16) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-03-E
Certificate of Compliance - Indoor Lighting Power Allowance	(Page 2 of 4)
Project Name: Hayward Fire Training Center - Building 2	Date Prepared: 7/16/2019

A separate page must be filled out for Conditioned and Unconditioned Spaces. This page is only for:
☑ CONDITIONED spaces ☐ UNCONDITIONED spaces

C -2 AREA CATEGORY METHOD GENERAL LIGHTING POWER ALLOWANCE

☐ Do not include portable lighting for offices. Portable lighting for offices shall be documented only in Section G of NRCC-LTI-01-E.
☐ Separately list lighting for each primary function area as defined in §100.1 of the Standards.

01		02		03		04
AREA CATEGORY (From §140.6 Table 140.6-C)						
Location in Building	Primary Function Area per Table 140.6-C	WATTS PER ft^2	X	AREA (ft^2)	=	ALLOWED WATTS
Restroom	Corridor/Restroom/Support	0.60		369		221
Lobby, Main Entry	Lobby, Main Entry	0.95		434		412
Classroom/Training	Classroom, Lecture, Training	1.20		652		782
Break	Kitchenette	1.20		328		394
Police/Fire Station	Police/Fire Station	0.90		5,190		4,671
Electrical/Mechanical	Electrical, Mechanical Room	0.55		105		58
Locker Room	Locker/Dressing Room	0.70		413		289
Commercial, Industrial Storage	Commercial, Industrial Storage	0.60		377		226
			TOTALS	7,868		
Enter sum total Area Category allowed watts into section C-1 of NRCC-LTI-03-E (this compliance document)						7,054
						WATTS

STATE OF CALIFORNIA
INDOOR LIGHTING – LIGHTING CONTROLS
CEC-NRCC-LTI-02-E (Revised 01/16) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-02-E
Indoor Lighting - Lighting Controls	(Page 2 of 3)
Project Name: Hayward Fire Training Center - Building 2	Date Prepared: 7/16/2019

A separate document must be filled out for Conditioned and Unconditioned Spaces. This page is used only for the following:
☑ CONDITIONED SPACES ☐ UNCONDITIONED SPACES

B. Mandatory and Prescriptive Indoor Lighting Control Schedule, PAF Calculation, and Field Inspection Checklist

Lighting Control Schedule			Standards Complying With [1] (✓ all that apply, or enter 'E' if Exempted)							PAF Credit Calculation [2]				
										Watts of Controlled Lighting	PAF	Control Credit (K x L)	✓ If Acceptance Test Required	Field Inspector
01	02	03	04	05	06	07	08	09	10	11	12	13	14	15
Location in Building	Type/Description of Lighting Control (i.e.: occupancy sensor, automatic time switch, dimmer, automatic daylight, etc...)	# of Units	§130.1(a)	§130.0(b)	§130.1(c)	§130.1(d)	§130.1(e)	§140.6(a)2	§140.6(d)					Pass / Fail
MULTIPURPOSE, BREAK	OCC. SENSOR, TIME SWITCH, DIMMER	SEE PLAN	☐	☑	☑	☐	☐	☐	☐				✓	☐ ☐
RESTROOM, LOCKER ROOM	OCC. SENSOR, TIME SWITCH, DIMMER	SEE PLAN	☑	☑	☑	☐	☐	☐	☐				✓	☐ ☐
CLASSROOM, LOBBY	OCC. SENSOR, TIME SWITCH	SEE PLAN	☑	☑	☑	☐	☐	☐	☐				✓	☐ ☐
APPARATUS	OCC. SENSOR, TIME SWITCH, DIMMER, PHOTOCELL	SEE PLAN	☑	☑	☑	☑	☐	☐	☐				✓	☐ ☐
			☐	☐	☐	☐	☐	☐	☐					☐ ☐
			☐	☐	☐	☐	☐	☐	☐					☐ ☐
Control Credit PAGE TOTAL (Sum of Column 13):												0		
IF MULTIPLE PAGES ARE USED, ENTER SUM TOTAL OF Control Credit for all pages HERE (Sum of all Column 13):												0		
												Enter Control Credit total into NRCC-LTI-01-E; Page 1.		

1. §130.1(a) = Manual area controls; §130.0(b) = Multi Level; §130.1(c) = Auto Shut-Off; §130.1(d) = Mandatory Daylight; §130.1(e) = Demand Responsive; §140.6(d) = Additional lighting controls installed to earn a PAF; §140.6(d) = Prescriptive Secondary Sidelit Daylight Controls.
2. Check Table 140.6-A for correct Factor. PAFs shall not be traded between conditioned and unconditioned spaces. As a condition to earn a PAF, an Installation Certificate is also required to be filled out, signed, and submitted.

STATE OF CALIFORNIA
INDOOR LIGHTING
CEC-NRCC-LTI-01-E (Revised 04/16) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-01-E
Indoor Lighting	(Page 5 of 6)
Project Name: Hayward Fire Training Center - Building 2	Date Prepared: 7/16/2019

A Separate Lighting Schedule Must Be Filled Out for Conditioned and Unconditioned Spaces. Installed Lighting Power listed on this Lighting Schedule is only for:
☑ **CONDITIONED SPACE** ☐ **UNCONDITIONED SPACE**

H. Indoor Lighting Schedule and Field Inspection Energy Checklist

Luminaire Schedule		Installed Watts				Location	Field Inspector [2]	
01	02	03	04	05	06	07	08	
Name or Item Tag	Complete Luminaire Description (i.e, 3 lamp fluorescent troffer, F32T8, one dimmable electronic ballast)	Watts per Luminaire	How wattage was determined: CEC Default from NA8	How wattage was determined: According to §130.0(c)	Number Luminaires	Total Installed Watts in this area (H03 x H05)	Primary Function area in which these luminaires are installed	Pass / Fail
F1A	F1A	30.0	☐	☑	55	1,650	Police/Fire Station	☐ ☐
F20 (1')	F20 (1')	12.0	☐	☑	48	576	Police/Fire Station	☐ ☐
F3 (1')	F3 (1')	13.0	☐	☑	48	624	Classroom, Lecture, Training	☐ ☐
F4 (1')	F4 (1')	7.0	☐	☑	8	56	Classroom, Lecture, Training	☐ ☐
F6 (1')	F6 (1')	9.2	☐	☑	13	120	Corridor/Restroom/Support	☐ ☐
F7 (1')	F7 (1')	7.1	☐	☑	26	185	Corridor/Restroom/Support	☐ ☐
F7 (1')	F7 (1')	7.1	☐	☑	59	419	Lobby, Main Entry	☐ ☐
F9 (1')	F9 (1')	5.6	☐	☑	7	39	Kitchenette	☐ ☐
W1	W1	40.0	☐	☑	2	80	Electrical, Mechanical Room	☐ ☐
				INSTALLED WATTS PAGE TOTAL:		3,748	Enter sum total of all pages into NRCC-LTI-01-E; Page 2	

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery ARCHITECTURE
18294 Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVED RECD:
APPROVED BY:	
KATHY GARCIA DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER
AMBER J. BROWN, CE
No. E17287
ELECTRICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

ELECTRICAL TITLE 24

Drawn By: ELW Checked By: AJB

Scale: **NTS**

Date: **October 4, 2019**

Project No. B17.07369

2-E0.21
Drawing No.

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STATE OF CALIFORNIA
OUTDOOR LIGHTING
CEC-NRCC-LTO-01-E (Revised 02/16) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTO-01-E
Outdoor Lighting	(Page 4 of 4)
Project Name: Hayward Fire Training Center - Building 2	Date Prepared: 7/16/2019

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

1. I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name:	Hayley Vero	Documentation Author Signature:	Hayley Vero
Company:	WSP	Signature Date:	7/16/2019
Address:	425 Market Street, 17th floor	CEA Certification Identification (if applicable):	
City/State/Zip:	San Francisco, CA 94105	Phone:	415-243-4600

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:
1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer).
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name:	Amanda Brownlee	Responsible Designer Signature:	Amanda Brownlee
Company:	WSP	Date Signed:	7/16/2019
Address:	425 Market Street, 17th Floor	License:	E17287
City/State/Zip:	San Francisco, CA 94105	Phone:	415-243-4600

STATE OF CALIFORNIA
OUTDOOR LIGHTING
CEC-NRCC-LTO-01-E (Revised 02/16) CALIFORNIA ENERGY COMMISSION NRCC-LTO-01-E (Page 2 of 4)
CERTIFICATE OF COMPLIANCE
Outdoor Lighting
Project Name: Hayward Fire Training Center - Building 2 Date Prepared: 7/16/2019

G. Schedule of Luminaires Exempt from the Cutoff Requirements in §130.2(b)

01 Name or Symbol	02 Description of exempt luminaire in accordance with the exemptions

H. Schedule of Luminaires Exempt from the Outdoor Lighting Control Requirements in §130.2(c)

01 Name or Symbol	02 Description of exempt luminaire in accordance with the exemptions

STATE OF CALIFORNIA
INDOOR LIGHTING POWER ALLOWANCE
CEC-NRCC-LTI-03-E (Revised 04/16) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-03-E
Certificate of Compliance - Indoor Lighting Power Allowance	(Page 3 of 4)
Project Name: Hayward Fire Training Center - Building 2	Date Prepared: 7/16/2019

A separate page must be filled out for Conditioned and Unconditioned Spaces. This page is only for:
☑ CONDITIONED spaces ☐ UNCONDITIONED spaces

C-3 AREA CATEGORY METHOD ADDITIONAL LIGHTING WATTAGE ALLOWANCE (from Table 140.6-C Footnotes)

01 Primary Function	02 Sq Ft or Linear Ft [1]	03 [2] Additional Watts Allowed	04 Wattage Allowance (02 x 03)	05 Description(s) and Quantity of Special Luminaire Types in each Primary Function Area	06 Total Design Watts [3]	07 ALLOWED WATTS Smaller of 04 or 06
				TOTALS – Enter into TOTAL AREA CATEGORY METHOD ADDITIONAL ALLOWANCES – Section C-1 →		0

1. Use linear feet only for additional allowance for white board or chalk board. All other additional Area Category allowances shall use watts per square foot.
2. Additional watts are available only when allowed according to the footnotes on bottom of Table 140.6-C, which include: Specialized task work; Ornamental lighting; Precision commercial and industrial work; Per linear foot of white board or chalk board; Accent, display and feature lighting; and Videoconferencing studio lighting..
3. Luminaire classification and wattage shall be determined in accordance with §130.0(c) of the Standards.

STATE OF CALIFORNIA
OUTDOOR LIGHTING CONTROLS
CEC-NRCC-LTO-02-E (Revised 08/16) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTO-02-E
Outdoor Lighting Controls	(Page 1 of 3)
Project Name: Hayward Fire Training Center - Building 2	Date Prepared: 7/16/2019

A. Mandatory Outdoor Lighting Control Declaration Statements

Check all that apply:
- ☑ Lighting shall be controlled by self-contained lighting control devices which are certified to the Energy Commission according to the Title 20 Appliance Efficiency Regulations in accordance with §110.9(a).
- ☑ Lighting shall be controlled by a lighting control system or energy management control system in accordance with §110.9. An Installation Certificate shall be submitted in accordance with §130.4(b).
- ☑ All lighting controls and equipment shall comply with the applicable requirements in §110.9 and shall be installed in accordance with the manufacturer's instructions in accordance with §130.0(d).
- ☐ Part-Night Outdoor Lighting Controls, as defined in Section 100.1(b), shall meet the requirements in Section 110.9(b)5.
- ☐ All outdoor incandescent luminaires rated over 100 watts, determined in accordance with Section 130.0(c), shall be controlled by a motion sensor.
- ☑ All outdoor luminaires rated for use with lamps greater than 150 lamp watts, determined in accordance with Section 130.0(c), shall comply with Uplight and Glare requirements in accordance with Section 130.2(b).
- ☑ All installed outdoor lighting shall be controlled by a photocontrol or outdoor astronomical time-switch control, or other control capable of automatically switching OFF in accordance with Section 130.2(c)1.
- ☑ All installed outdoor lighting shall be independently controlled from other electrical loads by an automatic scheduling control in accordance with Section 130.2(c)2.
- ☑ All installed outdoor lighting, where the bottom of the luminaire is mounted 24 feet or less above the ground, shall be controlled with automatic lighting controls in accordance with Section 130.2(c)3.
- ☐ For Outdoor Sales Frontage, an automatic lighting control shall be installed in accordance with Section 130.2(c)4.
- ☑ For Building Facade, Ornamental Hardscape and Outdoor Dining lighting, an automatic lighting control shall be installed in accordance with Section 130.2(c)5.
- ☑ Before an occupancy permit is granted for the newly constructed building or for the addition, or for any altered outdoor lighting, the outdoor lighting controls shall be certified as meeting the Acceptance Requirements for Code Compliance in accordance with §130.4.(a). Outdoor lighting controls shall comply with the applicable requirements of Section 130.2(c) and Reference Nonresidential Appendix NA7.8.

STATE OF CALIFORNIA
OUTDOOR LIGHTING
CEC-NRCC-LTO-01-E (Revised 02/16) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTO-01-E
Outdoor Lighting	(Page 3 of 4)
Project Name: Hayward Fire Training Center - Building 2	Date Prepared: 7/16/2019

I. Outdoor Lighting Schedule and Field Inspection Energy Checklist

Luminaire Schedule		Installed Watts					Location	Cutoff	Field Inspector	
01	02	03	04		05	06	07	08	09	
Name or Item Tag	Complete Luminaire Description	Watts per Luminaire	How wattage was determined: CEC-Default from NA8	How wattage was determined: According to §130.0(c)	Number of Luminaires	Total Installed Watts in this area (3 x 5)	Primary Function area in which the luminaires are installed (Outdoor Lighting Zone)	BUG Rating	Pass	Fail
FE4	FE4	24.0	☐	☑	3	72	Senior/Police/Fire/Emergenc	UH: n/a UL: n/a FVH: n/a BVH: n/a FH: n/a BH: n/a	☐	☐
FE2	FE2	32.0	☐	☑	8	256	Building Facade	UH: n/a UL: n/a FVH: n/a BVH: n/a FH: n/a BH: n/a	☐	☐
FE3	FE3	40.0	☐	☑	3	120	Building Facade	UH: n/a UL: n/a FVH: n/a BVH: n/a FH: n/a BH: n/a	☐	☐
					INSTALLED WATTS PAGE TOTAL:	448	Enter sum total of all pages (**Sum Total INSTALLED** Outdoor lighting wattage) into NRCC-LTO-01-E, page 1.		778	

STATE OF CALIFORNIA
INDOOR LIGHTING POWER ALLOWANCE
CEC-NRCC-LTI-03-E (Revised 04/16) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-03-E
Certificate of Compliance - Indoor Lighting Power Allowance	(Page 4 of 4)
Project Name: Hayward Fire Training Center - Building 2	Date Prepared: 7/16/2019

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

1. I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name:	Hayley Vero	Documentation Author Signature:	Hayley Vero
Company:	WSP	Signature Date:	7/16/2019
Address:	425 Market Street, 17th floor	CEA Certification Identification (if applicable):	
City/State/Zip:	San Francisco, CA 94105	Phone:	415-243-4600

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:
1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer).
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name:	Amanda Brownlee	Responsible Designer Signature:	Amanda Brownlee
Company:	WSP	Date Signed:	7/16/2019
Address:	425 Market Street, 17th Floor	License:	E17287
City/State/Zip:	San Francisco, CA 94105	Phone:	415-243-4600

STATE OF CALIFORNIA
OUTDOOR LIGHTING CONTROLS
CEC-NRCC-LTO-02-E (Revised 08/16) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTO-02-E
Outdoor Lighting Controls	(Page 2 of 3)
Project Name: Hayward Fire Training Center - Building 2	Date Prepared: 7/16/2019

B. Mandatory Outdoor Lighting Control Schedule and Field Inspection Checklist

Outdoor Lighting Control Schedule		Standards Complying With (✓ all that apply, or enter 'E' if Exempted)							✓ if Acceptance Test Required	Field Inspector	
01	02	03	04	05	06	07	08	09	10	11	
Location and Application of Luminaires Being Controlled	Type/ Description of Lighting Control (i.e. outdoor motion sensor, outdoor photocontrol, outdoor astronomical time-switch control, automatic scheduling control, part-night outdoor lighting control)	# of Units	§130.2(a)	§130.2(c)1	§130.2(c)2	§130.2(c)3	§130.2(c)4	§130.2(c)5		Pass	Fail
ENTRANCE/EXIT	ASTRONOMICAL TIMECLOCK	SEE PLAN	NA	✓	✓	✓	NA	NA	☐	☐	☐
FACADE	ASTRONOMICAL TIMECLOCK	SEE PLAN	NA	✓	✓	✓	NA	✓	☐	☐	☐
									☐	☐	☐
									☐	☐	☐
									☐	☐	☐
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									☐	☐	☐

STATE OF CALIFORNIA
OUTDOOR LIGHTING
CEC-NRCC-LTO-01-E (Revised 02/16) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTO-01-E
Outdoor Lighting	(Page 3 of 4)
Project Name: Hayward Fire Training Center - Building 2	Date Prepared: 7/16/2019

I. Outdoor Lighting Schedule and Field Inspection Energy Checklist

Luminaire Schedule		Installed Watts					Location	Cutoff	Field Inspector	
01	02	03	04		05	06	07	08	09	
Name or Item Tag	Complete Luminaire Description	Watts per Luminaire	How wattage was determined: CEC-Default from NA8	How wattage was determined: According to §130.0(c)	Number of Luminaires	Total Installed Watts in this area (3 x 5)	Primary Function area in which the luminaires are installed (Outdoor Lighting Zone)	BUG Rating	Pass	Fail
FE13	FE13	55.0	☐	☑	6	330	Building Facade	UH: n/a UL: n/a FVH: n/a BVH: n/a FH: n/a BH: n/a	☐	☐
			☐	☐				UH: UL: FVH: BVH: FH: BH:	☐	☐
			☐	☐				UH: UL: FVH: BVH: FH: BH:	☐	☐
					INSTALLED WATTS PAGE TOTAL:	330	Enter sum total of all pages (**Sum Total INSTALLED** Outdoor lighting wattage) into NRCC-LTO-01-E, page 1.		778	

STATE OF CALIFORNIA
OUTDOOR LIGHTING
CEC-NRCC-LTO-01-E (Revised 02/16) CALIFORNIA ENERGY COMMISSION NRCC-LTO-01-E (Page 1 of 4)
CERTIFICATE OF COMPLIANCE
Outdoor Lighting
Project Name: Hayward Fire Training Center - Building 2 Date Prepared:

A. General Information
Project Address: 1401 W. Winton Ave. Hayward, CA 94545
Total Illuminated Hardscape Area: 0
Phase of Construction: ☐ Addition ☐ Alteration
Outdoor Lighting Zone (LZ): ☐ LZ-1 ☐ LZ-2 ☑ LZ-3 ☐ LZ-4
I have confirmed with the AHJ which LZ applies to this site. For default lighting zone designations, see Title 24 Part 9, §10-114

B. Lighting Compliance Documents (check box for each document included)
For detailed instructions on the use of this and all Energy Efficiency Standards compliance documents, refer to the Nonresidential Manual published by the California Energy Commission.
☐ NRCC-LTO-02-E Outdoor Lighting Controls Certificate of Compliance
☐ NRCC-LTO-03-E Outdoor Lighting Controls Certificate of Compliance
☐ NRCC-LTO-03-E Outdoor Lighting Power Allowance Certificate of Compliance
☐ NRCC-LTO-04-E Outdoor Lighting Existing Conditions Certificate of Compliance

C. Summary of Allowed Outdoor Lighting Power

		Watts
	Sum Total ALLOWED Outdoor Lighting Wattage From NRCC-LTO-03-E, page 1	778
01	Alterations with NO increase of connected lighting load may instead use the allowed wattage from NRCC-LTO-04, page 2. Complies ONLY if **Installed** (Box 02) ≤ **Allowed** (Box 01)	
02	**Sum Total INSTALLED** Outdoor Lighting Wattage from NRCC-LTO-01-E, page 3.	778

D. Declaration of Required Installation Certificates
Declare by checking all Installation Certificates that will be submitted. (Retain copies and verify compliance documents are completed and signed.)
☑ NRCI-LTO-01-E - Must be submitted for all buildings ☐ Field Inspector
☑ NRCI-LTO-02-E - Must be submitted for a lighting control system, or for an Energy Management Control System (EMCS), to be recognized for compliance. ☐ Field Inspector

E. Declaration of Required Certificates of Acceptance
Declare by checking all of the Certificates of Acceptance that will be submitted. (Retain copies and verify compliance documents are completed and signed.)
☑ NRCA-LTO-02-A - Must be submitted for outdoor lighting controls. ☐ Field Inspector

F. Schedule of Luminaires Exempt from the Outdoor Lighting Power Requirements in §140.7

01 Name or Symbol	02 Description of exempt luminaire in accordance with the exemptions

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542
ARCHITECTURE

CITY OF HAYWARD
HEART OF THE BAY
DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY:	
KATHY GARCIA DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER
AMISHA J. BROWNLEE
No. E17287
ELECTRICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title
ELECTRICAL TITLE 24

Drawn By: ELW Checked By: AJB

Scale: **NTS**

Date: **October 4, 2019**

Project No. B17.07369

2-E0.22
Drawing No.

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STATE OF CALIFORNIA
OUTDOOR LIGHTING POWER ALLOWANCES
CEC-NRCC-LTO-03-E (Revised 01/16) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTO-03-E
Outdoor Lighting Power Allowances	(Page 3 of 4)

Project Name: Hayward Fire Training Center - Building 2 — Date Prepared: 7/16/2019

C-3. WATTAGE ALLOWANCE PER SQUARE FOOT OF HARDSCAPE AREA (Ornamental Lighting) – Table 140.7-B

☐ Allowance for the total site illuminated hardscape area. Luminaires qualifying for this allowance shall be rated for 100 watts or less as determined in accordance with Section 130.0(c), and shall be post-top luminaires, lanterns, pendant luminaires, or chandeliers.

☐ If more than one luminaire type is used per location, use multiple rows for that location

01	02	03	04	05	06	07	08	09	10
	ALLOTTED WATTS				DESIGN WATTS				
Name of area for which ornamental allowance is claimed	Square Feet of Hardscape	Wattage Allowance per Square Foot	Allotted Watts (02 x 03)	Luminaire Code or Symbol	Luminaire Description	Luminaire Quantity	Watts per Luminaire	Design Watts (07 x 08)	Allowed Watts (smaller of 04 or 09)
					Sum total allowance for ornamental lighting on the site:				0

C-4. WATTAGE ALLOWANCE PER SQUARE FOOT OF SPECIFIC AREA - Table 140.7-B

☐ Allowances for Building Facades; Outdoor Sales Lots; Vehicle Service Station Hardscape; Vehicle Service Station Canopies; Sales Canopies; Non-sales Canopies; Tunnels; Guard Stations; Student Pick-up/Drop-off zone: Outdoor Dining; Special Security Lighting for Retail Parking and Pedestrian Hardscape.

☐ If more than one luminaire type is used per location, use multiple rows for that location

01	02	03	04	05	06	07	08	09	10
	ALLOTTED WATTS				DESIGN WATTS				
Name of Location for Which Allowance is Claimed	Illuminated Area of Application	Wattage Allowance per square Foot	Allotted Watts (02 x 03)	Luminaire Code or Symbol	Luminaire Description	Luminaire Quantity	Watts per Luminaire	Design Watts (07 x 08)	Allowed Watts (smaller of 04 or 09)
BUILDING FACADE	5,221	0.350	1,827	FE2	FE2	8	32.0	256	706
				FE3	FE3	3	40.0	120	
				FE13	FE13	6	55.0	330	
					Sum total allowance for specific area on the site:				706

STATE OF CALIFORNIA
OUTDOOR LIGHTING CONTROLS
CEC-NRCC-LTO-02-E (Revised 08/16) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTO-02-E
Outdoor Lighting Controls	(Page 3 of 3)

Project Name: Hayward Fire Training Center - Building 2 — Date Prepared: 7/16/2019

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

1. I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name:	Hayley Vero	Documentation Author Signature:	Hayley Vero
Company:	WSP	Signature Date:	7/16/2019
Address:	425 Market Street, 17th floor	CEA Certification Identification (if applicable):	
City/State/Zip:	San Francisco, CA 94105	Phone:	415-243-4600

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer).
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name:	Amanda Brownlee	Responsible Designer Signature:	Amanda Brownlee
Company:	WSP	Date Signed:	7/16/2019
Address:	425 Market Street, 17th Floor	License:	E17287
City/State/Zip:	San Francisco, CA 94105	Phone:	415-243-4600

STATE OF CALIFORNIA
OUTDOOR LIGHTING POWER ALLOWANCES
CEC-NRCC-LTO-03-E (Revised 01/16) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTO-03-E
Outdoor Lighting Power Allowances	(Page 4 of 4)

Project Name: Hayward Fire Training Center - Building 2 — Date Prepared: 7/16/2019

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

1. I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name:	Hayley Vero	Documentation Author Signature:	Hayley Vero
Company:	WSP	Signature Date:	7/16/2019
Address:	425 Market Street, 17th floor	CEA Certification Identification (if applicable):	
City/State/Zip:	San Francisco, CA 94105	Phone:	415-243-4600

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer).
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name:	Amanda Brownlee	Responsible Designer Signature:	Amanda Brownlee
Company:	WSP	Date Signed:	7/16/2019
Address:	425 Market Street, 17th Floor	License:	E17287
City/State/Zip:	San Francisco, CA 94105	Phone:	415-243-4600

STATE OF CALIFORNIA
OUTDOOR LIGHTING POWER ALLOWANCES
CEC-NRCC-LTO-03-E (Revised 01/16) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTO-03-E
Outdoor Lighting Power Allowances	(Page 1 of 4)

Project Name: Hayward Fire Training Center - Building 2 — Date Prepared: 7/16/2019

A. OUTDOOR LIGHTING POWER ALLOWANCE SUMMARY

1. General Hardscape Lighting Power Allowance (Site Total from Section B of NRCC-LTO-03-E)	1.	0
2. Additional Specific "use it or lose it" Lighting Power Allowances listed in each of these cells shall be identical to total allowed watts determined in Section C-1 to C-4 of NRCC-LTO-03-E.		

PER APPLICATION from Section C-1		PER UNIT LENGTH (SALES FRONTAGE) from Section C-2		PER HARDSCAPE AREA (ORNAMENTAL LIGHTING) from Section C-3		PER SPECIFIC AREA from Section C-4.			
72	+	0	+	0	+	706	=	2.	778
3. **Sum Total ALLOWED** Outdoor Lighting Wattage (add rows 1 and 2)								3.	778

B. GENERAL HARDSCAPE LIGHTING POWER ALLOWANCE FROM TABLE 140.7-A

Area Wattage Allowance (AWA)				Linear Wattage Allowance (LWA)			Initial Wattage Allowance (IWA)	Total General Hardscape Lighting Allowance
01	02	03	04	05	06	07	08	09
Name of Area	Illuminated Hardscape Area	AWA Per Square Foot	AWA (B02 x B03)	Perimeter Length of General Hardscape	LPA per Linear Foot	LWA (B05 x B06)	IWA (Watts)	B04 + B07 + B08
							TOTAL	0

STATE OF CALIFORNIA
OUTDOOR LIGHTING POWER ALLOWANCES
CEC-NRCC-LTO-03-E (Revised 01/16) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTO-03-E
Outdoor Lighting Power Allowances	(Page 2 of 4)

Project Name: Hayward Fire Training Center - Building 2 — Date Prepared: 7/16/2019

C. ADDITIONAL "USE IT OR LOSE IT" OUTDOOR LIGHTING POWER ALLOWANCES FOR SPECIFIC APPLICATIONS

☐ The additional specific outdoor lighting power allowance shall be the smaller of the allowed lighting power or the actual lighting power used.

☐ Use Outdoor Lighting Zone (OLZ) that is documented on page 1 of NRCC-LTO-01-E to calculate the specific wattage allowances.

C-1. WATTAGE ALLOWANCE PER APPLICATION – Table 140.7-B

☐ Available only for qualifying locations, which include Building Entrances or Exits; Primary Entrances to Senior Care Facilities, Police Stations, Hospitals, Fire Stations, and Emergency Vehicle Facilities; Drive Up Windows; Vehicle Service Station Uncovered Fuel Dispenser, ATM Machine Lighting

☐ If more than one luminaire type is used per location, use multiple rows for that location

01	02	03	04	05	06	07	08	09	10
	ALLOTTED WATTS				DESIGN WATTS				
Name of Location for Which Allowance is Claimed	Number of Qualifying Locations	Wattage Allowance per Qualifying Location	Allotted Watts (02 x 03)	Luminaire Code or Symbol	Luminaire Description	Luminaire Quantity	Watts per Luminaire	Design Watts (07 x 08)	Allowed Watts (smaller of 04 or 09)
POLICE/FIRE EN	2	120	240	FE4	FE4	3	24.0	72	72
					Sum total allowance per application on this site:				72

C-2. WATTAGE ALLOWANCE PER UNIT LENGTH (Sales Frontage) from Table 140.7-B

☐ If more than one luminaire type is used per location, use multiple rows for that location

01	02	03	04	05	06	07	08	09	10
	ALLOTTED WATTS				DESIGN WATTS				
Name of Location for Which Allowance is Claimed	Linear Feet of Sales Frontage	Wattage Allowance per Linear Foot	Allotted Watts (02 x 03)	Luminaire Code or Symbol	Luminaire Description	Luminaire Quantity	Watts per Luminaire	Design Watts (07 x 08)	Allowed Watts (smaller of 04 or 09)
					Sum total allowance for sales frontage on the site:				0

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery ARCHITECTURE
18294 Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY:	
KATHY GARCIA DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

**1401 W. WINTON AVE.
HAYWARD, CA 94545**

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER
AMANDA J. BROWNLEE
No. E17287
ELECTRICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

ELECTRICAL TITLE 24

Drawn By: ELW — Checked By: AJB

Scale: **NTS**

Date: **October 4, 2019**

Project No. B17.07369

2-E0.23
Drawing No.

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SHEET NOTES:

A. PROVIDE CONDUIT AND WIRE FOR CIRCUITING AND SWITCHING SHOWN.

B. VERIFY EXACT LOCATION AND MOUNTING HEIGHT OF ALL DEVICES, SWITCHES, AND LIGHT FIXTURES WITH ARCHITECT.

C. RUN IN-GROUND CONDUIT 24" BELOW GRADE, MINIMUM.

D. CONNECT ALL 120/208V POWER EQUIPMENT AND DEVICES TO PANEL LP-B2A, UON.

E. CONNECT ALL NORMAL 277/480V LIGHTING FIXTURES TO PANEL LPH-B2A, UON.

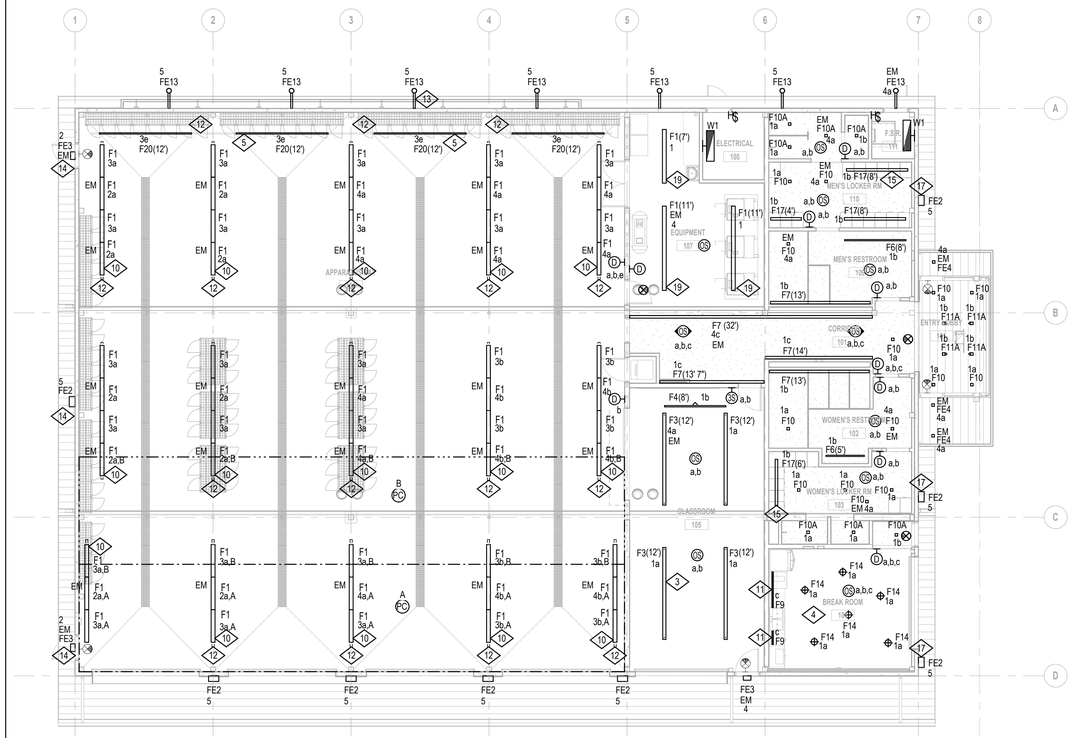
F. CONNECT ALL EMERGENCY 277/480V LIGHTING FIXTURES AND EXIT SIGNS TO PANEL ELPH-B2A, UON.

G. ALL DIMMERS ARE TO HAVE A MASTER RAISE/LOWER.

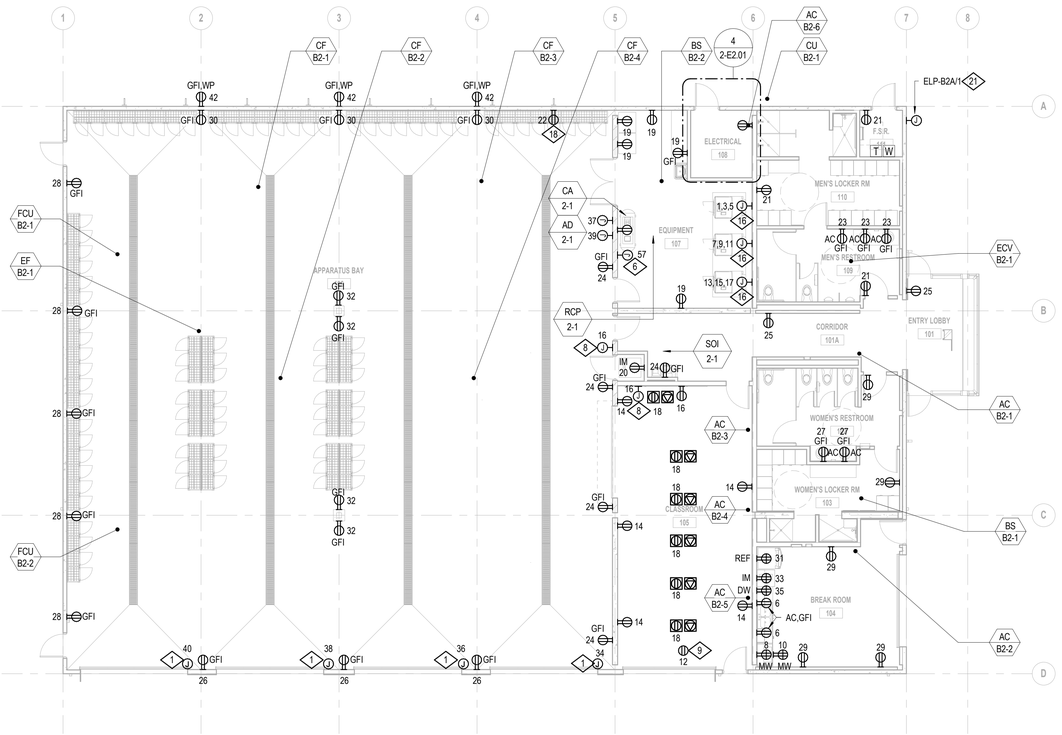
H. FOR ALL DATA CABLING, PATHWAY INFRASTRUCTURE AND DEVICES REFER TO T SERIES DRAWINGS.

NUMBERED NOTES:

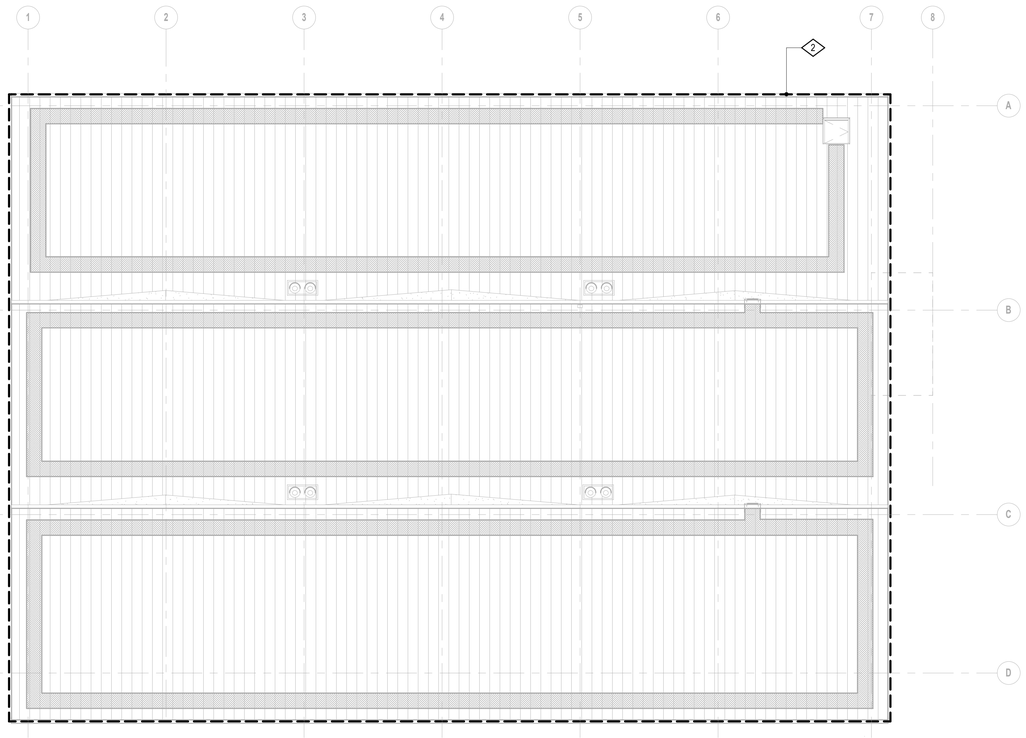
1. PROVIDE CONNECTION TO MOTORIZED ROLL-UP DOOR.
2. REFER TO BUILDING 2 PHOTOVOLTAIC SYSTEM DRAWINGS FOR PHOTOVOLTAIC PANEL LAYOUT AND DETAILS.
3. BOTTOM OF PENDANT LIGHTS SUSPENDED AT 12'-3" AFF. PROVIDE AT LEAST 4" CLEARANCE FROM OVERHEAD DOOR.
4. F14 PENDANT LIGHTS SUSPENDED ABOVE OVERHEAD DOOR. BOTTOM OF PENDANT LIGHT TO BE XX'-XX" AFF.
5. UNISTRUT TO BE SUSPENDED AT 10'-6" AFF. LIGHT FIXTURE TYPE F20 TO BE MOUNTED TO UNDERSIDE OF UNISTRUT.
6. PROVIDE 120V CONNECTION TO SMOKE GENERATOR. EMBEDD JUNCTION BOX WITHIN WALL. COORDINATE EXACT MOUNTING LOCATION WITH ARCHITECT AND OWNER PRIOR TO ROUGH-IN.
7. CONNECT (1) CIRCUIT PER RECEPTACLE.
8. PROVIDE HARDWIRED CONNECTION TO SCREEN MOTOR.
9. PROVIDE CONNECTION TO CEILING MOUNTED VIDEO PROJECTOR.
10. TYPICAL NOTE- BOTTOM OF FIXTURE SHALL BE MOUNTED AT 13'-4" AFF. FIXTURE TO BE MOUNTED TO THE SUSPENDED UNISTRUT. CONTRACTOR TO COORDINATE FINAL FIXTURE LOCATION AND UNISTRUT LOCATION WITH DUCTS AND FANS TO AVOIDE CONFLICT PER SITE CONDITION PRIOR TO INSTALLING.
11. LIGHT FIXTURE TO BE SURFACE MOUNTED TO UNDERSIDE OF CABINET IN MILL WORK DETAIL. PROVIDE FASCIA TO CONCEAL FIXTURE FROM VIEW. LOCATE REMOTE DRIVER IN CABINET OR ADJACENT ACCESSIBLE LOCATION.
12. CONTRACTOR TO BE PROVIDE SUSPENDED UNISTRUT FOR TYPE F1 AND F20 LIGHT FIXTURES TO MOUNT ON.
13. BOTTOM OF FE13 LIGHT FIXTURE SHALL BE MOUNTED AT 12'-0" AFF.
14. BOTTOM OF FE13 LIGHT FIXTURE SHALL BE MOUNTED AT 9'-0" AFF.
15. F17 COVE LIGHT TO BE MOUNTED ABOVE LOCKER . PROVIDE FACIA TO CONCEAL FIXTURES FROM VIEW.
16. PROVIDE CONNECTION TO EXTRACTOR. PROVIDE 3#12, 1#12GND IN 1/2"C.
17. BOTTOM OF FE2 LIGHT FIXTURE SHALL BE MOUNT AT 9'-0" AFF.
18. PROVIDE CONNECTION TO WALL MOUNTED VIDEO PROJECTOR.
19. TYPICAL NOTE- BOTTOM OF FIXTURE SHALL BE MOUNTED AT 15'-0" AFF. FIXTURE TO BE MOUNTED TO THE SUSPENDED UNISTRUT. CONTRACTOR TO COORDINATE FINAL FIXTURE LOCATION AND UNISTRUT LOCATION WITH DUCTS AND FANS TO AVOIDE CONFLICT PER SITE CONDITION PRIOR TO INSTALLING.
20. MOUNT PANELS ELP-B2A AND ELPH-B2A ABOVE PANELS LPH-B2B AND LPH-B2A.
21. PROVIDE 120V CONNECTION TO FIRE SPRINKLER BELL.



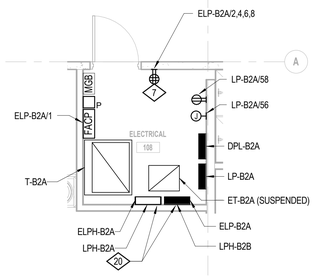
2 02-ELEC LIGHTING APPARATUS-FIRST FLOOR
1/8" = 1'-0"



1 02-ELEC POWER APPARATUS-FIRST FLOOR
1/8" = 1'-0"



3 02-ELEC POWER APPARATUS-ROOF LEVEL
1/8" = 1'-0"



4 02-ELEC POWER APPARATUS-ENLARGED ELECTRICAL ROOM
1/4" = 1'-0"

RossDruliaCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

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HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

**1401 W. WINTON AVE.
HAYWARD, CA 94545**

REVISIONS

No.	Description	Date
1	INC 01_ADD_01_V1	12/06/2019

REGISTERED PROFESSIONAL ENGINEER
AMANDA J. BROWNEE
No. E17287
ELECTRICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

ELECTRICAL APPARATUS BUILDING FLOOR PLAN

Drawn By: ELW
Checked By: AJB

Scale:
As indicated

Date:
October 4, 2019

Project No. B17.07369

2-E2.01
Drawing No.

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WIRING SCHEDULE - COPPER CONDUCTORS (0-600V)

CIRCUIT RATING	CONDUIT SIZE (INCHES)							CONDUCTOR SIZE	
	NONE	G	N	NG	NGI	NNG	NNGI	PHASE/ NEUTRAL	GND/* IG
15	0.5	0.5	0.5	0.5	0.5	0.5	0.5	12	12
20	0.5	0.5	0.5	0.5	0.5	0.5	0.5	12	12
30	0.5	0.5	0.5	0.5	0.75	0.75	0.75	10	10
40	0.75	0.75	0.75	1	1	1	1	8	10
50	1	1	1	1.25	1.25	1.25	1.25	6	10
60	1	1.25	1.25	1.25	1.5	1.5	1.5	4	10
70	1	1.25	1.25	1.25	1.5	1.5	1.5	4	8
80	1.25	1.25	1.25	1.5	2	2	2	2	8
90	1.25	1.25	1.25	1.5	2	2	2	2	8
100	1.25	1.5	1.5	2	2	2	2.5	1	8
110	1.25	1.5	1.5	2	2	2	2.5	1	6
125	1.25	1.5	1.5	2	2	2	2.5	1	6
150	1.5	2	2	2	2.5	2.5	2.5	1/0	6
175	1.5	2	2	2	2.5	2.5	2.5	2/0	6
200	2	2	2	2.5	2.5	2.5	3	3/0	6
225	2	2.5	2.5	2.5	3	3	3	4/0	4
250	2.5	2.5	2.5	3	3	3	3.5	250	4
300	2.5	3	3	3.5	3.5	3.5	4	350	4
350	3	3.5	3.5	4	4	4	5	500	2
400	2@2	2@2	2@2	2@2.5	2@2.5	2@2.5	2@3	3/0	2
450	2@2	2@2.5	2@2.5	2@2.5	2@3	2@3	2@3	4/0	2
500	2@2.5	2@2.5	2@2.5	2@3	2@3	2@3	2@3.5	250	1
600	2@2.5	2@3	2@3	2@3.5	2@3.5	2@3.5	2@4	350	1
700	2@3	2@3.5	2@3.5	2@4	2@4	2@4	2@5	500	1/0
800	3@2.5	3@3	3@3	3@3	3@3.5	3@3.5	3@3.5	300	1/0
1000	3@3	3@3	3@3	3@3.5	3@4	3@4	3@4	400	2/0
1200	4@2.5	4@3	4@3	4@3.5	4@3.5	4@3.5	4@4	350	3/0
1600	5@3	5@3	5@3	5@3.5	5@4	5@4	5@4	400	4/0
2000	6@3.5	6@3.5	6@3.5	6@4	6@4	6@4	6@5	500	250
2500	7@3.5	7@3.5	7@3.5	7@4	7@4	7@4	7@4	500	350
3000	8@3.5	8@3.5	8@3.5	8@4	8@4	8@4	8@4	500	400

SUBSCRIPT KEY

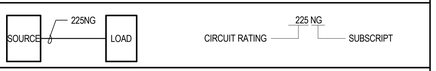
SUBSCRIPT	CONDUCTORS PER CONDUIT
NONE	3 PHASE CONDUCTORS, CONDUIT GROUND
G	3 PHASE CONDUCTORS, 1 GROUNDING CONDUCTOR
N	3 PHASE CONDUCTORS, 1 NEUTRAL CONDUCTOR, CONDUIT GROUND
NG	3 PHASE CONDUCTORS, 1 NEUTRAL CONDUCTOR, 1 GROUNDING CONDUCTOR
NGI	3 PHASE CONDUCTORS, 1 NEUTRAL CONDUCTOR, 1 GROUNDING CONDUCTOR, 1 ISOLATED GROUNDING CONDUCTOR
NNG	3 PHASE CONDUCTORS, 2 NEUTRAL CONDUCTORS*, 1 GROUNDING CONDUCTOR
NNGI	3 PHASE CONDUCTORS, 2 NEUTRAL CONDUCTORS*, 1 GROUNDING CONDUCTOR, 1 ISOLATED GROUNDING CONDUCTOR

* SINGLE NEUTRAL CONDUCTOR SIZES FOR CIRCUIT RATING 125 AND LESS

PARALLEL CONDUCTORS ARE NOT PERMITTED UNDER 1/0. WHERE DOUBLE NEUTRAL CONDUCTORS ARE INDICATED, PROVIDE AN OVERSIZED NEUTRAL CONDUCTOR IN ACCORDANCE WITH THE FOLLOWING TABLE:

CIRCUIT RATING	15	20	30	40	50	60
SINGLE NEUTRAL CONDUCOTR SIZE	10	8	4	2	1	1/0
CIRCUIT RATING	70	80	90	100	125	
SINGLE NEUTRAL CONDUCTOR SIZE	2/0	3/0	4/0	250	250	

EXAMPLES



NOTES

1. SCHEDULE IS BASED ON 3 CURRENT CARRYING CONDUCTORS IN RACEWAY, CABLE OR EARTH, AT AMBIENT AIR TEMPERATURE OF 30°C (86°F). CONDUIT SIZES BASED ON EMT.
2. MODIFY IF USE OF 600MCM CONDUCTORS ARE DESIRED CONFIRM LUG SIZES ARE AVAILABLE.

TRANSFORMER SCHEDULE

KVA	FEEDER AMPACITY			NEUTRAL GROUNDING ELECTRODE CONDUCTOR**
	PRIMARY 480V 3 PHASE-3 WIRE	SECONDARY 120/208V 3 PHASE-4 WIRE	SUPPLY SIDE BONDING JUMPER**	
3	15	15	#8	1/2"C-1#8
6	15	20	#8	1/2"C-1#8
9	15	30	#8	1/2"C-1#8
15	20	50	#8	1/2"C-1#8
30	50	100	#6	1/2"C-1#6
45	70	150	#6	1/2"C-1#6
75	110	250	#2	1/2"C-1#2
112 1/2	175	400	#1/0	3/4"C-1#3/0
150	225	500	#1/0	3/4"C-1#3/0
225	350	800	#2/0	3/4"C-1#3/0
300	450	1000	#2/0	3/4"C-1#3/0
500	800	1600	#4/0	3/4"C-1#3/0
750	1200	2500	#350	3/4"C-1#3/0

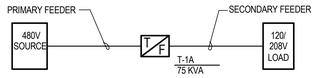
FEEDER KEY

TRANSFORMER IDENTIFICATION PREFIX	FEEDER CONFIGURATION	
	PRIMARY	SECONDARY
T	3 PHASE CONDUCTORS 1 GROUNDING CONDUCTOR (CIRCUIT SUBSCRIPT: G)	3 PHASE CONDUCTORS 1 NEUTRAL CONDUCTOR 1 GROUNDING CONDUCTOR (CIRCUIT SUBSCRIPT: NG***)
TK	3 PHASE CONDUCTORS 1 GROUNDING CONDUCTOR (CIRCUIT SUBSCRIPT: G)	3 PHASE CONDUCTORS 2 NEUTRAL CONDUCTORS 1 GROUNDING CONDUCTOR 1 ISOLATED GROUNDING CONDUCTOR (CIRCUIT SUBSCRIPT: NNGI***)

** = CONDUCTOR SIZES ARE BASED ON COPPER CONDUCTORS
*** = SUBSTITUTE GND/G CONDUCTOR FROM FEEDER SCHEDULE WITH SUPPLY SIDE BONDING JUMPER NOTED ABOVE

EXAMPLES





UNDERGROUND FEEDER CONDUIT SCHEDULE

TAG DESIGNATION	TO	FROM	QUANTITY	SIZE	SPARE	DESIGN FEEDER	ESTIMATED LENGTH	VOLT DROP (%)	BUILDING PACKAGE	REMARKS
F00	PG&E P/B	STREET	2	5"		PER PG&E	66'	N/A	1	
F01	PG&E TRANSF	PG&E P/B	2	5"		PER PG&E	208'	N/A	1	
F02	MS-B1A	PG&E TRANSF	7	5"		PER PG&E	40'	0.60	1	
F03	DPH-B1A	MS-B1A	1	2.5"		225NG	57'	0.12	1	
F04	FP-B1	MS-B1A	1	2.5"		70G	54'	0.29	1	LRA = 302.8A, VD_{dp}=1.7%
F05	ATS-E1B	MS-B1A	1	2"		100NG	31'	0.39	1	
F06	FP-B1	EDSH-B1A	1	2.5"		70G	138'	1.24	1	INCLUDE 1°C TO GENERATOR FOR GEN START LRA = 302.8A, VD_{dp}=6.4%
F07	ATS-E1A	MS-B1A	1	2"		150NG	33'	0.52	1	
F08	ATS-E1C	MS-B1A	2	3"		500NG	34'	0.47	1	
F09	HBI-B1	MS-B1A	1	4"	2"	300G	60'	0.35	1	
F10	CH-1	EDPH-B1A	1	2.5"		ECS	67'	0.26	1	
F11	ELEV-1	EDPH-B1A	1	1"		ECS	101'	0.18	1	
F12	FUEL	ELP-B1A	1	2"		100NG	102'	0.56	1	
F13	DPH-PV	HBI-B1	1	4"	2"	300G	77'	0.44	1	
F14	PULLBOX	MS-B1A			(2) 4"	37'	37'	N/A	1	SPARE FOR FUTURE USE
F15										NOT USED
F16										NOT USED
F17										NOT USED
F18										NOT USED
F19										NOT USED
F20	LPH-B2A	MS-B1A	2	2.5"	(2) 2.5"	400G	358'	0.86	1 / 2	
F30										NOT USED
F40	LP-B4A	DPL-B2A	1	3"	(1) 2"	250NG	150'	1.85	4	FEEDER OVERSIZED FOR VOLTAGE DROP
F50										NOT USED
F60	LP-B6A	DPL-B9A	1	2.5"		200NG	413'	1.54	6	
F70	LP-B7A	DPL-B9A	2	2.5"	(1) 2.5"	400NG	318'	0.77	7	
F80	LP-B8A	DPL-B9A	2	2.5"	(1) 2.5"	400NG	362'	1.06	8	
F81	LP-B8B	DPL-B9A	2	2.5"	(1) 2.5"	400NG	449'	0.84	8	
F90	LPH-B9A	MS-B1A	2	3.5"	(2) 2.5"	600G	515'	0.66	1 / 9	
F91	T-B9A	LPH-B9A	2	2.5"		450G	22'	0.04	9	
F92	DPL-B9A	T-B9A	3	3.5"		1000NG	10'	0.04	9	
F93	LP-B9A	DPL-B9A	1	2.5"		225NG	17'	0.02	9	
F94	LP-B9B	DPL-B9A	1	2.5"	(1) 2.5"	175NG	19'	0.07	9	
FE1	EDSH-B1A	GEN-B1	2	4"		700NG	20'	0.05	1	
FE2	ATS-E1A	EDSH-B1A	1	2"		150NG	100'	0.61	1	INCLUDE 1°C TO GENERATOR FOR GEN START
FE3	ATS-E1C	EDSH-B1A	2	3"		500NG	102'	0.18	1	INCLUDE 1°C TO GENERATOR FOR GEN START
FE4	ELPH-B1A	ATS-E1A	1	2"		150NG	40'	0.24	1	
FE5	EDPH-B1A	ATS-E1C	2	4"		600NG	29'	0.04	1	
FE6	UPS-B1A	ELPH-B1A	1	1.5"		70NG	70'	0.14	1	
FE7	ELP-B1A	ET-B1A	2	2.5"		400NG	69'	1.15	1	
FE8	ULP-B1A	UPS-B1A	1	1.5"		50NNGI	97'	0.25	1	
FE9	ATS-E1B	EDSH-B1A	1	2"		100NG	90'	0.04	1	INCLUDE 1°C TO GENERATOR FOR GEN START
FE10	ELPH-B1B	ATS-E1B	1	2"		100NG	56'	0.02	1	
FE11	PULLBOX	EDSH-B1A			(1) 4"			N/A	1	SPARE FOR FUTURE USE
FE12	ELPH-B2A	ELPH-B1B	1	2"		100NG	350'	0.08	2	

SHEET NOTES

A. CONFIRM AND COORDINATE ALL PG&E UTILITY ROUTING WITH PG&E PER PG&E STANDARDS AND REQUIREMENTS.

B. REFER TO "0" SERIES OF DRAWINGS FOR SITE UTILITY AND INFRASTRUCTURE INFORMATION.

C. ALL OUTDOOR EQUIPMENT SHALL BE RATED NEMA 4X, UON.

D. ALL OVERCURRENT PROTECTIVE DEVICES ASSOCIATED WITH COPS SHALL BE SELECTIVELY COORDINATED.

E. RUN IN-GROUND CONDUIT 24" BELOW GRADE, MINIMUM .

F. WIRING FROM AN EMERGENCY SOURCE OR EMERGENCY SOURCE DISTRIBUTION OVERCURRENT PROTECTION TO EMERGENCY LOADS SHALL BE KEPT ENTIRELY INDEPENDENT OF ALL OTHER WIRING AND EQUIPMENT PER CEC ARTICLE 700.10.

G. ARC ENERGY REDUCTION PER CEC ARTICLE 240.87 WITH RESPECT TO DOCUMENTATION & METHOD TO REDUCE CLEARING TIES IS APPLICABLE.

NUMBERED NOTES

1. EQUIPMENT TO SERVE ELECTRIC VEHICLE CHARGERS. PROVIDE PROGRAMMABLE ELECTRONIC CIRCUIT BREAKER LEVEL SUB-METERS FOR OWNER THIRD PARTY MEASUREMENT/METERING IN THIS PANEL. CONNECT WITH 3/4"C TO NEAREST TELECOM ROOM.
2. PROVIDE 2-HR FIRE RATED ASSEMBLY FOR FEEDERS.
3. PROVIDE 2-SOCKET PG&E UTILITY METER, WITH NET METER CAPABILITY PER PG&E REQUIREMENTS.
4. REFER TO HYBRID POWER SYSTEM DRAWINGS FOR MORE INFORMATION.
5. REFER TO PHOTOVOLTAIC SYSTEM DRAWINGS FOR MORE INFORMATION.
6. PROVIDE SURGE PROTECTION DEVICE PER NEC ARTICLE 708.
7. FLOOR MOUNTED UPS WITH INTEGRAL TRANSFORMER. APC OR APPROVED EQUAL.
   INPUT VOLTAGE: 480V, 3Ø, 3W
   OUTPUT VOLTAGE: 120/208V, 3Ø, 4W
   BATTERY RUN TIME (MINIMUM): 20 MINUTES
8. PROTECT FEEDER SERVING DESIGNATED CRITICAL OPERATIONS AREA (DCOA) EQUIPMENT AS REQUIRED BY NEC ARTICLE 708.
9. PROVIDE GROUND FAULT PROTECTION FOR ALL NEXT LEVEL FEEDER DISCONNECTING MEANS IN COMPLIANCE WITH NEC ARTICLE 708.
10. GROUND FAULT INDICATION ONLY.
11. FEEDER OVERSIZED FOR VOLTAGE DROP.
12. SERVICE ENTRANCE SECTION FOR FIRE PUMP CONNECTION.
13. PROVIDE SURGE PROTECTION DEVICE PER NEC 700.
14. PROVIDE WEATHERPROOF SOUND ATTENUATING ENCLOSURE.
15. EQUIP SWITCHBOARD WITH CAM LOCK TYPE CONNECTORS FOR CONNECTION TO PORTABLE GENERATOR. 700A, 277/480V, 3Ø, 4W.
16. PROVIDE SEPARATE SECTIONS FOR BREAKERS SERVING DIFFERENT BRANCHES OF EMERGENCY POWER PER NEC.
17. PROVIDE THE FOLLOWING PROTECTIVE RELAYS:
    UNDER VOLTAGE
    PHASE ROTATION
18. PROVIDE FULLY RATED LSI BREAKER.
19. PROVIDE THE FOLLOWING RELAYS:
    SYNC CHECK
    UNDER VOLTAGE
    OVER VOLTAGE
    LOSS-OF-PHASE
20. PANEL PROVIDED UNDER BUILDING 2 SCOPE OF WORK.

RossDrulisCusenbery
ARCHITECTURE
18294 Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	INC 01_ADD_01_V1	12/06/2019

REGISTERED PROFESSIONAL ENGINEER
AMANDA J. BROWNLEE
No. E17287
ELECTRICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

ELECTRICAL RISER DIAGRAM

Drawn By: ELW
Checked By: AJB

Scale: **NTS**

Date: **October 4, 2019**

Project No. B17.07369

2-E5.01
Drawing No.

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SHEET NOTES

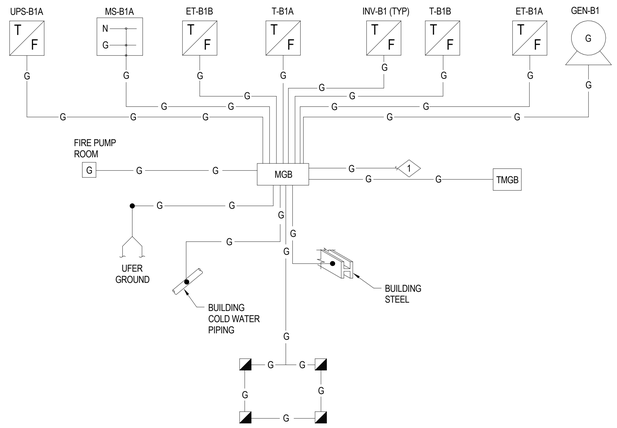
A. REFER SHEET E5.01 FOR TRANSFORMER SCHEDULE AND GROUNDING REQUIREMENTS.

B. CONTRACTOR TO COORDINATE EXACT LOCATION OF CONNECTIONS BETWEEN DIFFERENT CONSTRUCTION PACKAGES AND DIVISION OF WORK BETWEEN SUBCONTRACTORS.

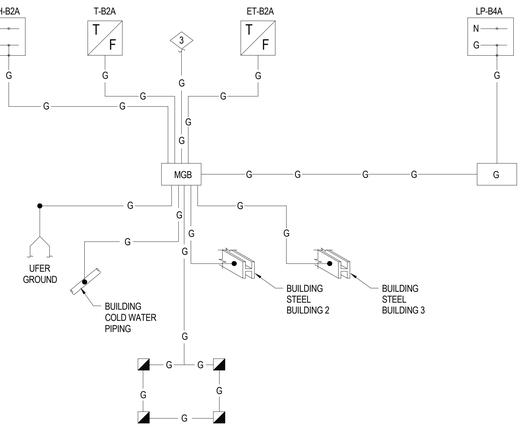
NUMBERED NOTES

1. PROVIDE CONNECTION TO HYBRID POWER SYSTEM. REFER TO SHEET 1-H5.01.
2. DIAGRAM IS FOR ILLUSTRATION OF OVERALL GROUNDING ELECTRODE SYSTEM. SEE RISER DIAGRAMS, GROUND BUS DETAILS AND SPECIFICATIONS FOR ADDITIONAL GROUNDING CONNECTIONS AND REQUIREMENTS.
3. PROVIDE CONNECTION TO PV SYSTEM. REFER TO SHEETS 2-PV5.01 AND 3-PV5.01.
4. PROVIDE CONNECTION TO PV SYSTEM. REFER TO SHEETS 6-PV5.01 AND 9-PV5.01.
5. DO NOT BOND NEUTRAL.

BUILDING 1

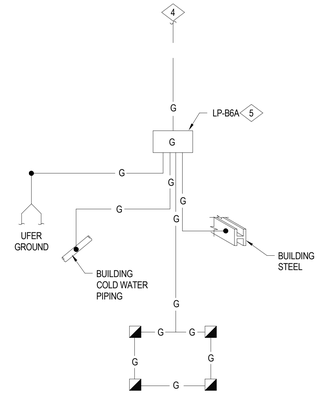


BUILDING 2

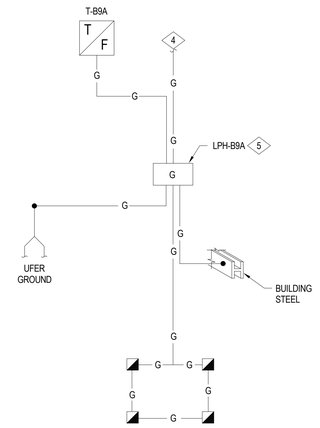


BUILDING 4

BUILDING 6



BUILDING 9



1 GROUNDING RISER DIAGRAM 2
NTS

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC: 01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION	
DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER
AMANDA J. BROWNLEE
No. E17287
ELECTRICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

ELECTRICAL GROUNDING DIAGRAM

Drawn By: ELW Checked By: AJB

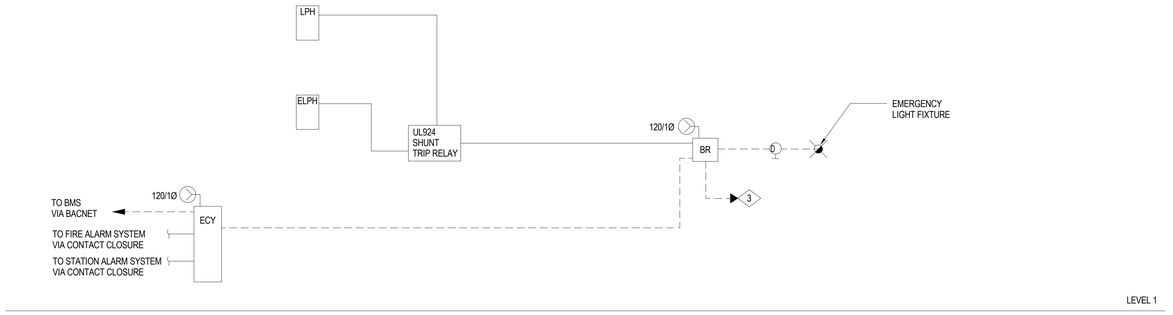
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Project No. B17.07369

2-E5.02
Drawing No.

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2 BUILDING 2 - LIGHTING CONTROL
NTS

SHEET NOTES

A. THIS DIAGRAM IS SCHEMATIC AND REPRESENTS GENERAL DIMMING SYSTEM CONCEPTS AND COMPONENTS. REFER TO FLOOR PLANS FOR EXACT LIGHTING FIXTURE TYPES AND CIRCUITRY. REFER TO PLANS FOR ZONE QUANTITY PER ROOM AND PROVIDE INTERFACES AS REQUIRED TO MEET ZONING INTENT.

B. DEVICE COLOR BY ARCHITECT.

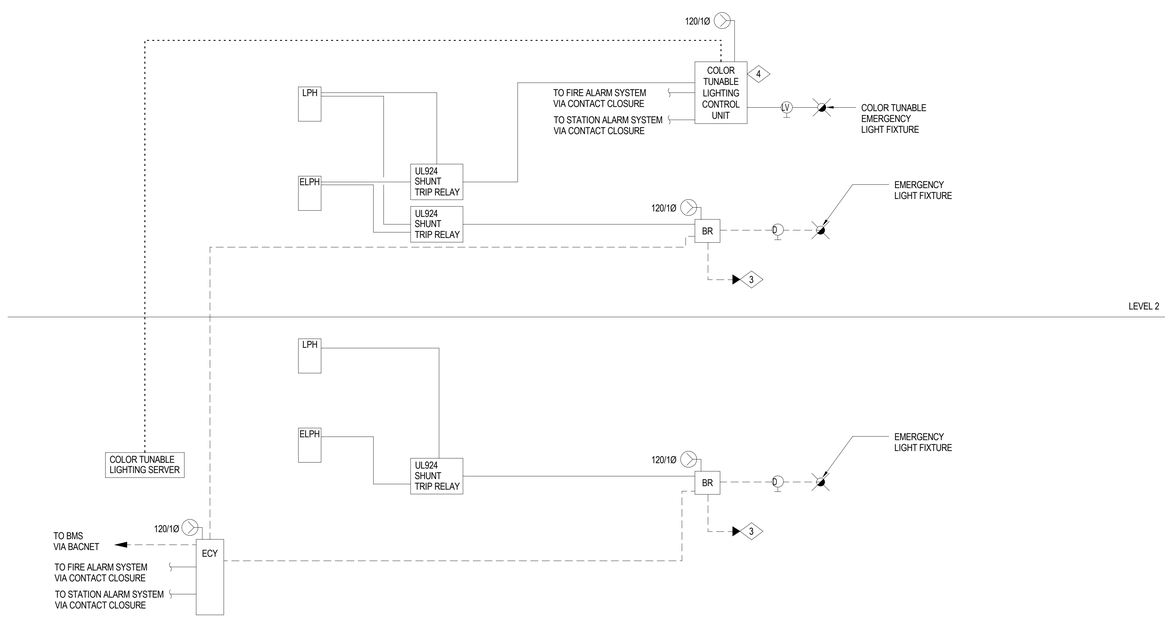
C. PROVIDE INTERFACE(S) AS REQUIRED FOR EMERGENCY LIGHTING TO RETURN TO FULL BRIGHTNESS UPON RECEIPT OF FIRE ALARM SIGNAL, STATION ALARM SIGNAL OR LOSS OF POWER. REFER TO FLOOR PLANS FOR ADDITIONAL INFORMATION.

D. PROVIDE CONDUIT AND WIRE PER MANUFACTURER'S REQUIREMENTS/RECOMMENDATION.

E. QUANTITIES OF SPECIFIC SYSTEM COMPONENTS BY MANUFACTURER.

NUMBERED NOTES

1. nLIGHT ECLYPSE.
2. nLIGHT NBRG 8 KIT.
3. TO DEVICES SHOWN ON SHEETS E2 SERIES SHEET.
4. COLOR TUNABLE LIGHTING PRESET BUTTONS ON KETRA X2 KEYPAD TO BE FIELD PROGRAMMED AND FIELD CONFIRMED BY USERS PRIOR TO TURNOVER OF SPACE TO OWNER. EXAMPLES OF TYPICAL SCENES ARE: NATURAL, ENERGIZE, RELAX, AND READING.



1 BUILDING 1 - LIGHTING CONTROL
NTS

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY:	
KATHY GARCIA DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

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1401 W. WINTON AVE.
HAYWARD, CA 94545

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REGISTERED PROFESSIONAL ENGINEER
AMANDA J. BROWN, CE
No. E17287
ELECTRICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

LIGHTING CONTROL SINGLE LINE DIAGRAM

Drawn By: ELW Checked By: AJB

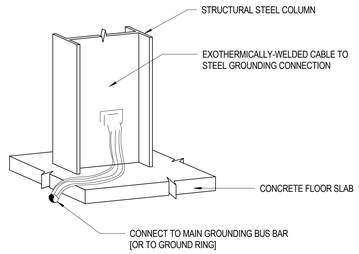
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October 4, 2019

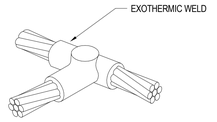
Project No. B17.07369

2-E5.03
Drawing No.

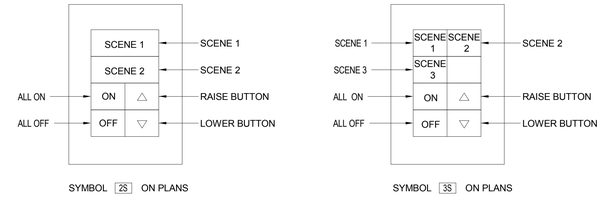
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5 GROUND CONNECTION TO STEEL COLUMN — NO SCALE



3 GROUNDING ELECTRODE CONDUCTOR TAP DETAIL (TYP) — NO SCALE



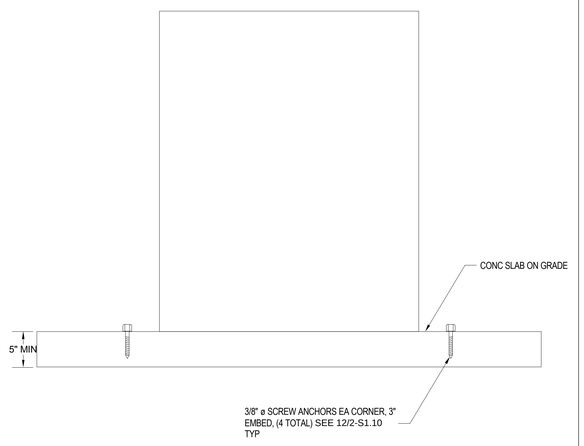
LOW VOLTAGE SCENE CONTROL DETAILS
NTS

DETAIL NOTES

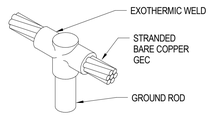
A. WHERE DEVICES ARE LOCATED NEXT TO EACH OTHER ON PLANS, COMBINE UNDER COMMON COVER PLATE.

B. REFER TO SHEET E0.10 FOR ADDITIONAL INFORMATION.

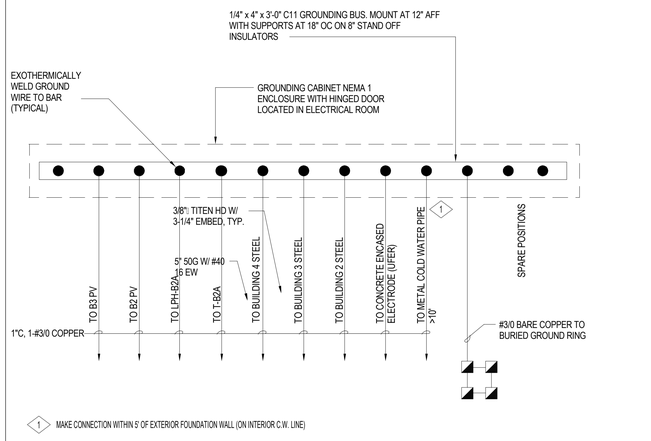
1 LIGHTING KEYPAD ELEVATIONS — NO SCALE



6 T-B2A ANCHORAGE — NO SCALE



4 GROUNDING ELECTRODE CONDUCTOR TAP DETAIL (TYP) — NO SCALE



2 MAIN GROUND BUS BAR — MGB — NO SCALE

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY:	
KATHY GARCIA DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER
AMANDA J. BROWN, LEE
No. E17287
ELECTRICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

ELECTRICAL DETAILS

Drawn By: ELW Checked By: AJB

Scale: **NTS**

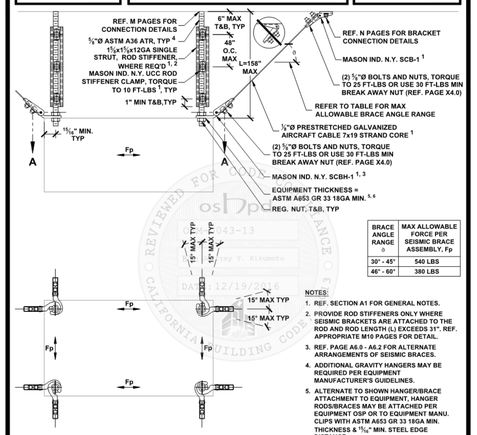
Date: **October 4, 2019**

Project No. B17.07369

2-E6.01
Drawing No.

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HANGER ROD DIAMETER = $\frac{5}{8}$"	SUSPENDED EQUIPMENT SEISMIC CABLE BRACING SYSTEM 750 LB MAX VERTICAL LOAD PER HANGER	KIT OPTIONS C1SE



BRACE ANGLE RANGE ∂	MAX ALLOWABLE FORCE PER SEISMIC BRACE ASSEMBLY, Fp
30° - 45°	540 LBS
46° - 60°	380 LBS

VIEW A-A

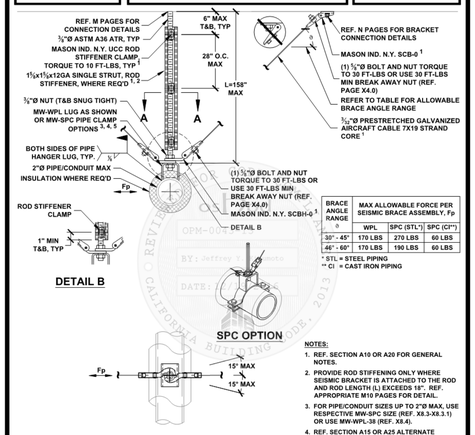
NOTES:
1. REF. SECTION A1 FOR GENERAL NOTES.
2. PROVIDE ROD STIFFENERS ONLY WHERE SEISMIC BRACKETS ARE ATTACHED TO THE ROD AND ROD LENGTH (L) EXCEEDS 31". REF. APPROPRIATE M10 PAGES FOR DETAIL.
3. REF. PAGE A6.0 - A6.2 FOR ALTERNATE ARRANGEMENTS OF SEISMIC BRACES.
4. ADDITIONAL GRAVITY HANGERS MAY BE REQUIRED PER EQUIPMENT MANUFACTURER'S GUIDELINES.
5. ALTERNATE TO SHOWN HANGER/BRACE ATTACHMENT TO EQUIPMENT, HANGER RODS/BRACES MAY BE ATTACHED PER EQUIPMENT OSP OR TO EQUIPMENT MANU. CLIPS WITH ASTM A653 GR 33 18GA MIN. THICKNESS & 15/16" MIN. STEEL EDGE DISTANCE.
6. ATTACHMENT TO THE EQUIPMENT SHALL BE DESIGNED AND SUBMITTED TO OSHPD FOR APPROVAL.

MASON WEST, INC.
1601 E. Miraloma Ave. Placentia, CA 92870
TEL (714) 630 - 0701, www.masonwest.com

Jiefu "Jeff" Zhang, SE
California SE No. S5270

PAGE **D12.12**

HANGER ROD DIAMETER = $\frac{3}{8}$"	PIPING/CONDUIT TRANSVERSE SEISMIC CABLE BRACING SYSTEM 2"Ø PIPE/CONDUIT MAX	KIT OPTIONS C0T



BRACE ANGLE RANGE ∂	MAX ALLOWABLE FORCE PER SEISMIC BRACE ASSEMBLY, Fp		
	WPL	SPC (STL*)	SPC (CI**)
30° - 45°	170 LBS	270 LBS	60 LBS
46° - 60°	170 LBS	190 LBS	60 LBS

* STL = STEEL PIPING
** CI = CAST IRON PIPING

DETAIL B

SPC OPTION

VIEW A-A

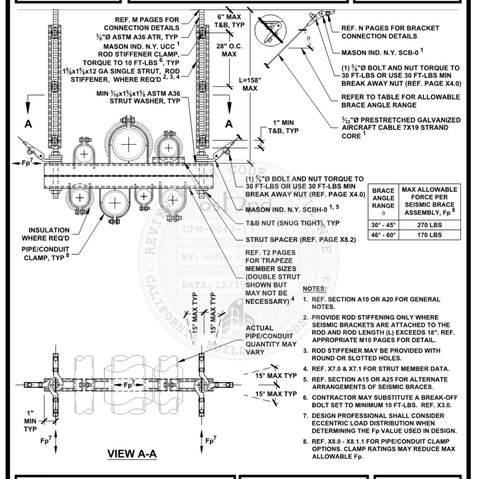
NOTES:
1. REF. SECTION A10 OR A20 FOR GENERAL NOTES.
2. PROVIDE ROD STIFFENING ONLY WHERE SEISMIC BRACKET IS ATTACHED TO THE ROD AND ROD LENGTH (L) EXCEEDS 18". REF. APPROPRIATE M10 PAGES FOR DETAIL.
3. FOR PIPE/CONDUIT SIZES UP TO 2"Ø MAX, USE RESPECTIVE MW-SPC SIZE (REF. X8.3-X8.3.1) OR USE MW-WPL-38 (REF. X8.4).
4. REF. SECTION A15 OR A25 ALTERNATE ARRANGEMENTS OF SEISMIC BRACES.
5. REF. PAGE A19.1 OR A28.1 FOR PIPE/CONDUIT CLAMP OPTION.

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1601 E. Miraloma Ave. Placentia, CA 92870
TEL (714) 630 - 0701, www.masonwest.com

Jiefu "Jeff" Zhang, SE
California SE No. S5270

PAGE **C2.10**

HANGER ROD DIAMETER = $\frac{3}{8}$"	PIPING/CONDUIT ALL-DIRECTIONAL TRAPEZE SEISMIC CABLE BRACING SYSTEM 30 PLF MAX	KIT OPTIONS TC0A



BRACE ANGLE RANGE ∂	MAX ALLOWABLE FORCE PER SEISMIC BRACE ASSEMBLY, Fp 8
30° - 45°	270 LBS
46° - 60°	170 LBS

VIEW A-A

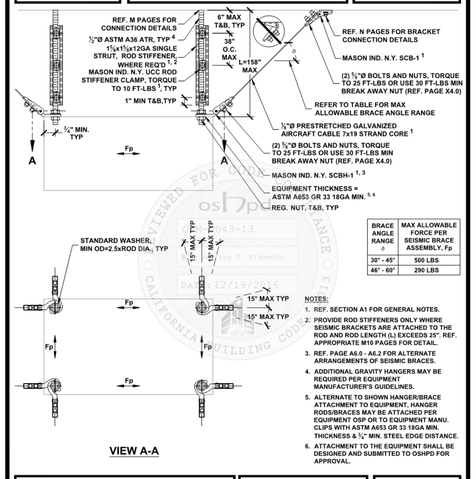
NOTES:
1. REF. SECTION A10 OR A20 FOR GENERAL NOTES.
2. PROVIDE ROD STIFFENING ONLY WHERE SEISMIC BRACKETS ARE ATTACHED TO THE ROD AND ROD LENGTH (L) EXCEEDS 18". REF. APPROPRIATE M10 PAGES FOR DETAIL.
3. ROD STIFFENER MAY BE PROVIDED WITH ROUND OR SLOTTED HOLES.
4. REF. X7.0 & X7.1 FOR STRUT MEMBER DATA.
5. REF. SECTION A15 OR A25 FOR ALTERNATE ARRANGEMENTS OF SEISMIC BRACES.
6. CONTRACTOR MAY SUBSTITUTE A BREAK-OFF BOLT SET TO MINIMUM 15 FT-LBS. REF. X3.0.
7. DESIGN PROFESSIONAL SHALL CONSIDER ECCENTRIC LOAD DISTRIBUTION WHEN DETERMINING THE Fp VALUE USED IN DESIGN.
8. REF. X8.0 - X8.1.1 FOR PIPE/CONDUIT CLAMP OPTIONS. CLAMP RATINGS MAY REDUCE MAX ALLOWABLE Fp.

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1601 E. Miraloma Ave. Placentia, CA 92870
TEL (714) 630 - 0701, www.masonwest.com

Jiefu "Jeff" Zhang, SE
California SE No. S5270

PAGE **F2.12**

HANGER ROD DIAMETER = $\frac{1}{2}$"	SUSPENDED EQUIPMENT SEISMIC CABLE BRACING SYSTEM 375 LB MAX VERTICAL LOAD PER HANGER	KIT OPTIONS C1SE



BRACE ANGLE RANGE ∂	MAX ALLOWABLE FORCE PER SEISMIC BRACE ASSEMBLY, Fp
30° - 45°	500 LBS
46° - 60°	290 LBS

VIEW A-A

NOTES:
1. REF. SECTION A1 FOR GENERAL NOTES.
2. PROVIDE ROD STIFFENERS ONLY WHERE SEISMIC BRACKETS ARE ATTACHED TO THE ROD AND ROD LENGTH (L) EXCEEDS 25". REF. APPROPRIATE M10 PAGES FOR DETAIL.
3. REF. PAGE A6.0 - A6.2 FOR ALTERNATE ARRANGEMENTS OF SEISMIC BRACES.
4. ADDITIONAL GRAVITY HANGERS MAY BE REQUIRED PER EQUIPMENT MANUFACTURER'S GUIDELINES.
5. ALTERNATE TO SHOWN HANGER/BRACE ATTACHMENT TO EQUIPMENT, HANGER RODS/BRACES MAY BE ATTACHED PER EQUIPMENT OSP OR TO EQUIPMENT MANU. CLIPS WITH ASTM A653 GR 33 18GA MIN. THICKNESS & ⅛" MIN. STEEL EDGE DISTANCE.
6. ATTACHMENT TO THE EQUIPMENT SHALL BE DESIGNED AND SUBMITTED TO OSHPD FOR APPROVAL.

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1601 E. Miraloma Ave. Placentia, CA 92870
TEL (714) 630 - 0701, www.masonwest.com

Jiefu "Jeff" Zhang, SE
California SE No. S5270

PAGE **D12.11**

NOTE: REFER TO MASON OPM'S PER THE FOLLOWING:
M-ATR VERTICAL HANGARS
CONCRETE FILLED DECK - M2.10, M2.11, M2.12, M2.20, M2.21.1, M2.23, M2.70 - DO NOT SPACE CLOSER THAN 5' OC EW
WIDE FLANGED STEEL - M3.10 - MAX 1 CON PER BEAM UNLESS SPACED 13' OC
COLD FORMED STEEL – M6.10, 3/1-S4.31 - DO NOT SPACE CLOSER THAN 9'6" OC EW
BARE METAL DECK - M7.10, M7.11, M7.12 - DO NOT SPACE CLOSER THAN 2' OC EW

N-SEISMIC BRACKET
CONCRETE FILLED DECK - N2.10, N2.11, N2.12, N2.20, N2.21 - DO NOT SPACE CLOSER THAN 3' OC EW
WIDE FLANGED STEEL - N3.11, N3.15 - MAX 1 CON PER BEAM UNLESS SPACED 12' OC
COLD FORMED STEEL – 4/1-S4.31 - DO NOT SPACE CLOSER THAN 10' OC EW
BARE METAL DECK - N7.10 - DO NOT SPACE CLOSER THAN 1'6" OC EW

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY:	
KATHY GARCIA DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER
AMANDA J. BRONKLE
No. E17287
ELECTRICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

ELECTRICAL DETAILS

Drawn By: Author Checked By: Checker

Scale:
NTS

Date:
October 4, 2019

Project No. B17.07369

2-E6.02
Drawing No.

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Fire Alarm System

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER
BUILDING #2
1401 W. WINTON AVE.
HAYWARD, CA 94545
INCREMENT 2

SHEET SCHEDULE

SHEET NO.	TITLE
1-FA0.01	FIRE ALARM COVER SHEET
1-FA1.00	FIRE ALARM SITE PLAN
1-FA1.01	BUILDING 1 FIRST LEVEL FIRE ALARM PLAN
1-FA1.02	BUILDING 1 SECOND LEVEL FIRE ALARM PLANS
1-FA1.03	BUILDINGS 2 AND 6 FIRE ALARM PLAN
FA-2.01	FIRE ALARM RISER DIAGRAM
FA-3.01	FIRE ALARM CALCULATIONS
FA-4.01	FIRE ALARM FACU AND ANNUNCIATOR DETAILS
FA-4.02	FIRE ALARM FIELD DEVICE WIRING DETAILS
FA-4.03	FIRE ALARM FIELD DEVICE WIRING DETAILS

PROJECT INFORMATION

BUILDING OWNER:
CITY OF HAYWARD
PUBLIC WORK DEPARTMENT
777 B STREET
HAYWARD, CA 94541
510-583-4752

BUILDING 2

PROJECT TYPE:
VEHICLE STORAGE / TRAINING AREA, LOCKER ROOMS, & RESTROOMS.

OCCUPANCY:
B, F-1, S-2

CONSTRUCTION TYPE:
II-B, FULLY SPRINKLERED

GROSS FLOOR AREA:
8,278 G.S.F.

CENTRAL STATION
MONITORING INFORMATION
RAPID RESPONSE MONITORING SERVICES
400 E RINCON
CORONA, CA 92879
(800) 544-5746
UUFX.S3282-3

ALARM SERVICE COMPANY
CONVERGINT TECHNOLOGIES
5860 W LAS POSITAS BLVD. SUITE #7
PLEASANTON, CA 94588
(510) 300-2800

CODE COMPLIANCE

PARTIAL LIST OF APPLICABLE CODES AS OF January 1, 2017*
2016 California Administrative Code (CAC), Part 1, Title 24 CCR*
2016 California Building Code (CBC), Part 2, Title 24 CCR
(2015 International Building Code, Vol. 1 & 2, and 2016 California amendments)
2016 California Electrical Code (CEC), Part 3, Title 24 CCR
(2014 National Electrical Code and 2016 California Amendments)
2016 California Mechanical Code (CMC), Part 4, Title 24 CCR
(2015 IAPMO Uniform Mechanical Code and 2016 California amendments)
2016 California Plumbing Code (CPC), Part 5, Title 24 CCR
(2015 IAPMO Uniform Plumbing Code and 2016 California amendments)
2016 California Energy Code (CEC), Part 6, Title 24 CCR
2016 California Fire Code (CFC), Part 9, Title 24 CCR
(2015 International Fire Code and 2016 California Amendments)
2016 California Existing Building Code (CEBC), Part 10, Title 24 CCR
(2015 International Existing Building Code and 2016 California Amendments)
2016 California Green Building Standards Code (CALGreen), Part 11, Title 24 CCR
2016 California Referenced Standards Code, Part 12, Title 24 CCR
Title 19 CCR, Public Safety, State Fire Marshal Regulations
2013 ASME A17.1/CSA B44-13 Safety Code for Elevators and Escalators
PARTIAL LIST OF APPLICABLE STANDARDSNFPA 1

3 Standard for the Installation of Sprinkler Systems (CA amended)	2016 EditionNFPA 14
Standard for the Installation of Standpipe and Hose Systems	2013 EditionNFPA 17
Standard for Dry Chemical Extinguishing Systems	2013 EditionNFPA
17AStandard for Wet Chemical Extinguishing Systems	2013 EditionNFPA 20
Standard for the Installation of Stationary Pumps for Fire Protection	2016 EditionNFPA 22
Standard for Water Tanks for Private Fire Protection	2013 EditionNFPA 24
Standard for the Installation of Private Fire Service Mains and Their Appurtenances2016 Edition	
NFPA 72National Fire Alarm and Signaling Code (CA amended);	2016 Edition
NFPA 80 Standard for Fire Doors and Other Opening Protectives	2016 Edition
NFPA 2001 Standard on Clean Agent Fire Extinguishing Systems	2015 Edition
UL 300 Standard for Fire Testing of Fire Extinguishing Systems for Protection of Commercial Cooking Equipment	2005 (R2010)

SCOPE OF WORK

THE SCOPE OF WORK IS TO PROVIDE A NEW FIRE ALARM SYSTEM FOR THREE NEW BUILDINGS AT 1401 W. WINTON AVE. HAYWARD, CA 94545

THIS SYSTEM WILL INCLUDE:

1. TIE DEVICES TO FIRE ALARM CONTROL UNIT AT BUILDING 1.
2. REMOTE ANNUNCIATOR.
3. A MANUAL PULL STATION.
4. MODULES FOR FAN CONTROL.
5. AUTOMATIC DEVICES AS REQUIRED PER CODE.
6. AUDIBLE / VISUAL NOTIFICATION APPLIANCES ACTIVATED VIA NEW BOOSTER POWER SUPPLIES.

SEE FIRE ALARM OPERATIONAL MATRIX THIS SHEET FOR ADDITIONAL INFORMATION.

GENERAL NOTES

1. ALL DEVICE LOCATIONS, WIRING, CONDUITS SHOWN ON DRAWINGS ARE SUBJECT TO FIELD VERIFICATION. ANY DEVIATION MUST BE APPROVED BY THE FIRE ALARM CONTRACTOR AND MUST COMPLY WITH THE NATIONAL AND LOCAL CODES LISTED ON THIS SHEET.
2. 120VAC PRIMARY POWER SOURCE TO FIRE ALARM PANELS AND POWER SUPPLIES MUST BE ON A MECHANICALLY PROTECTED DEDICATED BRANCH CIRCUIT WITH DISCONNECTING MEANS PERMANENTLY IDENTIFIED AT THE CONTROL UNIT. DISCONNECTING MEANS TO BE IDENTIFIED AS "FIRE ALARM CIRCUIT" IN RED MARKING AND ACCESSIBLE ONLY TO AN AUTHORIZED PERSONNEL.
3. 120VAC AND FIRE ALARM CIRCUITS MUST MAINTAIN A 1/4" SEPARATION. NEVER RUN IN SAME CONDUIT.
4. AFTER COMPLETION OF WORK, ELECTRICAL CONTRACTOR MUST PROVIDE TO THE FIRE ALARM CONTRACTOR A COMPLETE SET OF "RECORD DRAWINGS" SHOWING ALL DEVICE LOCATIONS, DEVICE ADDRESSES, CIRCUIT NUMBERS AND WIRING (IF APPLICABLE).
5. SEE DETAIL SHEETS FOR DEVICE MOUNTING HEIGHTS AND INSTALLATION INFORMATION. ANY DEVIATION MUST BE APPROVED BY THE FIRE ALARM CONTRACTOR AND MUST COMPLY WITH THE NATIONAL AND LOCAL CODES LISTED ON THIS SHEET.
6. BACKBOXES, JUNCTION BOXES AND TERMINAL CABINETS TO BE PROVIDED BY THE ELECTRICAL CONTRACTOR. TERMINAL CABINETS FOR FIRE ALARM USE MUST BE LABELED "FATC" AND JUNCTION BOXES TO HAVE RED COVERS.
7. AUDIBLE DEVICES TO BE AT LEAST 15 DBA ABOVE THE AVERAGE AMBIENT SOUND LEVEL BUT NOT LESS THAN 75 DBA AT 10 FEET OR MORE THAN 110 DBA AT THE MIN. HEARING DISTANCE. SOUND LEVEL SHALL BE MAINTAINED FOR DURATION OF AT LEAST 60 SECONDS AND 15 DBA MUST BE MAINTAINED.
8. VISUAL DEVICES SHOULD NOT EXCEED 2 FLASHES PER SECOND AND SHOULD NOT BE SLOWER THAN 1 FLASH EVERY SECOND. THE DEVICE SHALL HAVE A PULSING LIGHT SOURCE NOT LESS THAN 15 CANDELA. ALL VISUAL DEVICES SHALL BE SYNCHRONIZED PER FLOOR.
9. AUDIBLE DEVICES SHALL BE SYNCHRONIZED TEMPORAL CODE 3 PATTERN.
10. ALL EQUIPMENT AND COMPONENTS HAVE BEEN TESTED AS A SYSTEM AND MEET ALL REQUIREMENTS IN THE SPECIFICATION AND IN NFPA 72.
11. EACH CONDUCTOR SHALL BE NUMBERED AT EVERY JUNCTION POINT WITH IDENTIFICATION OF ORIGINATION AND TERMINATION POINTS.

FIRESTOPPING

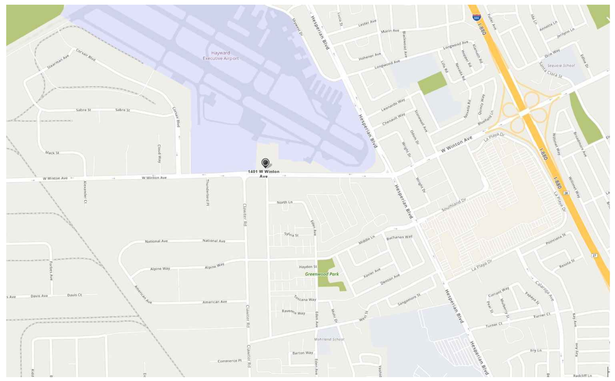
PENETRATIONS THRU WALLS REQUIRING PROTECTED OPENINGS SHALL BE FIRE STOPPED. FIRE STOP MATERIAL SHALL BE A UL LISTED ASSEMBLY INSTALLED ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS. SEE DRAWING FAA 10 AND "THROUGH PENETRATIONS FIRESTOP" BINDER FOR INFORMATION AND DETAILS

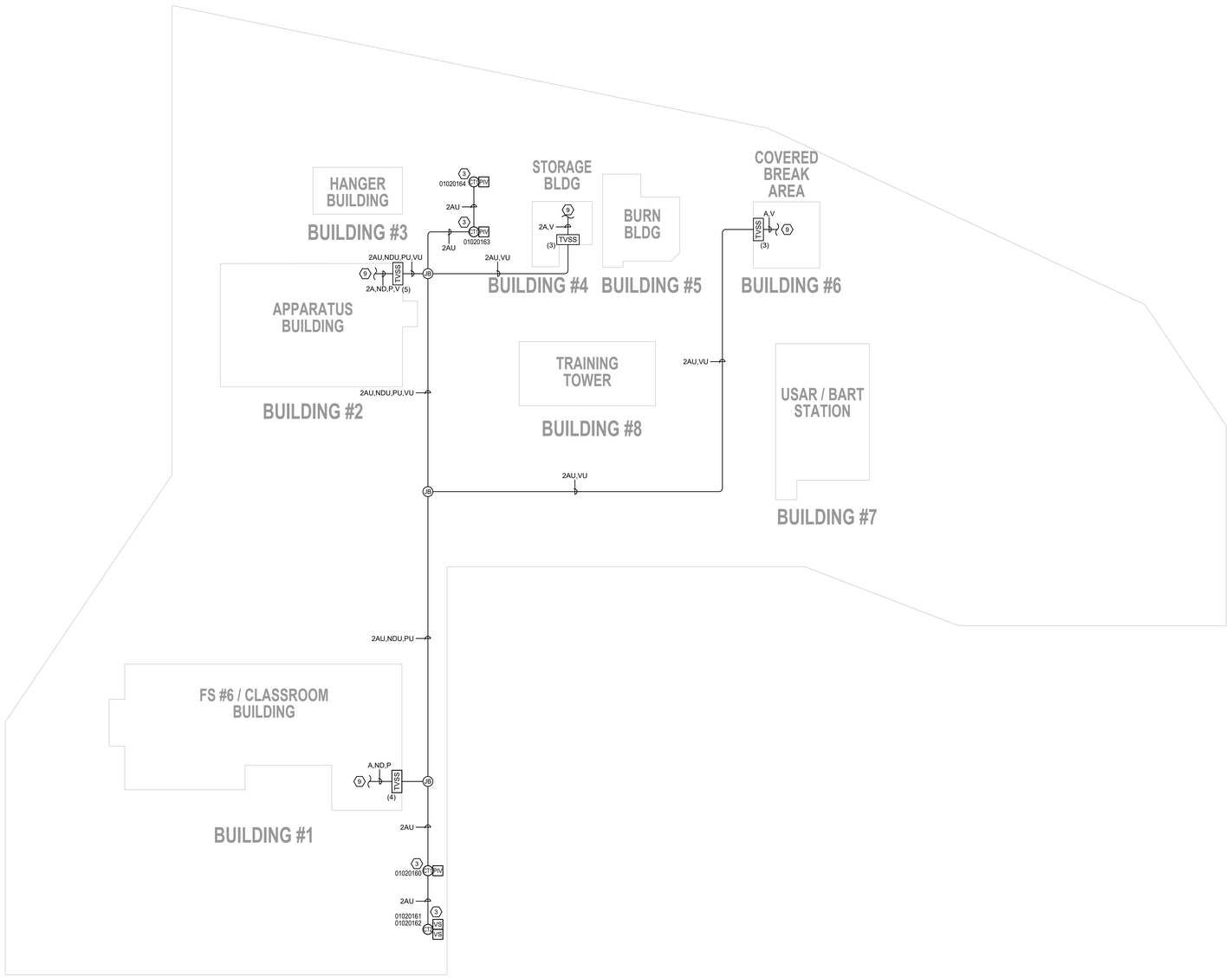
EQUIPMENT LIST

SYMBOL LEGEND

SYM.	MFG.	MODEL #	TOTAL QTY.	BLDG. #1	BLDG. #2	BLDG. #6	DESCRIPTION	BACKBOX	CSFM
FACU	EST	EST-3	-	-			FIRE ALARM CONTROL PANEL	3-CAB7B	7165-1657:0186
		3-CPU3	1	1			CENTRAL PROCESSING UNIT MODULE	3-CAB7B	7165-1657:0186
		3-RS485A	1	1			NETWORK COMMUNICATIONS CARD	3-CAB7B	7165-1657:0186
		3-PPS/M	1	1			PRIMARY POWER SUPPLY WITH LOCAL RAIL MODULE	3-CAB7B	7165-1657:0186
		3-MODCOM	1	1			MODEM/DIALER (DACT)	3-CAB7B	7165-1657:0186
		3-SSDC1	1	1			SINGLE SIGNATURE DRIVER CONTROLLER	3-CAB7B	7165-1657:0186
		3-LCD	1	1			LIQUID CRYSTAL DISPLAY MODULE	3-CAB7B	7165-1657:0186
		3-FP	5	5			FILLER PLATE	3-CAB7B	7165-1657:0186
		3-CHAS7	1	1			CHASSIS ASSEMBLY - 7 LOCAL RAIL MODULE SPACES	3-CAB7B	7165-1657:0186
		3-CAB7B	1	1			WALLBOX	INCLUDED	7165-1657:0186
		3-CAB7D	1	1			INNER & OUTER DOORS FOR WALLBOX	3-CAB7B	7165-1657:0186
BATT	EST	BC-1	1	1			BATTERY CABINET	INCLUDED	-
	POWER SONIC	PS-12260	2	2			26AH BATTERY	BC-1	-
	BY OTHERS	RJ31X	1	1			ALARM SYSTEM JACK	BC-1	-
	BUSSMAN	5775	1	1			AEC 7.5 AMP TIME FUSE	BC-1	-
	COLE HERSEE	5415M	1	1			FUSE BLOCK HOLDER	BC-1	-
FAA	EST	3-LCDANN	2	2			REMOTE LCD ANNUNCIATOR	RLCM/B	7120-1657:0193
		RLCM/B	2	2			FLUSH MOUNT LCD WALLBOX	-	7120-1657:0193
P	EST	SIGA-278	11	10	1		DUAL ACTION MANUAL PULL STATION	4" SQ. DEEP BOX WITH 1 GANG RING	7150-1657:0129
P WP	EST	MPSR1-045W-GE	1			1	WEATHERPROOF DOUBLE ACTION MANUAL PULL STATION	INCLUDED	7150-1657:0236
SC	EST	SIGA-CC1	4	2	2		SIGNAL MODULE	4" SQ. DEEP BOX WITH 2 GANG RING	7300-1657:0121
CR	EST	SIGA-CR	11	9	2		CONTROL RELAY	4" SQ. DEEP BOX WITH 1 GANG RING	7300-1657:0121
CT1	EST	SIGA-CT1	4	1	2	1	SINGLE INPUT MODULE	4" SQ. DEEP BOX WITH 1 GANG RING	7300-1657:0121
CT2	EST	SIGA-CT2	7	6	1		DUAL INPUT MODULE	4" SQ. DEEP BOX WITH 1 GANG RING	7300-1657:0121
IM	EST	SIGA-IM	4	2	1	1	ISOLATOR MODULE	4" SQ. DEEP BOX WITH 2 GANG RING	7300-1657:0121
RM	EST	SIGA-RM1	1	1			RISER MODULE	4" SQ. DEEP BOX WITH 1 GANG RING	7300-1657:0210
R	SYSTEM SENSOR	PR-1	3	2	1		MULTI-VOLTAGE RELAY	4" SQ. DEEP BOX WITH 1 GANG RING	7300-1653:0172
Z	EST	SIGA-SD	2	2			DUCT SMOKE DETECTOR	INCLUDED	3242-1657:0223
		SD-T42	2	2			SAMPLING TUBE	-	-
TD	EST	SIGA-TCDR	1	1			TEMPORAL CODE GENERATOR	4" SQ. DEEP BOX WITH 1 GANG RING	7300-1657:0308
S	EST	SIGA-PD	8	4	1	3	PHOTO SMOKE DETECTOR	SIGA-SB4	7272-1657:0331
		SIGA-SB4	8	4	1	3	4" DETECTOR MOUNTING BASE	4" OCTAGON BOX	7300-1657:0120
S CO	EST	SIGA-PD	8	8			PHOTO SMOKE DETECTOR	SIGA-AB4GT	7272-1657:0331
		SIGA-AB4GT-LF	8	8			LOW FREQUENCY AUDIBLE BASE	4" SQ. DEEP BOX	7300-1657:0322
S DMP	EST	SIGA-PD	4	4			PHOTO SMOKE DETECTOR	SIGA-SB4	7272-1657:0331
		SIGA-DMP	4	4			DETECTOR MOUNTING PLATE	INCLUDED	-
		SIGA-SB	4	4			DETECTOR MOUNTING BASE	SIGA-DMP	7300-1657:0120
BPS6A	EST	BPS6A	3	2	1		6.5 AMP BOOSTER POWER SUPPLY	INCLUDED	7300-1657:0229
	POWER SONIC	PS-1270	6	4	2		7AH BATTERY		
XXCD LF	WHEELOCK	LFHSHW3	4	4			LOW FREQUENCY SOUNDER STROBE	SINGLE GANG	7125-0785:0500
XXCD	WHEELOCK	LHTW3	11	6	5		WALL MOUNT HORN-STROBE (15, 30, 75, 110 SELECTABLE CANDELA OUTPUT)	SINGLE GANG	7125-0785:0501
XXCD	WHEELOCK	LHTWC3	25	18	5	2	CEILING MOUNT HORN-STROBE (15, 30, 75, 95 SELECTABLE CANDELA OUTPUT)	SINGLE GANG	7125-0785:0501
110CD WP	WHEELOCK	ASWP-2475W-FR	6	4	1	1	WEATHERPROOF WALL MOUNT HORN-STROBE 30CD (180 ON AXIS)	WPBB	7125-0785:0131
		WPBB	6	4	1	1	WEATHERPROOF BOX	-	-
XXCD	WHEELOCK	LSTW3	1	1	0	0	WALL MOUNT STROBE (15, 30, 75, 110 SELECTABLE CANDELA OUTPUT)	SINGLE GANG	7125-0785:0501
XXCD	WHEELOCK	LSTWC3	19	18	1	0	CEILING MOUNT STROBE (15, 30, 75, 95 SELECTABLE CANDELA OUTPUT)	SINGLE GANG	7125-0785:0501
15CD WP	WHEELOCK	RSSWP-2475C-FW	3	1	2	0	WEATHERPROOF CEILING MOUNT STROBE 30CD (180 ON AXIS)	WPSBB	7300-0785:0154
		WPSBB	3	1	2	0	WEATHERPROOF BOX	-	-
DSM	WHEELOCK	DSM	5	3	2		DUAL SYNCHRONIZATION MODULE	4-11/16" DEEP BOX W/ EXT. RING	7300-0785:0132
DOC	SPACE AGE	FAD ACE-11	1	1			SSU00685 FIRE ALARM DOCUMENTS CABINET	INCLUDED	7300-0553:0110
TVSS	BY OTHERS	-	12	4	5	3	TRANSIT VOLTAGE SURGE SUPPRESSOR (BY OTHERS)	-	-
FATC	BY OTHERS	-	3	1	1	1	FIRE ALARM TERMINAL CABINET	-	-
FD	BY OTHERS	-	4	4			FIRE/SMOKE DAMPER	-	-
MT	BY OTHERS	-	3	2	1		WATERFLOW SWITCH	-	-
VS	BY OTHERS	-	5	4	1		VALVE TAMPER SWITCH	-	-
PIV	BY OTHERS	-	3	1	2		POST INDICATOR VALVE	-	-

VICINITY MAP


1401 W Winton Ave
Hayward Executive Airport
Winton Ave
Sunset Blvd
Hesperian Blvd
Mission Blvd
Jackson St
Tennyson Rd
Industrial Blvd
Depot Rd
Whitman St
Grant St
Harder Rd
Soto Rd
Sabre St
Rose St
Clawiter Rd
Dixon St
Dunn Ct
Alquire Pkwy
National Ave
Arden Rd
Bartlett Ave
Bayberry Ln
Bellflower Ln
Bolero Ln
Bonanza Ln
Bonnie Ln
Brenda Ln
Brookdale Ln
Cabot Blvd
Calaroga Ave
Carlos Bee Blvd
Cathedral Ln
Cedar Ln
Cherry Ln
Chestnut St
Clarke Ct
Cleveland Ave
Cleveland St
Comanche Dr
Corsair Blvd
Cypress Ln
Dalton Ln
Dawn Ln
Dellwood Ln
Dianne Ln
Dolores Ln
Dorothy Ln
Dover Ln
Dunbar Ln
Eden Ln
Elgin Ln
Elmhurst Ln
Fairview Ln
Fletcher Ln
Forest Ln
Fredericksburg Ln
Gading Rd
Gary Ln
Gladys Ln
Glenwood Ln
Grace Ln
Grant Ln
Hampton Ln
Harris Ln
Hayward Blvd
Hazel Ln
Hillcrest Ln
Hillsdale Ln
Hilton Ln
Hollister Ln
Houston Ln
Huntwood Ln
Ingleside Ln
Jeanette Ln
Jefferson Ln
Kathy Ln
Kay Ln
Kenneth Ln
Kenwood Ln
Kimball Ln
Kingsley Ln
Kirkwood Ln
Lacy Ln
Lake Chabot Rd
Lamson Ln
Lancaster Ln
Lanham Ln
Lansdale Ln
Laurel Ln
Lawrence Ln
Leidig Ln
Lewis Ln
Lexington Ln
Lilac Ln
Lincoln Ln
Linda Ln
Lindsay Ln
Linnet Ln
Locust Ln
Longwood Ln
Lorraine Ln
Lucille Ln
Lucy Ln
Lynn Ln
Maple Ln
Marie Ln
Marilyn Ln
Marion Ln
Mark Ln
Marlene Ln
Marshall Ln
Mary Ln
Mattox Ln
Maureen Ln
Mayfair Ln
Meadow Ln
Melissa Ln
Merrill Ln
Michael Ln
Mildred Ln
Mission Blvd
Monica Ln
Moore Ln
Morgan Ln
Mowry Ln
Nancy Ln
Nelson Ln
Nevada Ln
Nicholas Ln
Nicole Ln
Nita Ln
Norman Ln
North Ln
Oak Ln
Oakes Dr
Oakland Ave
Oakwood Ln
Orchard Ln
Overlook Ln
Palisade Ln
Parkside Ln
Patricia Ln
Pauline Ln
Peace Ln
Pearl Ln
Pecan Ln
Peggy Ln
Pennsylvania Ave
Pepper Ln
Pine Ln
Pinecrest Ln
Pinehurst Ln
Pinewood Ln
Pioneer Ln
Plum Ln
Poplar Ln
Prospect Ln
Quail Ln
Quarry Ln
Rainbow Ln
Ralph Ln
Ramona Ln
Randall Ln
Ranger Ln
Rebecca Ln
Redwood Ln
Regency Ln
Reynolds Ln
Richard Ln
Ridgeview Ln
Rita Ln
Robert Ln
Rockhill Ln
Rodeo Ln
Rolling Hills Ln
Rose Ln
Rosemary Ln
Rosewood Ln
Roy Ln
Ruby Ln
Rudgear Rd
Russell Ln
Ruth Ln
Sandra Ln
Sandy Ln
Santa Clara St
Santa Rosa Ave
Sara Ln
Sequoia Ln
Shadow Ln
Shady Ln
Shannon Ln
Sharon Ln
Sheffield Ln
Shelley Ln
Sherwood Ln
Shirley Ln
Sierra Ln
Silva Ln
Skyline Blvd
Smalley Ln
Smith Ln
Somerset Ln
Southland Ln
Spencer Ln
Spring Ln
Stanford Ln
Stanton Ln
Stevenson Blvd
Stonebrae Rd
Strobridge Ln
Sunset Blvd
Sunset Ln
Sutter Ln
Sycamore Ln
Tamarack Ln
Tanglewood Ln
Tarpey Rd
Tennyson Rd
Terrace Ln
Thornton Ln
Tina Ln
Tomlee Ln
Tonkin Ln
Tony Ln
Tracy Ln
Trojan Ln
Tulip Ln
Turner Ln
Valley Ln
Vanderbilt Ln
Vera Ln
Verna Ln
Victoria Ln
Vista Ln
Walnut Ln
Warren Ln
Washington Ave
Watkins St
Wayne Ln
Weber Ln
Wesley Ln
Westchester Ln
Westview Ln
Whitman St
Wilbur Ln
Willow Ln
Wilma Ln
Winton Ave
Wisteria Ln
Woodland Ln
Woodroe Ln
Wyeth Ln
Yale Ln
Yolanda Ln
Zelma Ln
Zion Ln
Zuma Ln
Zwissig Ln
Zwissig Way
Zwissig Ln
Zwissig Way
Zwissig Ln
Zwissig Way



KEYED SHEET NOTES

1. RELAY MODULE FOR CEILING FAN SHUTDOWN (@ CONTROL PANEL)
2. *RELAY FOR FAN SHUTDOWN.
3. IF DEVICES ARE EXPOSED TO THE ENVIRONMENT, MOUNT DEVICES IN A NEMA 250, TYPE 4X ENCLOSURE (PROVIDED BY OTHERS)
4. *MODULES FOR ELEVATOR CONTROL.
   -RECALL
   -ALTERNATE FLOOR RECALL
   - FIREFIGHTER'S HAT SIGNAL
5. SEE SITE PLAN ON SHEET 1-FA1.00 FOR CONTINUATION OF CIRCUIT
6. MODULES FOR FIRE PUMP SUPERVISION.
   - RUNNING - PHASE REVERSAL
   - TROUBLE - ALTERNATE POWER
7. CONTROL RELAY FOR SECURITY INTERFACE.
8. *CONTROL RELAYS FOR FIRE/SMOKE DAMPER CONTROL. ELECTRICAL CIRCUIT # ELP-B18.9
9. SEE FLOOR PLANS ON SHEET 1-FA1.01 AND 1-FA1.03 FOR CONTINUATION OF CIRCUIT.
10. CONTROL RELAY FOR A/V SHUTDOWN.
11. SIGNAL MODULE FOR POWER SUPPLY ACTIVATION AND SUPERVISION.
12. SIGNAL MODULE AND TEMPORAL PATTERN GENERATOR FOR SOUNDER BASES LOCATED ON SECOND FLOOR. BASES SHALL ACTIVATE IN TANDEM. A FIRE ALARM SHALL OVERRIDE A CO ALARM.
13. NOT USED.
14. MOUNT REMOTE LED INDICATOR AT AN ACCESSIBLE AND VISIBLE LOCATION.
15. RISER MONITOR MODULE FOR AUDIBLE BASE CIRCUIT. (CIRCUIT FOR AUDIBLE BASES MAY NOT BE T-TAPPED)

* FIRE ALARM RELAY MODULE USED TO INITIATE CONTROL FUNCTIONS SHALL BE LOCATED WITHIN 3 FEET OF THE CONTROLLED CIRCUIT OR APPLIANCE.

CABLE LEGEND

(NON-PLENUM) CABLE PROVIDED BY OTHERS
CLASS B WIRING

SYM.	AWG/CONDUCTOR/ STYLE/TYPE	T-TAPS	WIRING CLASS
A	DATA CABLE (NON-PLENUM) #16 AWG TWISTED PAIR FPL 3,900 FEET MAXIMUM DISTANCE .33µF MAXIMUM CAPACITANCE 79 OHMS MAXIMUM RESISTANCE MAXIMUM 124 T-TAPS.	YES	CLASS B
AU	UNDERGROUND RATED DATA CABLE	YES	CLASS B
ND	NETWORK DATA RISER CABLE #16 AWG FPL TWISTED PAIR SOLID NO T-TAPS ALLOWED	NO	CLASS B
NDU	UNDERGROUND RATED NETWORK DATA RISER CABLE	NO	CLASS B
P	24V AC/DC POWER CABLE #12 AWG FPL TWISTED PAIR SOLID T-TAPS ALLOWED	YES	CLASS B
PU	UNDERGROUND RATED POWER CABLE	YES	CLASS B
V	STROBE CIRCUIT CABLE #12 AWG FPL TWISTED PAIR SOLID NO T-TAPS ALLOWED	NO	CLASS B
VU	UNDERGROUND RATED STROBE CIRCUIT CABLE	NO	CLASS B

GENERAL SHEET NOTES

1. WIRING ON FLOOR PLANS SHOWN FOR REFERENCE ONLY. ACTUAL WIRE PATHS TO BE DETERMINED UPON FIELD VERIFICATION AND ANY DEVIATION(S) MUST BE DISCUSSED PRIOR TO INSTALLATION AND NOTED ON "AS-BUILT" DRAWINGS.
2. ANY DEVICE EXPOSED TO OUTSIDE ENVIRONMENT MUST BE IN A WEATHERPROOF ENCLOSURE PROVIDED BY OTHERS.
3. UNDERGROUND CONDUIT SHALL BE 1" PVC.
4. RUN ALL UNDERGROUND CONDUIT 24" BELOW GRADE, MINIMUM.

SYMBOL LEGEND

SYMBOL	DESCRIPTION
FACU	FIRE ALARM CONTROL UNIT
FAA	FIRE ALARM LED ANNUNCIATOR
P	PULL STATION
P WP	WEATHERPROOF PULL STATION
SC	SIGNAL MODULE
CR	CONTROL RELAY
IT	SINGLE INPUT MODULE
IT2	DUAL INPUT MODULE
IM	ISOLATION MODULE
RM	RISER MONITOR MODULE
R	MULTI VOLT RELAY
TG	TEMPORAL PATTERN GENERATOR
?	SMOKE DETECTOR (CEILING / WALL MOUNT)
?	DUCT SMOKE DETECTOR
? DMP	SMOKE DETECTOR WITH DUCT MOUNTING PLATE
LED	REMOTE LED INDICATOR
AB ? CO	COMBINATION SMOKE / CO DETECTOR WITH AUDIBLE BASE
BP6A	6.5 AMP BOOSTER POWER SUPPLY
DSM	DUAL SYNCHRONIZATION MODULE
LF XXCD	LOW FREQUENCY SOUNDER STROBE XXCD = CANDELA
XXCD	HORN-STROBE XXCD = CANDELA
XXCD	CEILING MOUNT HORN-STROBE XXCD = CANDELA
WP XXCD	WEATHERPROOF WALL HORN-STROBE XXCD = CANDELA
XXCD	WALL MOUNT STROBE XXCD = CANDELA
XXCD	CEILING MOUNT STROBE XXCD = CANDELA
WP 75CD	WEATHERPROOF CEILING MOUNT STROBE XXCD = CANDELA
TVSS	TRANSIT VOLTAGE SURGE SUPPRESSOR (BY OTHERS)
FATC	FIRE ALARM TERMINAL CABINET (BY OTHERS)
DOC	FIRE ALARM DOCUMENTS CABINET
WF	WATER FLOW SWITCH (BY OTHERS)
VS	VALVE TAMPER SWITCH (BY OTHERS)
PIV	POST INDICATOR VALVE (BY OTHERS)
FD	FIRE/SMOKE DAMPER (BY OTHERS)
JB	JUNCTION BOX (BY OTHERS)

ADDRESS CIRCUIT LEGEND

LRM CARD# / PANEL# — DEVICE ADDRESS#
PPCCDDDD

STROBE CIRCUIT LEGEND

STROBE — POWER SUPPLY # / CIRCUIT # / DEVICE #
VX.X-#

N

0 16' 32' 64'
SCALE: 1/32" = 1'-0"

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542
ARCHITECTURE

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY: RA	CHECKED BY:
DRAWN BY: RA	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, DIR. OF PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3 - INCREMENT #1

Sheet Title

FIRE ALARM SITE PLAN

Drawn By: RA Checked By: BK

Scale:
AS NOTED

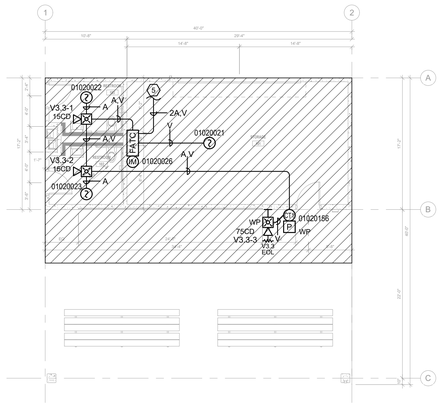
Date:
October 4, 2019

Project No. 2016039

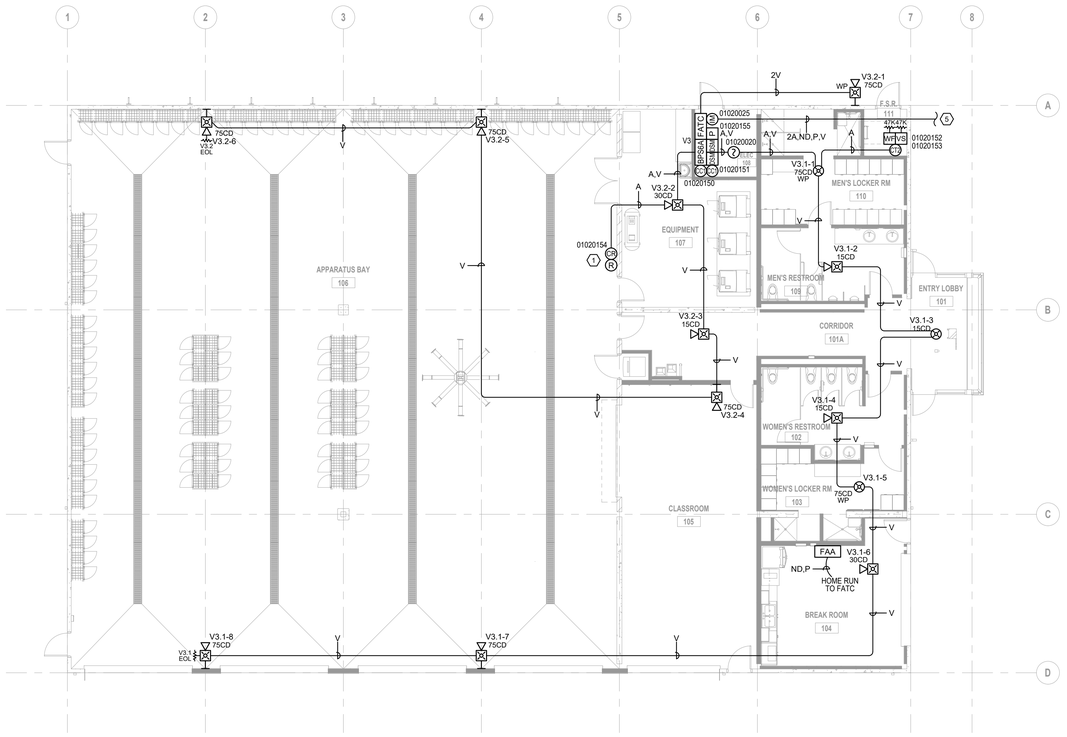
2-FA1.00

Drawing No.

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BUILDING 6



BUILDING 2

KEYED SHEET NOTES

1. RELAY MODULE FOR CEILING FAN SHUTDOWN (@ CONTROL PANEL)
2. *RELAY FOR FAN SHUTDOWN.
3. IF DEVICES ARE EXPOSED TO THE ENVIRONMENT MOUNT DEVICES IN A NEMA 250, TYPE 4X ENCLOSURE (PROVIDED BY OTHERS)
4. *MODULES FOR ELEVATOR CONTROL.
   -RECALL
   -ALTERNATE FLOOR RECALL
   - FIREFIGHTER'S HAT SIGNAL
5. SEE SITE PLAN ON SHEET 1-FA1.00 FOR CONTINUATION OF CIRCUIT
6. MODULES FOR FIRE PUMP SUPERVISION.
   - RUNNING - PHASE REVERSAL
   - TROUBLE - ALTERNATE POWER
7. CONTROL RELAY FOR SECURITY INTERFACE.
8. *CONTROL RELAYS FOR FIRE/SMOKE DAMPER CONTROL. ELECTRICAL CIRCUIT # ELP-S1B.9
9. SEE FLOOR PLANS ON SHEET 1-FA1.01 AND 1-FA1.03 FOR CONTINUATION OF CIRCUIT.
10. CONTROL RELAY FOR A/V SHUTDOWN.
11. SIGNAL MODULE FOR POWER SUPPLY ACTIVATION AND SUPERVISION.
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13. NOT USED.
14. MOUNT REMOTE LED INDICATOR AT AN ACCESSIBLE AND VISIBLE LOCATION.
15. RISER MONITOR MODULE FOR AUDIBLE BASE CIRCUIT. (CIRCUIT FOR AUDIBLE BASES MAY NOT BE T-TAPPED)

* FIRE ALARM RELAY MODULE USED TO INITIATE CONTROL FUNCTIONS SHALL BE LOCATED WITHIN 3 FEET OF THE CONTROLLED CIRCUIT OR APPLIANCE.

CABLE LEGEND

(NON-PLENUM) CABLE PROVIDED BY OTHERS
CLASS B WIRING

SYM.	AWG/CONDUCTOR/ STYLE/TYPE	T-TAPS	WIRING CLASS
A	DATA CABLE (NON-PLENUM) #16 AWG TWISTED PAIR FPL 3,900 FEET MAXIMUM DISTANCE .33µF MAXIMUM CAPACITANCE 79 OHMS MAXIMUM RESISTANCE MAXIMUM 124 T-TAPS.	YES	CLASS B
AU	UNDERGROUND RATED DATA CABLE	YES	CLASS B
ND	NETWORK DATA RISER CABLE #16 AWG FPL TWISTED PAIR SOLID NO T-TAPS ALLOWED	NO	CLASS B
NDU	UNDERGROUND RATED NETWORK DATA RISER CABLE	NO	CLASS B
P	24V AC/DC POWER CABLE #12 AWG FPL TWISTED PAIR SOLID T-TAPS ALLOWED	YES	CLASS B
PU	UNDERGROUND RATED POWER CABLE	YES	CLASS B
V	STROBE CIRCUIT CABLE #12 AWG FPL TWISTED PAIR SOLID NO T-TAPS ALLOWED	NO	CLASS B
VU	UNDERGROUND RATED STROBE CIRCUIT CABLE	NO	CLASS B

GENERAL SHEET NOTES

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4. RUN ALL UNDERGROUND CONDUIT 24" BELOW GRADE, MINIMUM.

SYMBOL LEGEND

SYMBOL	DESCRIPTION
FACU	FIRE ALARM CONTROL UNIT
FAA	FIRE ALARM LED ANNUNCIATOR
P	PULL STATION
P WP	WEATHERPROOF PULL STATION
SC	SIGNAL MODULE
CR	CONTROL RELAY
IM	SINGLE INPUT MODULE
DIM	DUAL INPUT MODULE
M	ISOLATION MODULE
RM	RISER MONITOR MODULE
R	MULTI VOLT RELAY
TG	TEMPORAL PATTERN GENERATOR
	SMOKE DETECTOR (CEILING / WALL MOUNT)
	DUCT SMOKE DETECTOR
DMP	SMOKE DETECTOR WITH DUCT MOUNTING PLATE
LED	REMOTE LED INDICATOR
AB CO	COMBINATION SMOKE / CO DETECTOR WITH AUDIBLE BASE
BP6A	6.5 AMP BOOSTER POWER SUPPLY
DSM	DUAL SYNCHRONIZATION MODULE
LF XXCD	LOW FREQUENCY SOUNDER STROBE XXCD = CANDELA
XXCD	HORN-STROBE XXCD = CANDELA
XXCD	CEILING MOUNT HORN-STROBE XXCD = CANDELA
WP XXCD	WEATHERPROOF WALL HORN-STROBE XXCD = CANDELA
XXCD	WALL MOUNT STROBE XXCD = CANDELA
XXCD	CEILING MOUNT STROBE XXCD = CANDELA
WP 75CD	WEATHERPROOF CEILING MOUNT STROBE XXCD = CANDELA
TVSS	TRANSIT VOLTAGE SURGE SUPPRESSOR (BY OTHERS)
FATC	FIRE ALARM TERMINAL CABINET (BY OTHERS)
DOC	FIRE ALARM DOCUMENTS CABINET
MF	WATER FLOW SWITCH (BY OTHERS)
VS	VALVE TAMPER SWITCH (BY OTHERS)
PIV	POST INDICATOR VALVE (BY OTHERS)
FD	FIRE/SMOKE DAMPER (BY OTHERS)
JB	JUNCTION BOX (BY OTHERS)

ADDRESS CIRCUIT LEGEND

LRM CARD# PANEL# — DEVICE ADDRESS#
PPCCDDDD

STROBE CIRCUIT LEGEND

STROBE — POWER SUPPLY # / CIRCUIT # / DEVICE #
VX.X-#

N

0 4' 8' 16'
SCALE: 1/8" = 1'-0"

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

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ARCHITECTURE

CITY OF HAYWARD
HEART OF THE BAY
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY: RA	CHECKED BY:
DRAWN BY: RA	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, DIR. OF PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3 - INCREMENT #1

Sheet Title

BUILDINGS 2 AND 6 FIRE ALARM PLAN

Drawn By: RA Checked By: BK

Scale:
AS NOTED

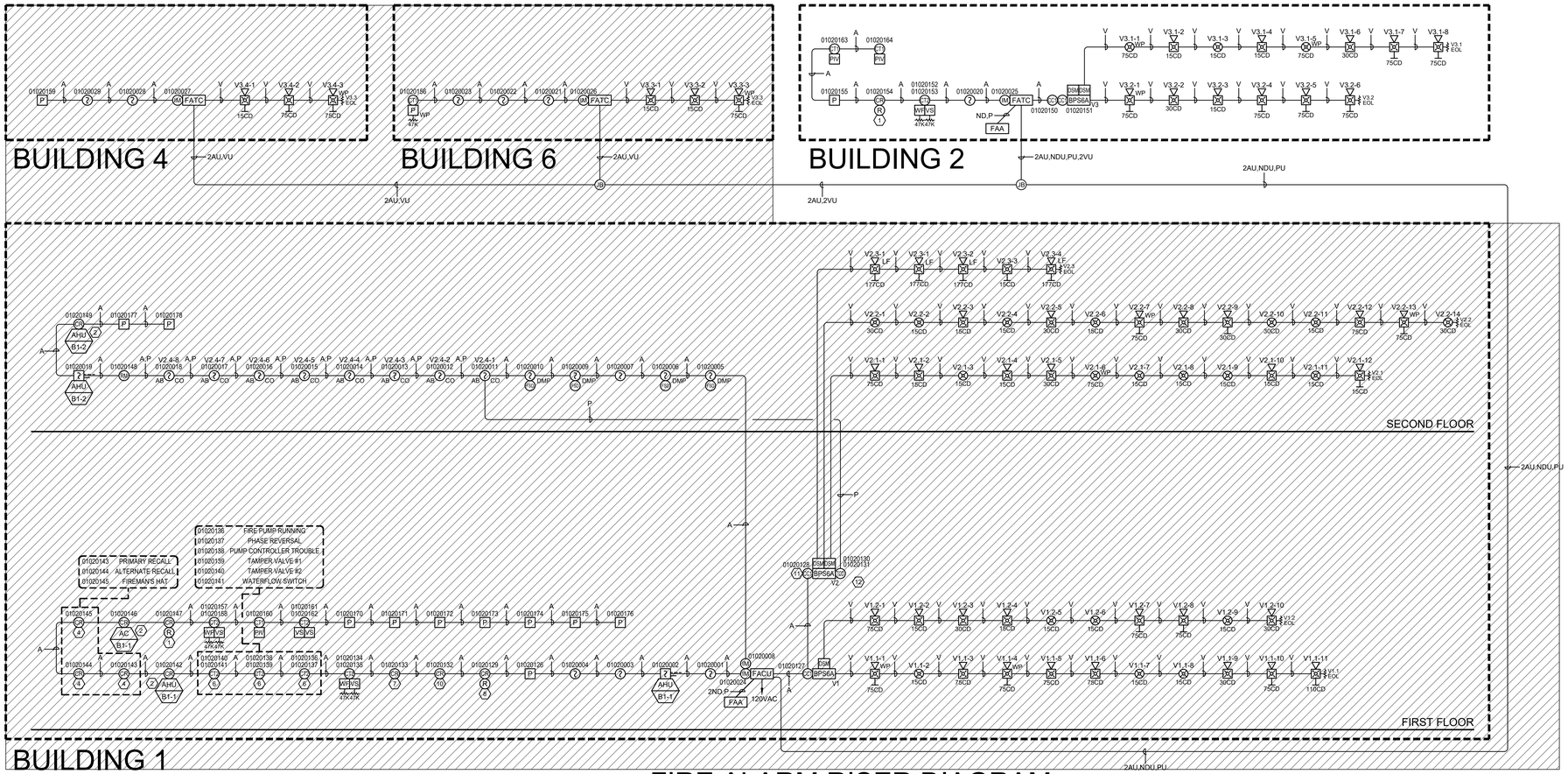
Date:
October 4, 2019

Project No. 2016039

2-FA1.03

Drawing No.

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FIRE ALARM RISER DIAGRAM

KEYED SHEET NOTES

1. RELAY MODULE FOR CEILING FAN SHUTDOWN (@ CONTROL PANEL)
2. *RELAY FOR FAN SHUTDOWN.
3. IF DEVICES ARE EXPOSED TO THE ENVIRONMENT, MOUNT DEVICES IN A NEMA 250, TYPE 4X ENCLOSURE (PROVIDED BY OTHERS)
4. *MODULES FOR ELEVATOR CONTROL.
-RECALL
-ALTERNATE FLOOR RECALL
- FIREFIGHTER'S HAT SIGNAL
5. SEE SITE PLAN ON SHEET 1-FA1.00 FOR CONTINUATION OF CIRCUIT
6. MODULES FOR FIRE PUMP SUPERVISION.
- RUNNING - PHASE REVERSAL
- TROUBLE - ALTERNATE POWER
7. CONTROL RELAY FOR SECURITY INTERFACE.
8. *CONTROL RELAYS FOR FIRE/SMOKE DAMPER CONTROL. ELECTRICAL CIRCUIT # ELP-S18.9
9. SEE FLOOR PLANS ON SHEET 1-FA1.01 AND 1-FA1.03 FOR CONTINUATION OF CIRCUIT.
10. CONTROL RELAY FOR A/V SHUTDOWN.
11. SIGNAL MODULE FOR POWER SUPPLY ACTIVATION AND SUPERVISION.
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13. NOT USED.
14. MOUNT REMOTE LED INDICATOR AT AN ACCESSIBLE AND VISIBLE LOCATION.
15. RISER MONITOR MODULE FOR AUDIBLE BASE CIRCUIT. (CIRCUIT FOR AUDIBLE BASES MAY NOT BE T-TAPPED)

* FIRE ALARM RELAY MODULE USED TO INITIATE CONTROL FUNCTIONS SHALL BE LOCATED WITHIN 3 FEET OF THE CONTROLLED CIRCUIT OR APPLIANCE.

CABLE LEGEND

(NON-PLENUM) CABLE PROVIDED BY OTHERS
CLASS B WIRING

SYM.	AWG/CONDUCTOR/ STYLE/TYPE	T-TAPS	WIRING CLASS
A	DATA CABLE (NON-PLENUM) #16 AWG TWISTED PAIR FPL 3,900 FEET MAXIMUM DISTANCE .33µF MAXIMUM CAPACITANCE 79 OHMS MAXIMUM RESISTANCE MAXIMUM 124 T-TAPS.	YES	CLASS B
AU	UNDERGROUND RATED DATA CABLE	YES	CLASS B
ND	NETWORK DATA RISER CABLE #16 AWG FPL TWISTED PAIR SOLID NO T-TAPS ALLOWED	NO	CLASS B
NDU	UNDERGROUND RATED NETWORK DATA RISER CABLE	NO	CLASS B
P	24V AC/DC POWER CABLE #12 AWG FPL TWISTED PAIR SOLID T-TAPS ALLOWED	YES	CLASS B
PU	UNDERGROUND RATED POWER CABLE	YES	CLASS B
V	STROBE CIRCUIT CABLE #12 AWG FPL TWISTED PAIR SOLID NO T-TAPS ALLOWED	NO	CLASS B
VU	UNDERGROUND RATED STROBE CIRCUIT CABLE	NO	CLASS B

GENERAL SHEET NOTES

1. WIRING ON FLOOR PLANS SHOWN FOR REFERENCE ONLY. ACTUAL WIRE PATHS TO BE DETERMINED UPON FIELD VERIFICATION AND ANY DEVIATION(S) MUST BE DISCUSSED PRIOR TO INSTALLATION AND NOTED ON "AS-BUILT" DRAWINGS.
2. ANY DEVICE EXPOSED TO OUTSIDE ENVIRONMENT MUST BE IN A WEATHERPROOF ENCLOSURE PROVIDED BY OTHERS.
3. UNDERGROUND CONDUIT SHALL BE 1" PVC.
4. RUN ALL UNDERGROUND CONDUIT 24" BELOW GRADE, MINIMUM.

SYMBOL LEGEND

SYMBOL	DESCRIPTION
FACU	FIRE ALARM CONTROL UNIT
FAA	FIRE ALARM LED ANNUNCIATOR
P	PULL STATION
P WP	WEATHERPROOF PULL STATION
XC	SIGNAL MODULE
CR	CONTROL RELAY
ST	SINGLE INPUT MODULE
ZT	DUAL INPUT MODULE
IM	ISOLATION MODULE
RM	RISER MONITOR MODULE
R	MULTI VOLT RELAY
TG	TEMPORAL PATTERN GENERATOR
Z	SMOKE DETECTOR (CEILING / WALL MOUNT)
Z	DUCT SMOKE DETECTOR
Z DMP	SMOKE DETECTOR WITH DUCT MOUNTING PLATE
LED	REMOTE LED INDICATOR
AB CO	COMBINATION SMOKE / CO DETECTOR WITH AUDIBLE BASE
BPS6A	6.5 AMP BOOSTER POWER SUPPLY
2SM	DUAL SYNCHRONIZATION MODULE
LF XXCD	LOW FREQUENCY SOUNDER STROBE XXCD = CANDELA
XXCD	HORN-STROBE XXCD = CANDELA
XXCD	CEILING MOUNT HORN-STROBE XXCD = CANDELA
WP XXCD	WEATHERPROOF WALL HORN-STROBE XXCD = CANDELA
XXCD	WALL MOUNT STROBE XXCD = CANDELA
XXCD	CEILING MOUNT STROBE XXCD = CANDELA
WP 75CD	WEATHERPROOF CEILING MOUNT STROBE XXCD = CANDELA
TVSS	TRANSIT VOLTAGE SURGE SUPPRESSOR (BY OTHERS)
FATC	FIRE ALARM TERMINAL CABINET (BY OTHERS)
DOC	FIRE ALARM DOCUMENTS CABINET
WF	WATER FLOW SWITCH (BY OTHERS)
VS	VALVE TAMPER SWITCH (BY OTHERS)
PIV	POST INDICATOR VALVE (BY OTHERS)
FSD	FIRE/SMOKE DAMPER (BY OTHERS)
JB	JUNCTION BOX (BY OTHERS)

ADDRESS CIRCUIT LEGEND

LRM CARD# / PANEL# — DEVICE ADDRESS#
PPCCDDDD

STROBE CIRCUIT LEGEND

STROBE — POWER SUPPLY # / CIRCUIT # / DEVICE #
VX.X-#

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RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY: RA	CHECKED BY:
DRAWN BY: RA	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, DIR. OF PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3 - INCREMENT #1

Sheet Title

FIRE ALARM RISER DIAGRAM

Drawn By: RA
Checked By: BK

Scale:
AS NOTED

Date:
October 4, 2019

Project No. 2016039

2-FA2.01
Drawing No.

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QTY	MODEL #	DESCRIPTION	ALARM CURRENT		STANDBY CURRENT	
1	3-CPU3 / 3-PPS/M	CPU and Power Supply	0.1650	0.165	0.1550	0.155
1	3-RS485B	Network Communicator Card	0.0980	0.098	0.0980	0.098
1	3-MODCOM	Modem Communicator	0.0950	0.095	0.0600	0.06
1	3-SSDC1	Single Data Card - Maximum Device Load	0.2040	0.204	0.1440	0.144
1	3-LCD	Liquid Crystal Display Module	0.0420	0.042	0.0400	0.04
1	3-ANNCPU3	Annunciator Cpu	0.1440	0.144	0.1440	0.144
1	3-LCD	Annunciator LCD	0.0420	0.042	0.0400	0.04
			TOTAL	0.79	TOTAL	0.681

BUILDING 1 1ST FLOOR

EST3

FIRE ALARM CONTROL PANEL BATTERY CALCULATIONS

Total Alarm Current (A)	0.79
Hours of Alarm - 5 Minutes (B)	0.084
Total for Alarm (A) X (B)	0.06636
Total Standby Current (A)	0.681
Standby Hours (B)	24
Total for Standby (A) X (B)	16.344
Alarm Current + Standby Current (C)	16.410
20% Safety Margin (D)	1.200
Battery Total (C) X (D)	19.692
Battery Size	**28AH**

A FACU BATTERY CALCULATIONS

QTY	MODEL #	DESCRIPTION	ALARM CURRENT		STANDBY CURRENT	
1	FCPS-24FS6	Auxiliary Power Supply	0.1450	0.145	0.0650	0.065
0	LSTW3	Wall Strobe 15CD	0.0300		0.0000	
6	LSTWC3	Ceiling Strobe 15CD	0.0530	0.318	0.0000	
0	LSTWC3	Ceiling Strobe 30CD	0.1550		0.0000	
0	LHTW3	Wall Horn-Strobe 15CD	0.0340		0.0000	
0	LHTW3	Wall Horn-Strobe 30CD	0.0460		0.0000	
3	LHTW3	Wall Horn-Strobe 75CD	0.1050	0.315	0.0000	
1	LHTW3	Wall Horn-Strobe 110CD	0.1970	0.197	0.0000	
2	LHTWC3	Ceiling Horn-Strobe 15CD	0.0440	0.088	0.0000	
3	LHTWC3	Ceiling Horn-Strobe 30CD	0.0610	0.183	0.0000	
4	LHTWC3	Ceiling Horn-Strobe 75CD	0.1690	0.676	0.0000	
0	LFHSHW3	Wall LF Horn-Strobe 177CD	0.3440		0.0000	
2	ASWP-2475W	Wall WP Horn-Strobe 75CD	0.1680	0.336	0.0000	
0	RSSWP-2475C	Ceiling WP Strobe 75CD	0.1380		0.0000	
0	SIGA-AB4G-LF	Ceiling Sounder Base N/A	0.1500		0.0000	
1	DSM	- Dual Synchronization module (hs only)	0.0430	0.043	0.0000	
			TOTAL	2.301	TOTAL	0.065

BLDG 1 - LEVEL1

Total Alarm Current (A)	2.301
Hours of Alarm - 5 Minutes (B)	0.084
Total for Alarm (A) X (B)	0.193284
Total Standby Current (A)	0.065
Standby Hours (B)	24
Total for Standby (A) X (B)	1.56
Alarm Current + Standby Current (C)	1.753
20% Safety Margin (D)	1.200
Battery Total (C) X (D)	2.104
Battery Size	**7AH**

BPS6A #V1
BATTERY CALCULATIONS

CIRCUITS:
V1.1, V1.2, V1.3, V1.4

QTY	MODEL #	DESCRIPTION	ALARM CURRENT		STANDBY CURRENT	
1	FCPS-24FS6	Auxiliary Power Supply	0.1450	0.145	0.0650	0.065
1	LSTW3	Wall Strobe 15CD	0.0300	0.03	0.0000	
9	LSTWC3	Ceiling Strobe 15CD	0.0530	0.477	0.0000	
3	LSTWC3	Ceiling Strobe 30CD	0.1550	0.465	0.0000	
1	LHTW3	Wall Horn-Strobe 15CD	0.0340	0.034	0.0000	
1	LHTW3	Wall Horn-Strobe 30CD	0.0460	0.046	0.0000	
0	LHTW3	Wall Horn-Strobe 75CD	0.1050		0.0000	
0	LHTW3	Wall Horn-Strobe 110CD	0.1970		0.0000	
4	LHTWC3	Ceiling Horn-Strobe 15CD	0.0440	0.176	0.0000	
3	LHTWC3	Ceiling Horn-Strobe 30CD	0.0610	0.183	0.0000	
2	LHTWC3	Ceiling Horn-Strobe 75CD	0.1690	0.338	0.0000	
4	LFHSHW3	Wall LF Horn-Strobe 177CD	0.3440	1.376	0.0000	
2	ASWP-2475W	Wall WP Horn-Strobe 75CD	0.1680	0.336	0.0000	
1	RSSWP-2475C	Ceiling WP Strobe 75CD	0.1380	0.138	0.0000	
8	SIGA-AB4G-LF	Ceiling Sounder Base N/A	0.1500	1.2	0.0000	
2	DSM	- Dual Synchronization module (hs only)	0.0430	0.086	0.0000	
			TOTAL	5.03	TOTAL	0.065

BLDG 1 - LEVEL 1

Total Alarm Current (A)	5.03
Hours of Alarm - 5 Minutes (B)	0.084
Total for Alarm (A) X (B)	0.42252
Total Standby Current (A)	0.065
Standby Hours (B)	24
Total for Standby (A) X (B)	1.56
Alarm Current + Standby Current (C)	1.983
20% Safety Margin (D)	1.200
Battery Total (C) X (D)	2.379
Battery Size	**7AH**

BPS6A #V2
BATTERY CALCULATIONS

CIRCUITS:
V2.1, V2.2, V2.3, V2.4

QTY	MODEL #	DESCRIPTION	ALARM CURRENT		STANDBY CURRENT	
1	FCPS-24FS6	Auxiliary Power Supply	0.1450	0.145	0.0650	0.065
0	LSTW3	Wall Strobe 15CD	0.0300		0.0000	
1	LSTWC3	Ceiling Strobe 15CD	0.0530	0.053	0.0000	
0	LSTWC3	Ceiling Strobe 30CD	0.1550		0.0000	
0	LHTW3	Wall Horn-Strobe 15CD	0.0340		0.0000	
0	LHTW3	Wall Horn-Strobe 30CD	0.0460		0.0000	
5	LHTW3	Wall Horn-Strobe 75CD	0.1050	0.525	0.0000	
0	LHTW3	Wall Horn-Strobe 110CD	0.1970		0.0000	
5	LHTWC3	Ceiling Horn-Strobe 15CD	0.0440	0.22	0.0000	
2	LHTWC3	Ceiling Horn-Strobe 30CD	0.0610	0.122	0.0000	
0	LHTWC3	Ceiling Horn-Strobe 75CD	0.1690		0.0000	
0	LFHSHW3	Wall LF Horn-Strobe 177CD	0.3440		0.0000	
2	ASWP-2475W	Wall WP Horn-Strobe 75CD	0.1680	0.336	0.0000	
2	RSSWP-2475C	Ceiling WP Strobe 75CD	0.1380	0.276	0.0000	
0	SIGA-AB4G-LF	Ceiling Sounder Base N/A	0.1500		0.0000	
2	DSM	- Dual Synchronization module (hs only)	0.0430	0.086	0.0000	
			TOTAL	1.763	TOTAL	0.065

BLDG 2

Total Alarm Current (A)	1.763
Hours of Alarm - 5 Minutes (B)	0.084
Total for Alarm (A) X (B)	0.148092
Total Standby Current (A)	0.065
Standby Hours (B)	24
Total for Standby (A) X (B)	1.56
Alarm Current + Standby Current (C)	1.708
20% Safety Margin (D)	1.200
Battery Total (C) X (D)	2.050
Battery Size	**7AH**

BPS6A #V3
BATTERY CALCULATIONS

CIRCUITS:
V3.1, V3.2, V3.3, V3.4

B BPS BATTERY CALCULATIONS

VOLTAGE DROP CALCULATIONS

MODEL				LSTW3	LSTW3	LSTW3	LSTW3	LSTWC3	LSTWC3	LSTWC3	LSTWC3	LHTW3	LHTW3	LHTW3	LHTW3	LHTWC3	LHTWC3	LHTWC3	LHTWC3	LFHSHW3	ASWP-2475W	RSSWP-2475C	SIGA-AB4G-LF	DSM						
				FA-STB-15	FA-STB-30	FA-STB-75	FA-STB-110	FA-STBC-15	FA-STBC-30	FA-STBC-75	FA-STBC-95	FA-HS-15	FA-HS-30	FA-HS-75	FA-HS-110	FA-HSC-15	FA-HSC-30	FA-HSC-75	FA-HSC-95	LFFA-HS-177	FA-HSWP-75	FA-STBCWP-75	FA-SB	-						
TYPE				STB	STB	STB	STB	STB	STB	STB	STB	HS	HS	HS	HS	HS	HS	HS	HS	HSLF	HS-WP	STB-WP	SB	DSM	TOTAL DEVICES	(A) TOTAL CKT. LOAD	(B) CIRCUIT DISTANCE (FEET)	(C) WIRE RESISTANCE 12AWG	(A) X (B) X (C) VOLTS DROPPED (VD)	(D) SUPPLY VOLTAGE	((VD) / (D)) X 100 VOLTAGE DROP %
				Wall	Wall	Wall	Wall	Ceiling	Ceiling	Ceiling	Ceiling	Wall	Wall	Wall	Wall	Ceiling	Ceiling	Ceiling	Ceiling	Wall	Wall	Ceiling	Ceiling	-						
CANDELA				15CD	30CD	75CD	110CD	15CD	30CD	75CD	95CD	15CD	30CD	75CD	110CD	15CD	30CD	75CD	95CD	177CD	75CD	75CD	N/A	0						
CURRENT DRAW				0.0300	0.0400	0.1000	0.0400	0.0530	0.1550	0.2480	0.1940	0.0340	0.0460	0.1050	0.1970	0.0440	0.0610	0.1690	0.2670	0.3440	0.1680	0.1380	0.1500	0.0430						
POWER SOURCE	POWER SOURCE LOCATION	CIRCUIT ID	FLOOR SERVED																											
BPS6A #V1	BLDG 1 - LEVEL1	V1.1	B1 LEVEL 1					3						1	1		1	3			2			1	11	1.408	325	0.0032	1.46432	20.4	7.1780
		V1.2	B1 LEVEL 1					3						2		2	2	1						1	10	0.791	300	0.0032	0.75936	20.4	3.7224
		V1.3	SPARE																									0.0032		20.4	
		V1.4	SPARE																									0.0032		20.4	
BPS6A #V2	BLDG 1 - LEVEL 1	V2.1	B1 LEVEL 2					5				1				3	1	1				1		1	12	0.842	270	0.0032	0.727488	20.4	3.5661
		V2.2	B1 LEVEL 2					4	3				1			1	2	1			2			1	14	1.437	310	0.0032	1.425504	20.4	6.9878
		V2.3	B1 LEVEL 2	1																4				1	5	1.449	325	0.0032	1.50696	20.4	7.3871
		V2.4	B1 LEVEL 2																				8	1	8	1.200	350	0.0032	1.344	20.4	6.5882
BPS6A #V3	BLDG 2	V3.1	B2											3		1	1				1			1	6	0.631	150	0.0032	0.30288	20.4	1.4847
		V3.2	B2					1						2		2	1					2		1	8	0.731	200	0.0032	0.46784	20.4	2.2933
		V3.3	B6													2					1			1	3	0.299	600	0.0032	0.57408	20.4	2.8141
		V3.4	SPARE																									0.0032		20.4	

C BPS VOLTAGE VOLTAGE DROPS

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DATE: 11/12/2019

RossDrulisCusenbery
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542
ARCHITECTURE

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY: RA	CHECKED BY:
DRAWN BY: RA	APPROVAL REC'D:
APPROVED BY:	
KATHY GARCIA (DEP. DIR. PUBLIC WORKS)	ALEX AMERI (DIR. OF PUBLIC WORKS)
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3 - INCREMENT #1

Sheet Title

FIRE ALARM CALCULATIONS

Drawn By: RA Checked By: BK

Scale:
AS NOTED

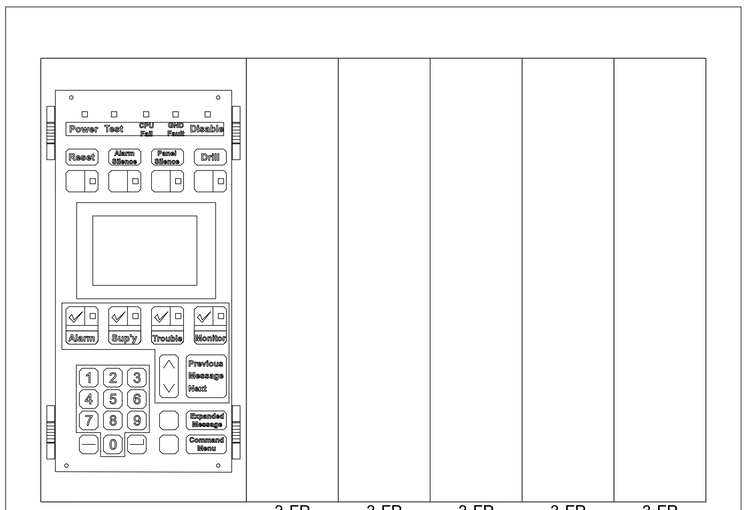
Date:
October 4, 2019

Project No. 2016039

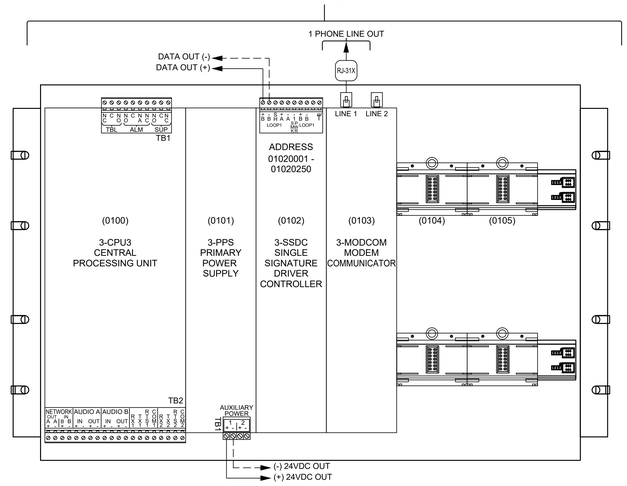
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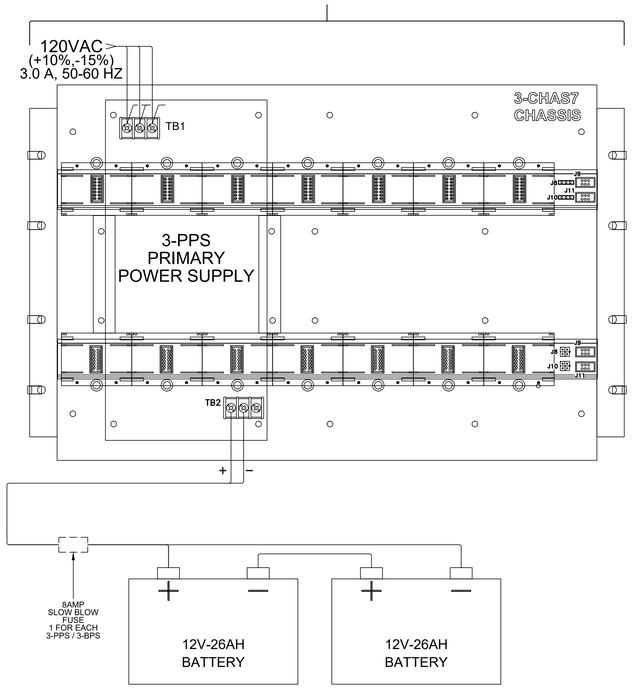
FACE PLATE



RAIL



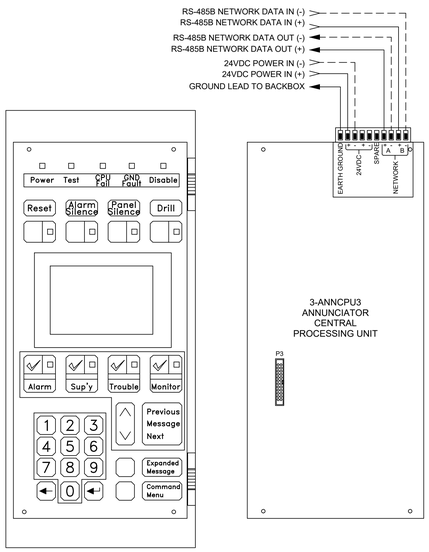
BACK



CAB SERIES CABINET DIMENSIONS
FOR ROUGH-IN: ADD 1/4" TO HEIGHT AND WIDTH TO ALLOW FOR KNOCKOUTS WHEN FRAMING IN BACKBOX FOR SEMI-FLUSH MOUNTING 3-CAB7B ROUGH-IN: 23.25"H X 24.12"W X 3.86"D FINISHED SURFACE MOUNT: 25.25"H X 27.34"W X 5.51"D

MOUNTING
72" FROM FINISHED FLOOR TO TOP OF FACP.

A EST-3 FIRE ALARM CONTROL PANEL DETAILS



FRONT REAR

WALLBOX DIMENSION
RLCM/B - FLUSH MOUNTING ROUGH-IN: 12.07"H X 6.12"W X 2.75"D OVERALL: 12.95"H X 7.6"W X 2.75"D

MOUNTING
60" FROM FINISHED FLOOR TO TOP OF ANNUNCIATOR.

B 3-LCDANN REMOTE LCD ANNUNCIATOR

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RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

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PERMIT SUBMITTAL V3 - INCREMENT #1

Sheet Title

FIRE ALARM FACU AND ANNUNCIATOR DETAILS

Drawn By: RA Checked By: BK

Scale: **AS NOTED**

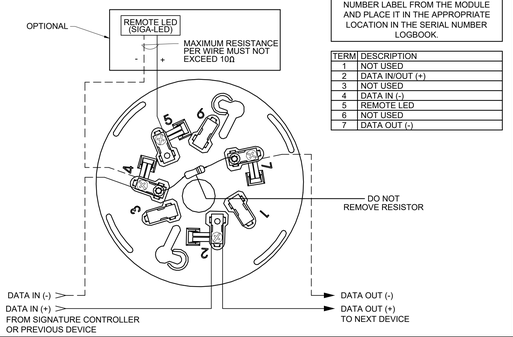
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Project No. 2016039

2-FA4.01

Drawing No.

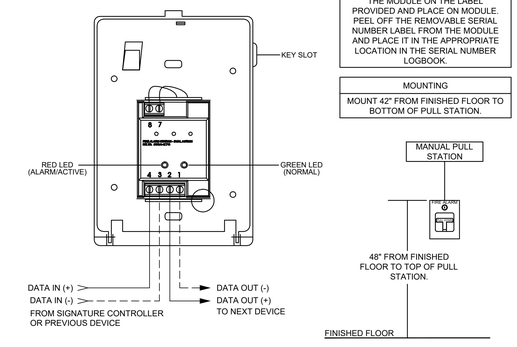
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BARCODE LABELS
WRITE THE ADDRESS ASSIGNED TO THE MODULE ON THE LABEL PROVIDED AND PLACE ON MODULE. PEEL OFF THE REMOVABLE SERIAL NUMBER LABEL FROM THE MODULE AND PLACE IT IN THE APPROPRIATE LOCATION IN THE SERIAL NUMBER LOGBOOK.

TERM	DESCRIPTION
1	NOT USED
2	DATA IN/OUT (+)
3	NOT USED
4	DATA IN (-)
5	REMOTE LED
6	NOT USED
7	DATA OUT (-)

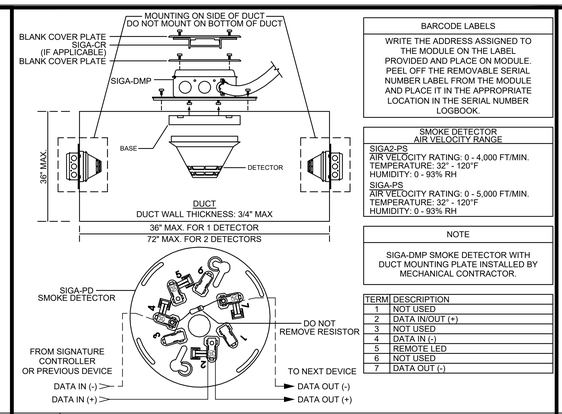
A SMOKE / HEAT DETECTOR WITH SIGA-SB4 BASE AND REMOTE LED WIRING DETAIL



BARCODE LABELS
WRITE THE ADDRESS ASSIGNED TO THE MODULE ON THE LABEL PROVIDED AND PLACE ON MODULE. PEEL OFF THE REMOVABLE SERIAL NUMBER LABEL FROM THE MODULE AND PLACE IT IN THE APPROPRIATE LOCATION IN THE SERIAL NUMBER LOGBOOK.

MOUNTING
MOUNT 42" FROM FINISHED FLOOR TO BOTTOM OF PULL STATION.

B SIGA-278 DUAL ACTION MANUAL PULL STATION WIRING DETAIL



BARCODE LABELS
WRITE THE ADDRESS ASSIGNED TO THE MODULE ON THE LABEL PROVIDED AND PLACE ON MODULE. PEEL OFF THE REMOVABLE SERIAL NUMBER LABEL FROM THE MODULE AND PLACE IT IN THE APPROPRIATE LOCATION IN THE SERIAL NUMBER LOGBOOK.

SMOKE DETECTOR AIR VELOCITY RANGE
SIGA2-PS AIR VELOCITY RATING: 0 - 4,000 FT/MIN. TEMPERATURE: 32° - 120°F HUMIDITY: 0 - 93% RH SIGA-PS AIR VELOCITY RATING: 0 - 5,000 FT/MIN. TEMPERATURE: 32° - 120°F HUMIDITY: 0 - 93% RH

NOTE
SIGA-DMP SMOKE DETECTOR WITH DUCT MOUNTING PLATE INSTALLED BY MECHANICAL CONTRACTOR.

TERM	DESCRIPTION
1	NOT USED
2	DATA IN/OUT (+)
3	NOT USED
4	DATA IN (-)
5	REMOTE LED
6	NOT USED
7	DATA OUT (-)

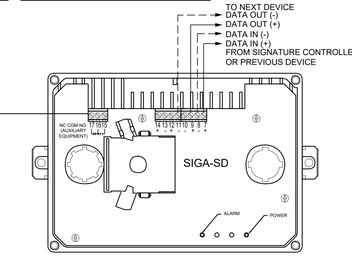
C SIGA-DMP SMOKE DETECTOR WITH DUCT MOUNTING PLATE WIRING DETAIL

BARCODE LABELS
WRITE THE ADDRESS ASSIGNED TO THE MODULE ON THE LABEL PROVIDED AND PLACE ON MODULE. PEEL OFF THE REMOVABLE SERIAL NUMBER LABEL FROM THE MODULE AND PLACE IT IN THE APPROPRIATE LOCATION IN THE SERIAL NUMBER LOGBOOK.

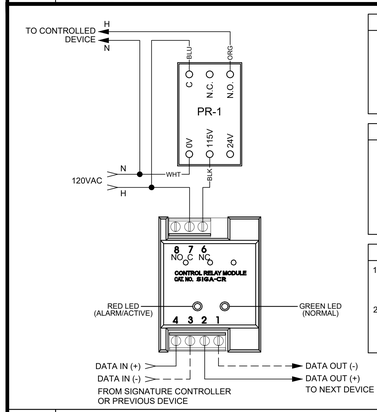
SIGA-SD SPECIFICATIONS
DIMENSION: 8.7W X 5.45H X *1.9D PRESSURE: 0.005 TO 1.0 INCHES OF WATER AIR VELOCITY RATING: 100 TO 4,000 FT/MIN TEMPERATURE: -20 TO 158°F HUMIDITY: 93% RH, NON-CONDENSING

NOTE
DUCT DETECTOR INSTALLED BY MECHANICAL CONTRACTOR.

CONTACT RATINGS
FORM "C" 2.0 AMPS AT 30VDC RESISTIVE



D SIGA-SD DUCT SMOKE DETECTOR WIRING DETAIL

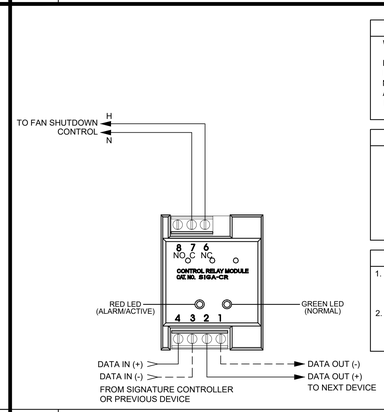


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CONTACT RATINGS
SIGA-CR FORM "C" 24 VDC: 2 amps (pilot duty) 120 VAC: 0.5 amps PR-1 FORM "C" 24 VDC: 7 amps with L/R = 5 mS 120 Vac = 7 amps max. (0.35 pf)

NOTES
1. SIGA-CR TO BE MOUNTED WITHIN 3 FEET OF CONTROLLED CIRCUIT OR APPLIANCE. 2. 120VAC AND FIRE ALARM CIRCUITS MUST MAINTAIN A 1/4" SEPARATION. NEVER RUN IN SAME RACEWAY.

E SIGA-CR CONTROL RELAY WITH PR-1 MULTI-VOLTAGE RELAY FOR FSD CONTROL WIRING DETAIL

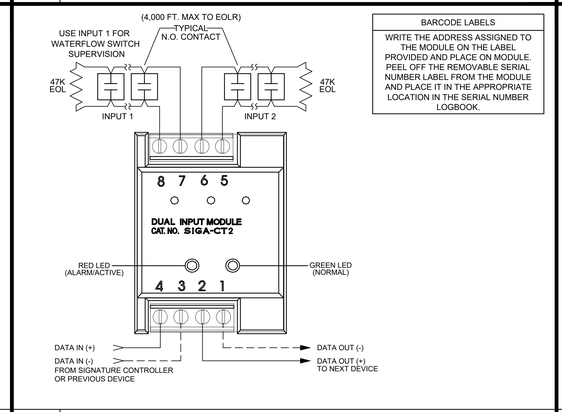


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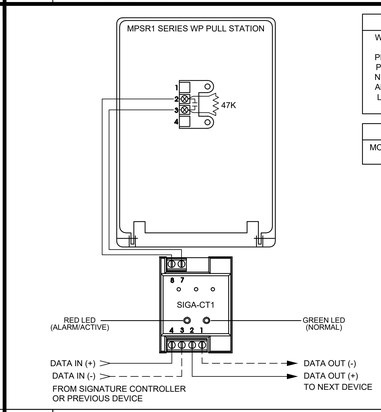
NOTES
1. SIGA-CR TO BE MOUNTED WITHIN 3 FEET OF CONTROLLED CIRCUIT OR APPLIANCE. 2. 120VAC AND FIRE ALARM CIRCUITS MUST MAINTAIN A 1/4" SEPARATION. NEVER RUN IN SAME RACEWAY.

F SIGA-CR CONTROL RELAY FOR FAN SHUTDOWN WIRING DETAIL



BARCODE LABELS
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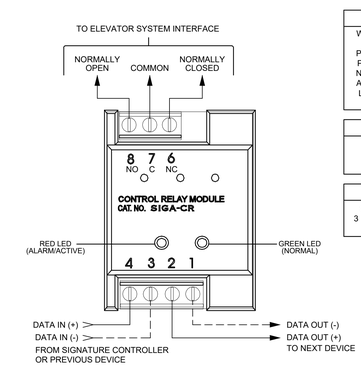
G SIGA-CT2 DUAL INPUT MONITOR MODULE TO WATERFLOW AND TAMPER SWITCH WIRING DETAIL



BARCODE LABELS
WRITE THE ADDRESS ASSIGNED TO THE MODULE ON THE LABEL PROVIDED AND PLACE ON MODULE. PEEL OFF THE REMOVABLE SERIAL NUMBER LABEL FROM THE MODULE AND PLACE IT IN THE APPROPRIATE LOCATION IN THE SERIAL NUMBER LOGBOOK.

MOUNTING
MOUNT 42" FROM FINISHED FLOOR TO BOTTOM OF PULL STATION.

H MPSR1 SERIES SINGLE ACTION WEATHERPROOF MANUAL PULL STATION WITH SIGA-CT1 WIRING DETAIL

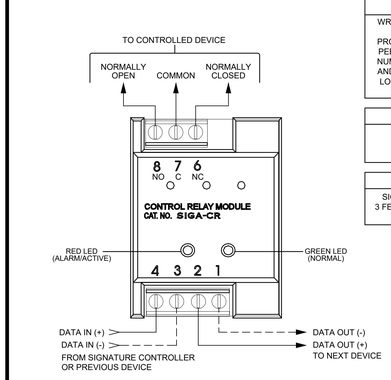


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CONTACT RATINGS
FORM "C" 24 VDC: 2 amps (pilot duty) 120 VAC: 0.5 amps

NOTE
SIGA-CR TO BE MOUNTED WITHIN 3 FEET OF CONTROLLED CIRCUIT OR APPLIANCE.

I SIGA-CR CONTROL RELAY WIRING DETAIL FOR ELEVATOR RECALL, ALTERNATE RECALL AND ECR/HOISTWAY SIGNAL

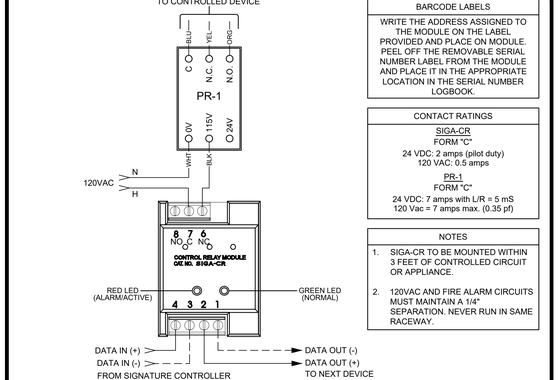


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CONTACT RATINGS
FORM "C" 24 VDC: 2 amps (pilot duty) 120 VAC: 0.5 amps

NOTE
SIGA-CR TO BE MOUNTED WITHIN 3 FEET OF CONTROLLED CIRCUIT OR APPLIANCE.

J SIGA-CR CONTROL RELAY WIRING DETAIL

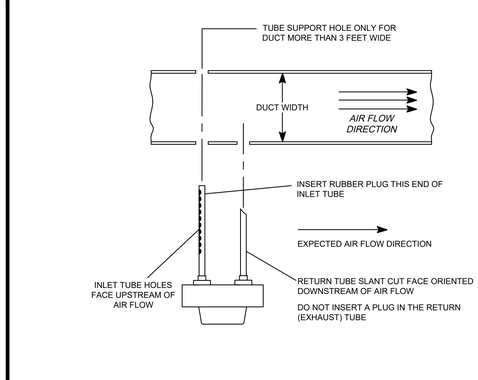


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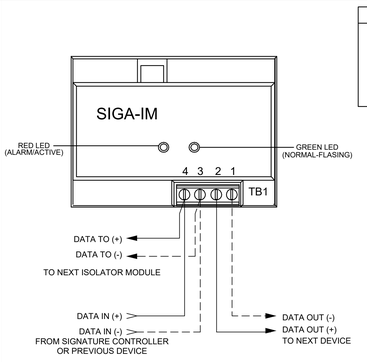
CONTACT RATINGS
SIGA-CR FORM "C" 24 VDC: 2 amps (pilot duty) 120 VAC: 0.5 amps PR-1 FORM "C" 24 VDC: 7 amps with L/R = 5 mS 120 Vac = 7 amps max. (0.35 pf)

NOTES
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K SIGA-CR CONTROL RELAY WITH PR-1 MULTI-VOLTAGE RELAY FOR MISCELLANEOUS CONTROL WIRING DETAIL

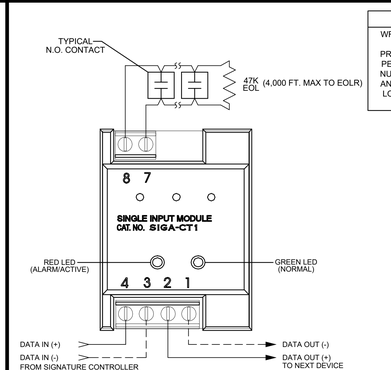


L DUCT SMOKE DETECTOR INSTALLATION DETAIL



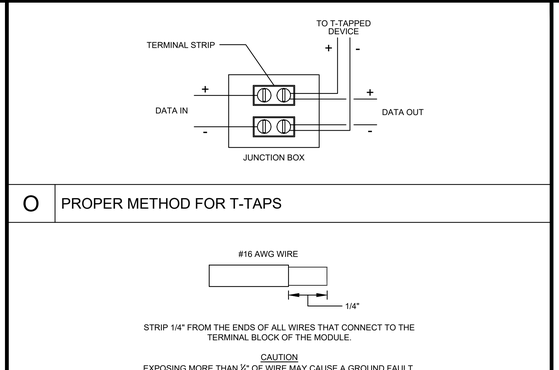
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M SIGA-IM ISOLATOR MODULE WIRING DETAIL



BARCODE LABELS
WRITE THE ADDRESS ASSIGNED TO THE MODULE ON THE LABEL PROVIDED AND PLACE ON MODULE. PEEL OFF THE REMOVABLE SERIAL NUMBER LABEL FROM THE MODULE AND PLACE IT IN THE APPROPRIATE LOCATION IN THE SERIAL NUMBER LOGBOOK.

N SIGA-CT1 SINGLE INPUT MONITOR MODULE WIRING DETAIL



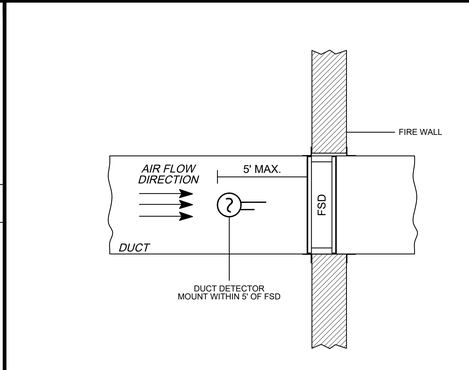
O PROPER METHOD FOR T-TAPS

STRIP 1/4" FROM THE ENDS OF ALL WIRES THAT CONNECT TO THE TERMINAL BLOCK OF THE MODULE.

CAUTION

EXPOSING MORE THAN ½" OF WIRE MAY CAUSE A GROUND FAULT.
EXPOSING LESS THAN ¼" OF WIRE MAY RESULT IN A FAULTY CONNECTION.

P WIRE STRIPPING GUIDE



Q DUCT SMOKE DETECTOR AT FSD INSTALLATION DETAIL

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY: RA	CHECKED BY:
DRAWN BY: RA	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, DIR. OF PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3 - INCREMENT #1

Sheet Title

FIRE ALARM FIELD DEVICE WIRING DETAILS

Drawn By: RA Checked By: BK

Scale: AS NOTED

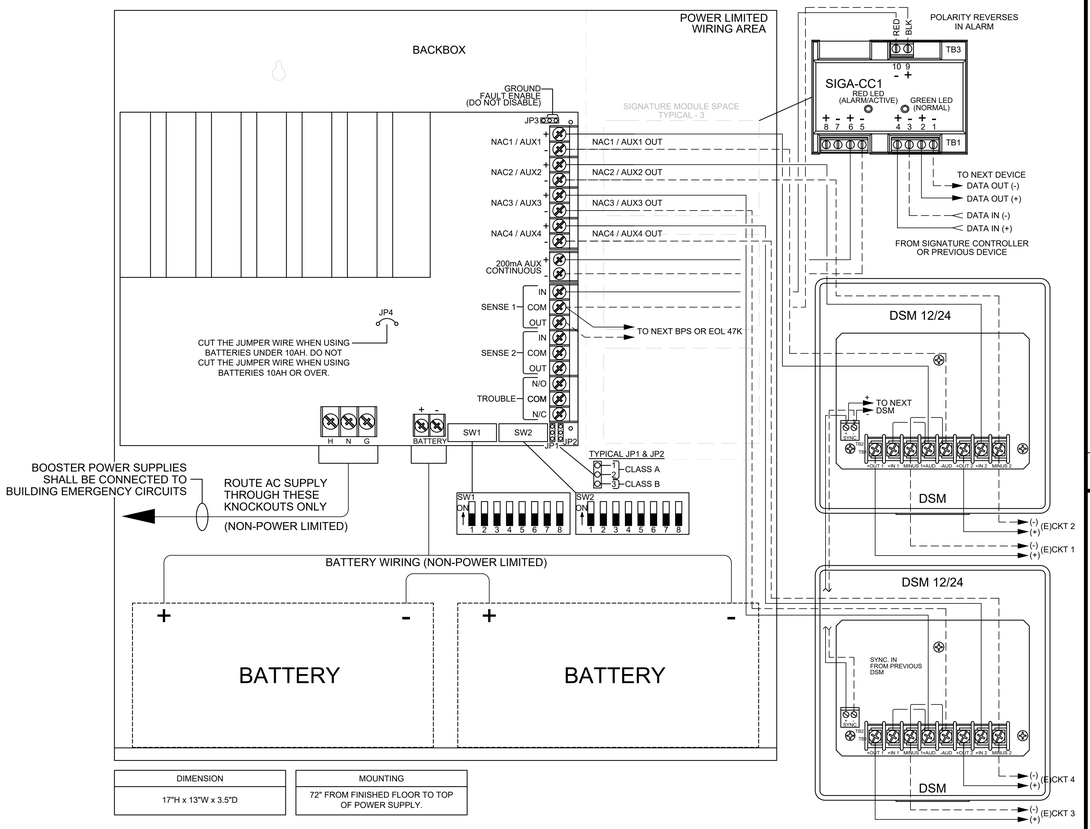
Date: October 4, 2019

Project No. 2016039

2-FA4.02

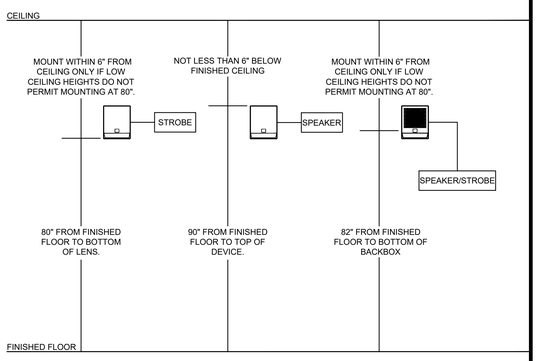
Drawing No.

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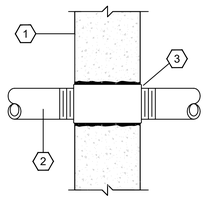


DIMENSION	MOUNTING
17"H x 13"W x 3.5"D	72" FROM FINISHED FLOOR TO TOP OF POWER SUPPLY.

A BPS6A / BPS10A BOOSTER POWER SUPPLY WITH SIGA-CC1S SYNCHRONIZATION MODULE WIRING DETAIL



B ELEVATIONS

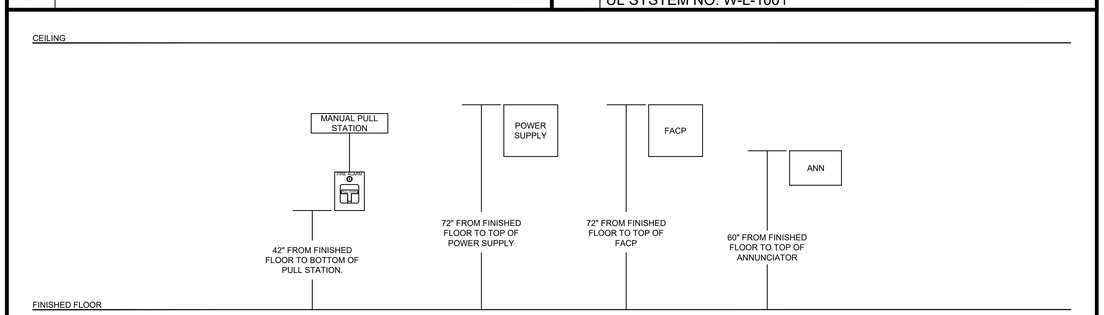


1. WALL ASSEMBLY - THE 1 OR 2 HR FIRE RATED GYPSUM BOARD/STUD WALL ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER DESCRIBED IN THE INDIVIDUAL U300, U400 OR V400 SERIES WALL AND PARTITION DESIGN IN THE UL FIRE RESISTANCE DIRECTORY.
2. THROUGH PENETRANTS - ONE METALLIC PIPE, CONDUIT, TUBING OR FLEXIBLE METAL PIPE INSTALLED CONCENTRICALLY OR ECCENTRICALLY WITHIN THE FIRESTOP SYSTEM. ANNULAR SPACE BETWEEN PENETRANT AND PERIPHERY OF OPENING TO BE MIN 0 IN. (0 MM POINT CONTACT) TO MAX 2 IN. (51 MM). PENETRANT TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF WALL ASSEMBLY.
3. FILL, VOID OR CAVITY MATERIAL (BEARING THE UL CLASSIFICATION MARK) - CAULK OR SEALANT (3M COMPANY - CP 25WB+ CAULK OR FB-3000 WT SEALANT) - MIN 5/8 IN. (16 MM) THICKNESS OF CAULK APPLIED WITHIN ANNULUS, FLUSH WITH BOTH SURFACES OF WALL. MIN 1/4 IN. (6 MM) DIAM BEAD OF CAULK APPLIED TO GYPSUM BOARD/PENETRANT INTERFACE AT POINT CONTACT LOCATION ON BOTH SIDES OF WALL. THE HOURLY F RATING OF THE FIRESTOP SYSTEM IS EQUAL TO THE HOURLY FIRE RATING OF THE WALL ASSEMBLY IN WHICH IT IS INSTALLED.

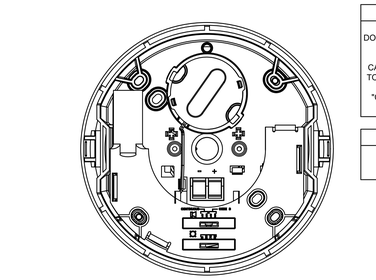
MAX PIPE OR CONDUIT DIAMETER (IN)	F RATING (HR)	T RATING (HR)	ANNULAR SPACE (IN)
1	1 OR 2	0+, 1 OR 2	0 TO 3/16
1	3 OR 4	3 OR 4	1/4 TO 1/2
4	1 OR 2	0	0 TO 1-1/2
6	3 OR 4	0	1/4 TO 1/2
12	1 OR 2	0	3/16 TO 3/8

NOTE:
PENETRATIONS THRU WALLS REQUIRING PROTECTED OPENINGS SHALL BE FIRE STOPPED. FIRE STOP MATERIAL SHALL BE A UL LISTED ASSEMBLY INSTALLED ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS. SEE DRAWING A9.0.01 AND "THROUGH PENETRATIONS FIRESTOP" BINDER FOR INFORMATION AND DETAILS

C THROUGH PENETRATION FIRESTOP DETAIL
UL SYSTEM NO. W-L-1001



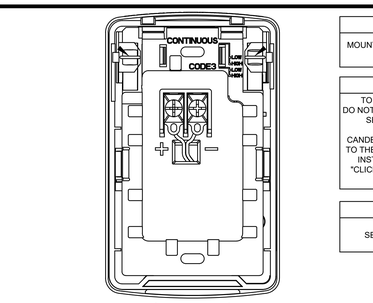
D ELEVATIONS



WARNING
TO PREVENT ELECTRIC SHOCK, DO NOT REMOVE THIS COVER. NO USER SERVICEABLE PARTS INSIDE. CANDELA SWITCH MUST BE FIELD SET TO THE REQUIRED CANDELA PRIOR TO INSTALLATION. MAKE CERTAIN IT "CLICKS" IN PLACE WHEN CHANGING THE SETTING.

Db SETTING
SET DEVICE AT 95Db SETTING

E EXCEDER LED SERIES CEILING MOUNT HORN/STROBES AND STROBES WIRING DETAIL

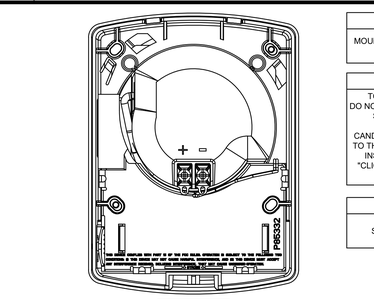


MOUNTING
MOUNT 80" FROM FINISHED FLOOR TO BOTTOM OF LENS.

WARNING
TO PREVENT ELECTRIC SHOCK, DO NOT REMOVE THIS COVER. NO USER SERVICEABLE PARTS INSIDE. CANDELA SWITCH MUST BE FIELD SET TO THE REQUIRED CANDELA PRIOR TO INSTALLATION. MAKE CERTAIN IT "CLICKS" IN PLACE WHEN CHANGING THE SETTING.

Db SETTING
SET DEVICE AT 95Db SETTING

F EXCEDER LED SERIES WALL MOUNT HORN/STROBES AND STROBES WIRING DETAIL

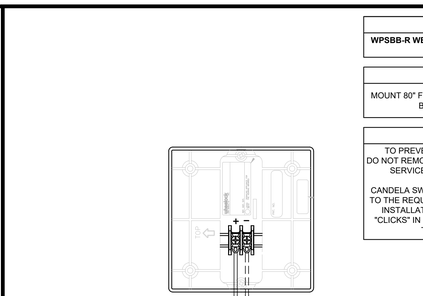


MOUNTING
MOUNT 80" FROM FINISHED FLOOR TO BOTTOM OF LENS.

WARNING
TO PREVENT ELECTRIC SHOCK, DO NOT REMOVE THIS COVER. NO USER SERVICEABLE PARTS INSIDE. CANDELA SWITCH MUST BE FIELD SET TO THE REQUIRED CANDELA PRIOR TO INSTALLATION. MAKE CERTAIN IT "CLICKS" IN PLACE WHEN CHANGING THE SETTING.

Db SETTING
SET DEVICE AT 95Db SETTING

G EXCEDER LOW FREQUENCY LED SERIES WALL MOUNT SOUNDER STROBES AND STROBES WIRING DETAIL



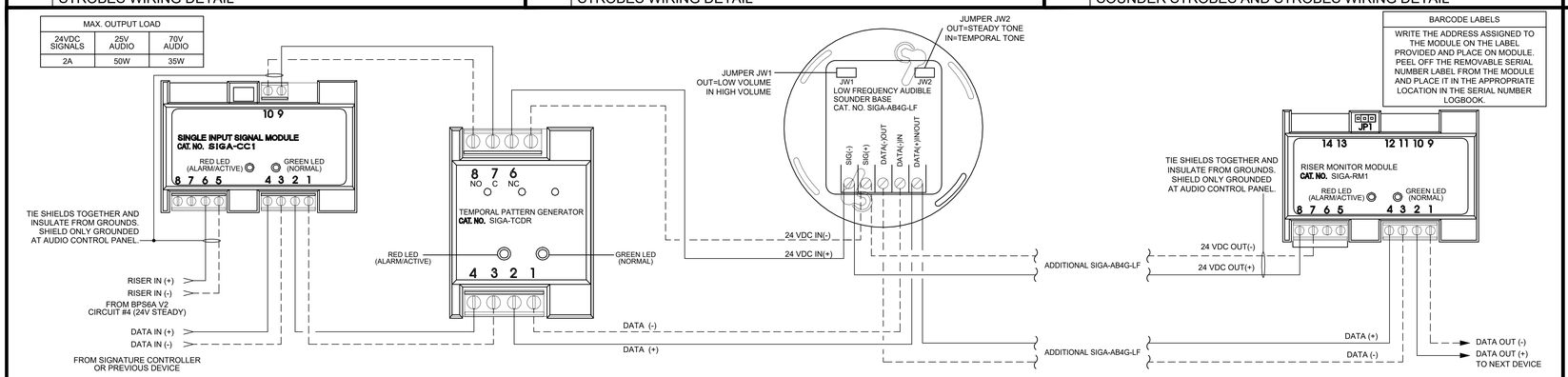
BACKBOX
WPSBB-R WEATHERPROOF BACKBOX ONLY

MOUNTING
MOUNT 80" FROM FINISHED FLOOR TO BOTTOM LENS.

WARNING
TO PREVENT ELECTRIC SHOCK, DO NOT REMOVE THIS COVER. NO USER SERVICEABLE PARTS INSIDE. CANDELA SWITCH MUST BE FIELD SET TO THE REQUIRED CANDELA PRIOR TO INSTALLATION. MAKE CERTAIN IT "CLICKS" IN PLACE WHEN CHANGING THE SETTING.

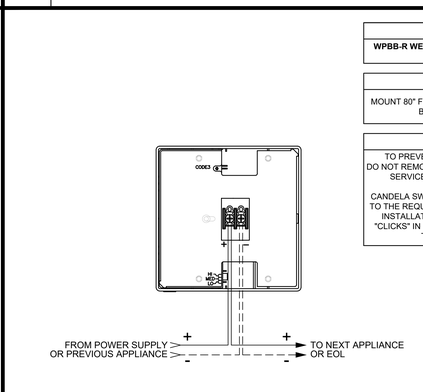
H RSSWP SERIES WEATHERPROOF STROBE WIRING DETAIL

MAX. OUTPUT LOAD		
24VDC SIGNALS	25V AUDIO	70V AUDIO
2A	50W	35W



BARCODE LABELS
WRITE THE ADDRESS ASSIGNED TO THE MODULE ON THE LABEL PROVIDED AND PLACE ON MODULE. PEEL OFF THE REMOVABLE SERIAL NUMBER LABEL FROM THE MODULE AND PLACE IT IN THE APPROPRIATE LOCATION IN THE SERIAL NUMBER LOGBOOK.

I SIGA-CC1, SIGA-TCDR, SIGA-AB4G-LF, SIG-RM1
WIRING DETAIL FOR SLEEPING AREA NOTIFICATION



BACKBOX
WPBB-R WEATHERPROOF BACKBOX ONLY

MOUNTING
MOUNT 80" FROM FINISHED FLOOR TO BOTTOM LENS.

WARNING
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J ASWP SERIES WEATHERPROOF HORN/STROBE WIRING DETAIL

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION	
DESIGNED BY: RA	CHECKED BY:
DRAWN BY: RA	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, DIR. OF PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3 - INCREMENT #1

Sheet Title

FIRE ALARM FIELD DEVICE WIRING DETAILS

Drawn By: RA Checked By: BK

Scale: **AS NOTED**

Date: **October 4, 2019**

Project No. 2016039

2-FA4.03
Drawing No.

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TECHNOLOGY LEGEND, ABBREVIATIONS AND DRAWING LIST

ABBREVIATIONS

AC	ABOVE COUNTER
ADA	AMERICANS WITH DISABILITIES ACT
AFC	ABOVE FINISHED CEILING
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
ALT	ALTERNATE
AMP, A	AMPERE
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
ATR	ALL THREADED ROD
AV	AUDIOVISUAL
AWG	AMERICAN WIRE GAUGE
BDA	BI-DIRECTIONAL ANTENNA
BFC	BELOW FINISHED CEILING
BFG	BELOW FINISHED GRADE
BICSI	BUILDING INDUSTRY CONSULTING SERVICES INTERNATIONAL
BMS	BUILDING MANAGEMENT SYSTEM
C	CONDUIT
CAT	CATEGORY
CATV	COMMUNITY ANTENNA TV (CABLE TV)
CLEC	COMPETITIVE LOCAL EXCHANGE CARRIER
CL	CLOSET
CLG	CEILING
CMP	COMMUNICATIONS PLENUM CABLE
CMR	COMMUNICATIONS RISER CABLE
CO	CENTRAL OFFICE
COAX	COAXIAL
CT	CABLE TRAY
DAS	DISTRIBUTED ANTENNA SYSTEM
DB	DECIBEL
DEMARC	DEMARCATION
DIA	DIAMETER
DWG	DRAWING
(E)	EXISTING TO REMAIN
E.G.	FOR EXAMPLE
EIA	ELECTRONICS INDUSTRY ALLIANCE
ELEC	ELECTRIC OR ELECTRICAL
ELEV	ELEVATOR
EMI	ELECTROMAGNETIC INTERFERENCE
EMT	ELECTRICAL METALLIC TUBING
EP	EXPLOSION PROOF
ERRCS	EMERGENCY RESPONDER RADIO COVERAGE SYSTEM
FACP	FIRE ALARM CONTROL PANEL
FBO	FURNISHED BY OTHERS
FCC	FEDERAL COMMUNICATIONS COMMISSION
FO	FIBER OPTIC
FR	FIRE RATED
FT	FOOT/FEET
GB	GIGABYTE
GBPS	GIGABITS PER SECOND
GC	GENERAL CONTRACTOR
GE	GROUNDING EQUALIZER
GMP	GUARANTEED MAXIMUM PRICE
GND	GROUND
GUI	GRAPHICAL USER INTERFACE
HC	HORIZONTAL CROSS-CONNECT
HVAC	HEATING, VENTILATING, AND AIR-CONDITIONING
ID	INSIDE DIAMETER
IDF	INTERMEDIATE DISTRIBUTION FRAME
IEC	INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEEE	INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC.
IG	ISOLATED GROUND
IMC	INTERMEDIATE METAL CONDUIT - SEE NEC ARTICLE 342
INT	INTERCOM
IP	INTERNET PROTOCOL
ISO	INTERNATIONAL ORGANIZATION OF STANDARDS
J-BOX, JB	JUNCTION BOX
KCMIL	THOUSANDS OF CIRCULAR MILLS
KM	KILOMETER
KVA	KILOVOLT AMPERES
KW	KILOWATT
LAN	LOCAL AREA NETWORK
LEC	LOCAL EXCHANGE CARRIER (OR SP)
LED	LIGHT-EMITTING DIODE
M	METER
MAG	MAGNETIC
MAN	METROPOLITAN AREA NETWORK
MAX	MAXIMUM
MB	MEGABYTE
MBPS	MEGABITS PER SECOND
MC	MAIN CROSS-CONNECT
MDF	MAIN DISTRIBUTION FRAME
MECH	MECHANICAL
MFR	MANUFACTURER
MH	MANHOLE
MI	MILE
MIN	MINIMUM
MM	MILLIMETER
MMFO	MULTIMODE FIBER OPTIC
MPOE	MAIN POINT OF ENTRY
NEC	NATIONAL ELECTRIC CODE - NFPA 70
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NIC	NETWORK INTERFACE CARD
NID	NETWORK INTERFACE DEVICE
NM	NANOMETER
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER

ABBREVIATIONS

OEM	ORIGINAL EQUIPMENT MANUFACTURER
OS	OPERATING SYSTEM
OSP	OUTSIDE PLANT
PA	PUBLIC ADDRESS
PABX	PRIVATE AUTOMATIC BRANCH EXCHANGE
PBX	PRIVATE BRANCH EXCHANGE
PB	PULL-BOX (SIZED PER BICSI TDMM)
PC	PERSONAL COMPUTER
PCN	PERSONAL COMMUNICATIONS NETWORK
PCS	PERSONAL COMMUNICATIONS SYSTEMS
PIR	PASSIVE INFRARED
POTS	PLAIN OLD TELEPHONE SERVICE
PR	PAIRS (NUMBER OF PAIRS IN COPPER CABLE)
PROX	PROXIMITY
PVC	POLYVINYL CHLORIDE
PWR	POWER
RCDD	REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER
RFI	RADIO FREQUENCY INTERFACE
RM	ROOM
RMC	RIGID METALLIC CONDUIT
RU	RACK UNIT; UNIT OF PATCH PANEL HEIGHT EQUAL TO 1.75 INCH
SCTP	SCREENED TWISTED PAIR
SMFO	SINGLEMODE FIBER OPTIC
SPOE	SECONDARY POINT OF ENTRY
SP	SERVICE PROVIDER
STD	STANDARD
STP	SHIELDED TWISTED PAIR
SW	SWITCH
TBB	TELECOMMUNICATIONS BONDING BACKBONE
TBD	TO BE DETERMINED
TCP/IP	TRANSMISSION CONTROL PROTOCOL W/ INTERNET PROTOCOL
TDMM	TELECOMMUNICATIONS DISTRIBUTION METHODS MANUAL
TEL	TELEPHONE
TELCO	TELEPHONE COMPANY (SP)
TELECOM	TELECOMMUNICATIONS
TEMP	TEMPERATURE
TGB	TELECOMMUNICATIONS GROUND BUS BAR
TIA	TELECOMMUNICATIONS INDUSTRY ASSOCIATION
TMGB	TELECOMMUNICATIONS MAIN GROUND BUS BAR
TR	TELECOMMUNICATIONS ROOM
TV	TELEVISION
TYP	TYPICAL
UC	UNDER COUNTER
UG	UNDERGROUND
UL	UNDERWRITER LABORATORIES
UON	UNLESS OTHERWISE NOTED
UPS	UNINTERRUPTIBLE POWER SUPPLY
UTP	UNSHIELDED TWISTED PAIR
V	VOLT
W	WATT
WAN	WIDE AREA NETWORK
WLAN	WIRELESS LOCAL AREA NETWORK
WP	WEATHERPROOF
(X)	EXISTING - TO BE DEMOLISHED

GENERAL SYMBOLS LEGEND

SYMBOL	DESCRIPTION
TC	TELECOMMUNICATIONS CONDUIT CONCEALED
TC	TELECOMMUNICATIONS CONDUIT SURFACE MOUNTED
TC	CONDUITS BELOW GRADE/SLAB OR EMBEDDED IN SLAB
J	J-HOOK PATHWAY
I	INNERDUCT PATHWAY
CAT	COPPER CATEGORY CABLE
FO	FIBER OPTIC CABLE
	CONDUIT UP
	CONDUIT DOWN
	CONDUIT CAPPED
	CONDUIT STUBBED OUT WITH BUSHING
	CONDUIT CROSS-SECTION
	TELECOMMUNICATIONS CABLE TRAY
	VERTICAL WALL MOUNTED CABLE LADDER
	TELECOMMUNICATIONS RACEWAY
	PULL-BOX
TGB	TELECOMMUNICATIONS GROUNDING BUSBAR
TMGB	TELECOMMUNICATIONS MAIN GROUNDING BUSBAR
	TELECOMMUNICATIONS GROUNDING BUSBAR (PLAN VIEW)
	CABLE SERVICE LOOP # DENOTES LENGTH
	COPPER CABLE SPLICE
	FIBER OPTIC CABLE SPLICE
	COPPER CABLE TERMINATION
	FIBER OPTIC CABLE TERMINATION
X Y	DETAIL REFERENCE "X" DENOTES DETAIL NUMBER "Y" DENOTES DRAWING NUMBER
X Y	SECTION REFERENCE "X" DENOTES DETAIL NUMBER "Y" DENOTES DRAWING NUMBER
#	NUMBERED NOTE IDENTIFIER

TELECOMMUNICATIONS DEVICE LEGEND

SYMBOL	DESCRIPTION
	WALL MOUNTED DATA DEVICE WITH (2) CAT.6A U.O.N
TV	TELEVISION LOCATION, (1) SERIES-6 COAX & (2) CAT.6A
	RECESSED MOUNTED MULTIMEDIA PANEL (MMP)
W	WALLPHONE OUTLET, (1) CAT.6A CABLE
# E	TELECOMMUNICATIONS OUTLET/ CONNECTIVITY TO ELEVATOR CONTROL PANEL, U.O.N # DENOTES QUANTITY OF CAT.6A CABLES
AP	WALL-MOUNTED WI-FI ACCESS POINT LOCATION , (2) CAT.6A CABLES
#	WALL-MOUNTED TELECOMMUNICATIONS OUTLET, # DENOTES NUMBER OF CAT.6A CABLES
#	RECESSED FLOOR BOX TELECOMMUNICATIONS OUTLET, # DENOTES NUMBER OF CAT.6A CABLES
#	CEILING-MOUNTED TELECOMMUNICATIONS OUTLET MOUNTED WITHIN CEILING SPACE , U.O.N. # DENOTES NUMBER OF CAT.6A CABLES
AP	CEILING-MOUNTED DATA OUTLET AT WI-FI ACCESS POINT LOCATION, (2) CAT.6A CABLES
#	FLOOR POKE-TRU TELECOM DATA OUTLET, # DENOTES NUMBER OF CAT.6A CABLES
P	CEILING-MOUNTED TELECOMMUNICATIONS CONSOLIDATION POINT PATCH PANEL
P	CABINET-MOUNTED TELECOMMUNICATIONS CONSOLIDATION POINT PATCH PANEL
P	WALL-MOUNTED TELECOMMUNICATIONS CONSOLIDATION POINT PATCH PANEL
P	FLOOR-MOUNTED TELECOMMUNICATIONS CONSOLIDATION POINT PATCH PANEL TO BE PLACED WITHIN RAISED ACCESS FLOOR U.O.N.
#	TELECOMMUNICATIONS EQUIPMENT CONNECTION
	RECESSED WALL-MOUNTED SYSTEMS FURNITURE FEEDPOINT
	RECESSED FLOOR BOX SYSTEMS FURNITURE FEEDPOINT
	CEILING-MOUNTED SYSTEMS FURNITURE FEEDPOINT
	POKE-THRU SYSTEMS FURNITURE FEEDPOINT
MH #	UNDERGROUND MANHOLE, (#) DENOTES IDENTIFIER
HH #	UNDERGROUND HANDHOLE, (#) DENOTES IDENTIFIER
P #	PEDESTAL, (#) DENOTES IDENTIFIER
U #	UNDERGROUND PULL BOX, (#) DENOTES IDENTIFIER
	THIS SYMBOL DENOTES A TELECOMMUNICATIONS OUTLET WITH (1) COPPER TWISTED PAIR CABLE.

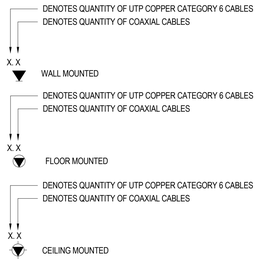
ELECTRONIC SECURITY DEVICE LEGEND

SYMBOL	DESCRIPTION
	FIXED SECURITY CAMERA
	PTZ SECURITY CAMERA
ACP	ACCESS CONTROL PANEL
DB	GUEST ENTRY PHONE
CR	CARD READER
DC	DOOR CONTACT
EL	ELECTRIFIED LOCK
IC	INTERCOM
ICM	INTERCOM MASTER
KP	KEY PAD
MON	LCD DISPLAY MONITOR
MS	MOTION SENSOR, ARROW INDICATES DIRECTION OF SENSOR
NVR	NETWORK VIDEO RECORDER
PB	PANIC BUTTON
PLC	PROGRAMMABLE LOGIC CONTROLLER
REX	REQUEST TO EXIT
RF	RADIO FREQUENCY VEHICLE GATE CONTROLLER
SS	SECURITY SERVER
WR	WIRELESS DURESS REPEATER SECURITY
WS	WORKSTATION

AUDIOVISUAL SYSTEM DEVICE LEGEND

SYMBOL	DESCRIPTION - SEE LINE DIAGRAMS FOR COORDINATION REQUIREMENTS
CP AV	WALL-MOUNT TOUCH PANEL BACKBOX: PROVIDE 2-GANG DEEP JUNCTION BOX AT PROJECT STANDARD SWITCH HEIGHT WITH (1) 1" CONDUIT TO "PRJ" IN ROOM AND (1) 3/4" CONDUIT TO "LVC" IN ROOM
IO AV	WALL-MOUNTED AUDIOVISUAL INPUT/OUTPUT PLATE: PROVIDE 2-GANG DEEP JUNCTION BOX AT PROJECT STANDARD OUTLET HEIGHT WITH (1) 1" CONDUIT TO "LCD" JUNCTION BOX ABOVE
LCD AV	WALL-MOUNTED AUDIOVISUAL LCD DISPLAY BACKBOX: PROVIDE 4-GANG DEEP JUNCTION BOX AT 60" AFF. PROVIDE ADJACENT NETWORK DATA AND POWER (BY OTHER DIVISIONS)
IO AV	SHARED SERVICE AUDIOVISUAL FLOOR BOX: PROVIDE FLOOR BOX FLUSH WITH FINISHED FLOOR WITH (2) 1" CONDUIT TO "PJR" IN ROOM
S	6" CEILING LOUDSPEAKER: PROVIDE 6" CEILING LOUDSPEAKER WITH LOUDSPEAKER CABLE VIA J-HOOK/CONDUIT PATHWAY TO ROOM EQUIPMENT HEADEND AS SHOWN. PROVIDE ACOUSTICAL LOUDSPEAKER ENCLOSURE. COORDINATE FINAL LOCATION WITH ARCHITECT.
PRJ AV	VIDEO PROJECTOR BACKBOX: PROVIDE 2-GANG JUNCTINO BOX MOUNTED TO CEILING SURFACE. PROVIDE NETWORK DATA AND ADJACENT POWER (BY OTHER DIVISIONS)
LVC AV	PROJECTION SCREEN LOW-VOLTAGE CONTROLLER: PROVIDE HARD-WIRED AC POWER (BY OTHER DIVISIONS)
PRJA AV	APPARATUS BAY VIDEO PROJECTOR BACKBOX: PROVIDE 2-GANG JUNCTION BOX AT 8' AFF WITH (2) 1" CONDUIT TO "IO" IN EQUIPMENT 107
LVCA AV	PROJECTION SCREEN LOW-VOLTAGE CONTROLLER: PROVIDE HARD-WIRED AC POWER (BY OTHER DIVISIONS). PROVIDE (1) 3/4" CONDUIT FROM "IO" IN EQUIPMENT 107
LS AV	CEILING LOUDSPEAKER BACKBOX: PROVIDE 2-GANG JUNCTION BOX FLUSH WITH FINISHED CEILING WITH (1) 3/4" CONDUIT FROM "IO" IN EQUIPMENT 107

TELECOMMUNICATIONS OUTLET CABLING LEGEND



TECHNOLOGY GENERAL NOTES

1. THE LOCATIONS AND ELEVATIONS OF TECHNOLOGY DEVICES SHOWN ON THESE DRAWINGS ARE SCHEMATIC UNLESS ACTUAL DIMENSIONS ARE SHOWN ON THE DRAWINGS. REFER TO THE ARCHITECTURAL PLANS AND OBTAIN THE APPROVAL OF THE ARCHITECT FOR THE ACTUAL LOCATIONS AND ELEVATIONS OF ALL DEVICES.
2. CONTRACTOR SHALL ENSURE THAT ALL MOUNTING HEIGHTS COMPLY WITH CURRENT ADA REQUIREMENTS.
3. ABOVE CONTER DEVICES SHALL BE MOUNTED 8" ABOVE COUNTER OR A MAXIMUM OF 44" AFF (TO TOP OF DEVICE).
4. PROVIDE SUPPORTS AND ANCHORING FOR PIPING, CONDUIT, DUCTS, EQUIPMENT, AND OTHER NON-STRUCTURAL ELEMENTS. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
5. PROVIDE FIRE PUTTY PADS IN ALL BACK BOXES.
6. FIRESTOPPING: ALL PENETRATIONS THROUGH RATED WALLS AND FLOORS AND CONDUIT/SLEEVE OPENINGS SHALL BE SEALED WITH MATERIAL CAPABLE OF PREVENTING THE PASSAGE OF FLAMES, HOT GASSES AND SMOKE WHEN SUBJECTED TO THE REQUIREMENTS OF THE TEST STANDARD SPECIFIC FOR ALL APPLICABLE CODES.
7. ALL COMMUNICATIONS CONDUIT, CABLE TRAYS, LADDER RACKS AND EQUIPMENT RACKS SHALL BE BONDED TO BUILDING GROUND SYSTEM PER NEC 250 AND ANSI/TIA-607-B.
8. LABEL ALL CLOSETS, RACKS, FRAMES, CABINETS, TERMINATION BLOCKS, CABLES, TERMINATIONS, RACEWAYS, ETC. IN ACCORDANCE WITH ANSI/TIA-606-B.
9. ALL COMMUNICATIONS RACEWAYS AND PATHWAYS SHALL BE INSTALLED TO MINIMIZE UNNECESSARY CABLE LENGTHS AND MAINTAIN INDUSTRY STANDARD LENGTH LIMITATIONS FOR HORIZONTAL CABLE DISTRIBUTION (E.G. CAT-6A). BASIC LINK CABLE LENGTH SHALL NOT EXCEED 295-FT (90M) FOR UTP CABLE, 200-FT (60M) FOR SERIES-6 COAXIAL CABLE.
10. ALL COMMUNICATIONS CABLE SHALL BE PLENUM RATED (CMP), RISER RATED (CMR) AND UNDERGROUND RATED (WATERBLOCK) ACCORDING TO USE AND ENVIRONMENTAL CONDITIONS.
11. PROVIDE PROTECTIVE BUSHINGS ON ALL COMMUNICATIONS CONDUITS AND WHERE CABLING ROUTES THROUGH METAL STUDS.
12. ALL NON-ARMORED FIBER OPTIC CABLE SHALL BE INSTALLED IN APPROVED INNERDUCT.
13. ALWAYS INSTALL LOW-VOLTAGE CABLES IN CONDUITS, CABLE TRAYS, WIREWAYS OR OTHER APPROVED CABLE MANAGEMENT DEVICES OR SYSTEMS. NEVER INSTALL CABLES IN SUCH A MANNER THAT THEY ARE SUPPORTED BY CEILING SYSTEMS (CEILING TILE OR GRID, GYPSUM BOARD, LATH & PLASTER), HVAC DUCTS OR PIPES, LIGHTING FIXTURES, ELECTRICAL CONDUITS OR CABLES, PLUMBING/FIRE PROTECTION PIPES, OR ANY OTHER DEVICES NOT INTENDED FOR THE SUPPORT OF LOW-VOLTAGE CABLING.
14. PROVIDE WEATHERPROOF, IN-USE COVER FOR EXTERIOR DATA DEVICES.
15. ALL CABLE TRAY MOUNTING HEIGHTS INDICATED ON FLOOR PLANS ARE TO THE BOTTOM OF CABLE TRAY SUPPORTS.
16. SEISMIC BRACING FOR ALL CABLE TRAYS SHALL BE PROVIDED AS REQUIRED BY CODE, LOCAL GOVERNING JURISDICTION AND CABLE TRAY MANUFACTURER SPECIFICATIONS.
17. ALL CABLE TRAY ROUTING THROUGH ELECTRICAL ROOMS SHALL BE FULLY ENCLOSED. REFER TO CABLE TRAY DETAILS AND SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
18. REUSABLE VELCRO TIES SHALL BE USED TO BUNDLE OR MANAGE CABLES. PLASTIC ZIP TIES ARE NOT APPROVED FOR USE.
19. SIZE AND ORIENTATION OF ALL TELECOM PULL-BOXES SHALL MEET OR EXCEED THE PER THE SPECIFIED REQUIREMENTS.
20. PROVIDE PROTECTIVE BUSHINGS WHERE CABLING ROUTES THROUGH METAL STUDS.
21. ALL LOW-VOLTAGE CONDUIT LARGER THAN 2" SHALL HAVE A MINIMUM BEND RADIUS OF 10:1 OF THE INSIDE DIAMETER FOR ALL ELBOWS. ALL LOW-VOLTAGE CONDUIT 2" AND SMALLER SHALL HAVE A MINIMUM BEND RADIUS OF 6:1 OF THE INSIDE DIAMETER FOR ALL ELBOWS.
22. ALL CONDUITS SHALL BE INSTALLED WITH PULL-STRINGS.

TECHNOLOGY BUILDING 2 DRAWING LIST

SHEET NUMBER	SHEET NAME	50% DD - 07/05/2017	100% DD - 08/25/2017
2-T0.01	TECHNOLOGY LEGEND, ABBREVIATIONS AND DRAWING LIST	X	X
2-T2.01	TECHNOLOGY APPARATUS BUILDING FLOOR PLAN	X	X
2-T5.01	TECHNOLOGY FUNCTIONAL DIAGRAMS		
2-T7.01	TECHNOLOGY DETAILS		
2-T7.02	TECHNOLOGY DETAILS		
2-T7.03	TECHNOLOGY DETAILS		
2-T7.04	TECHNOLOGY DETAILS		
2-T7.05	SECURITY DETAILS		
2-T7.06	SECURITY DETAILS		

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

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1401 W. WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	INC 01_ADD_01_V1	12/06/2019

REGISTERED PROFESSIONAL ENGINEER
AMANDA J. BROWNLEE
No. E17287
ELECTRICAL
STATE OF CALIFORNIA

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Sheet Title

TECHNOLOGY LEGEND, ABBREVIATIONS AND DRAWING LIST

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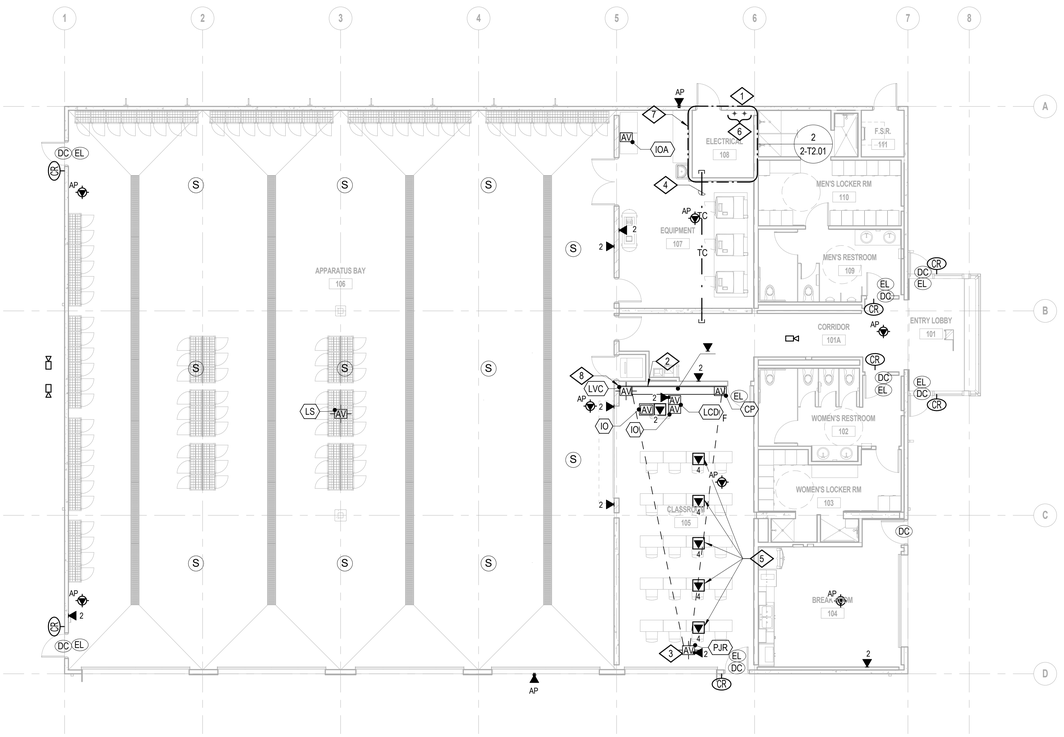
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Date:
October 4, 2019

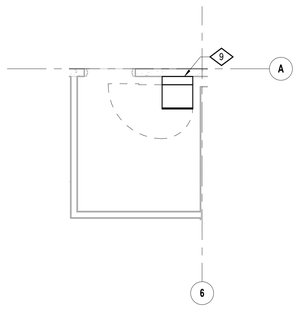
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2-T0.01
Drawing No.

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1 02- TECHNOLOGY - APPARATUS-FIRST FLOOR
1/8" = 1'-0"



2 02- TECHNOLOGY - ENLARGED APPARATUS ELECTRICAL ROOM
1/4" = 1'-0"

NUMBERED NOTES:

1. TELECOM SPACE TO BE ALLOCATED WITHIN ELECT ROOM
2. MOTORIZED PROJECTION SCREEN
3. OVERHEAD PROJECTOR
4. (2) 4"C ROUTED ALONG CEILING FROM MDF/IDF ROOM
5. PROVIDE 2"C TO LCD WALL BOX FOR CLASSROOM FLOORBOX
6. (2) 4"C FOR OSP PRIVATE TELECOM DISTRIBUTION TO STUB UP 3" AFF
7. MOUNT ALL ENCLOSURES, EQUIPMENT, TERMINATION BOARDS AND SPLITTERS ON WALLS WITH DETAIL 1 ON SHEET 2-T7.04
8. CONTROLLER SHALL HAVE CAPABILITY TO UTILIZE VARIOUS DIGITAL FORMATS SUCH AS MP3
9. PROVIDE DOUBLE HINGED WALL MOUNTED CABINET

SHEET NOTES:

A. FOR SEISMIC MOUNTING DETAILS OF AV EQUIPMENT SEE 2-T7.04

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

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DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY:	
KATHY GARCIA DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

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AMANDA J. BROWNLEE
No. E17287
ELECTRICAL
STATE OF CALIFORNIA

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TECHNOLOGY APPARATUS BUILDING FLOOR PLAN

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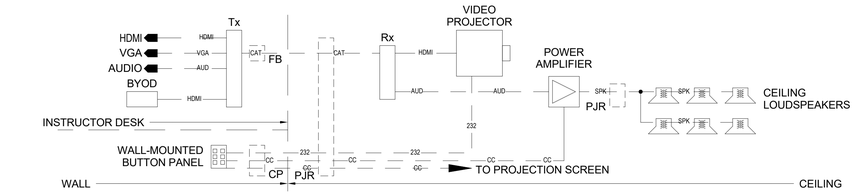
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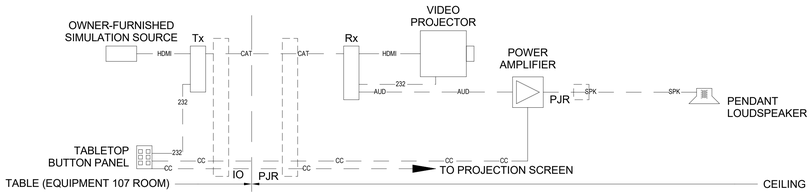
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1 AUDIOVISUAL FUNCTIONAL DIAGRAM - CLASSROOMS

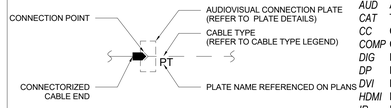
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2 AUDIOVISUAL FUNCTIONAL DIAGRAM - APPARATUS BAY

NONE

CABLE, CONNECTOR, AND PLATE TERMINATION LEGEND:



CABLE TYPE LEGEND:

232	SERIAL CONTROL (RS232, RS422, RS485)
AUD	AUDIO (LINE & MIC LEVELS)
CAT	TWISTED-PAIR
CC	CONTACT CLOSURE OR RELAY
COMP	COMPONENT VIDEO
DIG	DIGITAL AUDIO
DP	DISPLAY PORT
DVI	DVI-D OR DVI-I
HDMI	HDMI
IR	INFRARED
MMF	MULTI-MODE FIBER
RF	RADIO FREQUENCY
SDI	SDI, HD-SDI, 4G-SDI
SMF	SINGLE-MODE FIBER
SPK	LOUDSPEAKER AUDIO
SYNC	VIDEO SYNC SIGNAL
USB	USB
VGA	RGBHV / VGA
VID	COMPOSITE VIDEO

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
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REGISTERED PROFESSIONAL ENGINEER
AMANDA J. BROWN, CE
No. E17287
ELECTRICAL
STATE OF CALIFORNIA

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Sheet Title

TECHNOLOGY FUNCTIONAL DIAGRAMS

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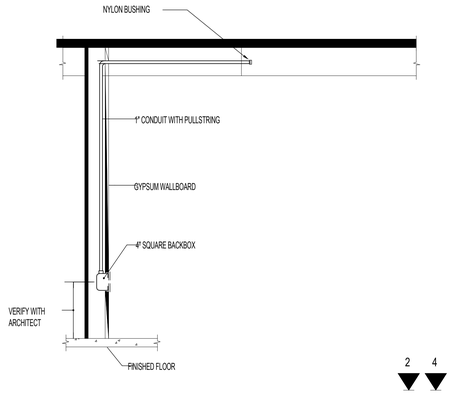
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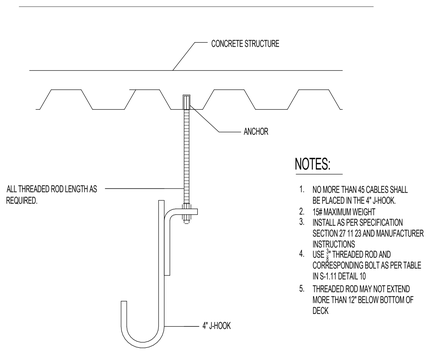
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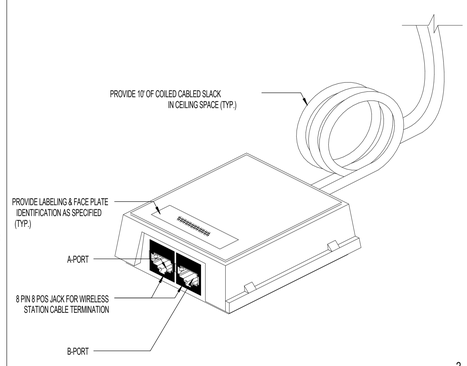
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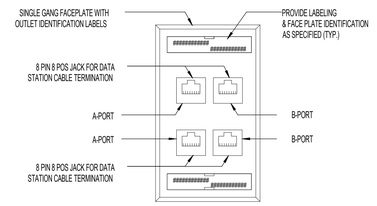
9 WALL MOUNTED SYSTEMS OUTLET — NO SCALE



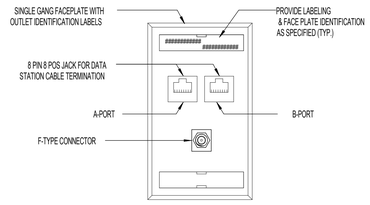
7 J-HOOK MOUNTED CEILING DETAIL — NO SCALE



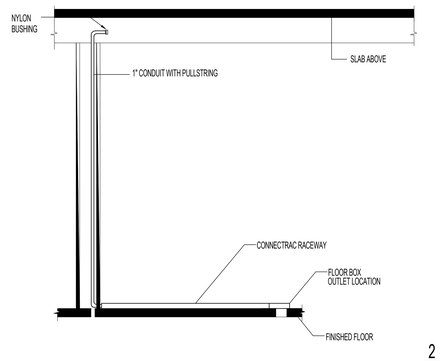
4 2-PORT CEILING OUTLET
(2) DATA — NO SCALE



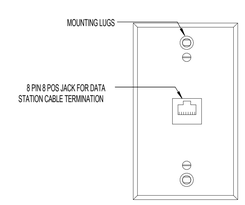
1 WALL MOUNTED OUTLET
(4) DATA — NO SCALE



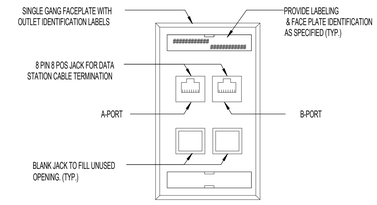
10 WALL MOUNTED OUTLET
(2) DATA (1) CO-AXIAL — NO SCALE



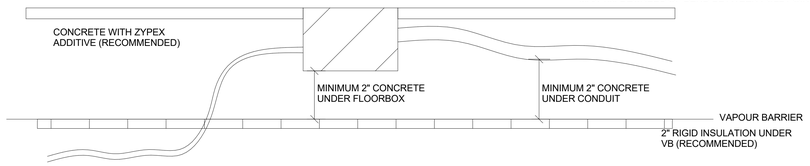
8 TELECOMMUNICATIONS SYSTEM OUTLET
CONNECTRAC — NO SCALE



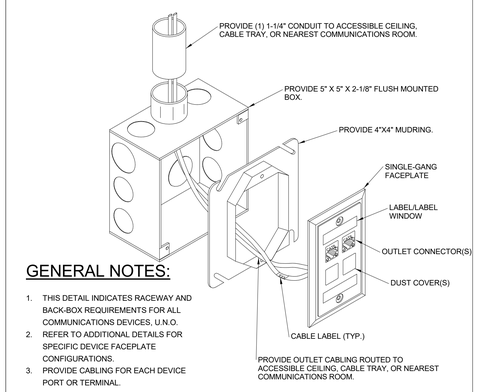
5 UTILITY ROOM WALLPHONE
(1) VOICE — NO SCALE



2 WALL MOUNTED OUTLET
(2) DATA — NO SCALE



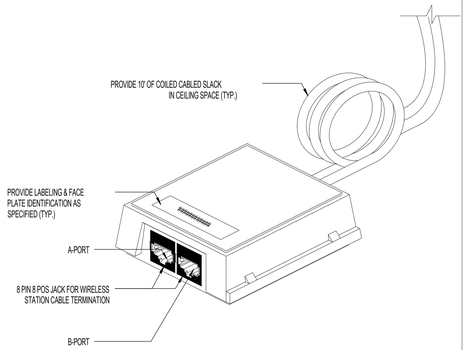
11 FLOORBOX DETAIL — NO SCALE



GENERAL NOTES:

1. THIS DETAIL INDICATES RACEWAY AND BACK-BOX REQUIREMENTS FOR ALL COMMUNICATIONS DEVICES, U.N.O.
2. REFER TO ADDITIONAL DETAILS FOR SPECIFIC DEVICE FACEPLATE CONFIGURATIONS.
3. PROVIDE CABLING FOR EACH DEVICE PORT OR TERMINAL.

6 TYPICAL COMMUNICATIONS OUTLET ROUGH-IN DETAIL — NO SCALE



3 2-PORT SURFACE MOUNTED CAMERA OUTLET
(2) DATA — NO SCALE

DETAILS ON THIS SHEET ARE GENERIC. PLEASE REFER TO OPM DETAILS FOR HANGAR AND ANCHOR INFORMATION FOR ALL SUPPORTS AND CONNECTION INFORMATION NOT INDICATED

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ARCHITECTURE
18294 Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

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DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION	
DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
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No.	Description	Date
1	INC 01_ADD_01_V1	12/06/2019

REGISTERED PROFESSIONAL ENGINEER — No. E18239 — J M BROWNE — ELECTRICAL — STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

TECHNOLOGY DETAILS

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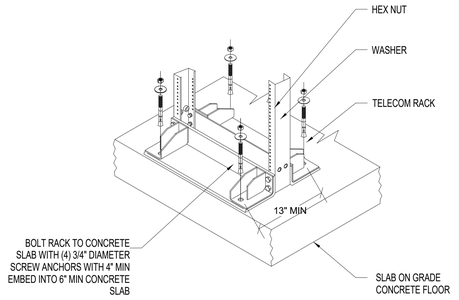
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Date: **October 4, 2019**

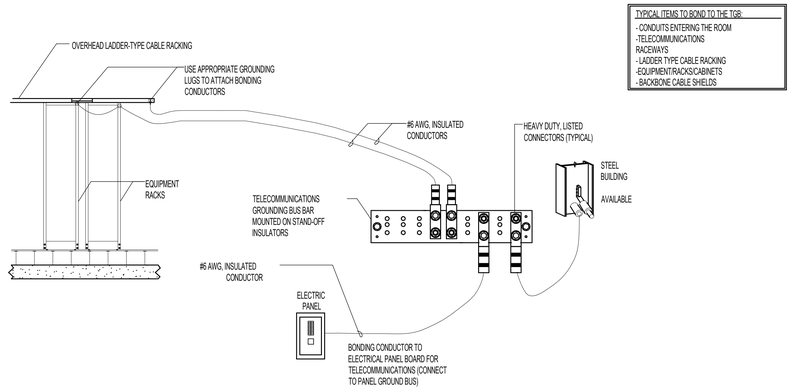
Project No. B17.07369

2-T7.01
Drawing No.

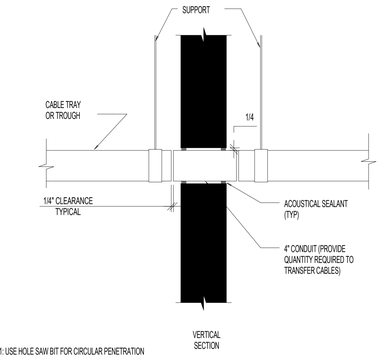
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6 CONCRETE RACK MOUNTED — NO SCALE



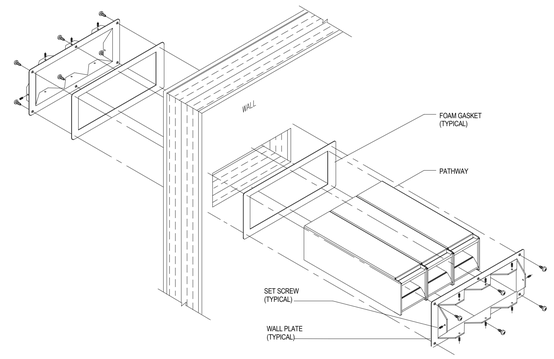
3 TELECOMMUNICATIONS GROUNDING DETAIL — NO SCALE



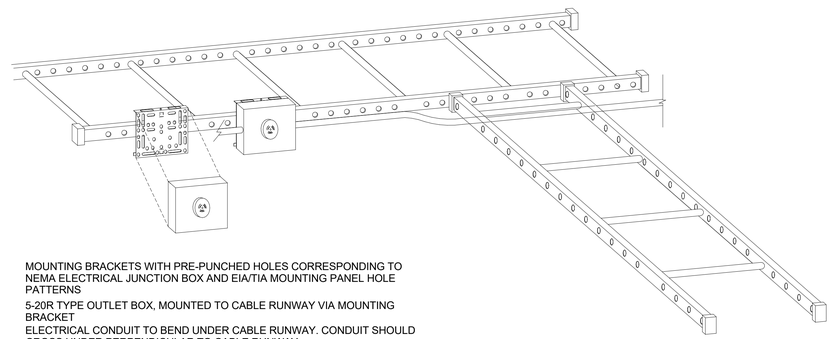
NOTE 1: USE HOLE SAW BIT FOR CIRCULAR PENETRATION

NOTE 2: AFTER CAPABLE PULL IS COMPLETE, FILL CONDUIT WITH SAFING INSULATION AND SEAL BOTH ENDS OF CONDUIT WITH FIRE-STOP FOAM SEALANT OR J.M. CLIPPER DUKSEAL

1 TYPICAL CABLE TRAY AND CONDUIT SLEEVES PENETRATION AT SOUND-RATED CONSTRUCTION — NO SCALE



4 RACEWAY WALL PENTRATION DETAIL — NO SCALE

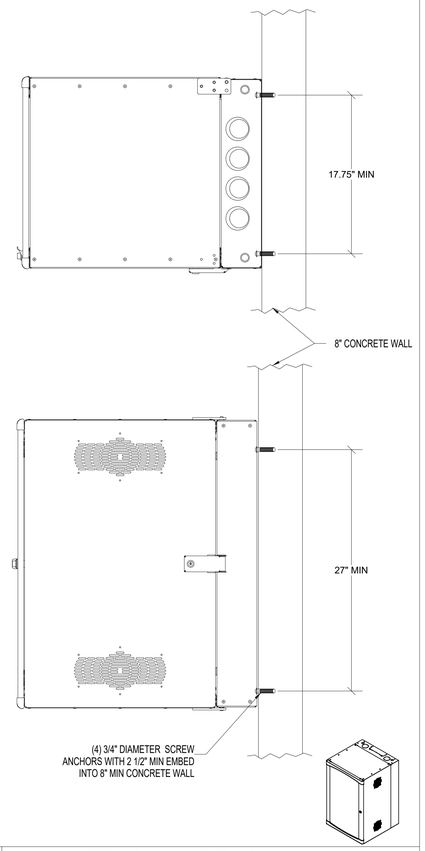


MOUNTING BRACKETS WITH PRE-PUNCHED HOLES CORRESPONDING TO NEMA ELECTRICAL JUNCTION BOX AND EIA/TIA MOUNTING PANEL HOLE PATTERNS

5-20R TYPE OUTLET BOX, MOUNTED TO CABLE RUNWAY VIA MOUNTING BRACKET

ELECTRICAL CONDUIT TO BEND UNDER CABLE RUNWAY. CONDUIT SHOULD CROSS UNDER PERPENDICULAR TO CABLE RUNWAY

5 ELECTRICAL BACKBOX MOUNTING TO CABLE RUNWAY DETAIL — NO SCALE



2 WALL-MOUNTED DOUBLE HINGED RACK 24" W x 30"D x 24"H CUBE-iT — NO SCALE

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ARCHITECTURE
18294 Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

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DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

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1	INC 01_ADD_01_V1	12/06/2019

REGISTERED PROFESSIONAL ENGINEER — No. E15226 — J. M. BROWNE — ELECTRICAL — STATE OF CALIFORNIA

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Sheet Title

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APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

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DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

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DRAWN BY:	APPROVAL RECD:
APPROVED BY:	
KATHY GARCIA DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
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No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER
AMANDA J. BROWNLEE
No. E17387
ELECTRICAL
STATE OF CALIFORNIA

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Sheet Title

TECHNOLOGY DETAILS

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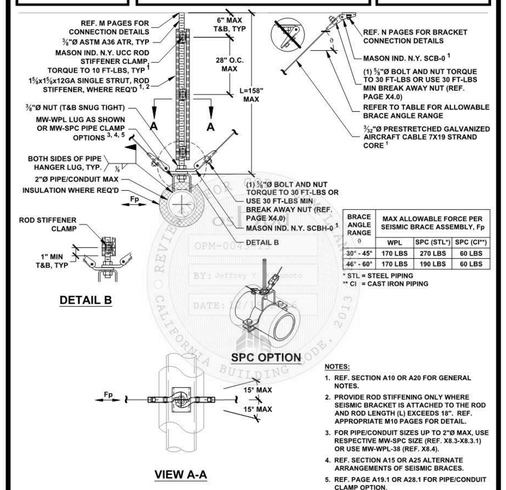
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2-T7.03
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HANGER ROD DIAMETER = ⅜" | **PIPING/CONDUIT TRANSVERSE SEISMIC CABLE BRACING SYSTEM 2"Ø PIPE/CONDUIT MAX** | **KIT OPTIONS C0T**



BRACE ANGLE RANGE ϕ	MAX ALLOWABLE FORCE PER SEISMIC BRACE ASSEMBLY, Fp		
	WPL	SPC (STL*)	SPC (CI**)
30° - 45°	170 LBS	270 LBS	60 LBS
46° - 60°	170 LBS	190 LBS	60 LBS

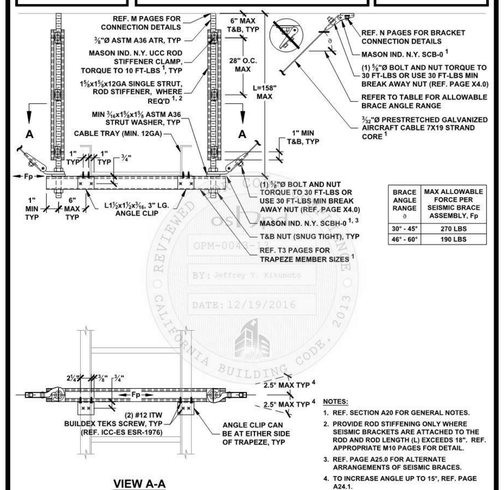
* STL = STEEL PIPING
** CI = CAST IRON PIPING

NOTES:
1. REF. SECTION A10 OR A20 FOR GENERAL NOTES.
2. PROVIDE ROD STIFFENING ONLY WHERE SEISMIC BRACKET IS ATTACHED TO THE ROD AND ROD LENGTH (L) EXCEEDS 18". REF. APPROPRIATE M10 PAGES FOR DETAIL.
3. FOR PIPE/CONDUIT SIZES UP TO 2"Ø MAX, USE RESPECTIVE MW-SPC SIZE (REF. X8.3-X8.3.1) OR USE MW-WPL-38 (REF. X8.4).
4. REF. SECTION A15 OR A25 ALTERNATE ARRANGEMENTS OF SEISMIC BRACES.
5. REF. PAGE A19.1 OR A28.1 FOR PIPE/CONDUIT CLAMP OPTION.

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PAGE **C2.10**

HANGER ROD DIAMETER = ⅜" | **CABLE TRAY TRANSVERSE TRAPEZE SEISMIC CABLE BRACING SYSTEM 20 PLF MAX** | **KIT OPTIONS TC0T**



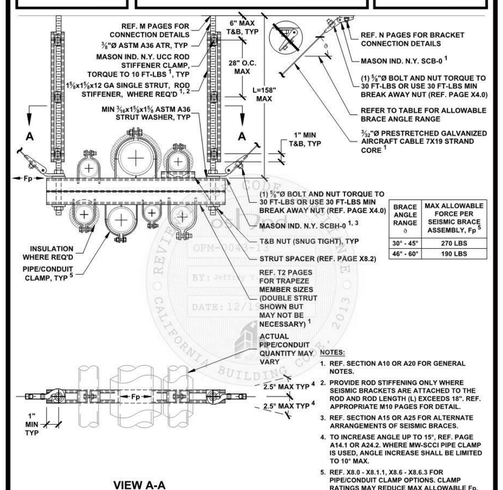
BRACE ANGLE RANGE ϕ	MAX ALLOWABLE FORCE PER SEISMIC BRACE ASSEMBLY, Fp
30° - 45°	270 LBS
46° - 60°	190 LBS

NOTES:
1. REF. SECTION A20 FOR GENERAL NOTES.
2. PROVIDE ROD STIFFENING ONLY WHERE SEISMIC BRACKETS ARE ATTACHED TO THE ROD AND ROD LENGTH (L) EXCEEDS 18". REF. APPROPRIATE M10 PAGES FOR DETAIL.
3. REF. PAGE A25.0 FOR ALTERNATE ARRANGEMENTS OF SEISMIC BRACES.
4. TO INCREASE ANGLE UP TO 15°, REF. PAGE A24.1.

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PAGE **E2.10**

HANGER ROD DIAMETER = ⅜" | **PIPING/CONDUIT TRANSVERSE TRAPEZE SEISMIC CABLE BRACING SYSTEM 30 PLF MAX** | **KIT OPTIONS TC0T**



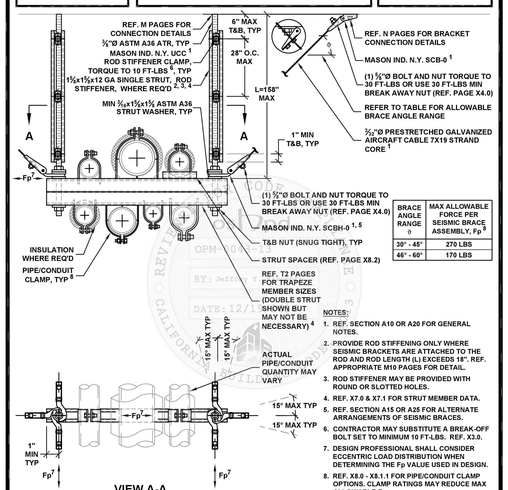
BRACE ANGLE RANGE ϕ	MAX ALLOWABLE FORCE PER SEISMIC BRACE ASSEMBLY, Fp [5]
30° - 45°	270 LBS
46° - 60°	190 LBS

NOTES:
1. REF. SECTION A10 OR A20 FOR GENERAL NOTES.
2. PROVIDE ROD STIFFENING ONLY WHERE SEISMIC BRACKETS ARE ATTACHED TO THE ROD AND ROD LENGTH (L) EXCEEDS 18". REF. APPROPRIATE M10 PAGES FOR DETAIL.
3. REF. SECTION A15 OR A25 FOR ALTERNATE ARRANGEMENTS OF SEISMIC BRACES.
4. TO INCREASE ANGLE UP TO 15°, REF. PAGE A14.1 OR A24.2. WHERE MW-SCCI PIPE CLAMP IS USED, ANGLE INCREASE SHALL BE LIMITED TO 10° MAX.
5. REF. X9.0 - X9.1.1, X8.6 - X8.6.3 FOR PIPE/CONDUIT CLAMP OPTIONS. CLAMP RATINGS MAY REDUCE MAX ALLOWABLE Fp.

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PAGE **F2.10**

HANGER ROD DIAMETER = ⅜" | **PIPING/CONDUIT ALL-DIRECTIONAL TRAPEZE SEISMIC CABLE BRACING SYSTEM 30 PLF MAX** | **KIT OPTIONS TC0A**



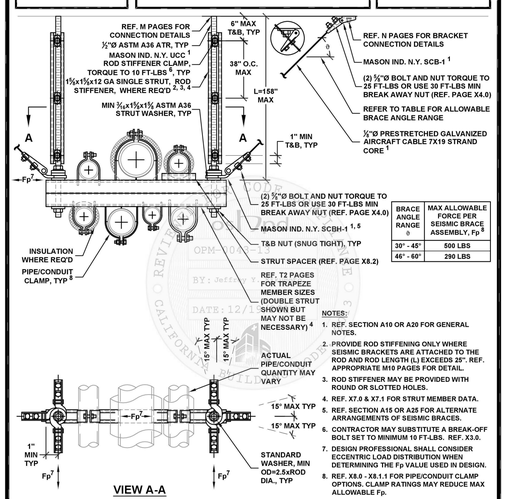
BRACE ANGLE RANGE ϕ	MAX ALLOWABLE FORCE PER SEISMIC BRACE ASSEMBLY, Fp [5]
30° - 45°	270 LBS
46° - 60°	170 LBS

NOTES:
1. REF. SECTION A10 OR A20 FOR GENERAL NOTES.
2. PROVIDE ROD STIFFENING ONLY WHERE SEISMIC BRACKETS ARE ATTACHED TO THE ROD AND ROD LENGTH (L) EXCEEDS 18". REF. APPROPRIATE M10 PAGES FOR DETAIL.
3. ROD STIFFENER MAY BE PROVIDED WITH ROUND OR SLOTTED HOLES.
4. REF. X7.0 & X7.1 FOR STRUT MEMBER DATA.
5. REF. SECTION A15 OR A25 FOR ALTERNATE ARRANGEMENTS OF SEISMIC BRACES.
6. CONTRACTOR MAY SUBSTITUTE A BREAK-OFF BOLT SET TO MINIMUM 10 FT-LBS. REF. X3.0.
7. DESIGN PROFESSIONAL SHALL CONSIDER ECCENTRIC LOAD DISTRIBUTION WHEN DETERMINING THE Fp VALUE USED IN DESIGN.
8. REF. X8.0 - X8.1.1 FOR PIPE/CONDUIT CLAMP OPTIONS. CLAMP RATINGS MAY REDUCE MAX ALLOWABLE Fp.

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PAGE **F2.12**

HANGER ROD DIAMETER = ½" | **PIPING/CONDUIT ALL-DIRECTIONAL TRAPEZE SEISMIC CABLE BRACING SYSTEM 60 PLF MAX** | **KIT OPTIONS TC1A**



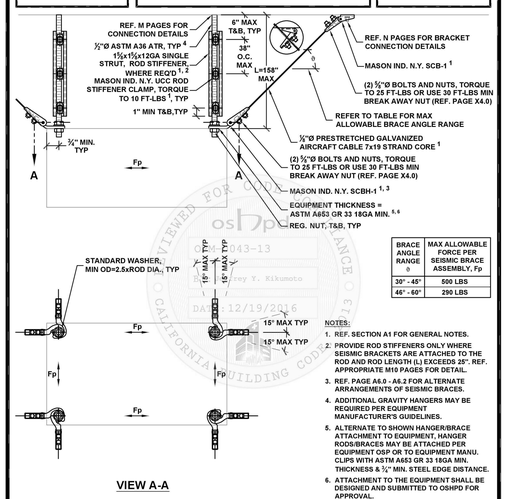
BRACE ANGLE RANGE ϕ	MAX ALLOWABLE FORCE PER SEISMIC BRACE ASSEMBLY, Fp [5]
30° - 45°	500 LBS
46° - 60°	290 LBS

NOTES:
1. REF. SECTION A10 OR A20 FOR GENERAL NOTES.
2. PROVIDE ROD STIFFENING ONLY WHERE SEISMIC BRACKETS ARE ATTACHED TO THE ROD AND ROD LENGTH (L) EXCEEDS 18". REF. APPROPRIATE M10 PAGES FOR DETAIL.
3. ROD STIFFENER MAY BE PROVIDED WITH ROUND OR SLOTTED HOLES.
4. REF. X7.0 & X7.1 FOR STRUT MEMBER DATA.
5. REF. SECTION A15 OR A25 FOR ALTERNATE ARRANGEMENTS OF SEISMIC BRACES.
6. CONTRACTOR MAY SUBSTITUTE A BREAK-OFF BOLT SET TO MINIMUM 10 FT-LBS. REF. X3.0.
7. DESIGN PROFESSIONAL SHALL CONSIDER ECCENTRIC LOAD DISTRIBUTION WHEN DETERMINING THE Fp VALUE USED IN DESIGN.
8. REF. X8.0 - X8.1.1 FOR PIPE/CONDUIT CLAMP OPTIONS. CLAMP RATINGS MAY REDUCE MAX ALLOWABLE Fp.

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PAGE **F2.22**

HANGER ROD DIAMETER = ½" | **SUSPENDED EQUIPMENT SEISMIC CABLE BRACING SYSTEM 375 LB MAX VERTICAL LOAD PER HANGER** | **KIT OPTIONS C1SE**



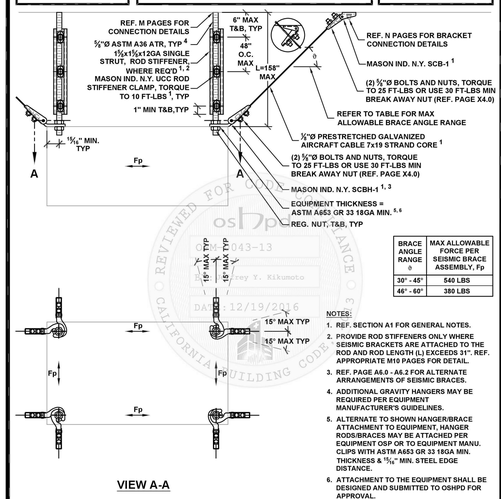
BRACE ANGLE RANGE ϕ	MAX ALLOWABLE FORCE PER SEISMIC BRACE ASSEMBLY, Fp
30° - 45°	500 LBS
46° - 60°	290 LBS

NOTES:
1. REF. SECTION A1 FOR GENERAL NOTES.
2. PROVIDE ROD STIFFENERS ONLY WHERE SEISMIC BRACKETS ARE ATTACHED TO THE ROD AND ROD LENGTH (L) EXCEEDS 25". REF. APPROPRIATE M10 PAGES FOR DETAIL.
3. REF. PAGE A6.0 - A6.2 FOR ALTERNATE ARRANGEMENTS OF SEISMIC BRACES.
4. ADDITIONAL GRAVITY HANGERS MAY BE REQUIRED PER EQUIPMENT MANUFACTURER'S GUIDELINES.
5. ALTERNATE TO SHOWN HANGER/BRACE ATTACHMENT TO EQUIPMENT, HANGER RODS/BRACES MAY BE ATTACHED PER EQUIPMENT OSP OR TO EQUIPMENT MANU. CLIPS WITH ASTM A653 GR 33 18GA MIN. THICKNESS & 3/16" MIN. STEEL EDGE DISTANCE.
6. ATTACHMENT TO THE EQUIPMENT SHALL BE DESIGNED AND SUBMITTED TO OSHPD FOR APPROVAL.

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PAGE **D12.11**

HANGER ROD DIAMETER = ⅝" | **SUSPENDED EQUIPMENT SEISMIC CABLE BRACING SYSTEM 750 LB MAX VERTICAL LOAD PER HANGER** | **KIT OPTIONS C1SE**



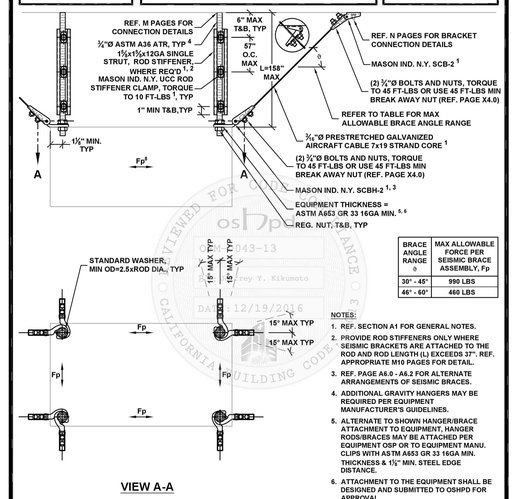
BRACE ANGLE RANGE ϕ	MAX ALLOWABLE FORCE PER SEISMIC BRACE ASSEMBLY, Fp
30° - 45°	540 LBS
46° - 60°	380 LBS

NOTES:
1. REF. SECTION A1 FOR GENERAL NOTES.
2. PROVIDE ROD STIFFENERS ONLY WHERE SEISMIC BRACKETS ARE ATTACHED TO THE ROD AND ROD LENGTH (L) EXCEEDS 31". REF. APPROPRIATE M10 PAGES FOR DETAIL.
3. REF. PAGE A6.0 - A6.2 FOR ALTERNATE ARRANGEMENTS OF SEISMIC BRACES.
4. ADDITIONAL GRAVITY HANGERS MAY BE REQUIRED PER EQUIPMENT MANUFACTURER'S GUIDELINES.
5. ALTERNATE TO SHOWN HANGER/BRACE ATTACHMENT TO EQUIPMENT, HANGER RODS/BRACES MAY BE ATTACHED PER EQUIPMENT OSP OR TO EQUIPMENT MANU. CLIPS WITH ASTM A653 GR 33 18GA MIN. THICKNESS & 5/16" MIN. STEEL EDGE DISTANCE.
6. ATTACHMENT TO THE EQUIPMENT SHALL BE DESIGNED AND SUBMITTED TO OSHPD FOR APPROVAL.

MASON WEST, INC.
1601 E. Miraloma Ave. Placentia, CA 92870
TEL (714) 630 - 0701, www.masonwest.com
Jiefu "Jeff" Zhang, SE
California SE No. S5270

PAGE **D12.12**

HANGER ROD DIAMETER = ¾" | **SUSPENDED EQUIPMENT SEISMIC CABLE BRACING SYSTEM 1250 LB MAX VERTICAL LOAD PER HANGER** | **KIT OPTIONS C2SE**



BRACE ANGLE RANGE ϕ	MAX ALLOWABLE FORCE PER SEISMIC BRACE ASSEMBLY, Fp
30° - 45°	990 LBS
46° - 60°	460 LBS

NOTES:
1. REF. SECTION A1 FOR GENERAL NOTES.
2. PROVIDE ROD STIFFENERS ONLY WHERE SEISMIC BRACKETS ARE ATTACHED TO THE ROD AND ROD LENGTH (L) EXCEEDS 37". REF. APPROPRIATE M10 PAGES FOR DETAIL.
3. REF. PAGE A6.0 - A6.2 FOR ALTERNATE ARRANGEMENTS OF SEISMIC BRACES.
4. ADDITIONAL GRAVITY HANGERS MAY BE REQUIRED PER EQUIPMENT MANUFACTURER'S GUIDELINES.
5. ALTERNATE TO SHOWN HANGER/BRACE ATTACHMENT TO EQUIPMENT, HANGER RODS/BRACES MAY BE ATTACHED PER EQUIPMENT OSP OR TO EQUIPMENT MANU. CLIPS WITH ASTM A653 GR 33 16GA MIN. THICKNESS & 1½" MIN. STEEL EDGE DISTANCE.
6. ATTACHMENT TO THE EQUIPMENT SHALL BE DESIGNED AND SUBMITTED TO OSHPD FOR APPROVAL.

MASON WEST, INC.
1601 E. Miraloma Ave. Placentia, CA 92870
TEL (714) 630 - 0701, www.masonwest.com
Jiefu "Jeff" Zhang, SE
California SE No. S5270

PAGE **D12.13**

SHEET NOTES:

A. REFER TO MASON OPM'S PER THE FOLLOWING:
M-ATR VERTICAL HANGARS
- CONCRETE FILLED DECK- M2.10, M2.11, M2.12, M2.20, M2.21.1, M2.23, M2.70- DO NOT SPACE CLOSER THAN 5' OC EW
- WIDE FLANGED STEEL- M3.10-MAX 1 CON PER BEAM UNLESS SPACED 13' OC
- COLD FORMED STEEL- M6.10, 3/1-S4.31-DO NOT SPACE CLOSER THAN 9'6" OC EW
- BARE METAL DECK- M7.10 M7.11, M7.12 - DO NOT SPACE CLOSER THAN 2' OC EW

N-SEISMIC BRACKET
- CONCRETE FILLED DECK- N2.10, N2.11, N2.12, N2.20, N2.21 - DO NOT SPACE CLOSER THAN 3' OC EW
- WID EFLANGED STEEL- N3.11, N3.15 - MAX 1 CON PER BEAM UNLESS SPACED 12' OC
- COLD FORMED STEEL- 4/1-S4.31 - DO NOT SPACE CLOSER THAN 10' OC EW
- BARE METAL DECK- N7.10 DO NOT SPACE CLOSER THAN 1'6" OC EW

EXTRON ELECTRONICS
WMK 160 & PVM 220

Extron Electronics
INTERFACING, SWITCHING AND CONTROL

GENERAL NOTES:

1. THIS OSHPD PRE–APPROVAL OF MANUFACTURER'S CERTIFICATION (OPM) IS BASED ON THE CBC 2013. THE DEMAND (DESIGN FORCES) FOR USE WITH THIS OPM SHALL BE BASED ON THE CBC 2013.
2. IT IS THE RESPONSIBILITY OF THE STRUCTURAL ENGINEER OF RECORD FOR A SITE SPECIFIC PROJECT TO VERIFY:
   - A. THE ADEQUACY OF THE NEW OR EXISTING STRUCTURE TO RESIST THE FORCES AND WEIGHT SPECIFIED FOR EACH EQUIPMENT IN ADDITION TO ALL OTHER LOADS. PROVIDE AND DESIGN SUPPLEMENTARY MEMBERS AS REQUIRED.
   - B. THAT THE FLOOR AND WALL ANCHORS ARE LOCATED AT AN ADEQUATE DISTANCE FROM ANY SLAB OR WALL EDGES OR OPENINGS.
   - C. THAT THE FLOOR AND WALL ANCHORS ARE LOCATED AT AN ADEQUATE DISTANCE FROM ANY NEW OR EXISTING ANCHORS. THE SPACING SHOWN WITHIN THIS DOCUMENT IS THE REQUIRED MINIMUM SPACING OF THE INDICATED DIAMETER ANCHOR BOLTS. THE REQUIRED SPACING FROM ANCHORS OF OTHER DIAMETERS AND EMBEDMENTS MAY VARY AND SHALL BE EVALUATED BY THE SEOR.
   - D. THAT THE INSTALLATION IS IN CONFORMANCE WITH THE CBC 2013 AND WITH THE DETAILS SHOWN IN THIS PRE–APPROVAL.
   - E. THAT THE ACTUAL EQUIPMENT'S WEIGHT, CENTER OF GRAVITY (CG) LOCATION, ANCHOR LOCATIONS, ANCHOR DETAILS, AND THE MATERIAL AND GAUGE OF THE EQUIPMENT WHERE ATTACHMENTS ARE MADE, AGREE WITH THE INFORMATION SHOWN ON THE PRE–APPROVAL DOCUMENTS.

3A. EXPANSION ANCHORS INSTALLED IN NORMAL WEIGHT OR SAND–LIGHTWEIGHT CONCRETE SHALL BE CARBON STEEL HILTI KB–TZ EXPANSION ANCHORS COMPLYING WITH ESR–1917 REISSUED MAY 1, 2013.

- B. INSTALLATION: INSTALL THE EXPANSION ANCHORS IN ACCORDANCE WITH THE REQUIREMENTS GIVEN IN THE ICC EVALUATION REPORT FOR THE SPECIFIC ANCHOR AND THE PARAMETERS GIVEN IN THE TABLE ON PAGE 3.
- C. JOB TESTING: FOR VERIFYING SATISFACTORY INSTALLATION WORKMANSHIP, PERFORM JOB SITE TESTING IN ACCORDANCE WITH THE TORQUE LOAD TABLE PROVIDED IN THIS DOCUMENT. TEST 50% OF THE INSTALLED ANCHORS. THE TEST LOAD MAY BE APPLIED BY ANY METHOD THAT WILL EFFECTIVELY MEASURE THE TENSION IN THE ANCHOR SUCH AS CALIBRATED TORQUE WRENCH METHOD. ALL TESTS SHALL BE CONDUCTED IN THE PRESENCE OF THE INSPECTOR OF RECORD. REPORT OF TEST RESULTS SHALL BE SUBMITTED TO OSHPD. IF ANY ANCHOR FAILS THE TEST, TEST ALL ANCHORS. THE TEST SHALL BE PERFORMED 24 HOURS OR MORE AFTER INSTALLATION. TESTING MAY BE DONE PRIOR TO EQUIPMENT INSTALLATION. ALSO REFER TO CBC 1913A.7 "FIELD TESTS FOR POST–INSTALLED ANCHORS IN CONCRETE".
- D. FAILURE/ACCEPTANCE CRITERIA: THE FOLLOWING CRITERIA APPLY FOR THE ACCEPTANCE OF INSTALLED ANCHORS:
  - TORQUE WRENCH METHOD: THE APPLICABLE TEST TORQUE MUST BE REACHED WITHIN THE FOLLOWING LIMITS: WEDGE TYPE: ONE–HALF (½) TURN OF THE NUT.

SHEET TITLE: GENERAL NOTES

CYS STRUCTURAL ENGINEERS, INC.
2495 NATOMAS PARK DRIVE, SUITE 650 TEL (916) 920-2020
SACRAMENTO, CA 95833 www.cyseng.com

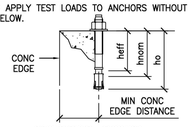
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EXTRON ELECTRONICS
WMK 160 & PVM 220

Extron Electronics
INTERFACING, SWITCHING AND CONTROL

GENERAL NOTES CONTINUED:

3E. TEST VALUES: APPLY TEST LOADS TO ANCHORS WITHOUT REMOVING THE NUT IF POSSIBLE, SEE TABLE BELOW.

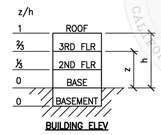


MECHANICAL ANCHOR

ANCHOR DIA (INCH) da	INSTALLATION EMBED (INCH) hnom	EFFECTIVE EMBED (INCH) heff	HOLE DEPTH (INCH) ho	MIN CONC THICKNESS (INCH) h	MIN CONC EDGE DISTANCE (INCH)	MIN AB SPACING (INCH)	TEST LOAD TORQUE (FT–LBS)	CONDITION OF ANCHORAGE
⅜	2⅝	2	2⅝	4*	6	6¾	25	CASE 1

* SEE PAGE 11 FOR UNDERSIDE OF METAL DECK DETAIL.

4. A SINGLE CASE OF ANCHORAGE IS SPECIFIED AND PRESENTED IN THIS PRE–APPROVAL:



BUILDING ELEV

CASE 1: ANCHORAGE DETAILS LOCATED AT ANY LEVEL OF A BUILDING (z/h<=1.0), IT IS ASSUMED THAT THE FLOORS ARE BUILT OF A MINIMUM 3¼" SAND–LIGHT WEIGHT CONCRETE OR NORMAL WEIGHT CONCRETE TOPPING OVER METAL DECK OR 4" NORMAL WEIGHT CONCRETE SLAB (f'_c = 3000 PSI, MINIMUM).

5. THIS PRE–APPROVAL MAY BE USED AT ANY GEOGRAPHICAL LOCATION IN THE STATE OF CALIFORNIA. WHERE S_{DS} IS LESS THAN OR EQ TO 2.50.

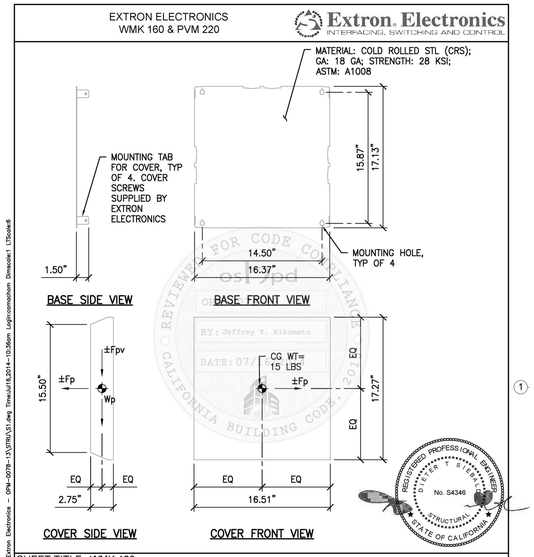
SHEET TITLE: GENERAL NOTES (CONTINUED)

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SACRAMENTO, CA 95833 www.cyseng.com

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EXTRON ELECTRONICS
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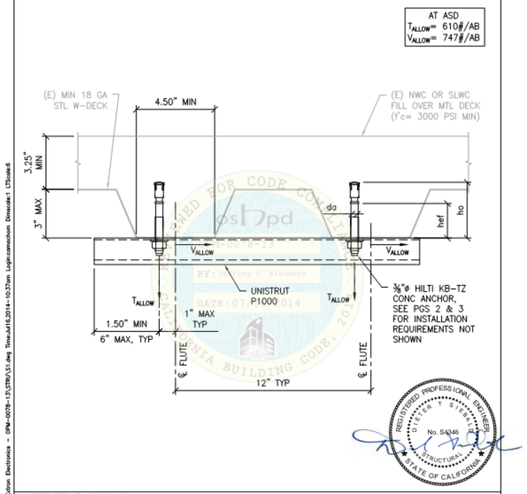
SHEET TITLE: WMK 160
ELEVATIONS

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EXTRON ELECTRONICS
WMK 160 & PVM 220

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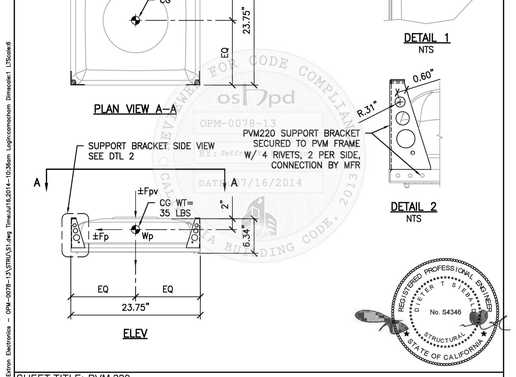
SHEET TITLE: PVM 220
UNDERSIDE OF METAL DECK

CYS STRUCTURAL ENGINEERS, INC.
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Date:	06-30-2014
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EXTRON ELECTRONICS
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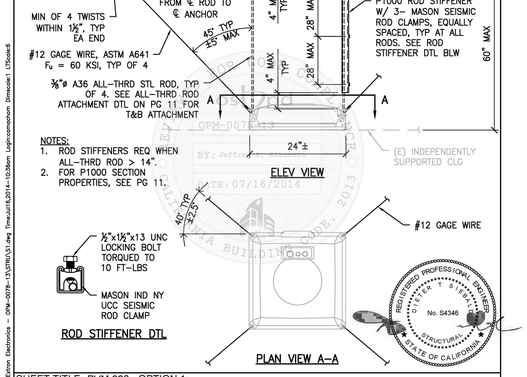
SHEET TITLE: PVM 220
PLAN & ELEVATIONS

CYS STRUCTURAL ENGINEERS, INC.
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EXTRON ELECTRONICS
WMK 160 & PVM 220

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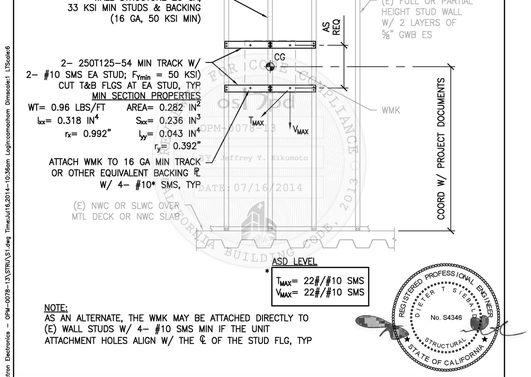
SHEET TITLE: PVM 220 - OPTION 1:
UNDERSIDE OF METAL DECK SUPPORT & ATTACHMENT

CYS STRUCTURAL ENGINEERS, INC.
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EXTRON ELECTRONICS
WMK 160 & PVM 220

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INTERFACING, SWITCHING AND CONTROL



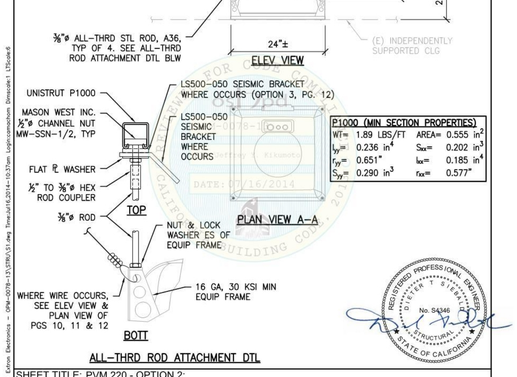
SHEET TITLE: WMK 160
STUD WALL ATTACHMENT

CYS STRUCTURAL ENGINEERS, INC.
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Date:	06-30-2014
Page:	7 of 13

EXTRON ELECTRONICS
WMK 160 & PVM 220

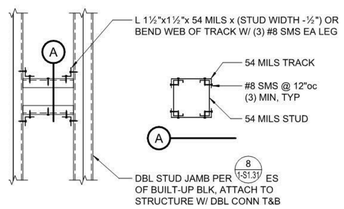
Extron Electronics
INTERFACING, SWITCHING AND CONTROL



SHEET TITLE: PVM 220 - OPTION 2:
UNDERSIDE OF METAL DECK SUPPORT & ATTACHMENT

CYS STRUCTURAL ENGINEERS, INC.
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Job No:	13127
Date:	06-30-2014
Page:	11 of 13



1 HEAVY DUTY WALL BACKING PLATING
NTS

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

WSP USA Buildings, Inc.
405 Howard St. Suite 500
San Francisco, CA 94105
(415) 398-3833
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

**1401 W. WINTON AVE.
HAYWARD, CA 94545**

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER
AMANDA J. BROWNLEE
No. E17287
ELECTRICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

TECHNOLOGY DETAILS

Drawn By: Author Checked By: Checker

Scale:
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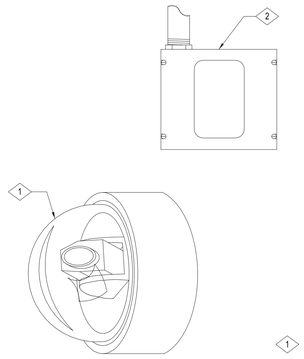
Date:
October 4, 2019

Project No. B17.07369

2-T7.04
Drawing No.

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REVIEWED FOR CODE COMPLIANCE OSHPD
BY: Jeffrey Y. Kikumoto
DATE: 07/16/2014
CALIFORNIA BUILDING CODE, 2013



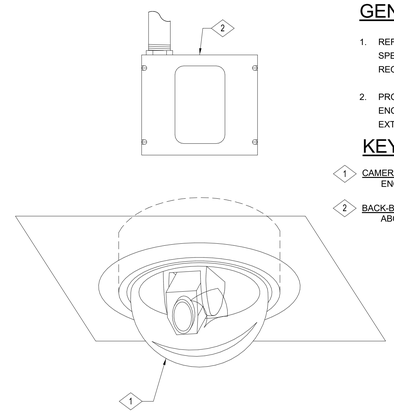
GENERAL NOTES:

1. REFER TO SECURITY SCHEDULES AND WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
2. PROVIDE WEATHER PROOF/WATER RESISTANT ENCLOSURE WITH HEATER/BLOWER FOR ALL EXTERIOR CAMERAS.

KEYNOTES:

1. CAMERA: PROVIDE MINI-DOME TYPE CAMERA WITH ENCLOSURE.
2. BACK-BOX: CAMERA CABLE BACK-BOX MOUNTED FLUSH IN WALL.

4 FIXED WALL SURFACE MOUNT CCTV CAMERA — NO SCALE



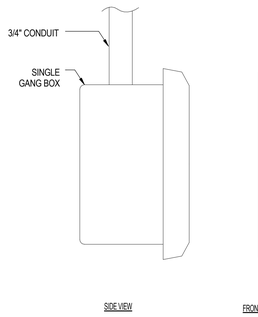
GENERAL NOTES:

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2. PROVIDE WEATHER PROOF/WATER RESISTANT ENCLOSURE WITH HEATER/BLOWER FOR ALL EXTERIOR CAMERAS.

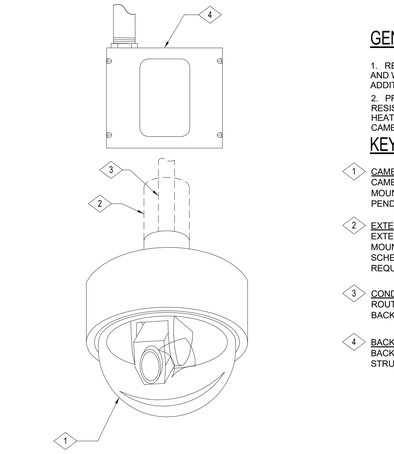
KEYNOTES:

1. CAMERA: PROVIDE MINI-DOME TYPE CAMERA WITH ENCLOSURE.
2. BACK-BOX: CAMERA CABLE BACK-BOX MOUNTED ABOVE CEILING.

1 FIXED CEILING MOUNT CCTV CAMERA — NO SCALE



5 CARD READER DETAIL - MULLION — NO SCALE



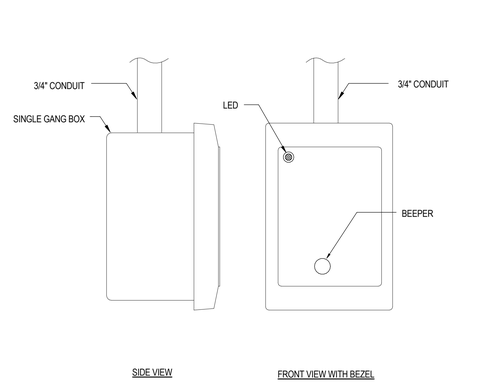
GENERAL NOTES:

1. REFER TO SECURITY SCHEDULES AND WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
2. PROVIDE WEATHER PROOF/WATER RESISTANT ENCLOSURE WITH HEATER/BLOWER FOR ALL EXTERIOR CAMERAS.

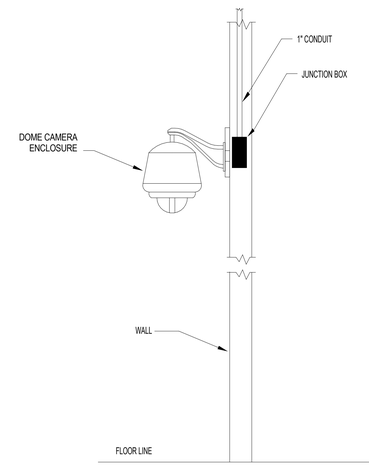
KEYNOTES:

1. CAMERA: PROVIDE MINI-DOME TYPE CAMERA WITH ENCLOSURE SURFACE MOUNTED DIRECTLY TO BACK-BOX OR PENDANT MOUNTED FROM BACK-BOX.
2. EXTENSION: PROVIDE PENDANT MOUNT EXTENSION AS REQUIRED BASED ON CAMERA MOUNTING HEIGHT. REFER TO CAMERA SCHEDULES FOR MOUNTING HEIGHT REQUIREMENTS.
3. CONDUIT: PROVIDE (1) 1-INCH CONDUIT ROUTED FROM CAMERA TO DATA DEVICE BACK-BOX.
4. BACK-BOX: CAMERA CABLE BACK-BOX SURFACE MOUNTED TO STRUCTURE.

2 FIXED OVERHEAD MOUNT CCTV CAMERA — NO SCALE



6 CARD READER DETAIL — NO SCALE



3 WALL MOUNTED DOME CAMERA ENCLOSURE — NO SCALE

DETAILS ON THIS SHEET ARE GENERIC. PLEASE REFER TO OPM DETAILS FOR HANGER AND ANCHOR INFORMATION FOR ALL SUPPORTS AND CONNECTION INFORMATION NOT INDICATED

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY:	
KATHY GARCIA DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

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425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER
AMANDA J. BROWN-LEE
No. E17287
ELECTRICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

SECURITY DETAILS

Drawn By: Author
Checked By: Checker

Scale: **NTS**

Date: **October 4, 2019**

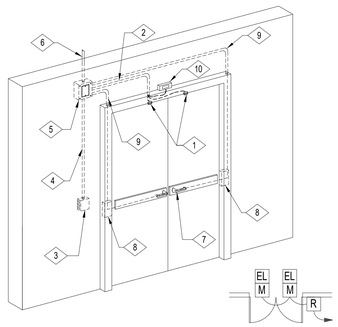
Project No. B17.07369

2-T7.05
Drawing No.

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GENERAL NOTES:

1. DOOR DETAIL INDICATES DOOR HANDLE OR CRASHBAR ON SECURED SIDE OF DOOR FOR REFERENCE ONLY. REFER TO DOOR HARDWARE DIVISION SPECIFICATIONS FOR ACTUAL HARDWARE INFORMATION.
2. LOCK POWER WILL VARY DEPENDING ON LOCK TYPE AND DOOR HARDWARE. REFER TO SECURITY SCHEDULES FOR COORDINATED POWER REQUIREMENTS. CONTRACTOR SHALL CROSS REFERENCE WITH OFFICIAL DOOR HARDWARE SCHEDULE/SPECIFICATIONS TO CONFIRM FINAL REQUIREMENTS.



CARD-IN WITH CONTACT, FREE EXIT, ELECTRIC LOCKS, PIR MOTION REX

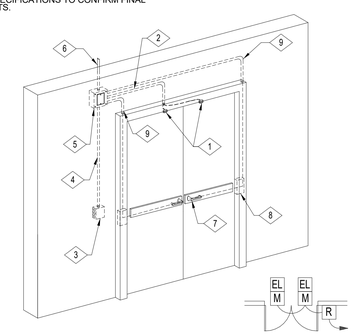
KEYNOTES:

1. DOOR MONITOR: PROVIDE FLUSH MOUNTED DOOR STATUS MONITOR.
2. DOOR MONITOR CONDUIT: PROVIDE 3/4"C. (19mm) FROM DOOR FRAME TO J-BOX.
3. READER/KEYPAD: PROVIDE 4"X4"X2-1/8" (1OOmmX100mmX 54mm) BACK-BOX AND SINGLE GANG MUD RING MOUNTED ON NON-SECURED SIDE OF DOOR AT 42" AFF.
4. READER/KEYPAD CONDUIT: PROVIDE 3/4"C. (19mm) TO J-BOX.
5. SECURITY J-BOX: PROVIDE 8"X8"X4" (200mmX200mmX100mm) J-BOX FLUSH MOUNTED ABOVE FINISHED ACCESSIBLE CEILING ON SECURED SIDE OF DOOR.
6. SECURITY J-BOX CONDUIT: PROVIDE 1"C. (25mm) TO NEAREST ACCESSIBLE CEILING, CABLE TRAY, OR COMM ROOM.
7. ELECTRIC LOCKSET: INTERNAL ELECTRIFIED LOCK, SHOWN FOR REFERENCE ONLY. (REFER TO DOOR HARDWARE DIVISION.)
8. ELECTRIFIED HINGE: HINGE WITH ISOLATED ELECTRICAL CONNECTIVITY, SHOWN FOR REFERENCE ONLY. (REFER TO DOOR HARDWARE DIVISION.)
9. LOCKING HARDWARE CONDUIT: PROVIDE 3/4"C. (19mm) FROM DOOR FRAME TO J-BOX. COORDINATE FRAME TIE-IN LOCATION WITH DOOR HARDWARE DIVISION.
10. PIR MOTION REX: PROVIDE MOTION REX DEVICE CENTERED AND MOUNTED TO TOP OF DOOR FRAME. ROUTE CABLING INTO DOOR FRAME AND UP TO J-BOX.

4 CARD ACCESS - DOUBLE DOOR TYPE 8 — NO SCALE

GENERAL NOTES:

1. DOOR DETAIL INDICATES DOOR HANDLE OR CRASHBAR ON SECURED SIDE OF DOOR FOR REFERENCE ONLY. REFER TO DOOR HARDWARE DIVISION SPECIFICATIONS FOR ACTUAL HARDWARE INFORMATION.
2. LOCK POWER WILL VARY DEPENDING ON LOCK TYPE AND DOOR HARDWARE. REFER TO SECURITY SCHEDULES FOR COORDINATED POWER REQUIREMENTS. CONTRACTOR SHALL CROSS REFERENCE WITH OFFICIAL DOOR HARDWARE SCHEDULE/SPECIFICATIONS TO CONFIRM FINAL REQUIREMENTS.



CARD-IN WITH CONTACTS, FREE EXIT, ELECTRIC LOCKS, INTEGRATED REX

KEYNOTES:

1. DOOR MONITOR: PROVIDE FLUSH MOUNTED DOOR STATUS MONITOR.
2. DOOR MONITOR CONDUIT: PROVIDE 3/4"C. (19mm) FROM DOOR FRAME TO J-BOX.
3. READER/KEYPAD: PROVIDE 4"X4"X2-1/8" (1OOmmX100mmX 54mm) BACK-BOX AND SINGLE GANG MUD RING MOUNTED ON NON-SECURED SIDE OF DOOR AT 42" AFF.
4. READER/KEYPAD CONDUIT: PROVIDE 3/4"C. (19mm) TO J-BOX.
5. SECURITY J-BOX: PROVIDE 8"X8"X4" (200mmX200mmX100mm) J-BOX FLUSH MOUNTED ABOVE FINISHED ACCESSIBLE CEILING ON SECURED SIDE OF DOOR.
6. SECURITY J-BOX CONDUIT: PROVIDE 1"C. (25mm) TO NEAREST ACCESSIBLE CEILING, CABLE TRAY, OR COMM ROOM.
7. ELECTRIC LOCKSET: INTERNAL ELECTRIFIED LOCK, SHOWN FOR REFERENCE ONLY. (REFER TO DOOR HARDWARE DIVISION.)
8. ELECTRIFIED HINGE: HINGE WITH ISOLATED ELECTRICAL CONNECTIVITY, SHOWN FOR REFERENCE ONLY. (REFER TO DOOR HARDWARE DIVISION.)
9. LOCKING HARDWARE CONDUIT: PROVIDE 3/4"C. (19mm) FROM DOOR FRAME TO J-BOX. COORDINATE FRAME TIE-IN LOCATION WITH DOOR HARDWARE DIVISION.

1 CARD ACCESS - DOUBLE DOOR TYPE 5 — NO SCALE

GENERAL NOTES:

1. DOOR DETAIL INDICATES DOOR HANDLE OR CRASHBAR ON SECURED SIDE OF DOOR FOR REFERENCE ONLY. REFER TO DOOR HARDWARE DIVISION SPECIFICATIONS FOR ACTUAL HARDWARE INFORMATION.
2. LOCK POWER WILL VARY DEPENDING ON LOCK TYPE AND DOOR HARDWARE. REFER TO SECURITY SCHEDULES FOR COORDINATED POWER REQUIREMENTS. CONTRACTOR SHALL CROSS REFERENCE WITH OFFICIAL DOOR HARDWARE SCHEDULE/SPECIFICATIONS TO CONFIRM FINAL REQUIREMENTS.

CARD-IN WITH CONTACTS, FREE EXIT, ELECTRIC LOCK, PIR MOTION REX

KEYNOTES:

1. DOOR MONITOR: PROVIDE FLUSH MOUNTED DOOR STATUS MONITOR.
2. DOOR MONITOR CONDUIT: PROVIDE 3/4"C. (19mm) FROM DOOR FRAME TO J-BOX.
3. READER/KEYPAD: PROVIDE 4"X4"X2-1/8" (1OOmmX100mmX 54mm) BACK-BOX AND SINGLE GANG MUD RING MOUNTED ON NON-SECURED SIDE OF DOOR AT 42" AFF.
4. READER/KEYPAD CONDUIT: PROVIDE 3/4"C. (19mm) TO J-BOX.
5. SECURITY J-BOX: PROVIDE 8"X8"X4" (200mmX200mmX100mm) J-BOX FLUSH MOUNTED ABOVE FINISHED ACCESSIBLE CEILING ON SECURED SIDE OF DOOR.
6. SECURITY J-BOX CONDUIT: PROVIDE 1"C. (25mm) TO NEAREST ACCESSIBLE CEILING, CABLE TRAY, OR COMM ROOM.
7. ELECTRIC LOCKSET: INTERNAL ELECTRIFIED LOCK, SHOWN FOR REFERENCE ONLY. (REFER TO DOOR HARDWARE DIVISION.)
8. ELECTRIFIED HINGE: HINGE WITH ISOLATED ELECTRICAL CONNECTIVITY, SHOWN FOR REFERENCE ONLY. (REFER TO DOOR HARDWARE DIVISION.)
9. LOCKING HARDWARE CONDUIT: PROVIDE 3/4"C. (19mm) FROM DOOR FRAME TO J-BOX. COORDINATE FRAME TIE-IN LOCATION WITH DOOR HARDWARE DIVISION.
10. PIR MOTION REX: PROVIDE MOTION REX DEVICE CENTERED AND MOUNTED TO TOP OF DOOR FRAME. ROUTE CABLING INTO DOOR FRAME AND UP TO J-BOX.

5 CARD ACCESS - SINGLE DOOR TYPE 6 — NO SCALE

GENERAL NOTES:

1. DOOR DETAIL INDICATES DOOR HANDLE OR CRASHBAR ON SECURED SIDE OF DOOR FOR REFERENCE ONLY. REFER TO DOOR HARDWARE DIVISION SPECIFICATIONS FOR ACTUAL HARDWARE INFORMATION.
2. LOCK POWER WILL VARY DEPENDING ON LOCK TYPE AND DOOR HARDWARE. REFER TO SECURITY SCHEDULES FOR COORDINATED POWER REQUIREMENTS. CONTRACTOR SHALL CROSS REFERENCE WITH OFFICIAL DOOR HARDWARE SCHEDULE/SPECIFICATIONS TO CONFIRM FINAL REQUIREMENTS.

CARD-IN WITH CONTACT, FREE EXIT, ELECTRIC LOCKSET, INTEGRATED REX

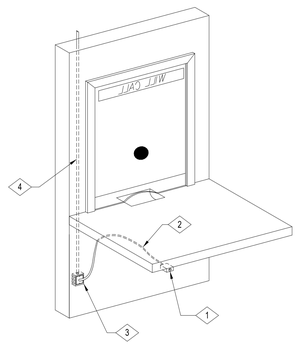
KEYNOTES:

1. DOOR MONITOR: PROVIDE FLUSH MOUNTED DOOR STATUS MONITOR.
2. DOOR MONITOR CONDUIT: PROVIDE 3/4"C. (19mm) FROM DOOR FRAME TO J-BOX.
3. READER/KEYPAD: PROVIDE 4"X4"X2-1/8" (1OOmmX100mmX 54mm) BACK-BOX AND SINGLE GANG MUD RING MOUNTED ON NON-SECURED SIDE OF DOOR AT 42" AFF.
4. READER/KEYPAD CONDUIT: PROVIDE 3/4"C. (19mm) TO J-BOX.
5. SECURITY J-BOX: PROVIDE 8"X8"X4" (200mmX200mmX100mm) J-BOX FLUSH MOUNTED ABOVE FINISHED ACCESSIBLE CEILING ON SECURED SIDE OF DOOR.
6. SECURITY J-BOX CONDUIT: PROVIDE 1"C. (25mm) TO NEAREST ACCESSIBLE CEILING, CABLE TRAY, OR COMM ROOM.
7. ELECTRIC LOCKSET: INTERNAL ELECTRIFIED LOCK WITH INTEGRATED REX SWITCH, SHOWN FOR REFERENCE ONLY. (REFER TO DOOR HARDWARE DIVISION.)
8. ELECTRIFIED HINGE: HINGE WITH ISOLATED ELECTRICAL CONNECTIVITY, SHOWN FOR REFERENCE ONLY. (REFER TO DOOR HARDWARE DIVISION.)
9. LOCKING HARDWARE CONDUIT: PROVIDE 3/4"C. (19mm) FROM DOOR FRAME TO J-BOX. COORDINATE FRAME TIE-IN LOCATION WITH DOOR HARDWARE DIVISION.

2 CARD ACCESS - SINGLE DOOR TYPE 3 — NO SCALE

GENERAL NOTES:

1. MILLWORK IS SHOWN HERE FOR REFERENCE ONLY. CONTRACTOR SHALL REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION AND TO COORDINATE FINAL DEVICE PLACEMENT PRIOR TO INSTALLATION.



KEYNOTES:

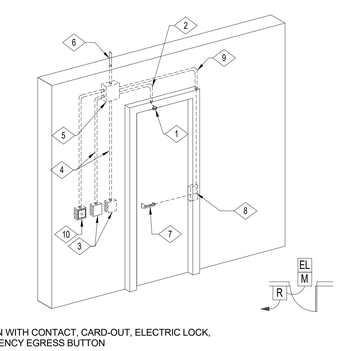
1. DURESS BUTTON: PROVIDE SURFACE MOUNTED DURESS BUTTON UNDER FRONT EDGE OF COUNTER.
2. FLEXIBLE CONDUIT WHIP: PROVIDE 3/4" FLEXIBLE WHIP FROM DURESS BUTTON TO J-BOX LOCATED BELOW COUNTER.
3. DURESS BUTTON J-BOX: PROVIDE 4"X4"X2-1/8" (1OOmmX100mmX 54mm) BACK-BOX AND SINGLE GANG FACE PLATE FLUSH MOUNTED IN WALL BELOW COUNTER AT 24" AFF.
4. DURESS BUTTON CONDUIT: PROVIDE 3/4"C. (19mm) FROM J-BOX TO NEAREST ACCESSIBLE CEILING, CABLE TRAY, OR COMM ROOM.

DETAILS ON THIS SHEET ARE GENERIC. PLEASE REFER TO OPM DETAILS FOR HANGER AND ANCHOR INFORMATION FOR ALL SUPPORTS AND CONNECTION INFORMATION NOT INDICATED

6 DURESS BUTTON - UNDER COUNTER — NO SCALE

GENERAL NOTES:

1. DOOR DETAIL INDICATES DOOR HANDLE OR CRASHBAR ON SECURED SIDE OF DOOR FOR REFERENCE ONLY. REFER TO DOOR HARDWARE DIVISION SPECIFICATIONS FOR ACTUAL HARDWARE INFORMATION.
2. LOCK POWER WILL VARY DEPENDING ON LOCK TYPE AND DOOR HARDWARE. REFER TO SECURITY SCHEDULES FOR COORDINATED POWER REQUIREMENTS. CONTRACTOR SHALL CROSS REFERENCE WITH OFFICIAL DOOR HARDWARE SCHEDULE/SPECIFICATIONS TO CONFIRM FINAL REQUIREMENTS.



CARD-IN WITH CONTACT, CARD-OUT, ELECTRIC LOCK, EMERGENCY EGRESS BUTTON

KEYNOTES:

1. DOOR MONITOR: PROVIDE FLUSH MOUNTED DOOR STATUS MONITOR.
2. DOOR MONITOR CONDUIT: PROVIDE 3/4"C. (19mm) FROM DOOR FRAME TO J-BOX.
3. READER/KEYPAD: PROVIDE 4"X4"X2-1/8" (1OOmmX100mmX 54mm) BACK-BOX AND SINGLE GANG MUD RING MOUNTED ON NON-SECURED SIDE OF DOOR AT 42" AFF.
4. READER/KEYPAD CONDUIT: PROVIDE 3/4"C. (19mm) TO J-BOX.
5. SECURITY J-BOX: PROVIDE 8"X8"X4" (200mmX200mmX100mm) J-BOX MOUNTED ABOVE FINISHED ACCESSIBLE CEILING ON SECURED SIDE OF DOOR.
6. SECURITY J-BOX CONDUIT: PROVIDE 1"C. (25mm) TO NEAREST ACCESSIBLE CEILING, CABLE TRAY, OR COMM ROOM.
7. ELECTRIC LOCKSET: INTERNAL ELECTRIFIED LOCK, SHOWN FOR REFERENCE ONLY. (REFER TO DOOR HARDWARE DIVISION.)
8. ELECTRIFIED HINGE: HINGE WITH ISOLATED ELECTRICAL CONNECTIVITY, SHOWN FOR REFERENCE ONLY. (REFER TO DOOR HARDWARE DIVISION.)
9. LOCKING HARDWARE CONDUIT: PROVIDE 3/4"C. (19mm) FROM DOOR FRAME TO J-BOX. COORDINATE FRAME TIE-IN LOCATION WITH DOOR HARDWARE DIVISION.
10. DOOR RELEASE BUTTON REX: PROVIDE 4"X4"X2-1/8" (1OOMMX100MMX 54MM) BACK-BOX, SINGLE GANG FACE PLATE, AND PUSH BUTTON, MOUNTED ON SECURED SIDE OF DOOR AT 42" AFF. ADDITIONALLY, PROVIDE 3/4"C. (19MM) TO SECURITY J-BOX.

3 CARD ACCESS - DOUBLE DOOR TYPE 20 — NO SCALE

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY:	
KATHY GARCIA DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER
AMANDA J. BROWNLEE
No. E17287
ELECTRICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

SECURITY DETAILS

Drawn By: Author — Checked By: Checker

Scale: **NTS**

Date: **October 4, 2019**

Project No. B17.07369

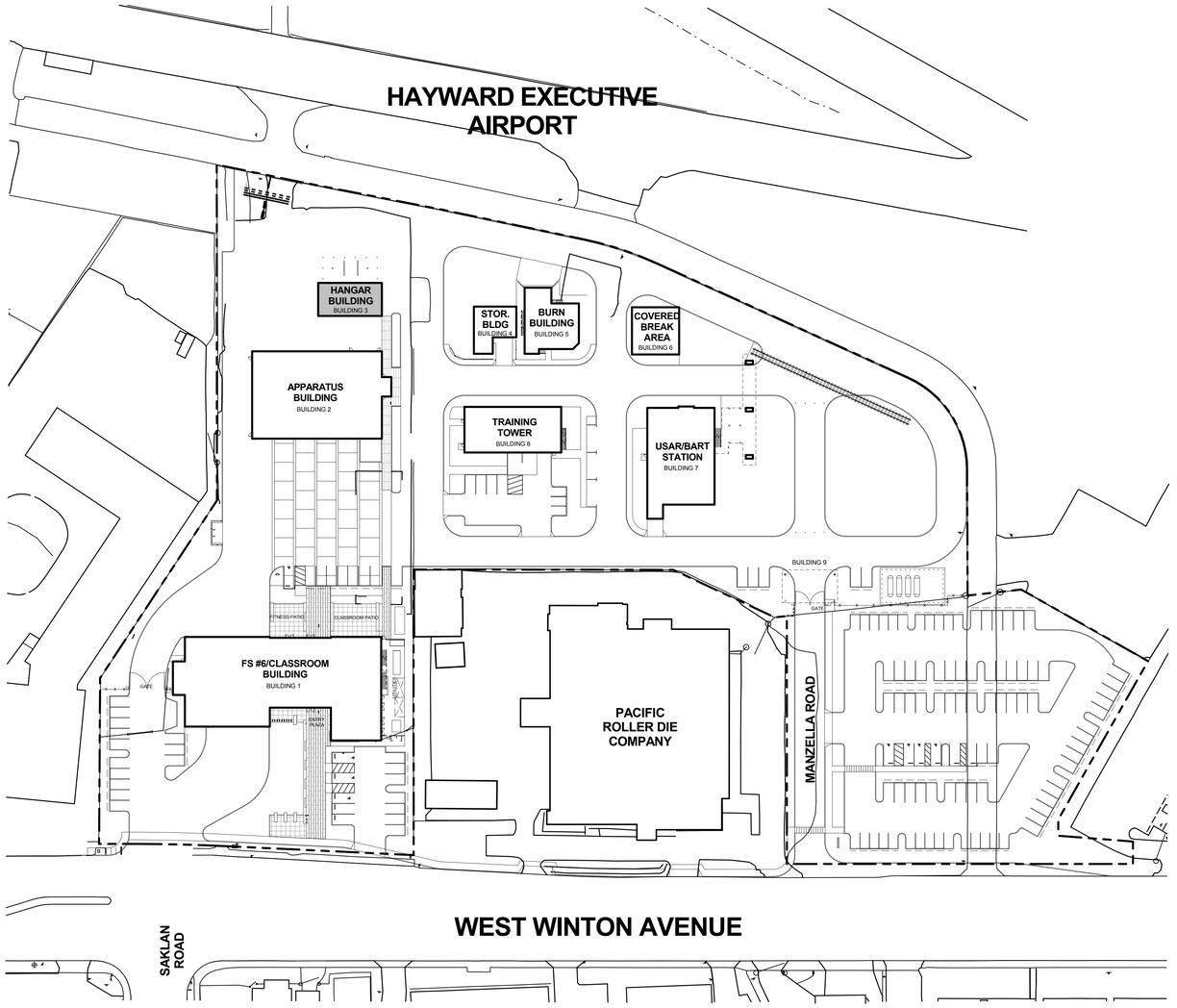
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HAYWARD FIRE STATION #6
& FIRE TRAINING CENTER

BUILDING 3

PERMIT SUBMITTAL - INCREMENT #1



1 SITE LOCATION PLAN
1" = 50'-0"

PROJECT INFORMATION

APN:	432-124-1-4 (PORTION)
PROJECT:	HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER BUILDING 3 1401 WEST WINTON AVENUE, HAYWARD, CA 94545
DESCRIPTION:	ROOF CANOPY (BUILDING 3)
BUILDING AREAS:	39,156 SF SITE COVERAGE 66,278 SF GROSS FLOOR AREA
TOTAL BUILDING AREA FOR THIS PERMIT:	1,512 SF (8,500 SF ALLOWABLE PER CBC TABLE 506.2)
SITE:	293,364 SF (6.73 ACRES) SITE DEVELOPMENT AREA 13% LOT COVERAGE (TOTAL DEVELOPMENT)
BUILDING FLOOR AREA RATIO:	23% (TOTAL DEVELOPMENT)
FIRE SPRINKLERED:	NO (BUILDING 3)
BUILDING USE/OCCUPANCY:	U - UTILITY (CARPORT)
CONSTRUCTION TYPE:	II-B
ZONING:	AT/AC
TOTAL BUILDING STORIES:	1
DEFERRED SUBMITTALS:	NONE

BUILDING 3 SCOPE OF WORK

The general scope of work covered under this contract includes but is not limited to:

Structure
- New concrete slab, structural steel frame, and roof.
- New standing seam metal roof.
- New in-ground pump test pit for the purpose of testing the pumps installed on the fire department apparatus.

Plumbing
- New underground grease/sand separator.

Electrical
- New power, data, and lighting systems.
- New roof-mounted photovoltaic system including inverter. (Reviewed and approved under DSA Increment #2)

SHEET INDEX - INCREMENT #1

NUMBER	NAME
ARCHITECTURAL	
3-A0.10	BUILDING 3 SHEET INDEX, PROJECT INFORMATION
3-A0.11	BUILDING 3 CODE ANALYSIS OCCUPANCY & EGRESS PLAN, EXTERIOR AXONOMETRIC VIEWS
3-A2.10	BUILDING 3 FLOOR PLAN
3-A2.60	BUILDING 3 ROOF PLAN
3-A3.10	BUILDING 3 EXTERIOR ELEVATIONS, BUILDING CROSS SECTION
3-A3.50	BUILDING 3 WALL SECTIONS, ARCHITECTURAL DETAILS
3-A6.10	BUILDING 3 REFLECTED CEILING PLAN
3-A8.10	BUILDING 3 ARCHITECTURAL DETAILS
STRUCTURAL	
3-S0.10	BUILDING 3 GENERAL NOTES AND SPECIFICATIONS
3-S1.10	BUILDING 3 TYPICAL CONCRETE DETAILS
3-S1.20	BUILDING 3 STEEL FRAMING DETAILS
3-S1.50	BUILDING 3 TYPICAL METAL DECKING DETAILS
3-S2.10	BUILDING 3 FLOOR PLAN
3-S2.20	BUILDING 3 ROOF PLAN
3-S3.10	BUILDING 3 ELEVATIONS
3-S3.20	BUILDING 3 SECTIONS
3-S4.10	BUILDING 3 DETAILS AND SECTIONS
3-S4.11	BUILDING 3 FOUNDATION MAT AND CONCRETE SLAB DETAILS
3-S4.12	BUILDING 3 TYPICAL CONCRETE WALL DETAILS
PLUMBING	
3-P0.01	BUILDING 3 PLUMBING LEGEND AND ABBREVIATION, DRAWING LIST AND SCHEDULE
3-P2.01	BUILDING 3 PLUMBING HANGAR BUILDING FLOOR PLAN, AND DIAGRAM
ELECTRICAL	
3-E0.01	BUILDING 3 ELECTRICAL LEGEND, ABBREVIATIONS AND DRAWING LIST
3-E0.02	BUILDING 3 ELECTRICAL SCHEDULES
3-E0.20	BUILDING 3 ELECTRICAL TITLE 24
3-E0.21	BUILDING 3 ELECTRICAL TITLE 24
3-E2.01	BUILDING 3 ELECTRICAL HANGAR BUILDING FLOOR PLAN
3-E5.01	BUILDING 3 ELECTRICAL SINGLE LINE DIAGRAM
TECHNOLOGY	
3-T0.01	BUILDING 3 TECHNOLOGY LEGEND, ABBREVIATIONS AND DRAWING LIST
3-T2.01	BUILDING 3 TECHNOLOGY HANGER BUILDING FLOOR PLAN
3-T7.01	BUILDING 3 TECHNOLOGY DETAILS
3-T7.02	BUILDING 3 TECHNOLOGY DETAILS
3-T7.03	BUILDING 3 TECHNOLOGY DETAILS
3-T7.04	BUILDING 3 SECURITY DETAILS

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542
ARCHITECTURE

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY:	
KATHY GARCIA DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3 - INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
9/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 3
SHEET INDEX, PROJECT INFORMATION

Drawn By: EW Checked By: EW

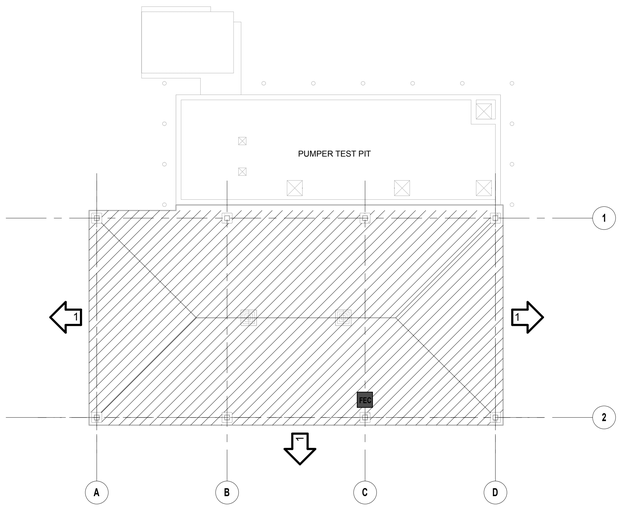
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October 4, 2019

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3-A0.10
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1 FLOOR PLAN - OCCUPANCY & EGRESS
1/8" = 1'-0"

OCCUPANCY ANALYSIS					
RM. NO.	RM. NAME	OCC.	AREA	O.L.F.	O.L.
000	COVERED WASH BAY	U	1492 SF	500 SF	3
Grand total: 1			1492 SF		3

OCCUPANCY LOAD FACTORS

(REFERENCE: TABLE 1004.1.2)

WAREHOUSE	500

LEGEND- EGRESS PLAN

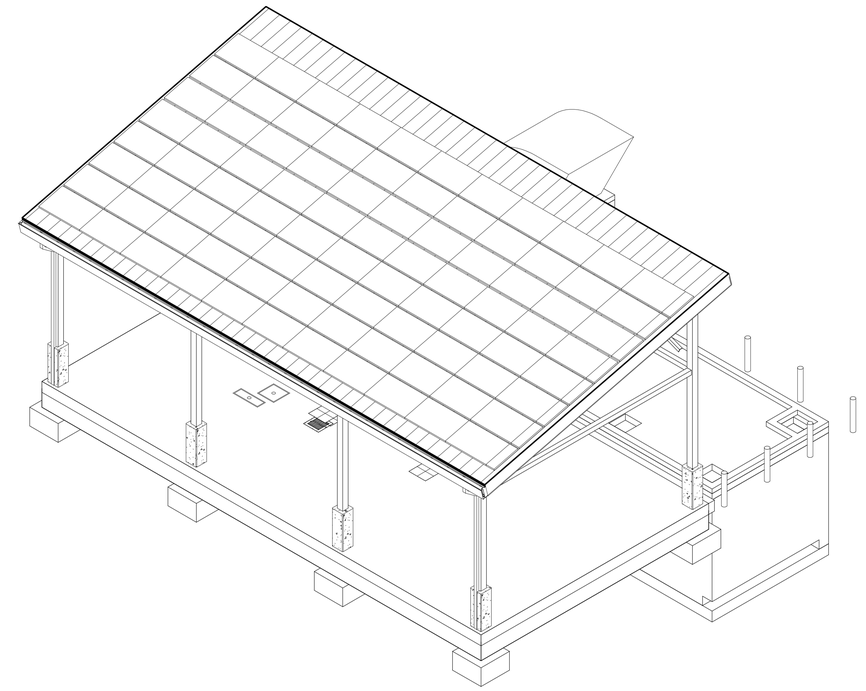
EXIT OCCUPANT LOAD

0 MEANS OF EGRESS OCCUPANT LOAD

PATH OF TRAVEL

LEGEND- FIRE PROTECTION

FEC FIRE EXTINGUISHER CABINET



2 SOUTHEAST AXONOMETRIC VIEW

RossDrulisCusenbery

Code Analysis - Hayward Fire Station #6/Fire Training Center Building 3

Project Location: 1401 West Winton Avenue, Hayward, CA 94545

Date: 09/21/2018

SUMMARY:

APPLICABLE REGULATIONS

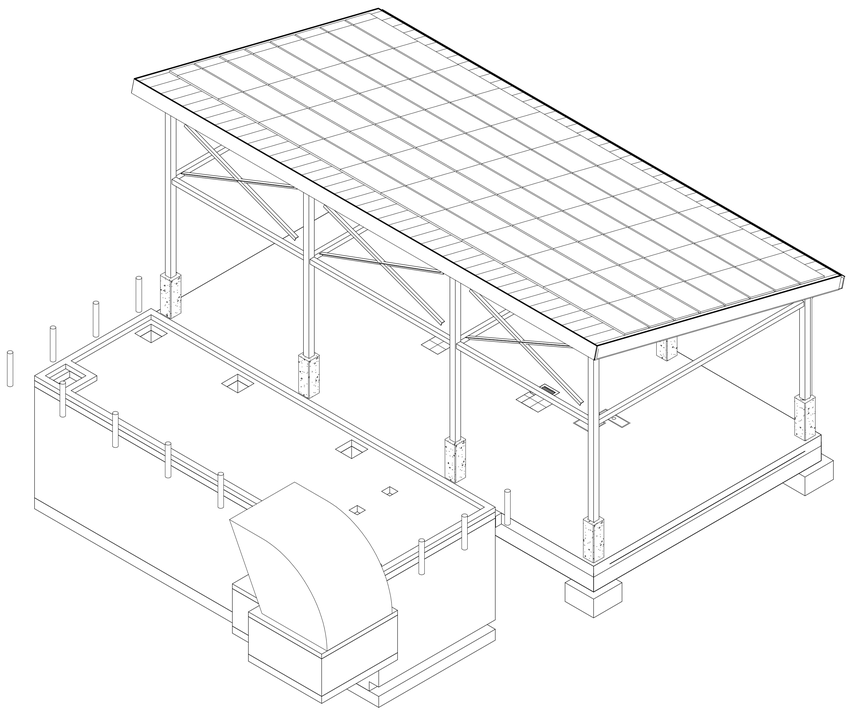
2016 California Building Standards Code (Title 24, California Code of Regulations)
2016 California Building Standards Administrative Code (Title 24, California Code of Regulations, Part 1)
2016 California Building Code (Title 24, California Code of Regulations, Part 2)
2016 California Electrical Code (Title 24, California Code of Regulations, Part 3)
2016 California Mechanical Code (Title 24, California Code of Regulations, Part 4)
2016 California Plumbing Code (Title 24, California Code of Regulations, Part 5)
2016 California Energy Code (Title 24, California Code of Regulations, Part 6)
2016 California Fire Code (Title 24, California Code of Regulations, Part 9)
2016 California Existing Building Code (Title 24, California Code of Regulations, Part 10)
2016 California Green Building Standards Code (Title 24, California Code of Regulations, Part 11)
2016 California Reference Standards Code (Title 24, California Code of Regulations, Part 12)
Uniform Fire Code With Approved California Amendments
Title 19 - Public Safety, State Fire Marshal California Code Of Regulations
Title 24 - California Code Of Regulations, Americans With Disabilities Act Accessibility Guidelines (ADAAG) Uniform Accessibility Standards
NFPA 101, Life Safety Code, 2015 Edition - Chapters 5 And 13
NFPA 13-2015 Edition

APPLICABLE STANDARDS

UL - Underwriters Laboratories Fire Resistive Directory, 2016 Edition
UL - Underwriters Laboratory Building Materials Directory, 2006 Edition
SMACNA - Fire, Smoke & Radiation Damper Installation Guide For Hvac Systems, 5th Edition, 2002

BUILDING CODE ANALYSIS

BUILDING 3: HANGER BUILDING	NOTES
TYPE OF CONSTRUCTION: Type II-B	
FIRE PROTECTION Non-sprinklered	
PRIMARY STRUCTURE Non-rated	Table 601
BEARING WALLS, EXTERIOR AND INTERIOR Non-Rated	Table 601
EXTERIOR WALLS (based on fire separation distance)	
1-hour rated / II-B / U Occ / Separation < 10'	Table 602
Non-rated / II-B / U Occ / Separation > 10' but < 30'	Table 602
Non-rated / II-B / U Occ / Separation > 30'	Table 602
NONBEARING INTERIOR WALLS AND PARTITIONS Non-rated	Table 601
FLOOR CONSTRUCTION & SECONDARY FRAMING Non-rated	Table 601
ROOF CONSTRUCTION & SECONDARY FRAMING Non-rated	Table 601
MECHANICAL SHAFTS Not Applicable	Single story building
ELEVATOR SHAFT AND OPENINGS Not Applicable	Single story building
ATRIUM Not Applicable	Single story building
EXIT STAIRS Not Applicable	Single story building
EXIT STAIR INTERIOR DOORS Not Applicable	Single story building
BUILDING OCCUPANCY **Single** use, U	
TOTAL OCCUPANT LOAD **3 Total Building Occupants**	
MAXIMUM BUILDING AREA PER STORY [Allowable] Ground Floor: 1,512 sq ft [8,500 sq ft]	CBC Table 506.2, NS
BUILDING HEIGHT [Allowable] 1 story, 24.0' [2 story, 55']	CBC Tables 504.3 & 504.4 NS
MIN. NUMBER OF EXITS [Required] Building is open-sided [1]	CBC 1006.2.1 & Table 1006.2.1: Exits per story; 2 required if the design occ. load exceeds the values listed in Table 1006.2.1.
MIN. EXIT SEPARATON [Required] Not Applicable - 1 exit required	CBC 1007.1.1: Greater than 1/2 the diagonal distance of the area to be served for non-sprinklered building
MAXIMUM TRAVEL DISTANCE [Allowable] Not Applicable - building is open-sided	CBC Table 1017.2: 300' is the allowable travel distance for a building without a sprinkler system for U Occupancy.
EXIT ACCESS Building is open-sided and exit directly to the building exterior	No Exit Access Hallways in building.
Corridors: Not Applicable	No cooridors in building.



3 NORTHWEST AXONOMETRIC VIEW

GRAPHIC FOR REFERENCE ONLY

APPROVED
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APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542
ARCHITECTURE

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION	
DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3 - INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
9/30/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 3 CODE ANALYSIS, OCCUPANCY & EGRESS PLAN, EXTERIOR AXONOMETRIC VIEWS

Drawn By: EW Checked By: EW

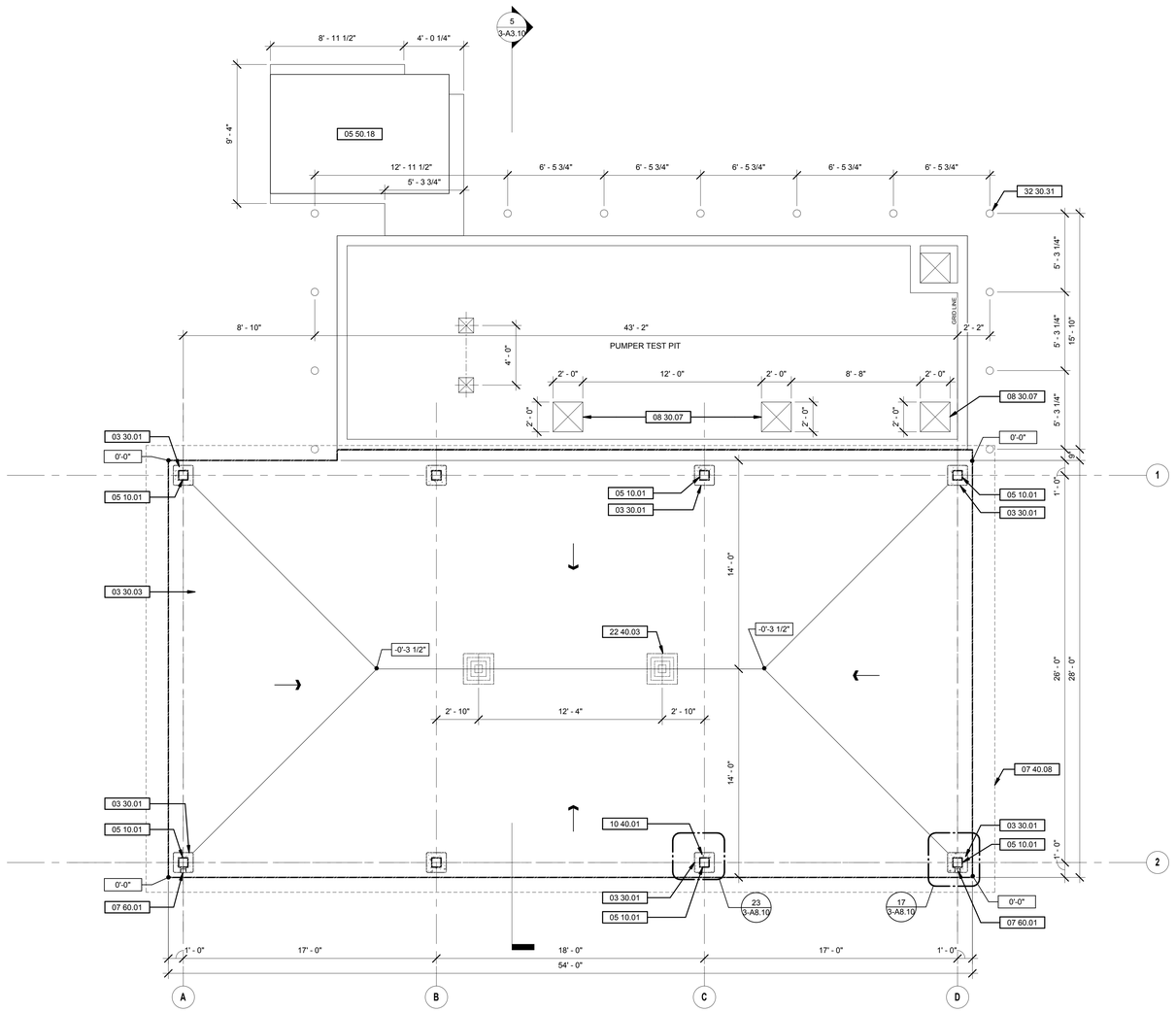
Scale: As indicated

Date: October 4, 2019

Project No. 2016039

3-A0.11
Drawing No.

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1 FLOOR PLAN
1/4" = 1'-0"

0' 1' 2' 4' 8'

GENERAL SHEET NOTES

1. CONCRETE AND CMU WALL DIMENSIONS MEASURED TO FACE OF CONCRETE OR BLOCK, U.O.N.
2. FOR LOCATION AND DETAILED INFORMATION ON SIGNAGE, REFER TO "VOLUME 5 CONSTRUCTION DOCUMENT DRAWINGS (SIGNAGE)"
3. "ALIGN" ANNOTATIONS AT WALLS REFER TO FACE OF FINISH, U.O.N.
4. SEE PLUMBING DRAWINGS FOR FLOOR DRAIN AND CLEANOUT LOCATIONS.

SHEET KEYNOTE LEGEND

03 30.01	PROTECTIVE CONCRETE CASING @ BASE OF STEEL COLUMN, TYPICAL U.N.O.
03 30.03	CONCRETE MAT SLAB, S.S.D.
05 10.01	PAINTED STEEL COLUMN, S.S.D.
05 50.18	PAINTED FABRICATED STEEL DEFLECTION HOOD "TARGET" SECURED TO TOP OF CONCRETE DRAIN TROUGH, S.S.D.
07 40.08	ROOF OVERHANG ABOVE, TYP.
07 60.01	PAINTED ALUMINUM DOWNSPOUT FROM GUTTER ABOVE, SECURED TO STEEL COLUMN
08 30.07	ALUMINUM FLOOR ACCESS DOOR THROUGH PIT LID
10 40.01	SURFACE-MOUNTED FIRE EXTINGUISHER CABINET
22 40.03	AREA DRAIN WITH GRATE FLUSH TO SLAB SURFACE, S.P.D.
32 30.31	48" TALL PAINTED PROTECTIVE PIPE BOLLARDS AT PERIMETER OF PUMP TEST PIT

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542
ARCHITECTURE

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3 - INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
8/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 3 FLOOR PLAN

Drawn By: SF
Checked By: EW

Scale: **1/4" = 1'-0"**

Date: **October 4, 2019**

Project No. 2016039

3-A2.10
Drawing No.

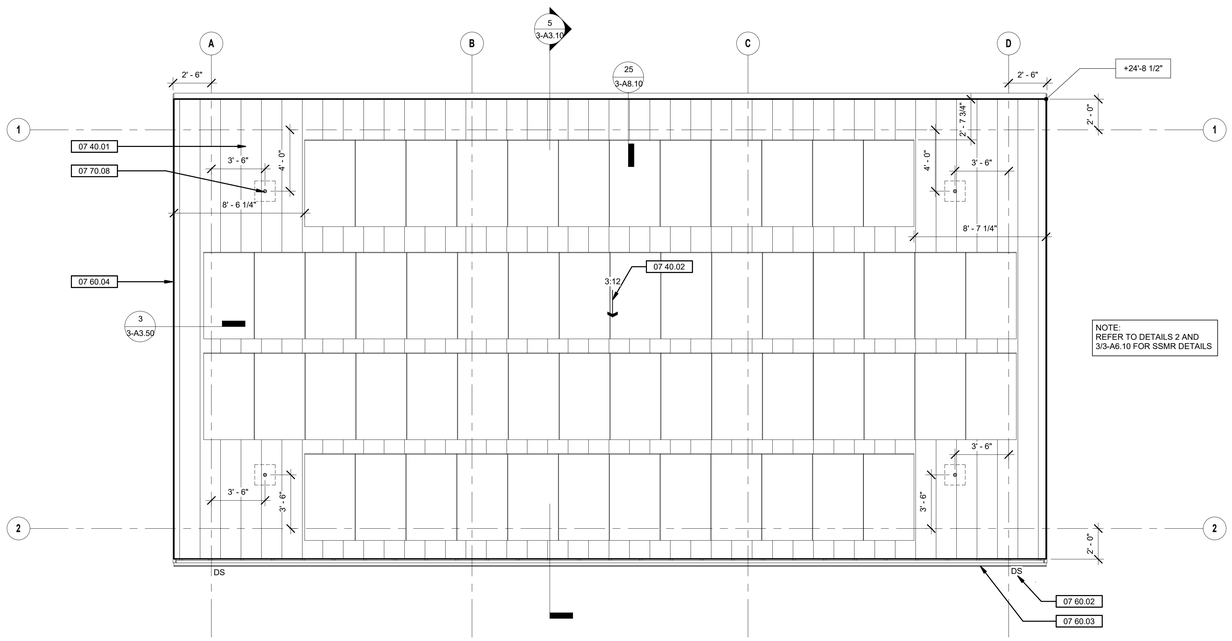
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GENERAL SHEET NOTES

1. SLOPE ARROWS @ ROOF AREAS INDICATE DOWN SLOPE, TYP.
2. PHOTOVOLTAIC ARRAY SHALL COMPLY TO THE 2016 CALIFORNIA FIRE CODE.
3. ALUMINUM ROOFING SHALL BE INSTALLED IN A MANNER SO AS TO PROVIDE SEPARATION BETWEEN DISSIMILAR METALS

SHEET KEYNOTE LEGEND

07 40.01	PRE-FINISHED STANDING SEAM METAL ROOF PANELS, TYPICAL
07 40.02	ARROW INDICATES DOWNWARD DIRECTION OF ROOF SLOPE, TYPICAL
07 60.02	INDICATES DOWNSPOUT LOCATION, TYPICAL
07 60.03	PAINTED ALUMINUM EAVE GUTTER
07 60.04	PAINTED ALUMINUM FASCIA TRIM
07 70.08	MAINTENANCE TIE-OFF ANCHOR, SEE 8/3-S1.50 FOR DETAIL



1 ROOF PLAN
1/4" = 1'-0"

0' 1' 2' 4' 8'

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18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542
ARCHITECTURE

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HEART OF THE BAY

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ENGINEERING DIVISION

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DRAWN BY:	APPROVAL REC'D:
APPROVED BY: **KATHY GARCIA** DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

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REVISIONS

No.	Description	Date
1	INC 01_ADD_01_V1	12/06/2019

PERMIT SUBMITTAL V3 - INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
3/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 3 ROOF PLAN

Drawn By: EW Checked By: EW

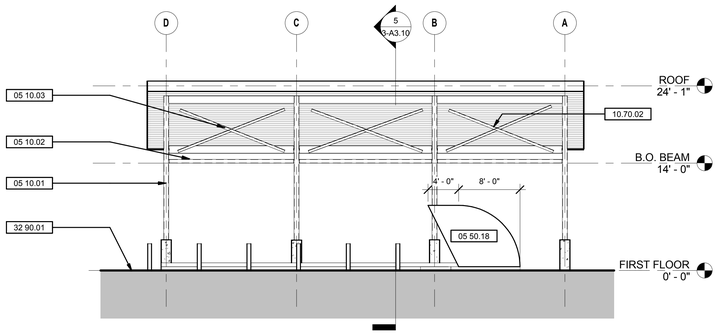
Scale: **1/4" = 1'-0"**

Date: **October 4, 2019**

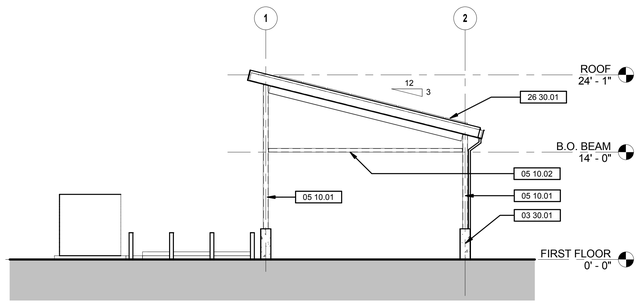
Project No. 2016039

3-A2.60
Drawing No.

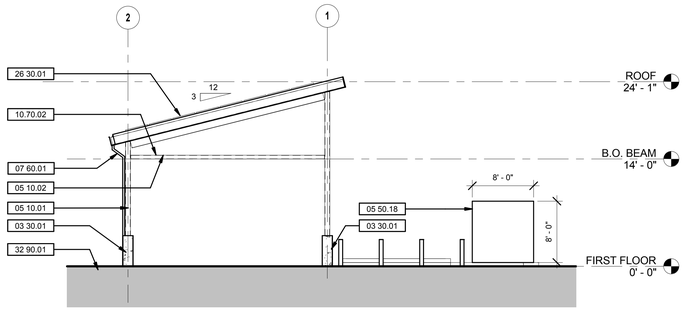
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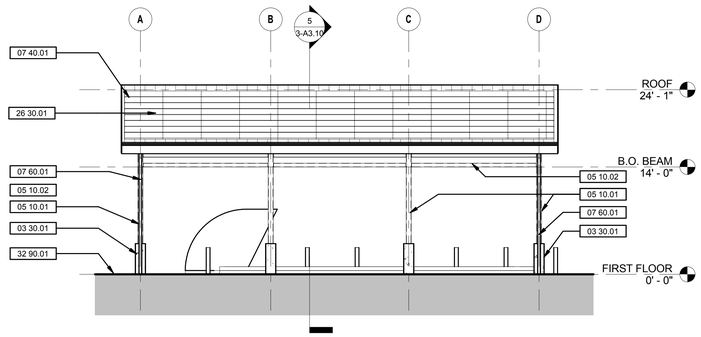
1 NORTH ELEVATION
1/8" = 1'-0"



2 WEST ELEVATION
1/8" = 1'-0"

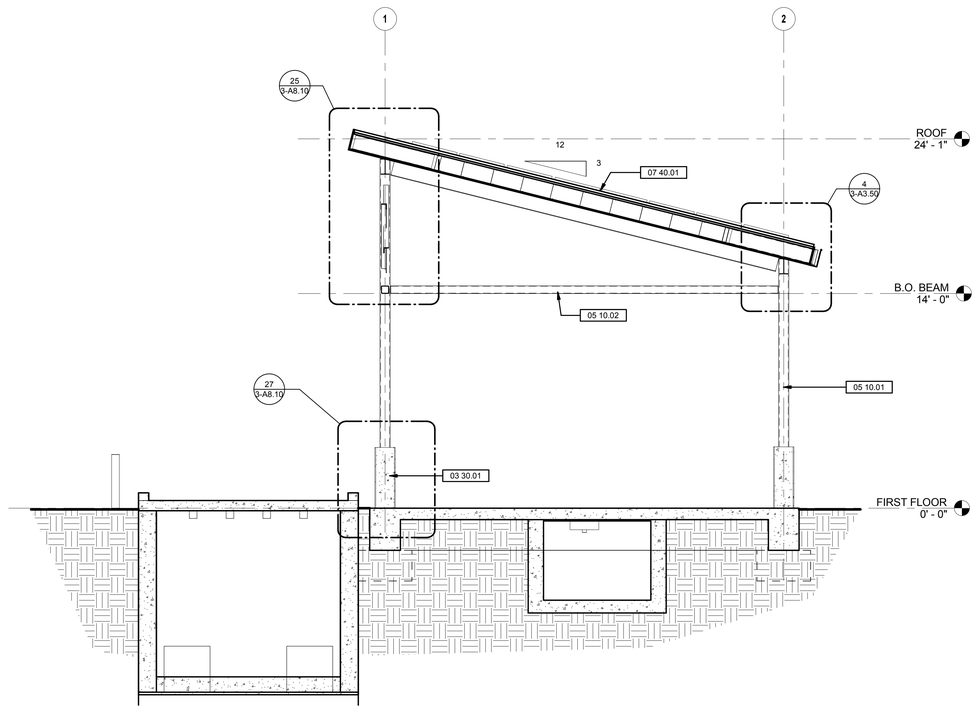


3 EAST ELEVATION
1/8" = 1'-0"



4 SOUTH ELEVATION
1/8" = 1'-0"

0' 2' 4' 8' 16'



5 TRANSVERSE SECTION
1/4" = 1'-0"

0' 1' 2' 4' 8'

GENERAL SHEET NOTES

1. REFER TO DETAIL 1 ON SHEET 3-A3.50 FOR BIRD DETERRENT ASSEMBLY.
2. PHOTOVOLTAIC ARRAY SHALL COMPLY TO THE 2016 CALIFORNIA FIRE CODE.

SHEET KEYNOTE LEGEND

03 30.01	PROTECTIVE CONCRETE CASING @ BASE OF STEEL COLUMN, TYPICAL U.N.O.
05 10.01	PAINTED STEEL COLUMN, S.S.D.
05 10.02	PAINTED STEEL BEAM, S.S.D.
05 10.03	PAINTED STEEL CROSS BRACING & CONNECTION PLATES, S.S.D.
05 50.18	PAINTED FABRICATED STEEL DEFLECTION HOOD "TARGET" SECURED TO TOP OF CONCRETE DRAIN TROUGH, S.S.D.
07 40.01	PRE-FINISHED STANDING SEAM METAL ROOF PANELS, TYPICAL
07 60.01	PAINTED ALUMINUM DOWNSPOUT FROM GUTTER ABOVE, SECURED TO STEEL COLUMN
10.70.02	PROVIDE SPIKE BIRD DETERRENT ASSEMBLY AT TOP OF EXPOSED HORIZONTAL BEAMS AND AT VALLEYS OF CROSS BRACING, TYP.
26 30.01	ROOF-MOUNTED PHOTOVOLTAIC PANELS, TYPICAL. S.E.D.
32 90.01	LANDSCAPE AREA, SEE CIVIL AND LANDSCAPE DRAWINGS

APPROVED
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DATE: 11/12/2019

RossDrulisCusenbery
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542
ARCHITECTURE

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3 - INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
9/30/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 3
EXTERIOR ELEVATIONS, BUILDING CROSS SECTION

Drawn By: EW
Checked By: EW

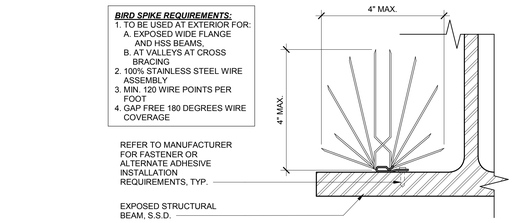
Scale:
As indicated

Date:
October 4, 2019

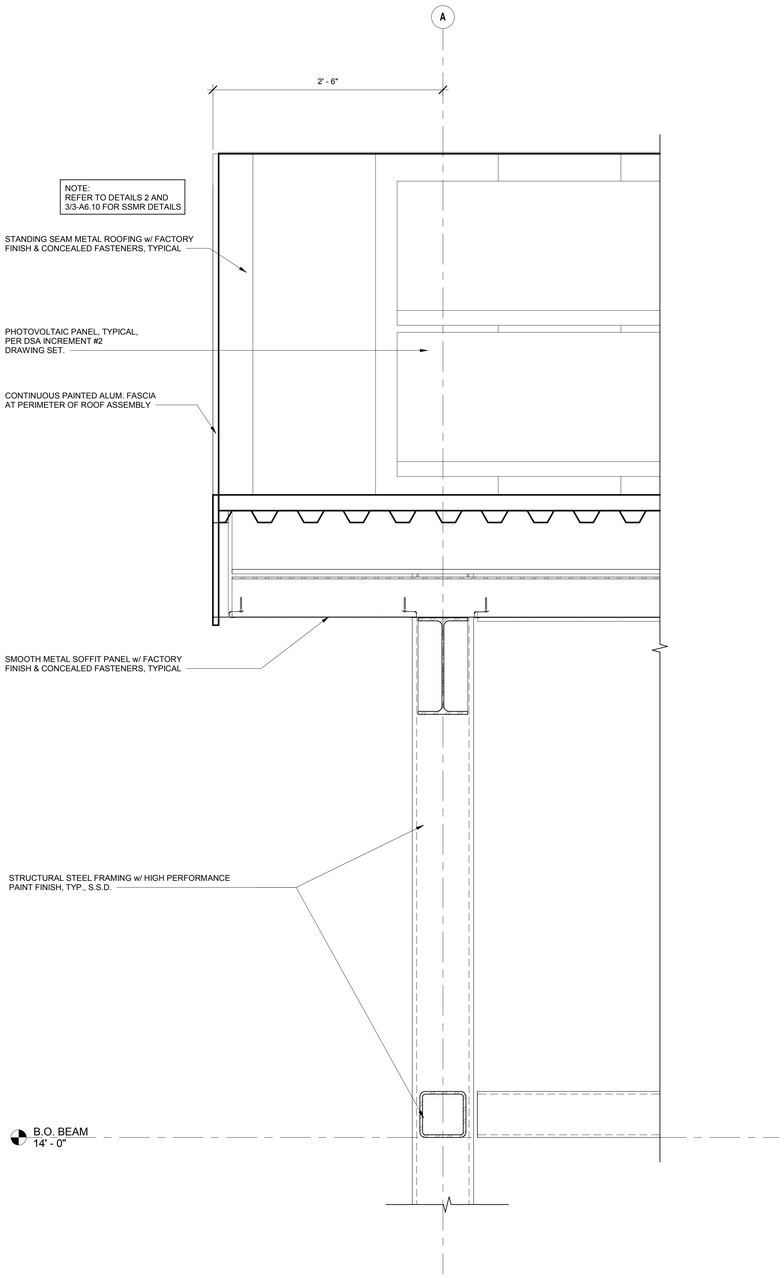
Project No. 2016039

3-A3.10
Drawing No.

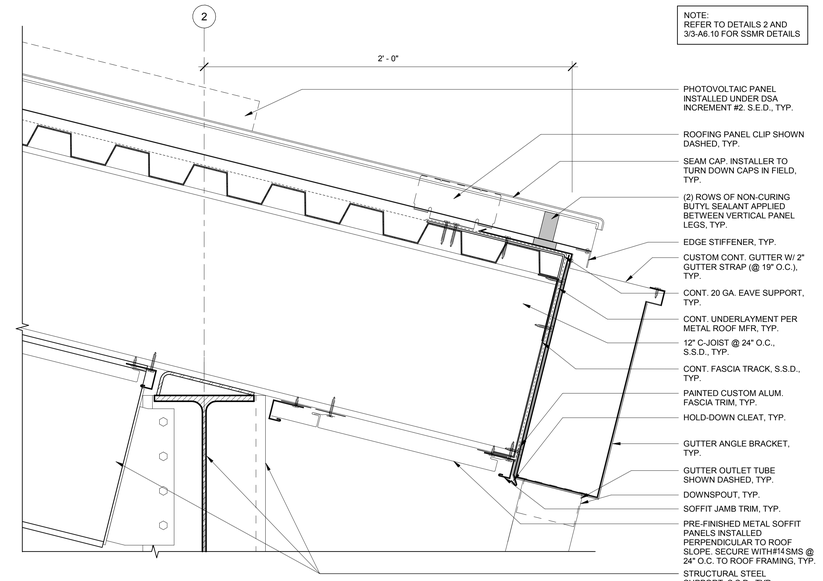
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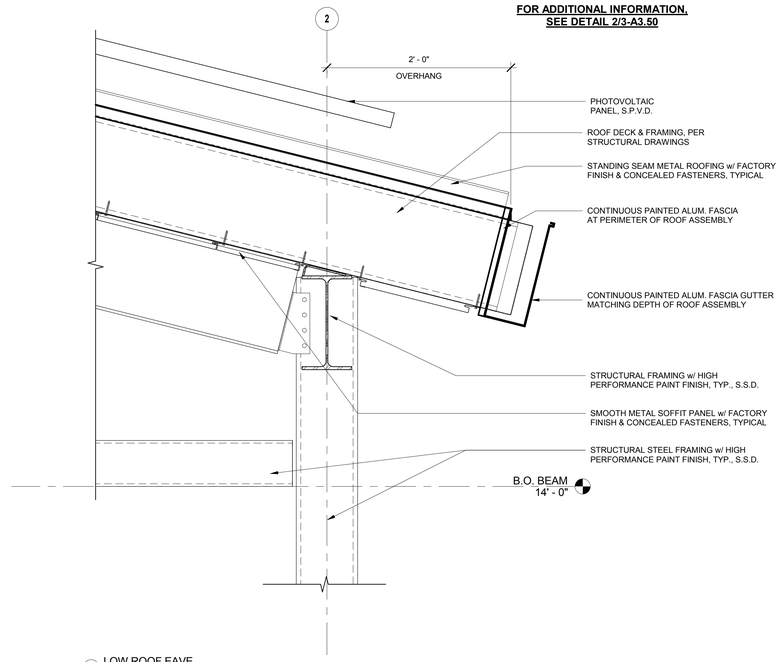
1 BIRD DETERRENT - SPIKE ASSEMBLY
6" = 1'-0"



3 ROOF RAKE
1 1/2" = 1'-0"



2 LOW ROOF EAVE WITH GUTTER
3" = 1'-0"



4 LOW ROOF EAVE
1 1/2" = 1'-0"

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RossDrulisCusenbery
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542
ARCHITECTURE

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION	
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DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

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LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
9/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 3 WALL SECTIONS, ARCHITECTURAL DETAILS

Drawn By: EW Checked By: EW

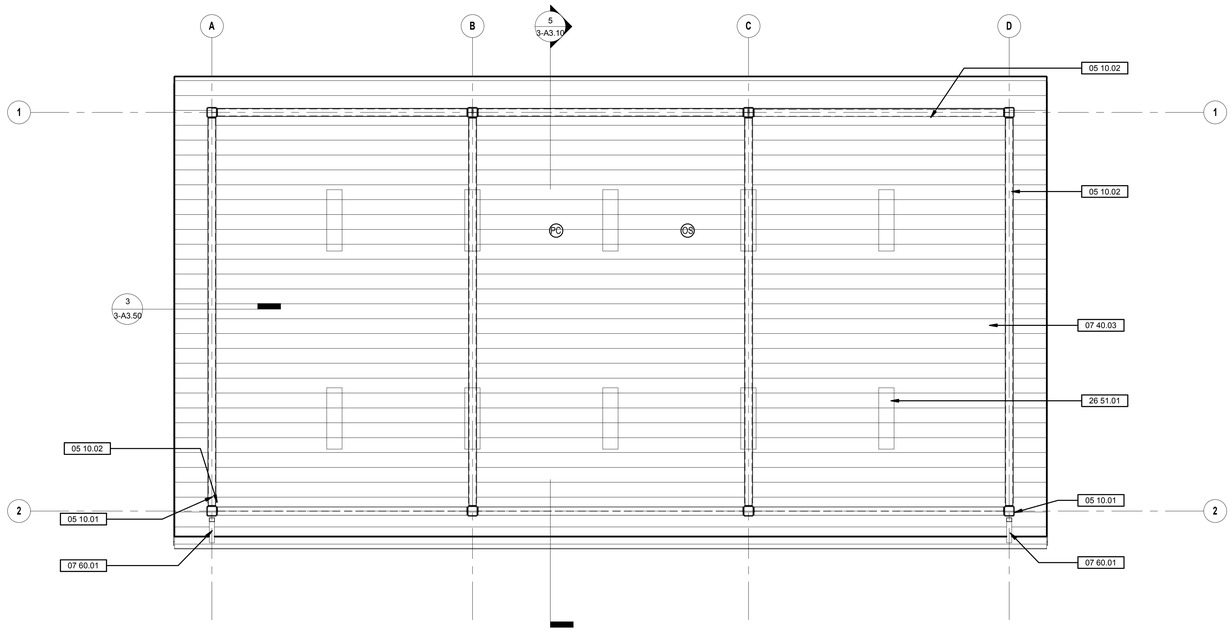
Scale:
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Date:
October 4, 2019

Project No. 2016039

3-A3.50
Drawing No.

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1 REFLECTED CEILING PLAN
1/4" = 1'-0"

0' 1' 2' 4' 8'

GENERAL SHEET NOTES

1. DEVICES ARE SHOWN FOR LOCATION CRITERIA ONLY, SEE ASSOCIATED CONSULTANT DRAWINGS FOR COUNT AND ADDITIONAL INFORMATION.
2. PROVIDE LAYOUT OF DEVICES FOR ARCHITECTURAL APPROVAL PRIOR TO INSTALLATION.
3. REPORT ANY DISCREPANCIES BETWEEN CONSULTANT DRAWINGS AND ARCHITECTURAL DRAWINGS TO ARCHITECT UPON DISCOVERY.
4. DETAIL REFERENCES LISTED ARE PROVIDED FOR CONVENIENCE. ADDITIONAL DETAILS MAY NEED TO BE REFERENCED, TYPICAL.

SHEET KEYNOTE LEGEND

05 10.01	PAINTED STEEL COLUMN, S.S.D.
05 10.02	PAINTED STEEL BEAM, S.S.D.
07 40.03	PRE-FINISHED METAL SOFFIT PANELS, TYPICAL
07 60.01	PAINTED ALUMINUM DOWNSPOUT FROM GUTTER ABOVE, SECURED TO STEEL COLUMN
26 51.01	LINEAR PENDANT LIGHTING TYP., S.E.D.

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APP. 01-117774 INC:01
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DATE: 11/12/2019

RossDrulisCusenbery
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542
ARCHITECTURE

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: **KATHY GARCIA** DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
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REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3 - INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
9/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 3
REFLECTED CEILING PLAN

Drawn By: EW Checked By: EW

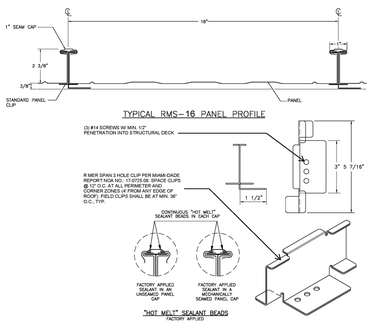
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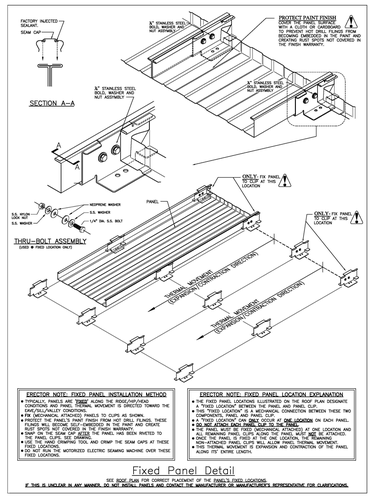
Project No. 2016039

3-A6.10
Drawing No.

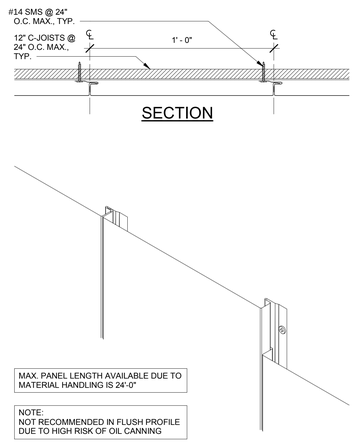
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2 TYP. ROOF PANEL AND CLIPS
3" = 1'-0"



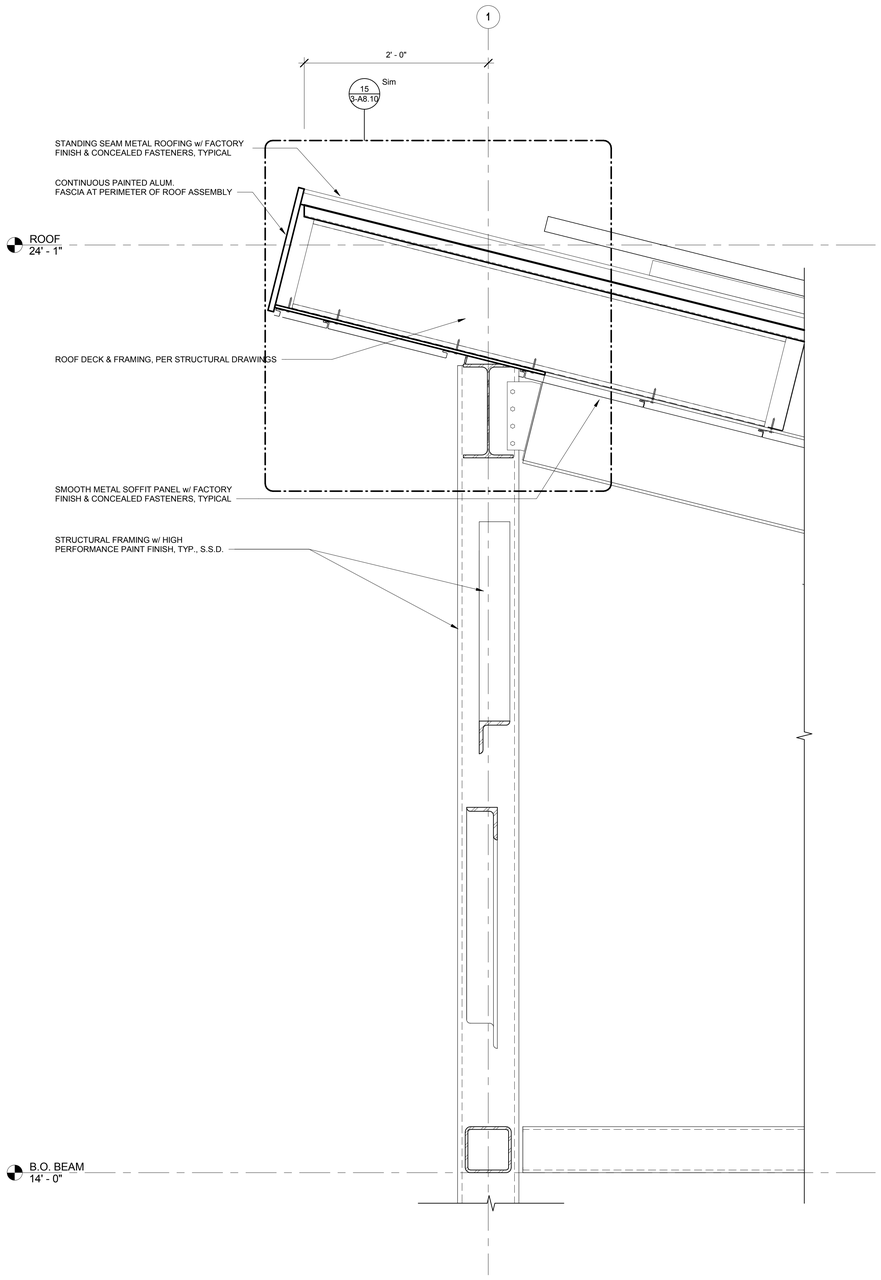
3 TYP. ROOF PANEL REQUIREMENTS
3" = 1'-0"



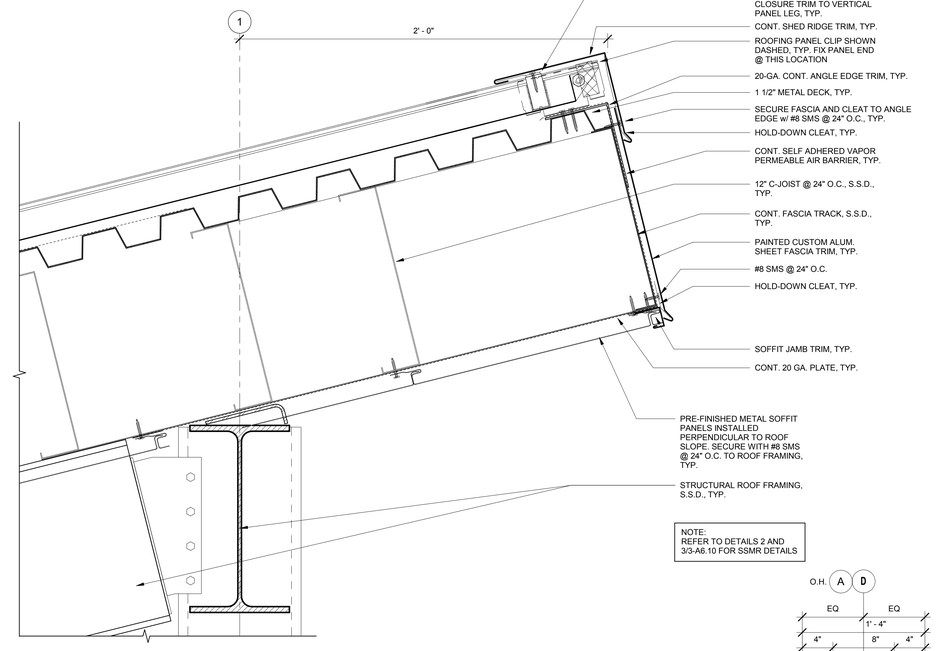
SPECIFICATIONS
MATERIAL: .032" OR .040" SMOOTH ALUMINUM

FINISH: FLUOROCARBON-70% RESIN (KYNAR 500)

4 TYP. NON-PERF ALUMINUM SOFFIT PANEL
3" = 1'-0"

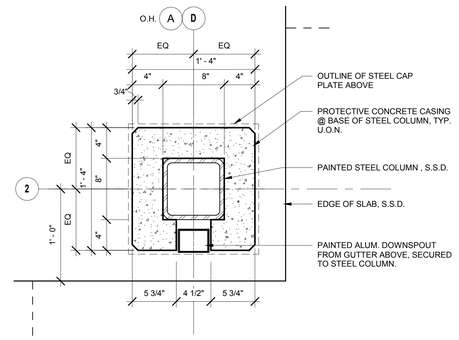


25 ROOF-WALL INTERSECTION
1 1/2" = 1'-0"

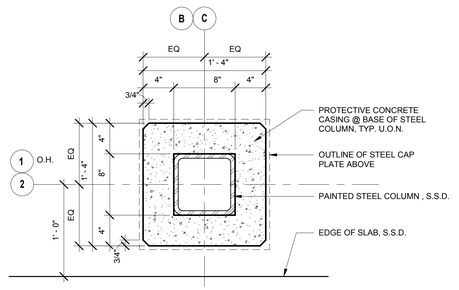


15 HIGH ROOF EDGE WITH FASCIA TRIM
3" = 1'-0"

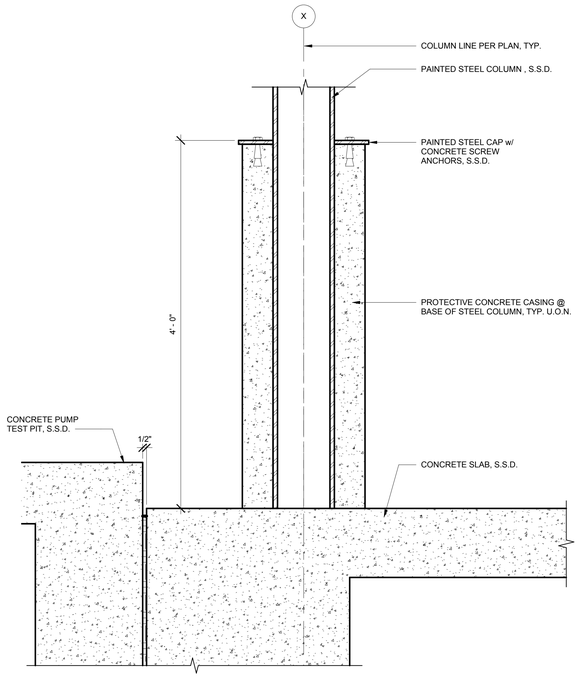
NOTE:
REFER TO DETAILS 2 AND 3/3-A6.10 FOR SSMR DETAILS



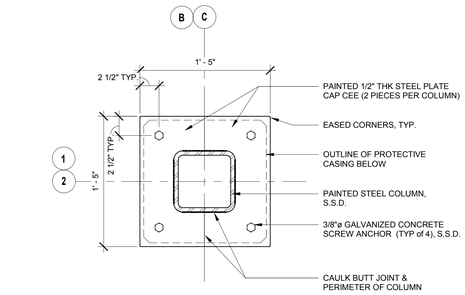
17 COLUMN CASING w/ DOWNSPOUT
1 1/2" = 1'-0"



23 TYPICAL COLUMN CASING
1 1/2" = 1'-0"



27 STEEL COLUMN ENCLOSURE
1 1/2" = 1'-0"



29 TYPICAL COLUMN CASING CAP
1 1/2" = 1'-0"

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ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
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CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION	
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APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

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REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3 - INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
9/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 3 ARCHITECTURAL DETAILS

Drawn By: EW
Checked By: EW

Scale:
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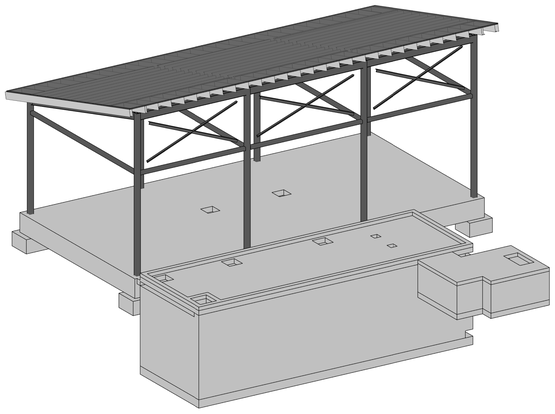
Project No. 2016039

3-A8.10
Drawing No.

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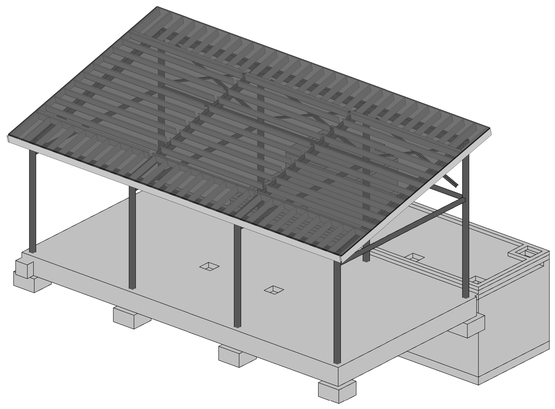
ABBREVIATIONS

AB	ANCHOR BOLT	GB	GRADE BEAM	PTDF	PRESSURE TREATED
ABV	ABOVE	GLB	GLUE LAMINATED BEAM		DOUGLAS FIR
AC	AIR CONDITIONING	GR	GRADE	PT	POINT
ADJ	ADJACENT	HD	HOLD DOWN	R	RADIUS
ADDL	ADDITIONAL	HDG	HOT-DIP GALVANIZED	RBS	REDUCED BEAM SECTION
ALT	ALTERNATE	HDR	HEADER	RFTR	RAFTER
ALUM	ALUMINUM	HGR	HANGER	REF	REFERENCE
ARCH	ARCHITECT	HK	HOOK	REINF	REINFORCING
@	AT	HORIZ	HORIZONTAL	REQD	REQUIRED
BLDG	BUILDING	HS	HIGH STRENGTH	RET	RETAINING
BLK/BLKG	BLOCK/BLOCKING	HSB	HIGH STRENGTH BOLT	REV	REVISION
BLW	BELOW	HSFB	HIGH STRENGTH	RF	ROOF
BM	BEAM		FRICTION BOLT	RWD	REDWOOD
BN	BOUNDARY NAIL	HSG	HIGH STRENGTH GROUT	S	AMERICAN STANDARD BEAM
BOT	BOTTOM	HSH	HORIZONTAL SLOTTED	SAD	SEE ARCHITECTURAL
BRG	BEARING		HOLE		DRAWINGS
BTWN	BETWEEN	HSS	HOLLOW STRUCTURAL	SB	SOLID BLOCK
BV	BOLTED VENEER		SECTION	SC	SOLID COLUMN
BYND	BEYOND	HT	HEIGHT	SCBF	SPECIAL CONCENTRIC
C	AMERICAN STANDARD	ID	INSIDE DIAMETER		BRACED FRAME
	CHANNEL	IJ	I SHAPED WOOD BUILT	SCD	SEE CIVIL DRAWINGS
CANT	CANTILEVER		UP TRUSS	SCHED	SCHEDULE
CB	CARRIAGE BOLT	INT	INTERIOR	SED	SEE ELECTRICAL DRAWINGS
CIP	CAST IN PLACE	JST	JOIST	SEOR	STRUCTURAL ENGINEER OF
CGL	CERTIFIED GLUED LUMBER	JT	JOINT		RECORD
CJ	CONTROL JOINT	KP	KING POST	SFRS	SEISMIC FORCE RESISTING
CL	CENTERLINE		STEEL ANGLE		SYSTEM
CLJP	CONSTRUCTION JOINT	Lb or #	POUNDS	SHTG	SHEATHING
	PENETRATION	LGMF	LIGHT GAGE METAL	SIM	SIMILAR
CLG	CEILING		FRAMING	SKYLT	SKYLIGHT
CLR	CLEAR	LGMFC	LIGHT GAGE METAL	SMF	SPECIAL MOMENT FRAME
COL	COLUMN		FRAMING CONTRACTOR	SMS	SHEET METAL SCREW
COLL	COLLECTOR	LL	LIVE LOAD	SMD	SEE MECHANICAL DRAWINGS
CONC	CONCRETE	LLH	LONG LEG HORIZONTAL	SOG	SLAB ON GRADE
CONN	CONNECTION	LLV	LONG LEG VERTICAL	SPCG	SPACING
CONT	CONTINUOUS	LOC	LOCATION	SPD	SEE PLUMBING DRAWINGS
COORD	COORDINATE/	LP	LAG SCREW	SPEC	SPECIFICATION
	COORDINATION	LSL	LAMINATED STRAND LUMBER	SQ	SQUARE
CMU	CONCRETE MASONRY UNIT	LVL	LAMINATED VENEER LUMBER	SS	SELECT STRUCTURAL
CSK	COUNTERSINK	MAX	MAXIMUM		or STAINLESS STEEL
CW	CUT WASHER	MB	MACHINE BOLT	STGR	STAGGERED
DBL	DOUBLE	MBM	METAL BUILDING	STD	STANDARD
DCW	DEMAND CRITICAL WELD		MANUFACTURER	STIFF	STIFFENER
DF	DOUGLAS FIR	MC	MISCELLANEOUS CHANNEL	STL	STEEL
DIA or ø	DIAMETER	MECH	MECHANICAL	STRUCT	STRUCTURAL
DIAG	DIAGONAL	MEZZ	MEZZANINE	SW	SHEAR WALL
DIM	DIMENSION	MF	MOMENT FRAME	SYM	SYMMETRICAL
DJ	DOWEL JOINT	MFR	MANUFACTURER	T&B	TOP AND BOTTOM
DL	DEAD LOAD	MIN	MINIMUM	T&G	TONGUE AND GROOVE
DN	DOWN	MISC	MISCELLANEOUS	THK	THICK
DO	DITTO	MW	MALLEABLE IRON WASHER	THRD	THREADED
DWG	DRAWING	MTL	METAL	THRU	THROUGH
DWL	DOWEL	(N)	NEW	TL	TOTAL LOAD
EA	EACH	NIC	NOT IN CONTRACT	TN	TOE NAIL
EN	EACH END	NO or #	NUMBER	TOC	TOP OF CONCRETE
EF	EACH FACE	NS	NEAR SIDE	TOF	TOP OF FRAMING
ELEC	ELECTRICAL	NSG	NON-SHRINK GROUT	TOM	TOP OF MASONRY
ELEV	ELEVATOR/ELEVATION	NTS	NOT TO SCALE	TOP	TOP OF PLYWOOD
EMBED	EMBEDMENT	O/	OVER	TOS	TOP OF STEEL
EQ	EQUAL	oc	ON CENTER	TOT	TOTAL
EQUIP	EQUIPMENT	OD	OUTSIDE DIAMETER	TU	TILT UP
ES	EACH SIDE	OH	OPPOSITE HAND	TYP	TYPICAL
EW	EACH WAY	OPNG	OPENING	UNO	UNLESS NOTED OTHERWISE
EXIST or (E)	EXISTING	OSB	ORIENTED	VERT	VERTICAL
EXP	EXPANSION	OW	OTHERWISE	VIF	VERIFY IN FIELD
EXT	EXTERIOR	OWT	OPEN WEB TRUSS	VSH	VERTICAL SLOTTED HOLE
FDN	FOUNDATION	℄	PLATE or PROPERTY LINE	W	WIDE FLANGE STEEL BEAM
FIN	FINISH	PA	POST ABOVE	W/	WITH
FG	FINISH GRADE	PDP	POWDER DRIVEN PINS	W/O	WITHOUT
FLI	FERRULE LOOP INSERT	PEN	PANEL EDGE NAIL	WD	WOOD
FLR	FLOOR	PERP	PERPENDICULAR	WHS	WELDED HEADED STUD
FN	FACE NAIL	PES	PANEL EDGE SCREWS	WLD	WELDED
FOC	FACE OF CONCRETE	PJP	PARTIAL JOINT PENETRATION	WP	WORK POINT/WATERPROOF
FOM	FACE OF MASONRY	PLF	POUNDS PER LINEAR FOOT	WS	WOOD SCREW
FOS	FACE OF STUD	PNL	PANEL	WT	WEIGHT
FRMG	FRAMING	PSF	POUNDS PER SQUARE FOOT	WTS	WELDED THREADED STUD
FS	FAR SIDE	PSI	POUNDS PER SQUARE INCH	WWR	WELDED WIRE
FTG	FOOTING	PSL	PARALLEL STRAND LUMBER		REINFORCEMENT
GA	GAGE or GAUGE	PTB	PANEL TIE BAR		
GALV	GALVANIZED				



THREE DIMENSIONAL VIEWS SHOWN IN THESE PLANS ARE FOR CONCEPTUAL USE ONLY. THE STRUCTURAL PLANS AND DETAILS TAKE PRECEDENCE OVER THREEDIMENSIONAL VIEWS.

1 3D REFERENCE VIEW



THREE DIMENSIONAL VIEWS SHOWN IN THESE PLANS ARE FOR CONCEPTUAL USE ONLY. THE STRUCTURAL PLANS AND DETAILS TAKE PRECEDENCE OVER THREEDIMENSIONAL VIEWS.

2 3D REFERENCE VIEW

F WIND C&C NOTES

NET COMPONENTS AND CLADDING WIND PRESSURES (PSF)

HEIGHT (FT)	SURFACE (PER ASCE 7-10 CHAPTER 30 PART 2)				
	ROOF ZONE			WALL ZONE	
	1	2	3	4	5
26	19 / -30	19 / -52	19 / -77	30 / -33	30 / -40
OVERHANGS	---	19 / -66	19 / -108	---	---

1. GIVEN VALUES SHALL BE USED FOR DESIGN OF CLADDING SYSTEMS UNLESS ENGINEERING IS SUBMITTED FOR REVIEW PER ITEM 3.
2. SEE **A/3-S0.10** FOR WIND DESIGN CRITERIA.
3. GIVEN PRESSURES ARE BASED ON AN EFFECTIVE AREA OF 10 SQUARE FEET OR LESS. ENGINEERING MAY BE SUBMITTED TO SUBSTANTIATE USE OF LOWER PRESSURES BASED ON GREATER EFFECTIVE WIND AREAS.
4. NEGATIVE VALUES INDICATE PRESSURE DIRECTED AWAY FROM THE EXTERIOR SURFACE OF THE STRUCTURE. BOTH THE POSITIVE AND NEGATIVE PRESSURE CASES SHALL BE CONSIDERED.

D FOUNDATION NOTES

1. FOUNDATION DESIGN PRESSURES ARE:
   1. SHALLOW FOOTINGS:
      DEAD LOAD + LIVE LOAD = 3,000 PSF
      DEAD LOAD + LIVE LOAD + LATERAL = 4,000 PSF
2. ALL SOILS WORK SHALL BE DONE IN ACCORDANCE WITH THE SPECIFICATIONS, THE REQUIREMENTS OF THE GEOTECHNICAL REPORT NOTED BELOW AND CHAPTER 18A OF THE CBC, TITLE 24, PART 2. ALL FOUNDATIONS SHALL BEAR ON FIRM, UNDISTURBED, NATIVE SOILS OR ENGINEERED FILL AT OR EXCEEDING DEPTHS SHOWN ON THE DRAWINGS. ENGINEERED FILL TO BE COMPACTED PER GEOTECHNICAL REPORT. INCREASE FILL AND OR FOOTING DEPTH AS REQUIRED BY GEOTECHNICAL ENGINEER. ALL FOOTING EXCAVATIONS SHALL BE AS NEAT AS PRACTICABLE. OVER-EXCAVATIONS IN WIDTH SHALL BE FILLED WITH CONCRETE, AND IN DEPTH MAY BE FILLED WITH LEAN CONCRETE OR COMPACTED APPROVED BACKFILL. ALL LOOSE SOILS SHALL BE REMOVED FROM EXCAVATIONS PRIOR TO PLACEMENT OF REINFORCING OR CONCRETE. GEOTECHNICAL REPORT BY:

   ROCKRIDGE GEOTECHNICAL
   PROJECT NO.: 15-9196
   DATED: September 21, 2018

3. TYPICAL HANGER BAY: 9" CONCRETE REINFORCED WITH #5 @ 12"oc EACH WAY AT 3" CLEAR FROM TOP OVER VAPOR BARRIER PER SPECIFICATIONS, AND 6" MINIMUM FREE DRAINING COMPACTED CRUSHED ROCK ON SUBGRADE PER GEOTECHNICAL REPORT. SEE OTHER DRAWINGS FOR SLAB DRAINAGE, SLOPE, DEPRESSIONS, FINISH, ETC. DO NOT DRIVE CONCRETE TRUCKS OR LARGE SCREED MACHINES ON VAPOR BARRIER WITHOUT DDITIONAL BUFFER MATERIAL AND APPROVAL FROM THE STRUCTURAL ENGINEER.
4. TYPICAL SLAB AT APRONS: 8" CONCRETE REINFORCED WITH #4 @ 12"oc EACH WAY AT 2 ½" CLEAR FROM TOP OVER 12" MINIMUM CALTRANS CLASS 2 AGGREGATE BASE COMPACTED ON SUBGRADE PER GEOTECHNICAL REPORT.
5. REFER TO ARCHITECTURAL AND PLUMBING DRAWINGS FOR DEPRESSED SLABS FOR ARCHITECTURAL FLOORING OR INSERTS. SLOPED SLABS TO DRAIN AND PIPES OR CONDUITS AT SLAB. SEE **8/3-S1.10** AT DEPRESSED SLAB & **7/3-S1.10** FOR PIPES AND CONDUITS.
6. PROVIDE CONTROL JOINTS PER **6/3-S1.10** (OR CONSTRUCTION/DOWEL JOINTS AT CONTRACTOR'S OPTION) AS SHOWN ON PLAN AND AS REQUIRED TO MEET A MAXIMUM SPACING IN FEET OF 3 TIMES THE SLAB DEPTH IN INCHES (FOR EXAMPLE 3x4" = 12'-0"oc MAX). PROVIDE CONSTRUCTION/DOWEL JOINTS PER **11/3-S1.10** AS SHOWN ON PLAN, BUT NOT GREATER THAN 60'-0"oc EACH WAY. INSTALL JOINTS TO DIVIDE SLAB INTO RECTANGULAR AREAS WITH LONG DIMENSION LESS THAN 1.5 x SHORT DIMENSION. INSTALL JOINTS AT FACE OF STUDS OF WALL WHERE POSSIBLE. SUBMIT JOINT LAYOUT PLAN FOR REVIEW PRIOR TO PLACEMENT.
7. TOP OF FOOTING ELEVATIONS TO BE DETERMINED BY THE CONTRACTOR BASED ON INFORMATION FROM THE CIVIL DRAWINGS, GEOTECHNICAL REPORT, LANDSCAPE, ETC.

E MATERIAL DATA

(INFORMATION SHOWN IS FOR STRUCTURAL DESIGN REFERENCE ONLY. SEE THE PROJECT SPECIFICATIONS FOR ALL MATERIAL SPECIFICATIONS.)

CONCRETE 28-DAY ULTIMATE COMPRESSIVE STRENGTH:
F'_c = 5,000 PSI FOUNDATIONS
F'_c = 5,000 PSI MAT FOUNDATIONS, WALLS, COLUMNS, ELEVATED SLABS

REINFORCING STEEL YIELD STRENGTH:
ALL SPECIAL CONCRETE SHEARWALL REINFORCING SHALL BE A706 GR. 60.
ALL OTHER REINFORCING, EXCEPT AS NOTED ABOVE:
F_y = 40,000 PSI AT #3 AND SMALLER
F_y = 60,000 PSI AT #4 AND LARGER

STEEL YIELD STRENGTH (UNO):
F_y = 50,000 PSI W SHAPES
F_y = 36,000 PSI ANGLES, CHANNELS, AND PLATES
F_y = 50,000 PSI PLATES AT MOMENT OR BRACE FRAME CONNECTIONS
F_y = 46,000 PSI RECTANGULAR HSS
F_y = 42,000 PSI ROUND HSS
F_y = 35,000 PSI PIPES

FASTENERS:
MACHINE BOLTS SHALL BE ASTM A307
HIGH STRENGTH BOLTS, NUTS, AND HARDENED WASHERS SHALL BE ASTM F3125 GRADE A325, ASTM A563, AND ASTM F436, RESPECTIVELY.
ANCHOR RODS SHALL BE ASTM F1554 GR 36 UNO
PDP TO BE 0.157"ø x MINIMUM 1¼" LONG HILTI X-U (ICC-ESR-2269) UNO. AT STRUCTURAL STEEL USE 0.157"ø x¾" LONG HILTI X-U UNO.
ARC-WELDING ELECTRODES SHALL BE E70

COLD FORMED METAL FRAMING YIELD STRENGTH:
F_y = 33,000 PSI 33 & 43 MILS (20 & 18 GAUGE)
F_y = 50,000 PSI 54, 68, & 97 MILS (16, 14, & 12 GAUGE)

FOR METAL CONNECTOR DESIGNATION REFER TO SIMPSON STRONG-TIE PER SPECIFICATIONS.

A DESIGN CRITERIA

DESIGN CRITERIA: 2016 CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 2 (CBC)
FLOOR LIVE LOAD: 60 PSF (REDUCIBLE) + 15 PSF PARTITION
ROOF LIVE LOAD: 20 PSF (REDUCIBLE)
FUTURE SOLAR: 4 PSF
RISK CATEGORY: II
WIND DATA: ULTIMATE WIND SPEED (3 SEC GUST) IN MPH: 115
NOMINAL WIND SPEED (3 SEC GUST) IN MPH: 89
WIND EXPOSURE: C
INTERNAL WIND PRESSURE COEFFICIENT (GCPI) = ±0.18
COMPONENTS AND CLADDING DESIGN PRESSURES FOR SYSTEMS DESIGNED BY OTHERS SHALL COMPLY WITH THE "ASCE 7" DESIGN STANDARD. SEE **#/3-S0.10**

EARTHQUAKE DATA: SEISMIC IMPORTANCE FACTOR: I_E = 1.0
SITE SPECIFIC SPECTRAL RESPONSE ACCELERATIONS:
S_{MS} = 1.985; S_{M1} = 1.975
SITE CLASS: D
SPECTRAL RESPONSE COEFFICIENTS: S_{DS} = 1.323; S_{D1} = 1.975
SEISMIC DESIGN CATEGORY: E
SEISMIC FORCE RESISTING SYSTEM: STEEL SPECIAL CANTILEVER COLUMN
RESPONSE MODIFICATION FACTOR: R = 2.5
DESIGN BASE SHEAR: 14K (LRFD)
SEISMIC RESPONSE COEFFICIENT, C_S = 0.400 (LRFD)
HORIZONTAL IRREGULARITIES: NONE
VERTICAL IRREGULARITIES: NONE
ANALYSIS PROCEDURE USED: EQUIVALENT LATERAL FORCE

MAXIMUM ANTICIPATED STORY DRIFT = 0.025 X HEIGHT
PROVIDE DEFORMATION COMPATIBILITY PER ASCE 7 SECTION 12.12.5 FOR NON-STRUCTURAL ITEMS.

NARRATIVE: BUILDING #3: HANGER BUILDING

GENERAL DESCRIPTION: 1 STORY, STEEL STRUCTURE DESIGNED AS A CANTILEVER COLUMN SYSTEM. THE BUILDING IS NOT INTENDED TO BE DESIGNED AS ESSENTIAL SERVICE FACILITY AND WILL NOT BE USED FOR THAT PURPOSE.

•SINGLE STORY, 1,600 SF NON-ESSENTIAL, SERVICES BUILDING
•STEEL ROOF FRAMING, SUPPORTING LIGHT GAGE RAFTERS

B GENERAL NOTES

1. REFER TO SHEETS **3-S1.10** THROUGH **3-S1.50** FOR STANDARD DETAILS OF CONSTRUCTION. REFER TO THE PROJECT SPECIFICATIONS FOR MATERIALS AND METHODS.
2. BUILDING DIMENSIONS SHOWN ARE FOR GENERAL REFERENCE ONLY. SEE ARCHITECTURAL DRAWINGS (SAD) FOR ALL ACTUAL BUILDING DIMENSIONS. ANY DISCREPANCIES ARE TO BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER SO CLARIFICATION CAN BE MADE PRIOR TO COMMENCING WORK.
3. STRUCTURAL DRAWINGS SHALL NOT BE SCALED. ALL DIMENSIONS AND FIT SHALL BE DETERMINED AND VERIFIED BY THE CONTRACTOR PRIOR TO COMMENCING WORK.
4. DETAILS NOT FULLY OR SPECIFICALLY SHOWN SHALL BE OF SAME NATURE AS OTHER SIMILAR CONDITIONS.
5. REFER TO ARCHITECTURAL DRAWINGS FOR SIDEWALK SLABS AND DIMENSIONS.
6. COORDINATION OF MECHANICAL, ELECTRICAL, PLUMBING, AND SITE UTILITY SYSTEMS WITH THE STRUCTURAL SYSTEM IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR. AT CONDITIONS WHERE FIELD MODIFICATIONS OF MECHANICAL, ELECTRICAL, PLUMBING, OR SITE UTILITIES AFFECT STRUCTURAL SYSTEMS, NOTIFY STRUCTURAL ENGINEER PRIOR TO INSTALLATION.
7. VERIFY WEIGHTS AND LOCATIONS OF MECHANICAL UNITS WITH MECHANICAL ENGINEER PRIOR TO PLACEMENT. UNITS VARYING OVER 5% IN WEIGHT SHALL BE REVIEWED BY THE STRUCTURAL ENGINEER PRIOR TO INSTALLATION (MECHANICAL WEIGHTS SHOWN ARE MAXIMUM). CONTRACTOR TO VERIFY MECHANICAL UNIT SIZES AND WEIGHTS AS INSTALLED PRIOR TO INSTALLATION OF SPECIAL FRAMING TO ENSURE CORRECT PLACEMENT UNDER CURBS, ETC.
8. SHORING AND BRACING DESIGN, MATERIALS AND INSTALLATION SHALL BE PROVIDED BY THE GENERAL CONTRACTOR, AND SHALL BE ADEQUATE FOR ALL LOADS. LEAVE IN PLACE AS LONG AS MAY BE REQUIRED FOR SAFETY AND UNTIL FINAL STRUCTURAL CONSTRUCTION IS COMPLETED. THE CONTRACTOR SHALL ENGAGE A LICENSED CIVIL OR STRUCTURAL ENGINEER TO PROVIDE SHORING.
9. SPECIAL INSPECTIONS ARE REQUIRED PER THE TESTING AND INSPECTION FORM, SEE SPECIFICATIONS.
10. VEHICULAR TRAFFIC, HEAVY EQUIPMENT AND MATERIAL STAGING SHALL NOT BE ALLOWED ADJACENT TO ANY RETAINING/BASEMENT WALL, NEW OR EXISTING WITHIN A HORIZONTAL DISTANCE EQUAL TO THE WALL HEIGHT MEASURED FROM THE BOTTOM OF FOOTING OR 5'-0" WHICHEVER IS GREATER, UNLESS APPROVED BY THE STRUCTURAL ENGINEER OR NOTED OTHERWISE. WITHIN THIS ZONE, ONLY HAND-OPERATED EQUIPMENT ("WHACKERS", VIBRATORY PLATES, OR PNEUMATIC COMPACTORS) SHALL BE USED TO COMPACT THE BACKFILL SOILS.
11. SITE REVIEWS BY ZFA ARE REQUIRED FOR THE FOLLOWING UNLESS DIRECTED OTHERWISE:
    - FOOTING SIZE AND REINFORCING STEEL.
    - RETAINING WALLS AND REINFORCING.

    NOTIFY ZFA AT LEAST 2 WORKING DAYS PRIOR TO COMPLETION OF WORK.

C STEEL NOTES

1. COORDINATE TOP OF FOOTING ELEVATIONS AS DETERMINED BY THE CONTRACTOR PER **D/3-S0.10** NOTE #8.
2. TOP OF STEEL ELEVATIONS ARE TO BE DETERMINED BY THE CONTRACTOR BASED ON ARCHITECTURAL DRAWINGS AND STRUCTURAL DRAWINGS.
3. WHERE INDICATED ON PLAN "C" INDICATES MIDSPAN CAMBER IN INCHES.
4. ALL FRAMING AND CONNECTIONS ALONG GRID LINES OR OTHERWISE INDICATED AS (SFRS) ARE PART OF THE SEISMIC FORCE RESISTING SYSTEM. TESTING AND INSPECTION OF FRAMING AND CONNECTIONS INDICATED AS SFRS SHALL MEET ALL REQUIREMENTS OF AISC 341 AND AWS D1.8. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
5. ALL BOLTS THAT ARE A PART OF THE SFRS ARE TO BE SLIP CRITICAL.
6. DEMAND CRITICAL WELDS ARE AS INDICATED ON PLANS, ADDITIONALLY ALL COLUMN SPLICES AND COLUMN TO BASE PLATE WELDS IN THE SFRS ARE DEMAND CRITICAL. DEMAND CRITICAL WELDS AND THE TESTING AND INSPECTION OF THEM ARE TO MEET ALL REQUIREMENTS OF AISC 341, AWS D1.1, AND AWS D1.8. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

STRUCTURAL SHEET INDEX

3-S0.10	BUILDING 3	GENERAL NOTES
3-S1.10	BUILDING 3	TYPICAL CONCRETE DETAILS
3-S1.20	BUILDING 3	TYPICAL STEEL FRAMING DETAILS
3-S1.50	BUILDING 3	TYPICAL METAL DECKING DETAILS
3-S2.10	BUILDING 3	FOUNDATION PLAN
3-S2.20	BUILDING 3	ROOF PLAN
3-S3.10	BUILDING 3	ELEVATIONS
3-S3.20	BUILDING 3	SECTIONS
3-S4.10	BUILDING 3	DETAILS AND SECTIONS
3-S4.11	BUILDING 3	FOUNDATION MAT AND CONCRETE SLAB DETAILS
3-S4.12	BUILDING 3	TYPICAL CONCRETE WALL DETAILS

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY:	
KATHY GARCIA DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	DSA Third Party Review Comment Response	December 6, 2018

PERMIT SUBMITTAL V3-INCREMENT #1

ZFA STRUCTURAL ENGINEERS
1390 el camino real | suite 100 zfa.com
san carlos ca 94070 650.394.8869

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REGISTERED PROFESSIONAL ENGINEER
KEVIN G. ZUCCO
STRUCTURAL
No. 4861
STATE OF CALIFORNIA

Sheet Title

BUILDING 3 GENERAL NOTES

Drawn By: LS Checked By: SRP

Scale: **As indicated**

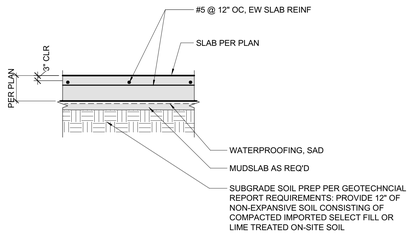
Date: **July 19, 2019**

Project No. 17143

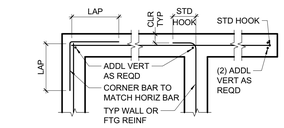
3-S0.10
Drawing No.

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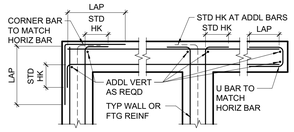
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14 TYPICAL SLAB ON GRADE
1" = 1'-0"



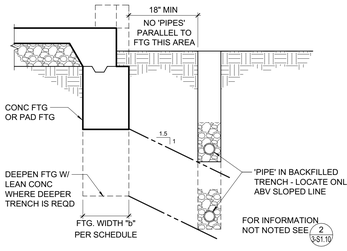
PLAN VIEW - SINGLE LAYER



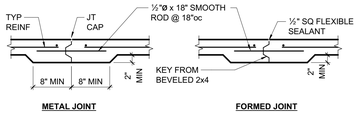
PLAN VIEW - 2 OR MORE LAYERS

NOTE:
FOOTING REINFORCING AT CORNER AND INTERSECTION TO BE SIMILAR

9 TYPICAL CORNER, INTERSECTION AND END REINFORCING
3/4" = 1'-0"

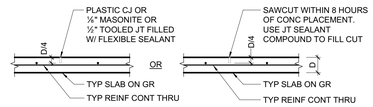


5 TRENCHING ADJACENT TO FOOTING
3/4" = 1'-0"



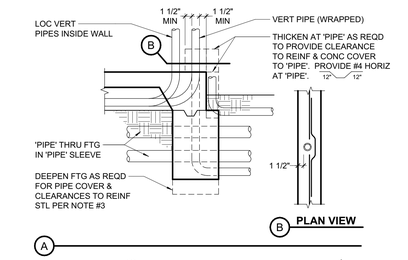
METAL JOINT FORMED JOINT

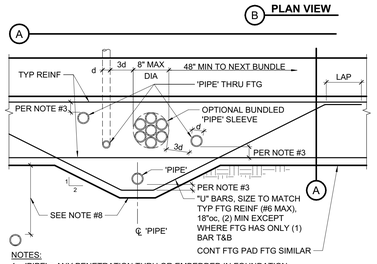
A CONSTRUCTION/DOWEL JOINT



B CONTROL JOINT

6 SLAB ON GRADE JOINTS
3/4" = 1'-0"





NOTES:
1. 'PIPE' = ANY PENETRATION THRU OR EMBEDDED IN FOUNDATION.
2. ALL PIPES THROUGH FOOTINGS TO BE WRAPPED OR SLEEVED AS FOLLOWS:
   a. SLEEVES: PROVIDE 1" MIN CLEAR ALL AROUND O.D. PIPE TO I.D. SLEEVE, UNO. SEAL SLEEVE ENDS W/ MASTIC OR PLASTIC BITUMINOUS CEMENT.
   b. WRAPPED VERTICAL PIPES: PROVIDE ⅛" NOMINAL SHEET FOAM W/ (3) WRAPS MINIMUM, UNO.
   c. WRAPPED HORIZONTAL PIPES: PROVIDE ¼" NOMINAL SHEET FOAM W/ (8) WRAPS MINIMUM, UNO.
   d. UNDERGROUND FIRE LINES 4" AND LARGER:
      1. SLEEVES: PROVIDE 2" MIN CLEAR ALL AROUND O.D. PIPE TO I.D. SLEEVE. SEAL ENDS PER ABOVE.
      2. WRAPPED: PROVIDE ¼" NOMINAL SHEET FOAM W/ (16) WRAPS MINIMUM.
3. WRAPPED AND SLEEVED PIPES SHALL HAVE 1½" MIN CLEAR TO REINF STEEL. MINIMUM CONCRETE COVER AT PIPES TO BE 3".
4. CLEARANCE BETWEEN 'PIPES' TO BE 3d MIN TYP W/ A MAXIMUM OF (8) PIPES PER 48". GROUPS OF PIPES MAY BE BUNDLED AS SHOWN, EXCEPT IN PAD FOOTINGS.
5. NO 'PIPE' TO RUN PARALLEL IN FOOTINGS, STEM OR CURB.
6. PVC CONDUIT ('PIPE') EMBEDDED IN CURB/STEM MAY BE WIRE TIED TO HORIZONTAL REINF.
7. NO HORIZONTAL PIPES ALLOWED THROUGH FOOTING WITHIN 2'-0" EACH SIDE OF HOLDOWNS OR STEEL COLUMNS. NO VERTICAL PIPES ALLOWED IN FOOTINGS AT BRACED FRAMES.
8. PROVIDE 18" MIN OF COMPACTED FILL ABOVE PIPES UP TO 12"ø, FOR LARGER PIPES INCREASE COMPACTED FILL DEPTH 1'-0" OF FOR EACH 6" INCREASE IN PIPE DIAMETER. OTHERWISE DEEPEN FOOTING AS SHOWN.
9. PROVIDE IMPERMEABLE CLSM PLUG EXTENDING 3' FROM EXTERIOR EDGE OF FOOTING/ MAT WHERE PIPES ENTER BUILDING AS REQIRED PER GEOTECHNICAL REPORT.

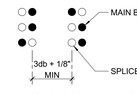
2 PIPES THRU FOOTING
3/4" = 1'-0"

	LOCATION	DEVELOPMENT LENGTHS (ld) GR60 SIZE								
		#3	#4	#5	#6	#7	#8	#9	#10	#11
CONCRETE f'c = 3000 PSI AT 28 DAYS	TOP	12"	22"	32"	43"	69"	86"	103"	122"	141"
	OTHER	12"	17"	25"	33"	53"	66"	80"	94"	109"
CONCRETE f'c = 4000 PSI AT 28 DAYS	TOP	12"	19"	28"	37"	60"	74"	90"	106"	122"
	OTHER	12"	15"	21"	29"	46"	57"	69"	81"	94"
CONCRETE f'c = 5000 PSI AT 28 DAYS	TOP	12"	17"	25"	34"	54"	67"	80"	95"	109"
	OTHER	12"	13"	19"	26"	42"	51"	62"	73"	84"

	LOCATION	HOOKED DEVELOPMENT LENGTHS (Ldh) SIZE								
		#3	#4	#5	#6	#7	#8	#9	#10	#11
CONCRETE f'c = 3000 PSI AT 28 DAYS	ANY	9"	11"	14"	17"	20"	22"	25"	28"	-
CONCRETE f'c = 4000 PSI AT 28 DAYS	ANY	8"	10"	12"	15"	17"	19"	22"	24"	-
CONCRETE f'c = 5000 PSI AT 28 DAYS	ANY	7"	9"	11"	13"	15"	17"	20"	22"	-

	LOCATION	LAP SPLICE LENGTHS (Ls) GR60 SIZE								
		#3	#4	#5	#6	#7	#8	#9	#10	#11
CONCRETE f'c = 3000 PSI AT 28 DAYS	TOP	17"	28"	41"	56"	90"	112"	134"	158"	183"
	OTHER	13"	22"	32"	43"	69"	86"	103"	122"	141"
CONCRETE f'c = 4000 PSI AT 28 DAYS	TOP	15"	25"	36"	49"	78"	97"	116"	137"	159"
	OTHER	12"	19"	28"	37"	60"	74"	90"	106"	122"
CONCRETE f'c = 5000 PSI AT 28 DAYS	TOP	13"	22"	32"	44"	70"	87"	104"	123"	142"
	OTHER	12"	17"	25"	34"	54"	67"	80"	95"	109"

NOTES:
1. TOP REINFORCING IS HORIZONTAL REINFORCEMENT WITH MORE THAN TWELVE INCHES (12") OF CONCRETE PLACED BELOW IT.
2. IF THE LAP SPLICE REINFORCEMENT DOES NOT HAVE A MINIMUM SPACING 3db + 1/8 INCHES & A MINIMUM COVER OF db + 1/8 INCHES, USE WELDED SPLICE OR MECHANICAL CONNECTOR.



3. HOOKED DEVELOPMENT LENGTHS (Ldh) MAY BE USED IN LIEU OF DEVELOPMENT LENGTH (Ld) IF STANDARD HOOK IS PROVIDED AT END OF BAR.
4. MECHANICAL CONNECTORS SHALL BE TENSION-COMPRESSION TYPE WITH THE ABILITY TO DEVELOP 125% OF THE YIELD STRENGTH FOR THE SPLICED REINFORCEMENT (75 KSI). MECHANICAL CONNECTORS SHALL HAVE & BE INSTALLED PER AN ICC EVALUATION REPORT.
5. WWR SHALL LAP MINIMUM (3) BAR CROSSINGS.

CONCRETE COVER FOR REINFORCING STEEL 'CLR'

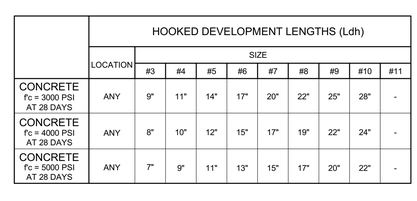
CAST AGAINST EARTH OR GRADE . . . . . 3"

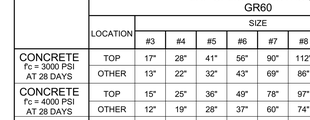
EXPOSED TO EARTH (FORMED) OR WEATHER;
#5 AND SMALLER . . . . . 1½"
#6 AND LARGER . . . . . 2"

NOT EXPOSED TO EARTH OR WEATHER;
#5 AND SMALLER . . . . . 1"
#6 AND LARGER, AND ALL BEAM STIRRUPS, COLUMN TIES AND SPIRALS . . . . 1½"

ALL REINFORCING BARS SHALL EXTEND AS FAR AS POSSIBLE AND END IN A STANDARD 90° OR 180° HOOK UNLESS DETAILED OTHERWISE.







PRINCIPAL REINF

REINF	Dmin
#3 TO #8	6 db
#9 TO #11	8 db
#14 TO #18	10 db

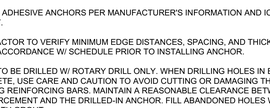
CROSSTIES, HOOPS & STIRRUPS

REINF	Dmin
#3	1 1/2"
#4	2"
#5	2 1/2"

NOTE:
1. ALL BENDS SHALL BE MADE COLD.

1 REINFORCING LAPS AND SPLICES AND BENDS
1" = 1'-0"

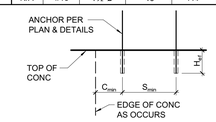
SCREW ANCHOR IN 2500 PSI MIN CONCRETE							
ANCHOR TYPE	ANCHOR AND PILOT HOLE DIA	MINIMUM EMBEDMENT H_{nom}	MINIMUM EDGE DIST C_{min}	MINIMUM SPCG S_{min}	MINIMUM CONCRETE DEPTH H_{min}	INSTALL TORQUE (FT-LB)	MAX INSTALL TORQUE (FT-LB)
SIMPSON TITEN HD (ICC-ESR 2713)	⅜"	2½"	1¾"	3"	4"	10	50
	½"	3¼"	1¾"	3"	5"	10	65
	⅝"	4"	1¾"	3"	6"	10	100
	¾"	5½"	1¾"	3"	8¼"	20	150
HILTI KH-EZ (ICC-ESR 3027)	⅜"	2½"	1½"	3"	4"	10	40
	½"	3"	1¾"	3"	4¾"	10	45
	⅝"	3¼"	1¾"	4"	5"	10	85
	¾"	4"	1¾"	4"	6"	20	115



NOTES:
1. INSTALL SCREW ANCHORS PER MANUFACTURER'S INFORMATION AND ICC REPORT INSTRUCTIONS. SPECIAL INSPECTION IS REQUIRED PER SECTION 1705A OF THE CBC AND THE REQUIREMENTS OF THE ICC REPORTS. INSTALLED ANCHORS SHALL BRING CONNECTED PLIES INTO FIRM CONTACT, MEETING THE INSTALL TORQUE BUT NOT EXCEEDING THE MAXIMUM INSTALL TORQUE.
2. CONTRACTOR TO VERIFY MINIMUM EDGE DISTANCES, SPACING AND THICKNESS ARE IN ACCORDANCE W/ SCHEDULE PRIOR TO INSTALLING ANCHOR.
3. HOLES TO BE DRILLED W/ ROTARY DRILL ONLY. WHEN INSTALLING DRILLED-IN ANCHORS IN EXISTING REINFORCED CONCRETE, USE CARE AND CAUTION TO AVOID CUTTING OR DAMAGING THE EXISTING REINFORCING BARS. MAINTAIN A REASONABLE CLEARANCE BETWEEN REINFORCEMENT AND THE DRILLED-IN ANCHOR. FILL ABANDONED HOLES W/ HIGH STRENGTH GROUT.
4. THE SPECIAL INSPECTOR MUST BE ON THE JOBSITE PERIODICALLY DURING ANCHOR INSTALLATION TO VERIFY ANCHOR TYPE, ANCHOR DIMENSIONS, HOLE CLEANLINESS, EMBEDMENT DEPTH, CONCRETE TYPE, CONCRETE COMPRESSIVE STRENGTH, DRILL BIT DIAMETER, HOLE DEPTH, EDGE DISTANCE(S), ANCHOR SPACING(S), CONCRETE THICKNESS, AND TIGHTENING TORQUE.
5. TEST ANCHORS IN ACCORDANCE W/ CBC SECTION 1910A.5.

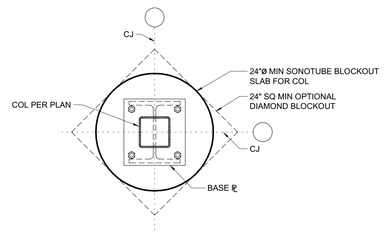
16 ADHESIVE ANCHOR IN CONCRETE
3/4" = 1'-0"

ADHESIVE ANCHOR IN 2500 PSI MIN CONCRETE							
ADHESIVE TYPE	ANCHOR: THRD ROD	ANCHOR: REBAR	PILOT HOLE	MIN EMBED UNO H_{ef}	MIN EDGE DISTANCE C_{min}	MIN SPCG S_{min}	MIN CONC DEPTH H_{min}
SIMPSON SET-XP (ICC-ESR 2508)	⅜"ø	#3	½"ø	3"	1¾"	3"	5"
	½"ø	#4	⅝"ø	4"	1¾"	3"	6½"
	⅝"ø	#5	¾"ø	5"	1¾"	3"	8¼"
	¾"ø	#6	⅞"ø	6"	1¾"	3"	9¾"
	⅞"ø	#7	1"ø	7"	1¾"	3"	11½"
	1"ø	#8	1⅛"ø	8"	1¾"	3"	13"
	1⅛"ø	#10	1¾"ø	10"	2¾"	6"	16½"
HILTI HIT-HY 200R (ICC-ESR 3187)	⅜"ø	N/A	½"ø	3"	1¾"	1⅜"	4½"
	N/A	#3	½"ø	3"	1¾"	1⅜"	4½"
	½"ø	N/A	⅝"ø	4"	1¾"	2½"	5½"
	N/A	#4	⅝"ø	4"	1¾"	2½"	5½"
	⅝"ø	#5	¾"ø	5"	1¾"	3⅛"	6½"
	¾"ø	#6	⅞"ø	6"	1¾"	3¾"	7¾"
	⅞"ø	#7	1"ø	7"	1¾"	4⅜"	9"
	1"ø	#8	1⅛"ø	8"	1¾"	5"	10¼"
	N/A	#9	1⅜"ø	9"	1¾"	5⅝"	11⅜"
	1⅛"ø	N/A	1⅜"ø	10"	1¾"	6¼"	12⅜"
	N/A	#10	1½"ø	10"	1¾"	6¼"	13"

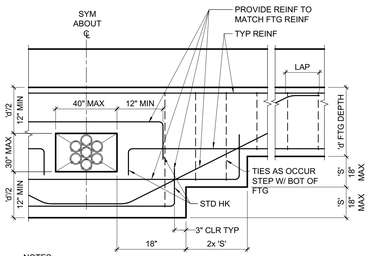


NOTES:
1. INSTALL ADHESIVE ANCHORS PER MANUFACTURER'S INFORMATION AND ICC REPORT.
2. CONTRACTOR TO VERIFY MINIMUM EDGE DISTANCES, SPACING, AND THICKNESS ARE IN ACCORDANCE W/ SCHEDULE PRIOR TO INSTALLING ANCHOR.
3. HOLES TO BE DRILLED W/ ROTARY DRILL ONLY. WHEN DRILLING HOLES IN EXISTING CONCRETE, USE CARE AND CAUTION TO AVOID CUTTING OR DAMAGING THE EXISTING REINFORCING BARS. MAINTAIN A REASONABLE CLEARANCE BETWEEN REINFORCEMENT AND THE DRILLED-IN ANCHOR. FILL ABANDONED HOLES W/ HIGH STRENGTH GROUT.
4. SPECIAL INSPECTION IS REQUIRED PER SECTION 1705A AND THE REQUIREMENTS OF THE ICC REPORTS. THE SPECIAL INSPECTOR MUST BE ON THE JOB SITE PERIODICALLY DURING ANCHOR INSTALLATION TO VERIFY ANCHOR TYPE, ANCHOR DIMENSIONS, HOLE CLEANLINESS, EMBEDMENT DEPTH, CONCRETE TYPE, CONCRETE COMPRESSIVE STRENGTH, DRILL BIT DIAMETER, HOLE DEPTH, EDGE DISTANCE(S), ANCHOR SPACING(S), CONCRETE THICKNESS, AND ADHESIVE INJECTION. TEST ANCHORS IN ACCORDANCE W/ CBC SECTION 1910A.5. SEE DRAWINGS FOR SPECIFIC TENSION TEST LOADS FOR ANCHORS.

15 SCREW ANCHOR IN CONCRETE
3/4" = 1'-0"

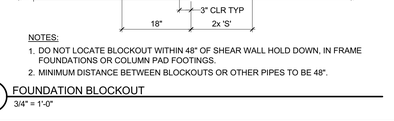


12 SLAB BLOCKOUT
1" = 1'-0"



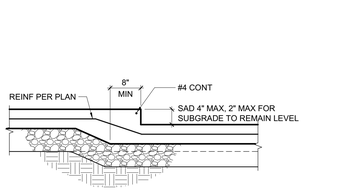
NOTES:
1. DO NOT LOCATE BLOCKOUT WITHIN 48" OF SHEAR WALL HOLD DOWN, IN FRAME FOUNDATIONS OR COLUMN PAD FOOTINGS.
2. MINIMUM DISTANCE BETWEEN BLOCKOUTS OR OTHER PIPES TO BE 48".

13 FOUNDATION BLOCKOUT
3/4" = 1'-0"



NOTE:
LOCATION OF JOINTS TO BE SUBMITTED TO ARCHITECT/ ENGINEER FOR REVIEW PRIOR TO PLACEMENT OF CONCRETE

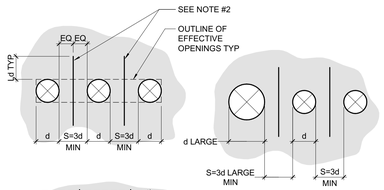
11 FOOTING CONSTRUCTION JOINT
3/4" = 1'-0"



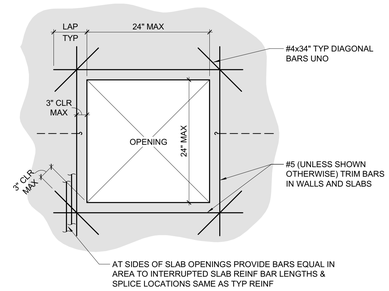
8 DEPRESSED SLAB - 4" MAX
3/4" = 1'-0"

PIPE/CONDUIT REQUIRING EMBEDMENT IN CONC PIPE/CONDUIT IN COMPACTED ROCK

7 CONDUIT & PIPE AT SLAB ON GRADE
3/4" = 1'-0"



3 MULTIPLE SLAB AND WALL PENETRATIONS
1" = 1'-0"



4 SMALL SLAB AND WALL PENETRATIONS
1" = 1'-0"

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

Ross Drulis Cusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVED REC'D:
APPROVED BY:	
KATHY GARCIA DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE. HAYWARD, CA 94545

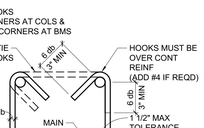
REVISIONS

No.	Description	Date
1	DSA Third Party Review Comment Response	December 6, 2018

PERMIT SUBMITTAL V3-INCREMENT #1

ZFA STRUCTURAL ENGINEERS
1390 el camino real | suite 100 zfa.com
san carlos ca 94070 650.394.8869
zfa job no.17143

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Sheet Title

BUILDING 3 TYPICAL CONCRETE DETAILS

Drawn By: LS Checked By: SRP

Scale: As indicated

Date: July 19, 2019

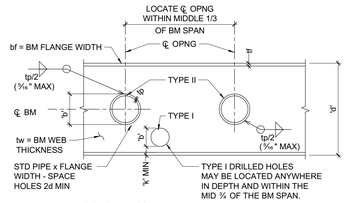
Project No. 17143

3-S1.10

Drawing No.

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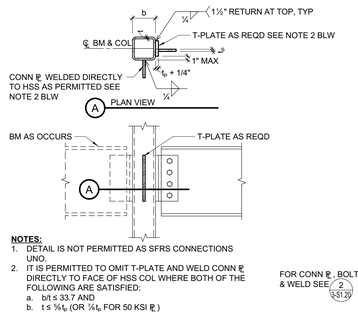
10/9/2019 10:26:38 AM C:\revit_local\17143_B3 - Hangar Bldg_51YC_dwm@zfa.com.rvt



LIMITS OF OPENINGS:
TYPE I: b = 1/5d MAX
SPACED A MINIMUM OF 2d APART
TYPE II:b = 2/3d MAX
SPACED A MINIMUM 2d APART

NOTES:
1. PROVIDE HOLES IN BEAMS ONLY WHERE SPECIFICALLY SHOWN ON STRUCTURAL DRAWINGS.
2. DO NOT TORCH CUT OPENINGS ON SITE. TORCH CUT OPENINGS MADE IN SHOP TO BE GROUND SMOOTH. NO OVERCUTS OF ANY TYPE ALLOWED WITHOUT REPAIR.

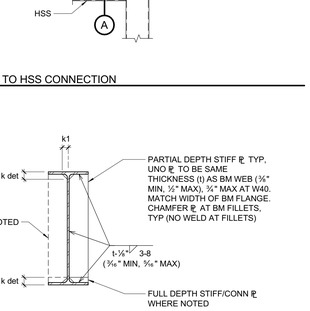
11 OPENING IN STEEL BEAM
3/4" = 1'-0"



NOTES:
1. DETAIL IS NOT PERMITTED AS SFRS CONNECTIONS UNO.
2. IT IS PERMITTED TO OMIT T-PLATE AND WELD CONN ℞ DIRECTLY TO FACE OF HSS COL WHERE BOTH OF THE FOLLOWING ARE SATISFIED:
   a. bt ≤ 33.7 AND
   b. t ≤ ⅝t_b (OR ⅝t_b FOR 50 KSI ℞)

FOR CONN ℞ , BOLTS & WELD SEE 2 / S1.20

6 BEAM TO HSS COLUMN ('T' PLATE)
3/4" = 1'-0"



7 BEAM TO HSS COLUMN (2-WAY)
3/4" = 1'-0"

8 HSS BEAM TO HSS COLUMN
3/4" = 1'-0"

9 TYPICAL HSS TO HSS CONNECTION
3/4" = 1'-0"

10 TYPICAL BEAM WEB STIFFENER PLATE DETAIL
3/4" = 1'-0"

BM DEPTH	NO. BOLTS PER ROW	CONN. PLATE	WELD SIZE
W8, W10	2	℞ ⅜"	⅜₆"
W12, W14	3	℞ ⅜"	⅜₆"
W16	4	℞ ⅜"	⅜₆"
W18	5	℞ ⅜"	⅜₆"
W21	6	℞ ⅜"	⅜₆"
W24	6	℞ ½"	⅜₆"

NOTES:
1. R = 1½" SEE TYP CONNECTION DETAILS. BOLT SPACING AND EDGE DISTANCE SHALL CONFORM TO AISC SPECIFICATIONS.
2. A COMPLETE PENETRATION BEVEL WELD MAY BE SUBSTITUTED FOR THE FILLET WELDS SPECIFIED.
3. USE ASTM A36 CONNECTION PLATES, UNO.
4. HOLE SIZE = BOLT SIZE + ⅛". SHORT SLOTTED HOLES (+ ⅜₆" VERT, + ⅛" HORIZ) MAY BE SUBSTITUTED (EXCEPT AS NOTED).

1 ¾"ø MACHINE BOLT (MB) CONNECTION SCHEDULE
NOT TO SCALE

BM DEPTH	NO. BOLTS PER ROW	CONN. PLATE	WELD SIZE
W8, W10	2	℞ ⅜"	⅜₆"
W12, W14	3	℞ ⅜"	⅜₆"
W16	4	℞ ⅜"	⅜₆"
W18	5	℞ ⅜"	⅜₆"
W21	5	℞ ½"	⅜"
W24	6	℞ ½"	⅜"
W27	7	℞ ½"	⅜"
W30	8	℞ ½"	⅜"
W33	9	℞ ½"	⅜"
W36	10	℞ ½"	⅜"

NOTES:
1. R = 1¾" SEE TYP CONNECTION DETAILS. BOLT SPACING AND EDGE DISTANCE SHALL CONFORM TO AISC SPECIFICATIONS.
2. HIGH STRENGTH BOLTS (HSB) ARE GRADE A325-N UNO. PREPARE MATING SURFACES & TIGHTEN "SNUG TIGHT" AS DEFINED IN THE SPECIFICATIONS.
3. USE ASTM A36 CONNECTION PLATES, UNO.
4. A COMPLETE PENETRATION BEVEL WELD MAY BE SUBSTITUTED FOR THE FILLET WELDS SPECIFIED.
5. HOLE SIZE = BOLT SIZE + ⅛". SHORT SLOTTED HOLES (+⅜₆" VERT, + ⅛" HORIZ) MAY BE SUBSTITUTED (EXCEPT AS NOTED) ROUND HOLES ARE REQUIRED AT SFRS CONNECTIONS.

2 ⅞"ø HIGH STRENGTH BOLT (HSB) CONNECTION SCHEDULE
3/4" = 1'-0"

3 TYPICAL SLOTTED HSS FOR GUSSET CONNECTION
1 1/2" = 1'-0"

4 TYPICAL CAP PLATE
3/4" = 1'-0"

5 BEAM EACH SIDE TO HSS COLUMN
3/4" = 1'-0"

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: **KATHY GARCIA** DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	DSA Third Party Review Comment Response	December 6, 2018

PERMIT SUBMITTAL V3-INCREMENT #1

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1390 el camino real | suite 100 zfa.com
san carlos ca 94070 650.394.8869
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LICENSED PROFESSIONAL ENGINEER
KEVIN G. ZUCCO
No. 4961
STRUCTURAL
STATE OF CALIFORNIA

Sheet Title

BUILDING 3
TYPICAL STEEL FRAMING DETAILS

Drawn By: LS Checked By: SRP

Scale: **As indicated**

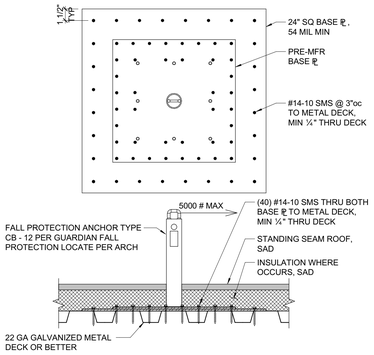
Date: **July 19, 2019**

Project No. 17143

3-S1.20
Drawing No.

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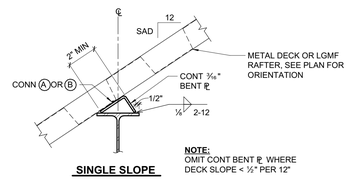


8 FALL RESTRAINT ANCHOR
1 1/2" = 1'-0"

MARK	STEEL DECK GAGE & PROFILE TYPE SEE 4/3-S1.50	DECK CONNECTIONS						MINIMUM SLAB FILL THICKNESS ABV DECK	MINIMUM SLAB FILL REINFORCING	REMARKS
		END/INT BEARING CONN Ⓐ		SIDE BEARING CONN Ⓑ		SIDELAP CONNECTION Ⓒ				
		SIZE & TYPE	PATTERN	SIZE & TYPE	SPACING	SIZE & TYPE	SPACING			
4	G - 20 GA	¾"Ø PW	36/9	¾"Ø PW	12"	1½" TSW OR ¾"x1½" ASW	12"	NO CONCRETE COVER. SAD FOR INSUL / FINISHES	N/A	SEE 2/3-S1.50 FOR SCREW CONNECTION AT LGMF, TYP UNO

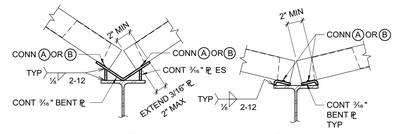
NOTES:
1. ATTACH DECK TO ALL STEEL SUPPORT FRAMING AS OCCURS.
2. PW = PUDDLE WELD WITH ⅝"Ø MIN OF FUSION (EFFECTIVE WELD).
3. TSW = TOP SEAM WELD (¼" FILLET).
4. ASW = ARC SEAM WELD.
5. VSC2 = VERCO SIDE LAP CONNECTION.
6. PINS = HILTI X-ENP-19 L15 PER ICC ESR-2776.
7. ABOVE REFERENCED DECKS AND COMPOSITE DEPTHS ARE BASED ON ALLOWABLE DESIGN LOADS PER IAPMO ER-0217 VERCO MANUFACTURING, ESR-2047 EPIC METAL DECK CORP - EQUIVALENT DECK MUST HAVE EQUIVALENT ALLOWABLE VERTICAL LOADS, DIAPHRAGM SHEAR VALUES, AND FLEXIBILITY FACTORS.
8. SHORING OF DECK REQUIRED AT SINGLE SPAN & 2 SPAN CONDITIONS. NOT REQUIRED AT 3 SPAN CONDITIONS. AT CONTRACTOR'S OPTION, HEAVIER DECK MAY BE USED TO AVOID SHORING PER SEOR WRITTEN APPROVAL.
9. PROVIDE FULL WIDTH DECK SHEET ON EACH SIDE OF BEAMS IN THE SFRS, AND AT THE BUILDING PERIMETER.

1 DECKING SCHEDULE
3/4" = 1'-0"



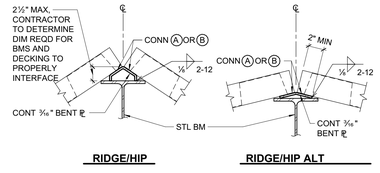
SINGLE SLOPE

NOTE:
OMIT CONT BENT ₵ WHERE DECK SLOPE < ½" PER 12"



VALLEY

VALLEY ALT



RIDGE/HIP

RIDGE/HIP ALT

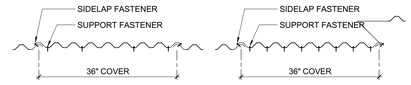
NOTE:
OMIT CONTINOUS BENT ₵ WHERE DECK SLOPE < ½" PER 12"

5 TYPICAL SLOPED DECK SUPPORT
1 1/2" = 1'-0"

1. SCHEDULED OR REFERENCED DECKS ARE BASED ON ALLOWABLE DESIGN LOADS PER IAPMO ER-0217 VERCO MANUFACTURING PHOENIX, ARIZONA - EQUIVALENT DECK MUST HAVE EQUIVALENT ALLOWABLE LOADS.
2. SCREWS FOR DECK TO DECK SEAM FASTENING SHALL BE No. 12-14 x ¾" TEKS 1. SCREWS FOR DECK SUPPORT FASTENING SHALL BE ONE OF THE FOLLOWING:

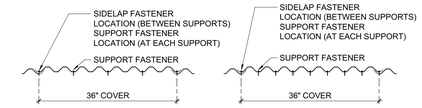
FASTENER DESCRIPTION	SUPPORT THICKNESS
#12-14 x ¾" TEKS 3	16 GAGE TO ⅜"
#12-24 x ⅝" TEKS 4	⅛" TO ½"
#12-24 x 1¼" TEKS 5	⅛" TO ½"

3. SEE ICC-ES ER-3056 AND ESR-1976 FOR ADDITIONAL DETAILS ON TEKS SCREWS.
4. DECK SUPPORT FASTENER PATTERNS ARE AS DESCRIBED IN (A).
5. EIGHT OR FOUR SCREWS USED FOR INVERTED 1 ⅝" VERCOR. NINE OR FIVE SCREWS USED FOR "NORMAL" 1 ⅝" VERCOR.



36/4 PATTERN - INVERTED 1 ⅝" VERCOR

36/8 PATTERN - INVERTED 1 ⅝" VERCOR

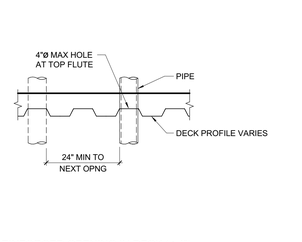


36/5 PATTERN - "NORMAL" 1 ⅝" VERCOR

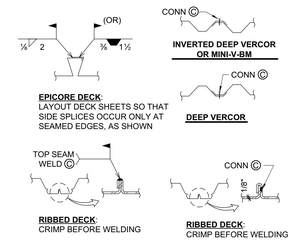
36/9 PATTERN - "NORMAL" 1 ⅝" VERCOR

A TEKS FASTENER PATTERN FOR 1 ⅝" VERCOR

2 DECKING SCHEDULE - SCREW CONNECTIED
3/4" = 1'-0"

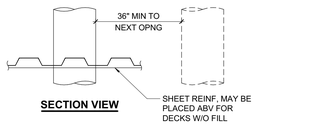


6 TYPICAL UNREINFORCED OPENING IN DECK (≤ 4")
3/4" = 1'-0"

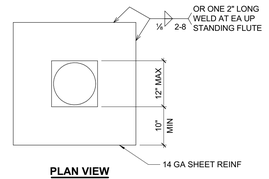


NOTE:
BUTTON PUNCH AND VERCO SIDE LAP CONN NOT SHOWN.

3 TYPICAL DECK SIDE LAP CONNECTION
3" = 1'-0"

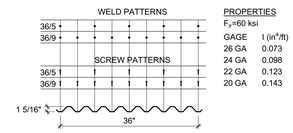


SECTION VIEW



PLAN VIEW

7 TYPICAL REINFORCED OPENING IN DECK (LESS THAN 12")
3/4" = 1'-0"



PROPERTIES	
F_y=60 ksi	
GAGE	I (in⁴/ft)
26 GA	0.073
24 GA	0.098
22 GA	0.123
20 GA	0.143

TYPE "G" DECK
VERCO DEEP VERCOR OR APPROVED EQUAL

4 DECKING TYPE AND CONNECTION PATTERN
NOT TO SCALE

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	INC 01_ADD_01_V1	12/6/2019

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Sheet Title

BUILDING 3
TYPICAL METAL DECKING DETAILS

Drawn By: LS Checked By: SRP

Scale: **As indicated**

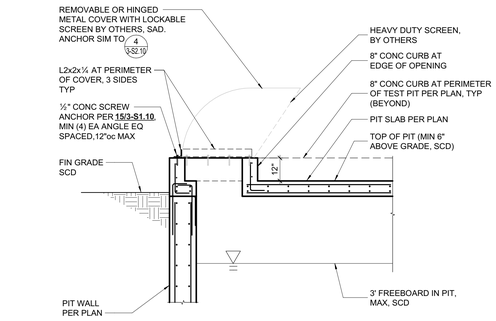
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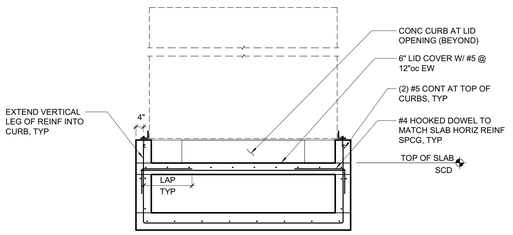
3-S1.50
Drawing No.

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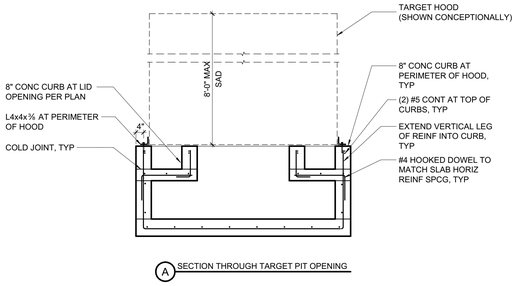
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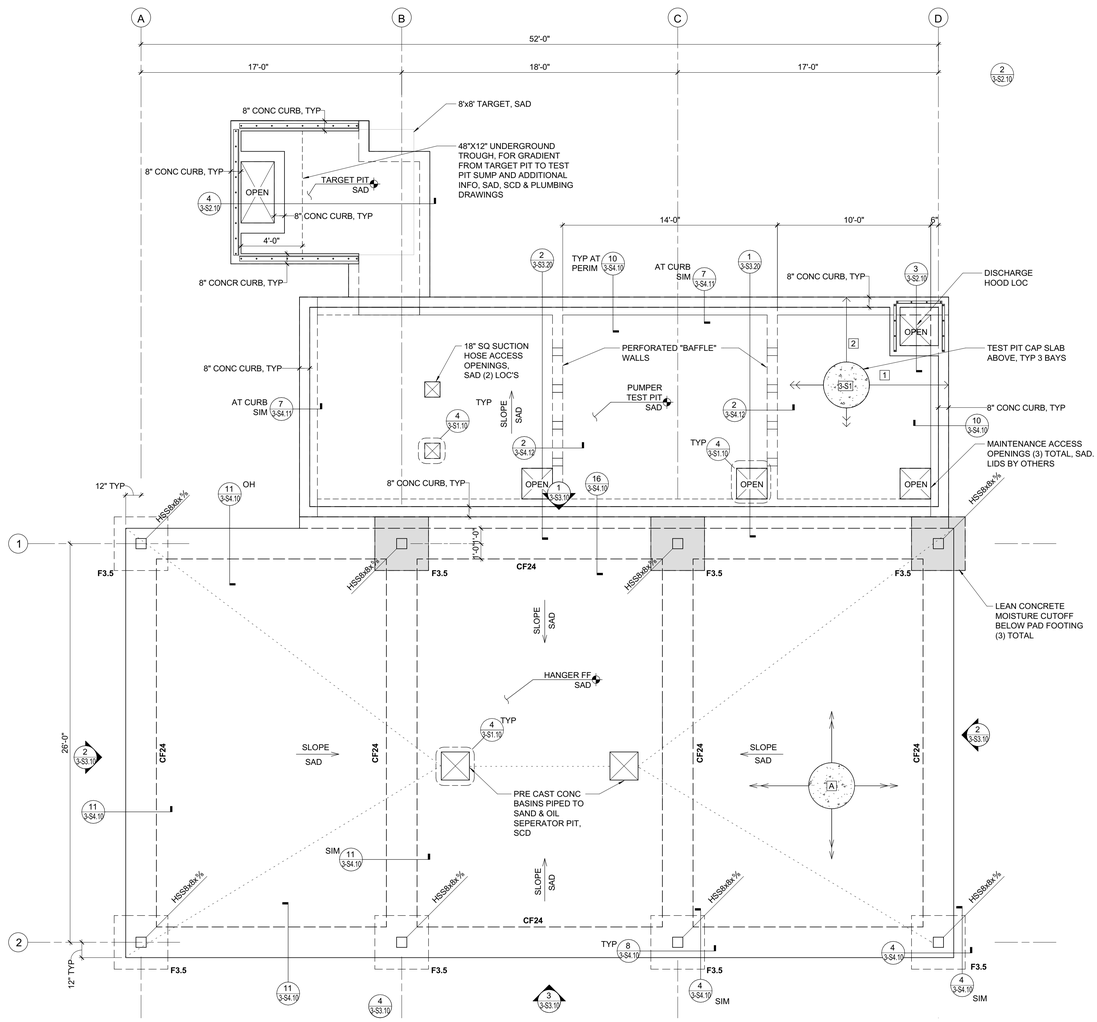
3 DISCHARGE HOOD
3/8" = 1'-0"



B SECTION THROUGH TARGET PIT

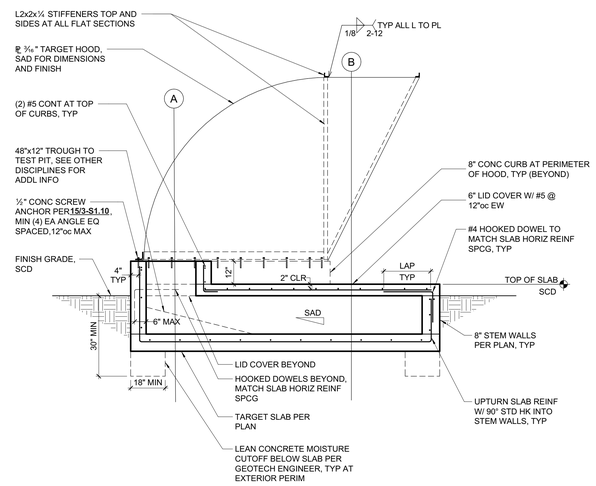


A SECTION THROUGH TARGET PIT OPENING

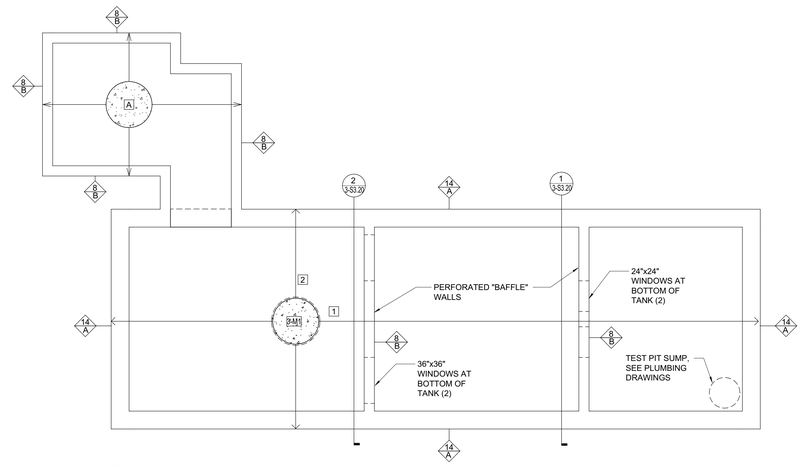


NORTH

FOUNDATION PLAN
1/4" = 1'-0"



4 TARGET HOOD
3/8" = 1'-0"



2 TEST PIT & TARGET PIT PARTIAL FOUNDATION PLAN
1/4" = 1'-0"

FOUNDATION PLAN NOTES:

1. REFER TO SHEETS **3-S0.10** THROUGH **3-S1.50** FOR GENERAL NOTES AND TYPICAL DETAILS. THE FOLLOWING DETAIL REFERENCES ARE PROVIDED FOR THE CONTRACTOR'S CONVENIENCE ONLY. ALL GENERAL NOTES AND TYPICAL DETAILS NOTED ABOVE ARE APPLICABLE AND SHALL BE FOLLOWED.
2. COORDINATE ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS PRIOR TO CONSTRUCTION. NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES.
3. SEE DETAILS OR CURB PLAN FOR CURB LOCATIONS. COORDINATE WITH ARCHITECTURAL DRAWINGS PRIOR TO CONSTRUCTION. NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES.
4. PLUMBING AND ELECTRICAL CONDUIT AND GROUND STRAP SHALL NOT BE LAID WITHIN FOUNDATIONS. NO UTILITY PIPES OR CONDUITS SHALL BE LOCATED THRU COLUMN FOOTINGS OR FRAME FOOTINGS. NO PIPES OR CONDUITS THRU SILL PLATES SHALL BE WITHIN 12" OF HOLDOWN BOLTS. NO MECHANICAL, ELECTRICAL, OR PLUMBING OPENINGS SHALL BE LOCATED IN SHEAR WALLS UNLESS SHOWN AND DETAILED ON THE STRUCTURAL DRAWINGS. NO VERTICAL OR HORIZONTAL PIPES OR CONDUITS SHALL BE LOCATED THROUGH STEEL FRAMES, STEEL COLUMNS, OR STEEL BASE PLATES. PROVIDE FURRING AND/OR THICKENED CONCRETE WHERE REQUIRED TO CLEAR UTILITY SYSTEMS. NOTIFY STRUCTURAL ARCHITECT/ENGINEER PRIOR TO ANY INSTALLATION NOT CONFORMING TO THESE DETAILS.

   PIPES THROUGH FOOTINGS SHALL BE PER **2/3-S1.10** AND **13/3-S1.10** .

   PIPES PARALLEL TO FOOTINGS SHALL BE PER **5/3-S1.10** .

   PIPES AT SLAB ON GRADE SHALL BE PER **7/3-S1.10** .
5. ELEVATION OF THE TOP OF FINISHED SLAB = 0'-0", UNLESS NOTED OTHERWISE.

PLAN LEGEND

SYMBOL	REFERENCE DETAIL	DESCRIPTION
	1/3-S4.12	INDICATES CAST IN PLACE CONCRETE WALL PANEL W/ THICKNESS "t" AND REINFORCING TYPE "A" PER SCHEDULE TYP, UNO.
		INDICATES STEEL COLUMN.
	3/3-S1.10 **4/3-S1.10**	INDICATES TYPICAL SLAB OR WALL OPENING, SEE ARCHITECTURAL AND PLUMBING DRAWINGS FOR COMPLETE SIZE AND LOCATION INFORMATION
		INDICATES FOUNDATION.
CF24	-/----	INDICATES CONTINUOUS FOOTING SIZE AND REINFORCING PER SCHEDULE.
F3.5	-/----	INDICATES PAD FOOTING SIZE AND REINFORCING PER SCHEDULE.
88		INDICATES GRIDLINE AT CENTERLINE OF COLUMN.
		INDICATES STEP IN ELEVATION, SEE ARCHITECTURAL DRAWINGS.
1 / S3.1		INDICATES ELEVATION.
TOF - 10"		INDICATES TOP OF FOOTING RELATIVE TO 0'-0". TOP OF FOOTING SHALL BE -12", UNLESS NOTED OTHERWISE. TOP OF FOOTING ELEVATIONS ARE TO BE COORDINATED BY THE CONTRACTOR UTILIZING THE STRUCTURAL, CIVIL, GEOTECHNICAL, AND LANDSCAPE DRAWINGS. ANY DISCREPANCIES ARE TO BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER SO CLARIFICATION CAN BE MADE PRIOR TO CONSTRUCTION.
A	**14/3-S1.10**	9" CONC SLAB- ON- GRADE PER **D/3-S0.10** NOTE 4. SEE REFERENCE DETAIL FOR SUBGRADE SLAB PREPARATION
1 SM1 2	**1/3-S4.11**	INDICATES CONCRETE MAT FOUNDATION TYPE "M1" PER SCHEDULE AND REINF LAYER DIRECTIONS. INCREASE SLAB THICKNESS AS REQUIRED TO SLOPE TOP OF SLAB TO DRAINS PER ARCH. MAT TO BE PLACED OVER VAPOR BARRIER OVER 12" OF NON-EXPANSIVE SOIL CONSISTING OF COMPACTED IMPORTED SELECT FILL OR LIME TREATED ON-SITE SOIL.
1 SS1 2	**8/3-S4.11**	INDICATES CONCRETE SUSPENDED SLAB TYPE "S1" PER SCHEDULE AND REINF LAYER DIRECTIONS. INCREASE SLAB THICKNESS AS REQUIRED TO SLOPE TOP OF SLAB TO DRAINS PER ARCH.
		INDICATES SLOPE VALLEY, SAD.
SLOPE		INDICATES SLOPE DIRECTION , SAD.

CONTINUOUS FOOTING SCHEDULE

MARK	WIDTH	DEPTH	REINFORCING	TIES
CF24	24"	24"	(6) #6 CONT T&B	#4 @ 10"oc MAX UNO, SEE **3-S3.10** & **11/3-S4.10**

PAD FOOTING SCHEDULE

MARK	WIDTH "b"	DEPTH "d"	REINFORCING
F3.5	3'-6" SQ	24"	(4) #5 EW T&B

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: **KATHY GARCIA** DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	DSA Third Party Review Comment Response	December 6, 2018
3	Plan Check-Internal Tracking	10.01.2019

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Sheet Title

BUILDING 3 FOUNDATION PLAN

Drawn By: LS Checked By: SRP

Scale: **As indicated**

Date: **July 19, 2019**

Project No. 17143

3-S2.10
Drawing No.

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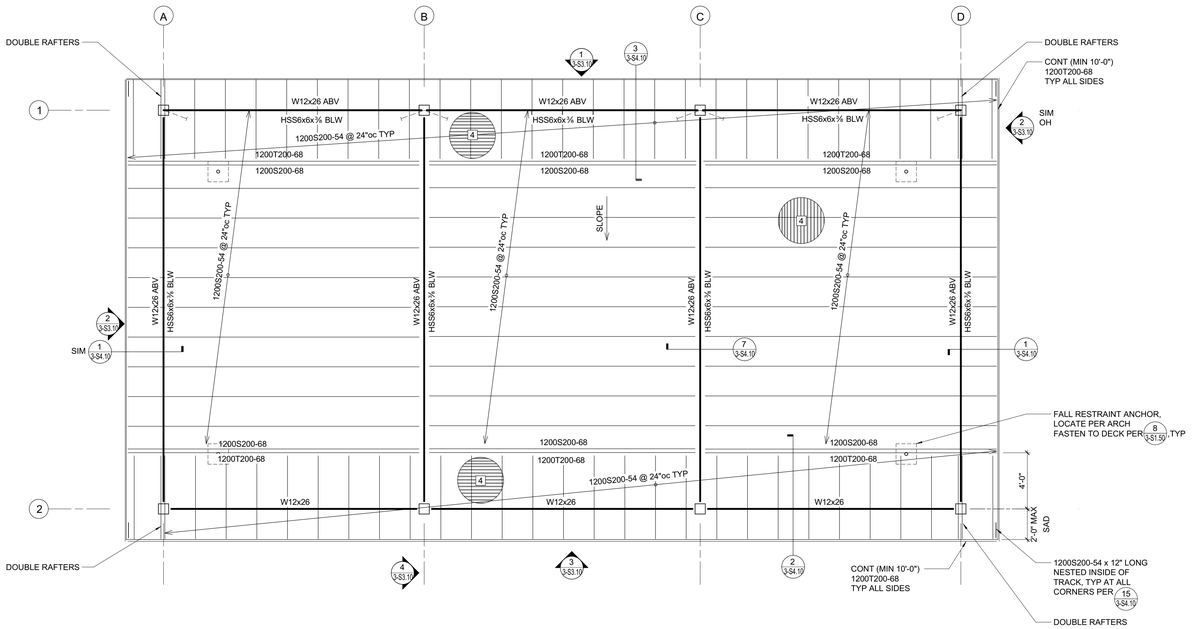
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FRAMING PLAN NOTES:

1. REFER TO SHEETS **3-S0.10** THROUGH **3-S1.50** FOR GENERAL NOTES AND TYPICAL DETAILS. THE FOLLOWING DETAIL REFERENCES ARE PROVIDED FOR THE CONTRACTOR'S CONVENIENCE ONLY. ALL GENERAL NOTES AND TYPICAL DETAIL SHEETS NOTED ABOVE ARE APPLICABLE AND SHALL BE FOLLOWED.
2. COORDINATE ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS PRIOR TO CONSTRUCTION. NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES.
3. NO VERTICAL OR HORIZONTAL PIPES OR CONDUITS SHALL BE LOCATED THROUGH STEEL FRAMING, COLUMNS, OR ASE PLATES. CONDUIT OR PLUMBING NOT ALLOWED WITHIN CONCRETE FILL ON METAL DECK. PROVIDE FURRING WHERE REQUIRED TO CLEAR UTILITY SYSTEMS. NOTIFY ARCHITECT/ENGINEER PRIOR TO ANY INSTALLATION NOT CONFORMING TO THESE RESTRICTIONS.
4. SEE ARCHITECTURAL DRAWINGS FOR EDGE OF SLAB, FACE OF WALL, ETCETERA.
5. SEE ARCHITECTURAL DRAWINGS FOR TOP OF SLAB OR TO TOP OF STEEL ELEVATION.
6. BEAM CENTERLINES TO ALIGN WITH COLUMN CENTERLINES, UNLESS NOTED OTHERWISE.

PLAN LEGEND

SYMBOL	REFERENCE DETAIL	DESCRIPTION
88		INDICATES GRIDLINE AT CENTERLINE OF COLUMN.
1 / S3.1		INDICATES ELEVATION.
		INDICATES STEEL COLUMN.
		INDICATES ANGLE BRACES BELOW.
4	1/3-S1.50	INDICATES BARE METAL DECK AND DIRECTION OF DECK SPAN. SEE SCHEDULE FOR ADDITIONAL INFORMATION



NORTH

ROOF FRAMING PLAN

1/4" = 1'-0"

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

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DRAWN BY:	APPROVAL REC'D:
APPROVED BY: **KATHY GARCIA** DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

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1	INC 01_ADD_01_V1	12/6/2019

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Sheet Title

BUILDING 3 ROOF PLAN

Drawn By: LS Checked By: SRP

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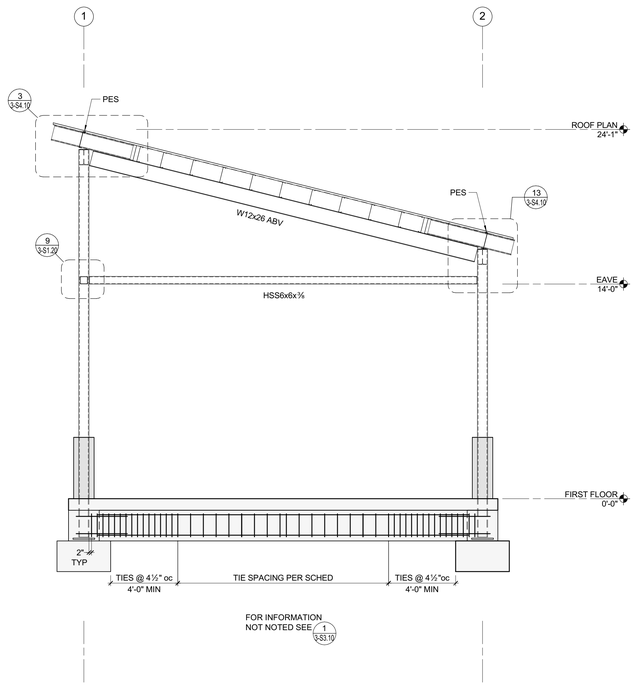
Date: **July 19, 2019**

Project No. 17143

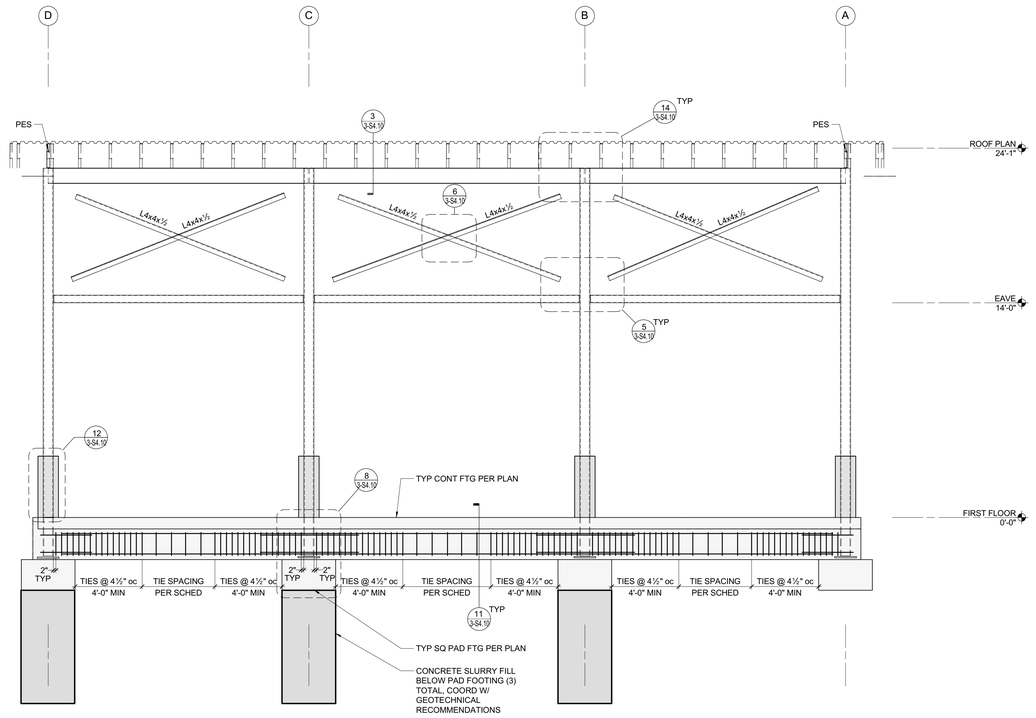
3-S2.20
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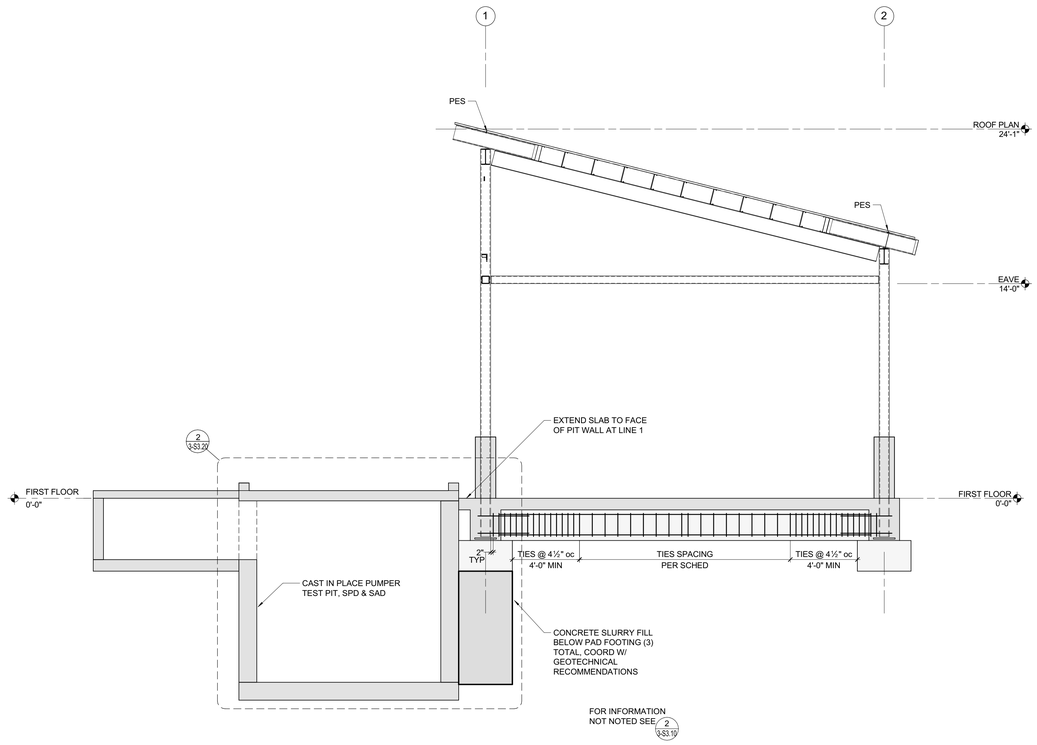
2 ELEVATION AT GRID A (LINE D SIM)
1/4" = 1'-0"



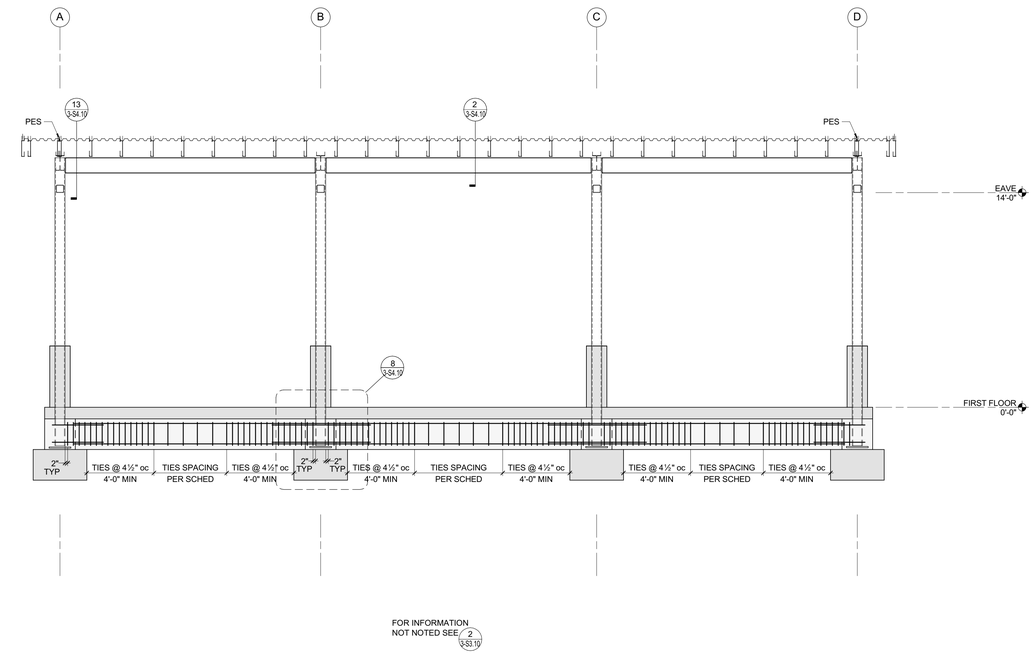
1 ELEVATION AT GRID 1
1/4" = 1'-0"

FRAME ELEVATION NOTES:

1. ELEVATIONS ARE SCHEMATIC. SEE PLANS FOR ADDITIONAL INFORMATION.
2. SEE PLANS FOR ALL COLUMN AND BEAM SIZES.
3. SEE SHEET **3-S4.10** FOR BRACED FRAME DETAILS.
4. SAD FOR FRAMING HEIGHTS, BEAM SLOPES AND ALL DIMENSIONS.
5. ALL CONNECTIONS INDICATED ON ELEVATIONS ARE PART OF THE SFRS, ALL WELDS ARE DEMAND CRITICAL.



4 SECTION AT GRID B (LINE C SIM)
1/4" = 1'-0"



3 ELEVATION AT GRID 2
1/4" = 1'-0"

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION	
DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	DSA Third Party Review Comment Response	December 6, 2018

PERMIT SUBMITTAL V3-INCREMENT #1

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LICENSED PROFESSIONAL ENGINEER
KEVIN G. ZUCCO
No. 4961
STRUCTURAL
STATE OF CALIFORNIA

Sheet Title

BUILDING 3 ELEVATIONS

Drawn By: LS Checked By: SRP

Scale: As indicated

Date: July 19, 2019

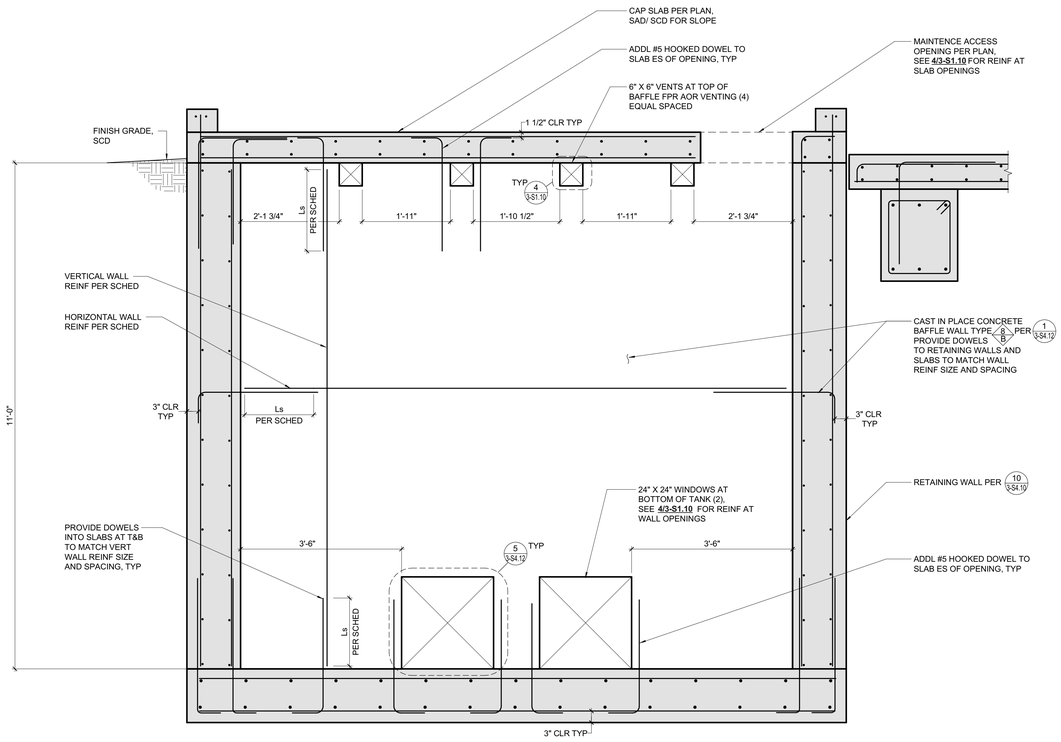
Project No. 17143

3-S3.10

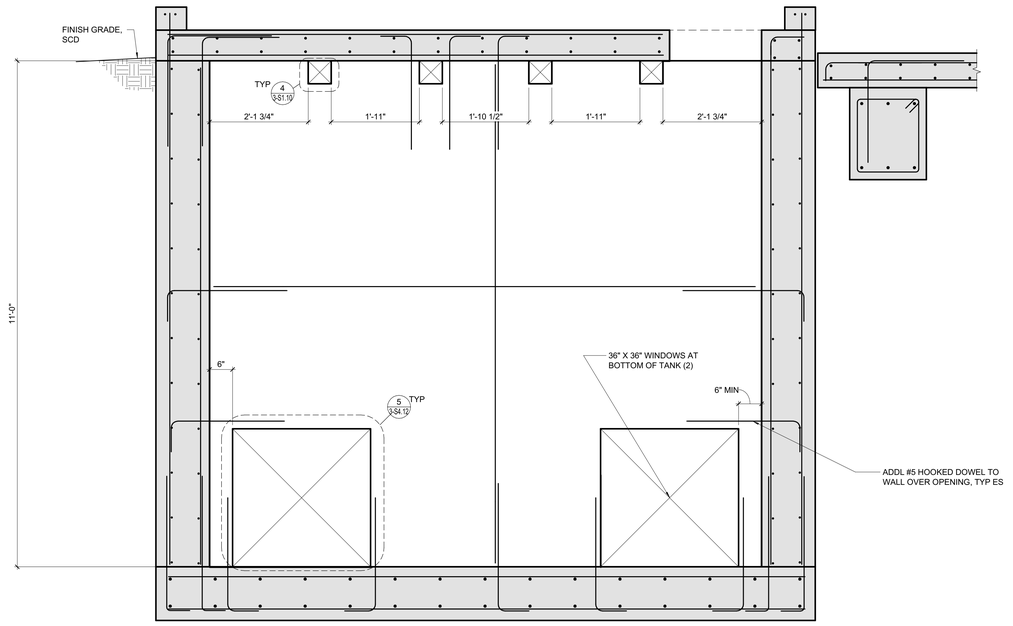
Drawing No.

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1 CONCRETE WALL ELEVATION AT B.3 (BAFFLE 1)
3/4" = 1'-0"



2 CONCRETE WALL ELEVATION AT A.2 (BAFFLE 2)
3/4" = 1'-0"

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DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
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DATE: 11/12/2019

RossDrulisCusenbery
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542
ARCHITECTURE

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: **KATHY GARCIA** DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	DSA Third Party Review Comment Response	December 6, 2018

PERMIT SUBMITTAL V3-INCREMENT #1

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REGISTERED PROFESSIONAL ENGINEER KEVIN G. ZUCCO STRUCTURAL No. 4861 STATE OF CALIFORNIA

Sheet Title

BUILDING 3 SECTIONS

Drawn By: Author Checked By: Checker

Scale: **3/4" = 1'-0"**

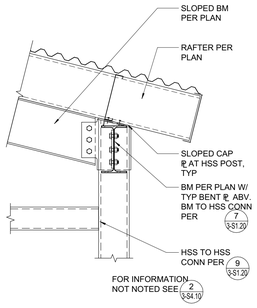
Date: **July 19, 2019**

Project No. 17143

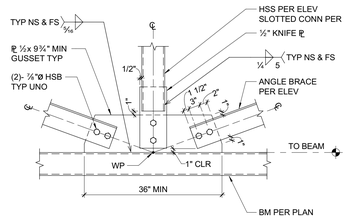
3-S3.20
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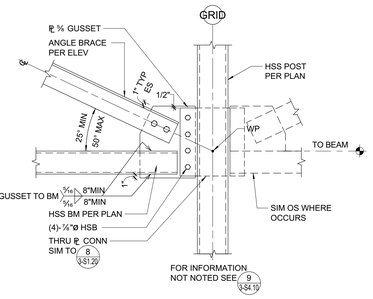
10/9/2019 10:26:50 AM C:\revit_local\17143_B3_Hangar Bldg_S17C_dann@zfa.com.rvt



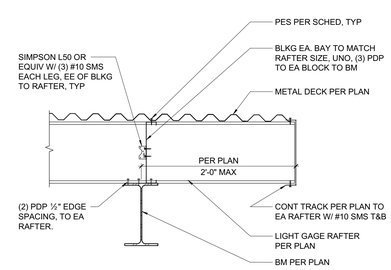
13 CONNECTION DETAIL AT GRID 2
3/4" = 1'-0"



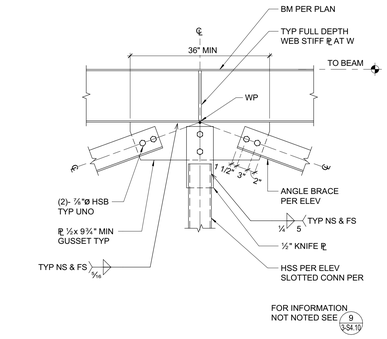
9 BRACE TO BOTTOM BEAM CONNECTION
3/4" = 1'-0"



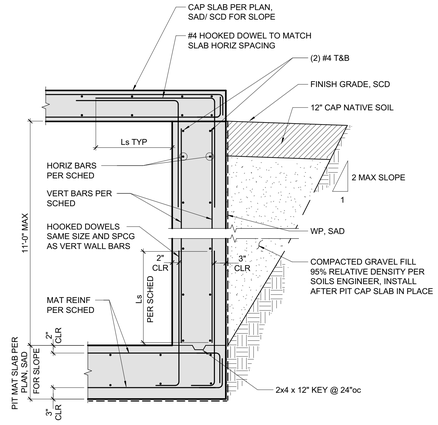
5 BRACED - BEAM TO COLUMN CONNECTION
3/4" = 1'-0"



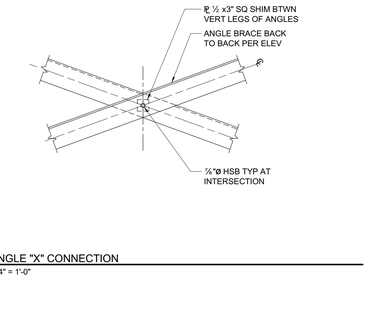
1 SECTION AT LINE D
1" = 1'-0"



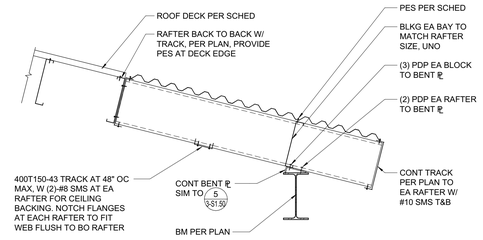
14 BRACE TO TOP BEAM CONNECTION
3/4" = 1'-0"



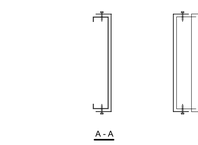
10 PUMP TEST PIT TYP RETAINING WALL
3/4" = 1'-0"

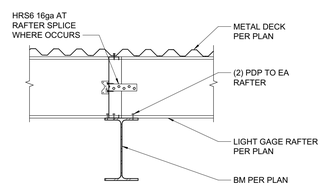


6 ANGLE "X" CONNECTION
3/4" = 1'-0"

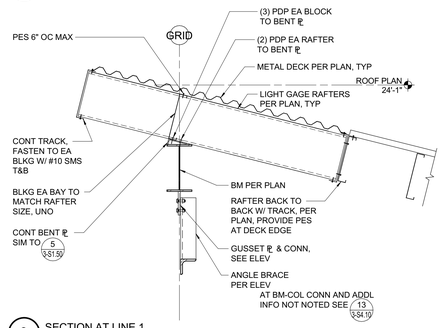


2 SECTION AT LINE 2
3/4" = 1'-0"

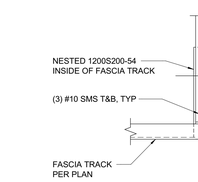




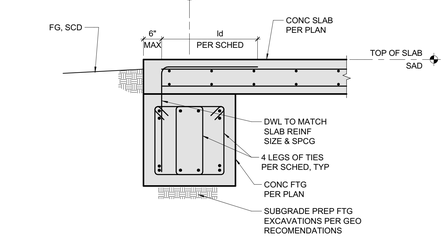
7 SECTION AT LINE C (B SIM)
1" = 1'-0"



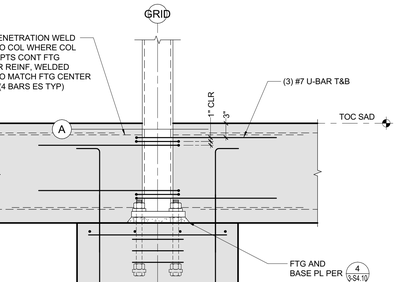
3 SECTION AT LINE 1
3/4" = 1'-0"



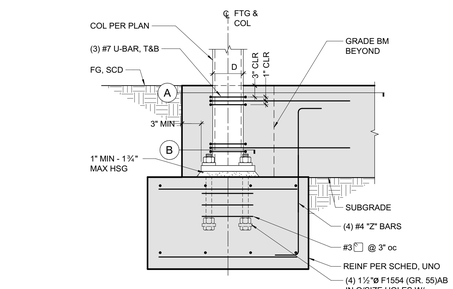
15 CORNER TRACK DETAIL
1 1/2" = 1'-0"



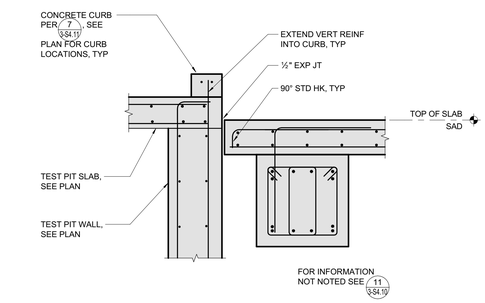
11 TYPICAL FOUNDATION DETAIL AT SLAB EDGE
3/4" = 1'-0"



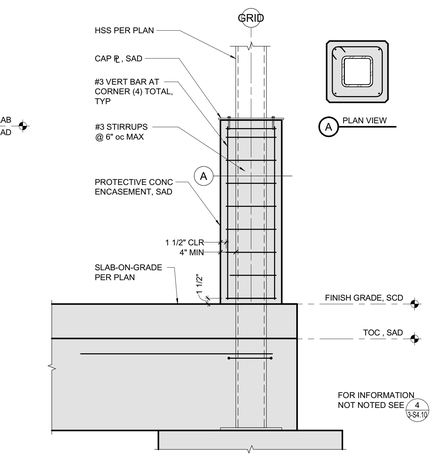
8 CANTILEVER HSS COLUMN TO FOOTING (INTERIOR)
3/4" = 1'-0"



4 TYPICAL CANTILEVERED HSS COLUMN TO FOOTING (CORNER)
3/4" = 1'-0"



16 TYPICAL FOUNDATION DETAIL AT SLAB EDGE
3/4" = 1'-0"



12 TYPICAL PROTECTIVE COLUMN BASE DETAIL
3/4" = 1'-0"

APPROVED
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DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	DSA Third Party Review Comment Response	December 6, 2018
2	Plan Check Revision	8.13.2019
3	Plan Check-Internal Tracking	10.01.2019

PERMIT SUBMITTAL V3-INCREMENT #1

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REGISTERED PROFESSIONAL ENGINEER KEVIN G. ZUCCO STRUCTURAL No. 4861 STATE OF CALIFORNIA

Sheet Title

BUILDING 3 DETAILS AND SECTIONS

Drawn By: LS Checked By: SRP

Scale: **As indicated**

Date: **July 19, 2019**

Project No. 17143

3-S4.10
Drawing No.

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ELEVATED CONCRETE SLAB SCHEDULE						
SLAB MARK	SLAB THICKNESS	TOP BAR SPAN 1 DIRECTION	TOP BAR SPAN 2 DIRECTION	BOTTOM BAR SPAN 1 DIRECTION	BOTTOM BAR SPAN 2 DIRECTION	REMARKS
3-S1	8" MIN	#5 @ 12"oc	#5 @ 12"oc	#5 @ 12"oc	#5 @ 12"oc	

NOTES:

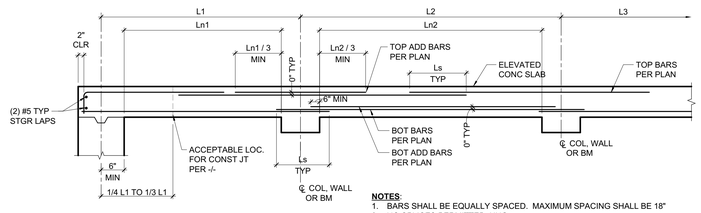
1. SEE OTHER DETAILS THIS SHEET FOR TYP SLAB DETAILS.
2. REFER TO PLANS FOR ADDITIONAL REINFORCING (ADD BARS).
3. SEE 6/3-S4.11 FOR REBAR LAYERING AND COVER. SEE 9/3-S4.11 FOR TYPICAL SLAB REINFORCING LAYOUT.
4. PLACE SPAN DIRECTION REINFORCING AT MID DEPTH OF SLAB FOR SINGLE LAYER CONDITIONS, UNO.
5. WHERE SLABS ARE SLOPED, SLAB THICKNESS NOTED IS MINIMUM. BOTTOM OF SLAB ELEVATION TO REMAIN FLAT, SAD FOR ELEVATION.
6. SEE PLANS FOR NON-TYPICAL ADD BAR REINFORCING.

CONCRETE MAT FOUNDATION SCHEDULE						
MAT MARK	MINIMUM MAT THICKNESS	TOP BAR SPAN 1 DIRECTION	TOP BAR SPAN 2 DIRECTION	BOTTOM BAR SPAN 1 DIRECTION	BOTTOM BAR SPAN 2 DIRECTION	REMARKS
3-M1	14"	#6 @ 12"oc	#6 @ 12"oc	#6 @ 12"oc	#6 @ 12"oc	

NOTES:

1. SEE OTHER DETAILS THIS SHEET FOR TYP MAT SLAB DETAILS.
2. SEE 3/3-S4.11 FOR REBAR LAYERING AND COVER. SEE 2/3-S4.11 FOR TYPICAL SLAB REINFORCING LAYOUT.
3. PLACE SPAN DIRECTION REINFORCING AT MID DEPTH OF SLAB FOR SINGLE LAYER CONDITIONS, UNO.
4. WHERE SLABS ARE SLOPED, SLAB THICKNESS NOTED IS MINIMUM.

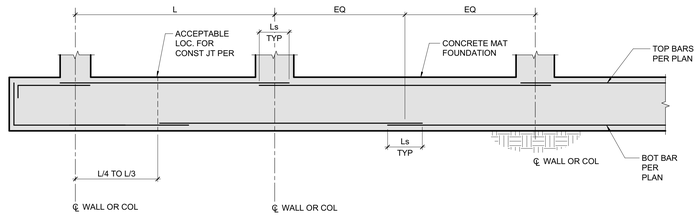
8 CONCRETE SUSPENDED SLAB SCHEDULE
12" = 1'-0"



NOTES:

1. BARS SHALL BE EQUALLY SPACED. MAXIMUM SPACING SHALL BE 18"
2. NO SPLICES PERMITTED, UNO.
3. LAP TOP BARS AT MIDSPAN & BOTTOM BARS OVER SUPPORTS. SEE 1/3-S1.10 FOR LAP LENGTHS.
4. REINFORCING TO MAINTAIN CLEARANCE FROM TOP OF SLAB AT SLOPING CONDITIONS.
5. WHERE BAR LENGTHS OR EXTENSIONS ARE NOTED PER PLAN THIS LENGTH GOVERNS.
6. ALL REINF IS LOCATED FROM ℄ OF BEAM OR COLUMN AT ℄ COLUMN STRIP.
7. SEE 10/3-S4.11 FOR TYP SLAB CORNER REINFORCING.
8. SEE 11/3-S4.11 FOR CONSTRUCTION JOINT DETAIL
9. SEE 3/3-S1.10 FOR PIPES
10. CONCRETE TO REMAIN SHORED 28 DAYS MINIMUM.
11. REINF ONLY SHOWN ONE WAY, OPP DIRECTION SIM.
12. PROVIDE MIN 2 - #5 CONT BOTT BARS THRU EA COL, EA WAY.

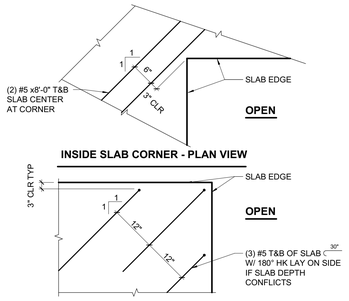
1 CONCRETE MAT FOUNDATION SCHEDULE
12" = 1'-0"



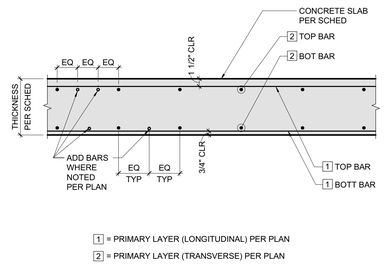
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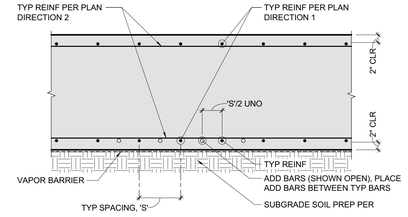
1. ADDITIONAL BARS PER PLAN SHALL BE EQUALLY SPACED. MAX SPACING SHALL BE 12"
2. NO SPLICES PERMITTED, UNO.
3. LAP BOTTOM BARS AT MIDSPAN & TOP BARS UNDER WALL/COL. SEE 1/S1.10 FOR LAP LENGTHS.
4. WHERE BAR LENGTHS OR EXTENSIONS ARE NOTED PER PLAN THIS LENGTH GOVERNS.

9 TYPICAL ELEVATED CONCRETE SLAB REINFORCEMENT
3/4" = 1'-0"

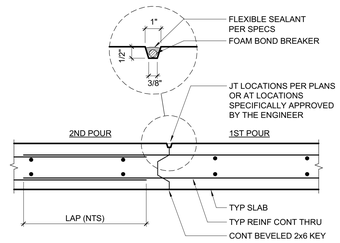


2 TYPICAL CONCRETE MAT FOUNDATION REINFORCEMENT
3/4" = 1'-0"



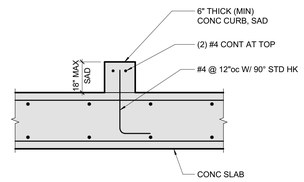


10 OUTSIDE & INSIDE SLAB CORNER - PLAN VIEW
3/4" = 1'-0"

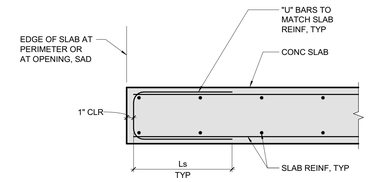


STRUCT SLAB CONSTRUCTION JOINT

6 TYPICAL SUSPENDED SLAB DETAIL
1" = 1'-0"



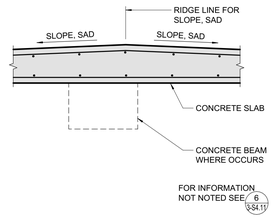
3 TYPICAL MAT SLAB SECTION
3/4" = 1'-0"



11 STRUCTURAL SLAB CONSTRUCTION JOINT
1 1/2" = 1'-0"

7 TYPICAL CONCRETE CURB
1" = 1'-0"

4 TYPICAL EDGE OF SLAB DETAIL
1" = 1'-0"



5 RIDGE AT CONCRETE SLAB
3/4" = 1'-0"

RossDrulisCusenbery ARCHITECTURE
18294 Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

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REVIEWED FOR
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DATE: 11/12/2019

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: **KATHY GARCIA** DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	DSA Third Party Review Comment Response	December 6, 2018

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REGISTERED PROFESSIONAL ENGINEER KEVIN G. ZUCCO STRUCTURAL No. 4861 STATE OF CALIFORNIA

Sheet Title

BUILDING 3 FOUNDATION MAT AND CONCRETE SLAB DETAILS

Drawn By: Author Checked By: Checker

Scale: **As indicated**

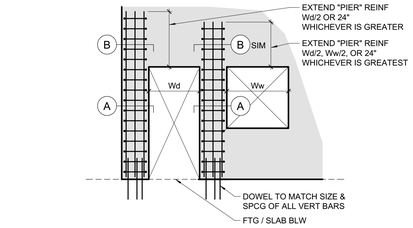
Date: **July 19, 2019**

Project No. 17143

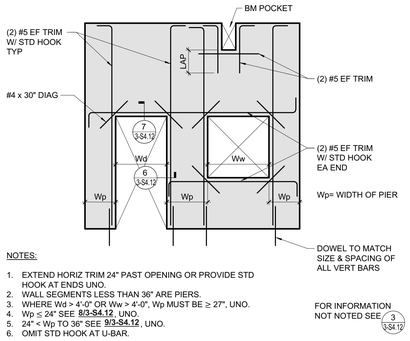
3-S4.11
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8 WALL PIER REINFORCING AT DOORS AND WINDOWS
1" = 1'-0"



NOTES:

1. EXTEND HORIZ TRIM 24" PAST OPENING OR PROVIDE STD HOOK AT ENDS UNO.
2. WALL SEGMENTS LESS THAN 36" ARE PIERS.
3. WHERE Wd > 4'-0" OR Ww > 4'-0", Wp MUST BE ≥ 27", UNO.
4. Wp ≤ 24" SEE **8/3-S4.12**, UNO.
5. 24" < Wp TO 36" SEE **9/3-S4.12**, UNO.
6. OMIT STD HOOK AT U-BAR.

5 TYPICAL TRIM STEEL AT OPENINGS
1" = 1'-0"

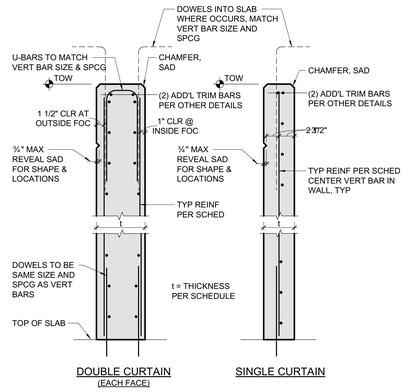
CONCRETE WALL REINFORCING SCHEDULE

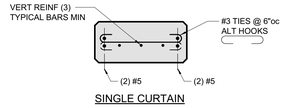
WALL TYPE	THICKNESS (N)	# OF CURTAINS	HORIZONTAL REINFORCING	VERTICAL REINFORCING	REFERENCE DETAIL	REMARKS
8/B	8"	1	#5 @ 12"oc, EF	#5 @ 12"oc, EF	**1/3-S3.20**	
14/A	14"	2	#4 @ 12"oc, EF	#6 @ 12"oc, EF	**10/3-S4.10**	

NOTES:

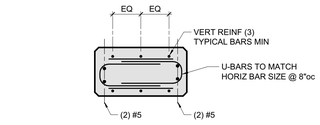
1. SEE CONCRETE WALL ELEVATIONS FOR ADD BAR EXTENTS, UNO.
2. FOR SOLID PANEL SECTION SEE **2/3-S4.12**.
3. FOR TYPICAL PANEL REINFORCEMENT SEE **3/3-S4.12**.
4. FOR TYPICAL TRIM STEEL SEE **5/3-S4.12**.
5. FOR TYPICAL DOOR / WINDOW HEADER OR JAMB SEE **7/3-S4.12** AND **8/3-S4.12**.
6. FOR END CONDITION SEE **6/3-S4.12**.

1 CONCRETE WALL SCHEDULE
1/2" = 1'-0"





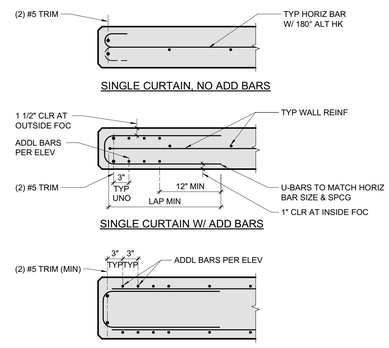
SINGLE CURTAIN



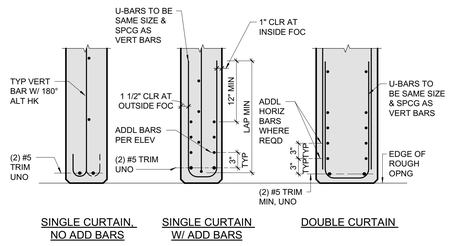
DOUBLE CURTAIN

NOTES:
1. EXTEND U-BARS OR TIES 24" MIN PAST OPENINGS

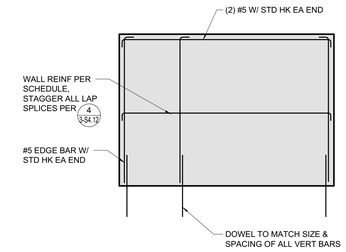
9 WALL PIER REINFORCING
1" = 1'-0"



6 REINFORCEMENT AT EDGE OF WALL OPENING
1" = 1'-0"

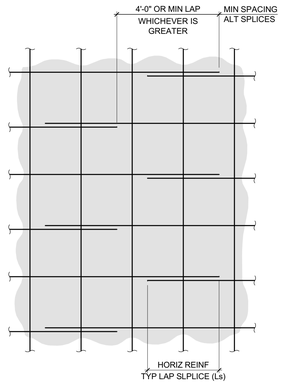


7 REINFORCEMENT AT DOOR/WINDOW HEADER
1" = 1'-0"



2 SOLID WALL SECTION
1" = 1'-0"

3 TYPICAL WALL REINFORCING
1" = 1'-0"



4 TYPICAL WALL REINFORCING SPLICES
1" = 1'-0"

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: **KATHY GARCIA** DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	DSA Third Party Review Comment Response	December 6, 2018
3	Plan Check-Internal Tracking	10.01.2019

PERMIT SUBMITTAL V3-INCREMENT #1

ZFA STRUCTURAL ENGINEERS
1390 el camino real | suite 100 zfa.com
san carlos ca 94070 650.394.8869
zfa job no.17143

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LICENSED PROFESSIONAL ENGINEER
KEVIN G. ZUCCO
STRUCTURAL
No. 4961
STATE OF CALIFORNIA

Sheet Title

BUILDING 3
TYPICAL CONCRETE WALL DETAILS

Drawn By: LS Checked By: SRP

Scale: **As indicated**

Date: **July 19, 2019**

Project No. 17143

3-S4.12
Drawing No.

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PLUMBING AND FIRE PROTECTION LEGEND AND ABBREVIATIONS

ABBREVIATIONS - PLUMBING

AD	AREA DRAIN
AFF	ABOVE FINISHED FLOOR
AP	ACCESS PANEL
BLDG	BUILDING
BOB	BOTTOM OF BEAM
BOP	BOTTOM OF PIPE
BV	BALANCING VALVE
CA	COMPRESSED AIR
CD	CONDENSATE DRAIN
CFH	CUBIC FEET PER HOUR
CFM	CUBIC FEET PER MINUTE
CFS	CUBIC FEET PER SECOND
CI	CAST IRON
CLG	CEILING
CO	CLEANOUT
COTG	CLEANOUT TO GRADE
CONN	CONNECTION
CONT	CONTINUATION
CP	CIRCULATING PUMP
CV	CHECK VALVE
CW	COLD WATER
DF	DRINKING FOUNTAIN
DIA	DIAMETER
DN	DOWN
DR	DRAIN
DROP	DROP (WITHIN FLOOR)
DWP	DOMESTIC WATER PUMP
DWG	DRAWING
EEW	EMERGENCY EYE WASH
EL	ELEVATION
ET	EXPANSION TANK
EWC	ELECTRIC WATER COOLER
EWH	ELECTRIC WATER HEATER
FCO	FLOOR CLEANOUT
FD	FLOOR DRAIN
FDC	FIRE DEPARTMENT CONNECTION
FHV	FIRE HOSE VALVE
FL	FLOOR
FS	FLOW SWITCH
FSK	FLOOR SINK
FT	FEET
FU	FIXTURE UNIT
GAL	GALLONS
GD	GARAGE DRAIN
GPM	GALLONS PER MINUTE
GV	GATE VALVE
HB	HOSE BIBB
HD	HUB DRAIN
HW	HOT WATER
HWR	HOT WATER RETURN
ID	INSIDE DIAMETER
IE	INVERT ELEVATION
IN	INCH
IW	INDIRECT WASTER

ABBREVIATIONS - PLUMBING

JS	JANITOR SINK
L	LAVATORY
LDR	LEADER
MAX	MAXIMUM
MH	MANHOLE
MIN	MINIMUM
MS	MOP SINK
(N)	NEW
NC	NORMALLY CLOSED
NIC	NOT IN THIS CONTRACT
NO	NORMALLY OPEN
NPW	NON-POTABLE WATER
OD	OUTSIDE DIAMETER
OFD	OVERFLOW DRAIN
OST	OVERFLOW STORM PIPING
OS&Y	OUTSIDE SCREW & YOKE GATE VALVE
PD	PUMP DISCHARGE
POC	POINT OF CONNECTION
PRV	PRESSURE REDUCING VALVE
PSI	POUNDS PER SQUARE INCH
PSIG	POUNDS PER SQUARE INCH (GAUGE)
RC	ROOF RECEPTOR
RD	ROOF DRAIN
RISE	RISE (WITH IN FLOOR)
SAN	SANITARY
SE	SEWAGE EJECTOR
SED	SEWAGE EJECTOR DISCHARGE
SF	SQUARE FEET
SK	SINK
SPD	SUMP PUMP DISCHARGE
SP	SUMP PUMP
SPKR	SPRINKLER
ST	STORM PIPING
TD	TRENCH DRAIN
TDH	TOTAL DISCHARGE HEAD
TMV	TEMPERATURE MIXING VALVE
TOP	TOP OF PIPE
TOS	TOP OF SLAB
TP	TRAP PRIMER
TPV	TRAP PRIMER VALVE
TS	TAMPER SWITCH
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
UP	UP (PENETRATES FLOOR SLAB)
UR	URINAL
V	VENT
VB	VACUUM BREAKER
VR	VENT RISE
VTR	VENT THROUGH ROOF
WC	WATER CLOSET
WH	WALL HYDRANT
W&T	WASTE AND TRAP
WHA	WATER HAMMER ARRESTOR

SYMBOL LEGEND

	FLEXIBLE CONNECTION
	WATER HAMMER ARRESTER
	VACUUM BREAKER
M	MANUAL AIR VENT
A	AUTOMATIC AIR VENT
	PRESSURE GAUGE AND COCK
	THERMOMETER
	WATER FLOW SWITCH
	VALVE (SPECIFICATION FOR TYPE)
	CHECK VALVE
	SOLENOID VALVE
	PRESSURE REDUCING VALVE
	OS&Y (OUTSIDE SCREW & YOKE) VALVE
	AUTOMATIC FLOW CONTROL VALVE
	BUTTERFLY VALVE (MANUAL)
	GLOBE VALVE
	BALANCING VALVE
	VALVE WITH TAMPER SWITCH
	RELIEF VALVE
	ANGLE RELIEF VALVE
	TEMPERATURE MIXING VALVE
	UNION
	SLEEVE
	PUMP
M	METER
	HOSE BIBB
	FLOOR DRAIN, AREA DRAIN, PLANT DRAIN, GARAGE DRAIN
	FLOOR SINK
	ROOF RECEPTOR
	ROOF DRAIN
	OVERFLOW ROOF DRAIN
	POINT OF CONNECTION (NEW TO EXISTING)
	FIRE DEPARTMENT CONNECTION
	FIRE DEPARTMENT TEST HEADER

SYMBOL LEGEND

	FIRE HOSE VALVE
	FIRE DEPT. HOSE VALVE W/ CAP & CHAIN
	SPRINKLER FLOOR CONTROL VALVE ASSEMBLY
T	TAMPER SWITCH
DCVA	DOUBLE CHECK VALVE ASSEMBLY
DDCA	DOUBLE DETECTOR CHECK ASSEMBLY
RPBP	REDUCED PRESSURE BACKFLOW PREVENTER ASSEMBLY
	UPRIGHT SPRINKLER HEAD
	PENDANT SPRINKLER HEAD
	CONCEALED PENDANT SPRINKLER HEAD
	SIDEWALL SPRINKLER HEAD
	EXTENDED COVERAGE SPRINKLER HEAD
	BOTTOM PIPE CONNECTION
	TOP PIPE CONNECTION
	VALVE IN VERTICAL
	P-TRAP
	UP TO CLEANOUT
	WALL CLEANOUT
	END OF PIPE CLEANOUT / PLUG
	FLOOR CLEANOUT
	GRADE CLEANOUT
	PIPE DROP UNLESS OTHERWISE NOTED
	PIPE UP UNLESS OTHERWISE NOTED
	CAP FOR FUTURE (CFF)
	CHANGE IN PIPE ELEVATION
	ARROW INDICATES DIRECTION OF FLOW
	PITCH PIPE DOWN IN DIRECTION OF ARROW
	FRESH AIR INLET
	WALL HYDRANT

PIPING LEGEND

GAS

NG	NATURAL GAS
CA	COMPRESSED AIR PIPING
PG	PROPANE GAS PIPING

WASTE / VENT / STORM

SAN	SANITARY (ABOVE FLOOR)
SAN	SANITARY (BELOW FLOOR)
V	VENT PIPING
ST	STORM DRAIN PIPING
OST	OVERFLOW STORM PIPING
CD	CONDENSATE DRAIN PIPING
GD	GARAGE DRAIN PIPING (BELOW FLOOR)

POTABLE WATER

	DOMESTIC COLD WATER PIPING
	DOMESTIC HOT WATER PIPING (120°F)
	DOMESTIC HOT WATER RETURN PIPING (120°F)

FIRE PROTECTION

F	FIRE WATER SUPPLY
SP	SPRINKLER PIPING
FSP	FIRE STANDPIPE
DR	SPRINKLER DRAIN PIPING

MISCELLANEOUS

P / 1	P = SAN, VENT STACK OR DOMESTIC WATER RISER ST = STORM DRAIN LEADER RISER F = FIRE STANDPIPE RISER RISER RISER NO.
CP / 1	EQUIPMENT DESIGNATION EQUIPMENT EQUIPMENT NO.
1 / P2.1	DETAIL DESIGNATION DETAIL NUMBER DWG. SHEET NO.
1	SHEET NOTE NUMBER
1	REVISION NUMBER

PUMP SCHEDULE

TAG	DESCRIPTION	MANUFACTURER	MODEL NO.	LOCATION	FLOW (GPM)	SUCTION PRESSURE (PSI)	DISCHARGE PRESSURE (FT HD)	ELECTRICAL DATA					OPERATING WEIGHT (LBS)	COMMENTS
								HP	V	PH	HZ	EM PWR		
3-SP-1-1	SUMP PUMP	WEIL	1607	PIT	100	0	20	1.5	208	3	60	N	250	SIMPLEX PUMP ARRANGEMENT

PLBG_DRAWING LIST Bldg 3	
SHEET NUMBER	SHEET NAME
3-P0.01	PLUMBING AND FIRE PROTECTION LEGEND, ABBREVATION, DRAWING LIST, SCHEDULE, AND DETAIL
3-P2.01	PLUMBING AND FIRE PROTECTION HANGER BUILDING FLOOR PLAN

RossDrulisCusenbery ARCHITECTURE
18294 Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

**1401 W. WINTON AVE.
HAYWARD, CA 94545**

REVISIONS

No.	Description	Date
1	INC 01_ADD_01_V1	12/06/2019

REGISTERED PROFESSIONAL ENGINEER
TODD M SYE
No. M30785
MECHANICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

PLUMBING AND FIRE PROTECTION LEGEND, ABBREVATION, DRAWING LIST, SCHEDULE, AND DETAIL

Drawn By: Author
Checked By: Checker

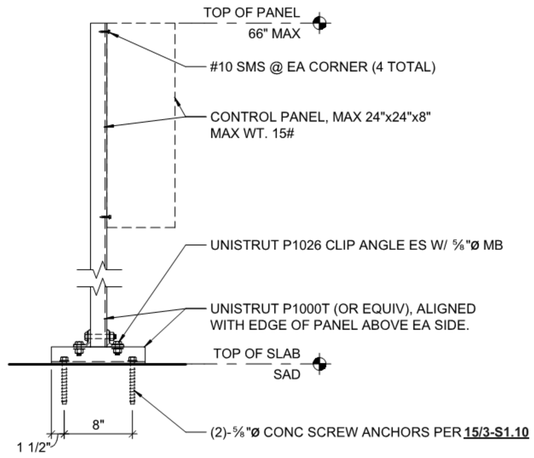
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Date:
October 4, 2019

Project No. B17.07369

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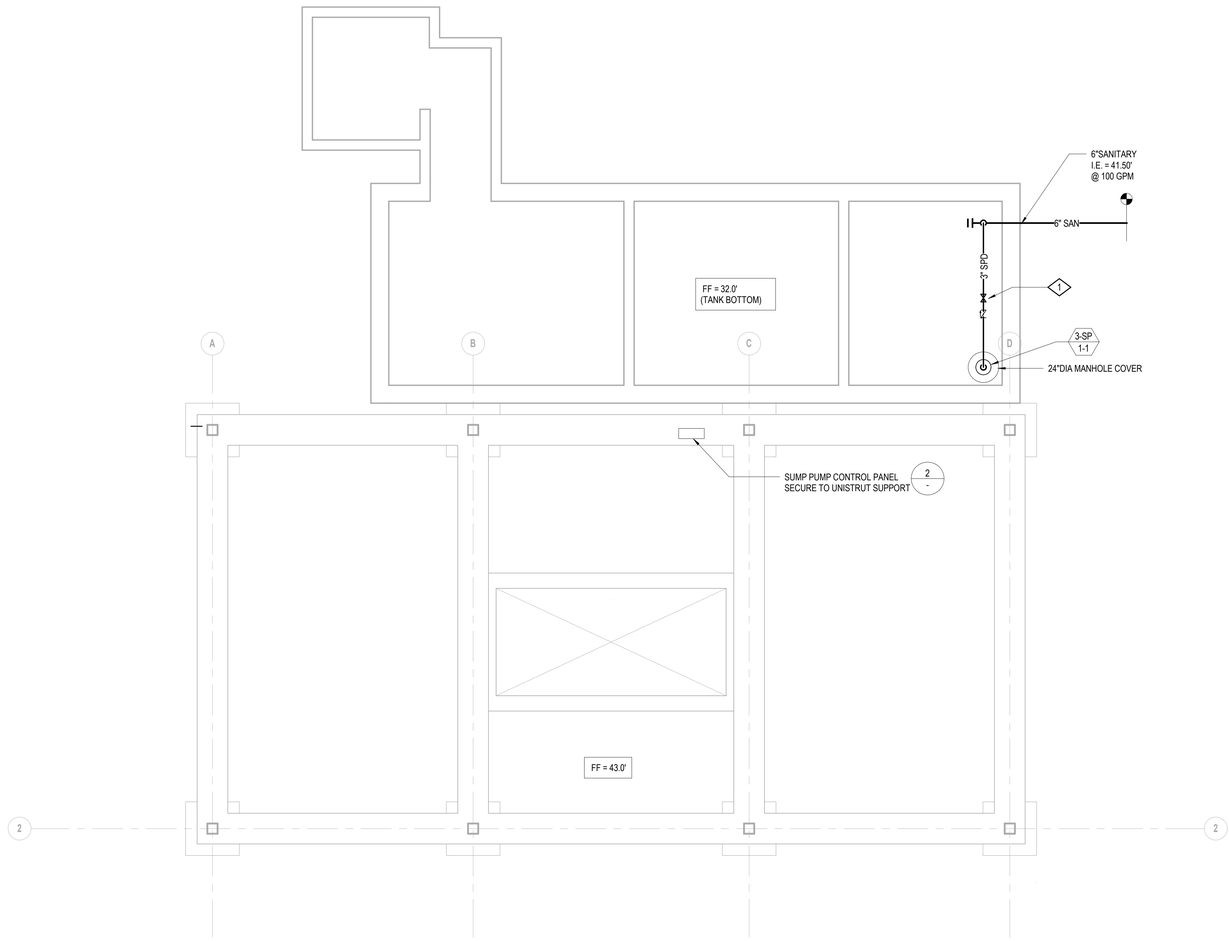


NOTE: ALL HARDWARE SHALL BE HOT DIP GALV OR SS

② PUMP CONTROL PANEL DETAIL
12" = 1'-0"

NUMBERED NOTES:

① LOCATE SOV AND CHECK VALVE ABOVE WATER LINE. WATER LEVEL AT 40.50'



① 03-PLBG HANGER-FIRST FLOOR
1/4" = 1'-0"

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY:	
KATHY GARCIA DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	INC 01_ADD_01_V1	12/06/2019

REGISTERED PROFESSIONAL ENGINEER
TODD M SEE
No. M36785
MECHANICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

PLUMBING AND FIRE PROTECTION HANGER BUILDING FLOOR PLAN

Drawn By: Author
Checked By: Checker

Scale:
As indicated

Date:
October 4, 2019

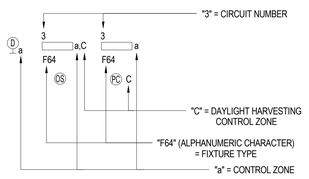
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ELECTRICAL LEGEND AND ABBREVIATIONS

LIGHTING & CONTROL DEVICE SUBSCRIPT LEGEND



NOTE: OCCUPANCY SENSOR TYPICALLY CONTROLS ALL LIGHTS IN ROOM, UON.

CONTROL ZONE SUBSCRIPT KEY

a-z =	ZONE CONTROLLED BY MANUAL DEVICES AND OCCUPANCY SENSORS INDICATED
A-Z =	DAYLIGHT HARVESTING ZONE CONTROLLED BY PHOTOCELL INDICATED

EQUIPMENT NAMING LEGEND

E ATS - B 2 A / 1,3,5
O BUS
U DPH
S DPL
DSH
DSL
LP
LPH
LRC
MCC
MP
MS
PDU
T
TB
TC

CIRCUIT NUMBER(S)
FIRST OF THIS TYPE ON FLOOR
BUILDING NUMBER
BUILDING

ATS	AUTOMATIC TRANSFER SWITCH
BUS	BUSWAY
DPH	DISTRIBUTION PANEL 277/480V
DPL	DISTRIBUTION PANEL 120/208V
DSH	DISTRIBUTION SWITCHBOARD 277/480V
DSL	DISTRIBUTION SWITCHBOARD 120/208V
LP	BRANCH CIRCUIT PANELBOARD 120/208V
LPH	BRANCH CIRCUIT PANELBOARD 277/480V
LRC	LIGHTING RELAY CABINET
MCC	MOTOR CONTROL CENTER
MP	MECHANICAL EQUIPMENT PANELBOARD
MS	MAIN SWITCHBOARD
PDU	POWER DISTRIBUTION UNIT
T	TRANSFORMER
TB	TELECOM BACKBOARD
TC	TELECOM CABINET

E	EMERGENCY LIFE SAFETY
O	POWER OPTIONAL STANDBY
U	UPS POWER
S	LEGALLY REQUIRED STANDBY

WIRING DEVICE LEGEND

	DUPLEX RECEPTACLE OUTLET: 125V; WALL MOUNTED
	DOUBLE DUPLEX RECEPTACLE OUTLET: 125V; WALL MOUNTED
	SPECIAL PURPOSE RECEPTACLE OUTLET: RATING AS INDICATED; WALL MOUNTED
	SPECIAL PURPOSE RECEPTACLE OUTLET: RATING AS INDICATED; CEILING MOUNTED
$	SINGLE POLE SWITCH
$3	THREE WAY SWITCH
D	WALL DIMMER
LV	LOW VOLTAGE SWITCH
OS	OCCUPANCY SENSOR; WALL MOUNTED
OS	2 WAY OCCUPANCY SENSOR; CEILING MOUNTED
OS	1 WAY OCCUPANCY SENSOR; CEILING MOUNTED
OS	CORRIDOR OCCUPANCY SENSOR; CEILING MOUNTED

WIRING DEVICE SUBSCRIPT LEGEND

GFI	GFI = GROUND FAULT INTERRUPTER
WP	WP = WEATHERPROOF
a	a = LOWER CASE LETTER INDICATES SWITCH CONTROL
6	6 = NUMBER INDICATES CIRCUIT NUMBER
$a	a = LOWER CASE INDICATES SWITCH CONTROL

RACEWAY LEGEND

	CONDUIT CONCEALED ABOVE CEILING OR WITHIN WALL
	CONDUIT BELOW GRADE OR EMBEDDED WITHIN SLAB
	CONDUIT UP
	CONDUIT DOWN
	CONDUIT STUBBED OUT WITH BUSHING NOTE: PROVIDE PULLSTRING IN EACH EMPTY RACEWAY
E	CONDUIT STUBBED OUT AND CAPPED NOTE: PROVIDE PULLSTRING IN EACH EMPTY RACEWAY
AV	AUDIO/VISUAL SYSTEM RACEWAY
E	ELECTRICAL SYSTEM RACEWAY
G	GROUNDING SYSTEM RACEWAY
FA	FIRE ALARM SYSTEM RACEWAY
S	SECURITY SYSTEM RACEWAY NOTE: PROVIDE PULLSTRING IN EACH EMPTY RACEWAY
T	TELECOM SYSTEM RACEWAY NOTE: PROVIDE PULLSTRING IN EACH EMPTY RACEWAY
	CONDUIT HOMERUN, MAXIMUM OF (3) BRANCH CIRCUITS, UON NOTE: MAXIMUM OF THREE BRANCH CIRCUITS FOR EACH HOMERUN, UON
	PHASE CONDUCTOR(S) GROUNDING CONDUCTOR ISOLATED GROUNDING CONDUCTOR NEUTRAL CONDUCTOR

FIRE ALARM LEGEND

P	MANUAL PULL STATION
	AREA SMOKE DETECTOR, CEILING MOUNTED (SMOKE DETECTOR, SEMI-FLUSH MOUNTED IN CEILING)
	AREA SMOKE DETECTOR, WALL MOUNTED
	DUCT TYPE SMOKE DETECTOR
S	FIRE ALARM SPEAKER; WALL MOUNTED
S	COMBINATION FIRE ALARM SPEAKER/VISUAL ALARM; WALL MOUNTED
H	FIRE ALARM HORN; CEILING MOUNTED
H	COMBINATION FIRE ALARM HORN/VISUAL ALARM; WALL MOUNTED
	VISUAL ALARM; WALL MOUNTED

PROGRAMMABLE LIGHTING & RECEPTACLE CONTROL SYSTEM DEVICE LEGEND

$	SWITCH
D	DIMMER
PC	PHOTOCELL
OS	OCCUPANCY SENSOR; WALL MOUNTED
OS	2 WAY OCCUPANCY SENSOR; CEILING MOUNTED
OS	1 WAY OCCUPANCY SENSOR; CEILING MOUNTED
OS	CORRIDOR OCCUPANCY SENSOR; CEILING MOUNTED
#B	MULTI-BUTTON KEYPAD, # INDICATES QTY OF BUTTONS
#S	MULTI-BUTTON PRESET SCENE CONTROLLER WITH MASTER RAISE/LOWER, # INDICATES QTY OF SCENE BUTTONS
G	GRAPHICAL INTERFACE CONTROLLER

POWER LEGEND

	ATS, CPC, DPH, DPL, DSH, DSL, MCC OR MS: SIZE APPROXIMATELY AS SHOWN. DOUBLE LINE INDICATES FRONT.
	SURFACE MOUNTED LPH, LRC, MP OR TC: SIZE APPROXIMATELY AS SHOWN
	RECESSED MOUNTED LPH, LRC, MP OR TC: SIZE APPROXIMATELY AS SHOWN
	SURFACE MOUNTED LP: SIZE APPROXIMATELY AS SHOWN
	RECESSED MOUNTED LP: SIZE APPROXIMATELY AS SHOWN
	TB: LENGTH APPROXIMATELY AS SHOWN
T/F	STEP DOWN TRANSFORMER
G	GENERATOR IN WP ENCLOSURE
	AUTOMATIC TRANSFER SWITCH
	HEAVY DUTY DISCONNECT SWITCH
	HEAVY DUTY DISCONNECT SWITCH WITH FUSE
	MOTOR STARTER
MS	MOTOR STARTER, NOT PROVIDED UNDER ELECTRICAL SCOPE
	COMBINATION MOTOR STARTER/DISCONNECT SWITCH
MS	COMBINATION MOTOR STARTER/DISCONNECT SWITCH, NOT PROVIDED UNDER ELECTRICAL SCOPE
VFD	VFD WITH DISCONNECT, NOT PROVIDED UNDER ELECTRICAL SCOPE
VFD	VFD WITHOUT DISCONNECT, NOT PROVIDED UNDER ELECTRICAL SCOPE
EPO	EMERGENCY POWER OFF BUTTON
$ T	THERMAL OVERLOAD/DISCONNECT SWITCH
M	MOTOR CONNECTION
J	JUNCTION BOX, CEILING MOUNTED
J	JUNCTION BOX, WALL MOUNTED
P/B	PULL BOX
G	GROUND BUS CABINET
	GROUND ROD
	GROUND TEST WELL
	CIRCUIT BREAKER
	SWITCH AND FUSE
M	CURRENT TRANSFORMER COMPARTMENT AND KWH METER
GFR	GROUND FAULT RELAY
	NORMALLY OPEN CONTACT
	NORMALLY CLOSED CONTACT
	TRANSFORMER
CT 1-1	EQUIPMENT DESIGNATION EQUIPMENT TYPE NUMERICAL DESIGNATION REFER TO EQUIPMENT CONNECTION SCHEDULE FOR CONNECTION DETAILS

LIGHTING LEGEND

	LIGHTING FIXTURE; CEILING MOUNTED
	LIGHTING FIXTURE; WALL MOUNTED
	LIGHTING FIXTURE, SIZE APPROXIMATELY AS SHOWN; CEILING MOUNTED
	LIGHTING FIXTURE, SIZE APPROXIMATELY AS SHOWN; WALL MOUNTED
	LIGHTING FIXTURE CONNECTED TO
	EMERGENCY POWER SYSTEM
2 a / A	LIGHTING FIXTURE SUBSCRIPTIONS: NUMBER INDICATES CIRCUIT, LOWERCASE LETTER INDICATES SWITCH CONTROL UPPERCASE LETTER INDICATES FIXTURE TYPE
EXIT SIGNS	ARROWS AS SHOWN, ILLUMINATED FACE AS INDICATED BY SHADING, CONNECT TO EMERGENCY POWER SYSTEM
	EXIT SIGN; WALL MOUNTED
	EXIT SIGN; CEILING MOUNTED
R	EXIT SIGN; RECESSED IN WALL
P	EXIT SIGN; PENDENT MOUNTED
L	EXIT SIGN, LOW LEVEL; RECESSED IN WALL

ABBREVIATIONS

℄	CENTER LINE
AFF	ABOVE FINISHED FLOOR
AIC	AMPERES INTERRUPTING CAPACITY
AF/AS	AMPERE RATING OF FUSE/SWITCH
AT/AF	AMPERE RATING OF CIRCUIT, BREAKER TRIP/FRAME
A/V	AUDIO/VISUAL
BMS	BUILDING MANAGEMENT SYSTEM
CKT	CIRCUIT
COPS	CRITICAL OPERATIONS POWER SYSTEM
DPDT	DOUBLE POLE DOUBLE THROW
DPST	DOUBLE POLE SINGLE THROW
EC	EMPTY CONDUIT
ELEV	ELEVATOR
EMT	ELECTRICAL METALLIC TUBING
FCC	FIRE CONTROL CENTER
GFI	GROUND FAULT INTERRUPTOR
GND	GROUND
IDF	INTERMEDIATE DISTRIBUTION FRAME ROOM
IG	ISOLATED GROUND
MCP	MOTOR CIRCUIT PROTECTOR
MDF	MAIN DISTRIBUTION FRAME ROOM
MIC	MINERAL INSULATED CABLE
MS	MAIN SWITCHBOARD
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
NTS	NOT TO SCALE
PVC	POLYVINYL CHLORIDE CONDUIT
RAC	RIGID ALUMINUM CONDUIT
RSC	RIGID STEEL CONDUIT
SCC	SECURITY CONTROL CENTER
SPDT	SINGLE POLE DOUBLE THROW
SPST	SINGLE POLE SINGLE THROW
TEL	TELECOM
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSION
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
UPS	UNINTERRUPTIBLE POWER SUPPLY
WP	WEATHERPROOF
WT	WATERTIGHT
XP	EXPLOSION PROOF

HAYWARD FIRE TRAINING FACILITY BUILDING 3 - ELECTRICAL DRAWING LIST 7/19/2019 WSP PROJECT: B17.07369.000					
DRAWING NUMBER	DRAWING NAME	SCALE	50%CD	90%CD	100%CD
			1/17/2018	11/2/2018	7/19/2019
3-E0.01	ELECTRICAL LEGEND, ABBREVIATIONS AND DRAWING LIST	NTS	X	X	X
3-E0.02	ELECTRICAL SCHEDULES	NTS	X	X	X
3-E0.20	ELECTRICAL TITLE 24	NTS		X	X
3-E0.21	ELECTRICAL TITLE 24	NTS		X	X
3-E2.01	ELECTRICAL HANGER BUILDING FLOOR PLAN	1/8" = 1'-0"	X	X	X
3-E5.01	ELECTRICAL RISER DIAGRAM	NTS	X	X	X

September 13, 2016

MEP Component Anchorage Note

All mechanical, plumbing, and electrical components shall be anchored and installed per the details on the DSA approved construction documents. Where no detail is indicated, the following components shall be anchored or braced to meet the force and displacement requirements prescribed in the 2016 CBC, Sections 1616A.1.18 through 1616A.1.26 and ASCE 7-10 Chapter 13, 26 and 30.

1. All permanent equipment and components.
2. Temporary or movable equipment that is permanently attached (e.g. hard wired) to the building utility services such as electricity, gas or water.
3. Movable equipment which is stationed in one place for more than 8 hours and heavier than 400 pounds or has a center of mass located 4 feet or more above the adjacent floor or roof level that directly support the component are required to be anchored with temporary attachments.

The following mechanical and electrical components shall be positively attached to the structure, but the attachment need not be detailed on the plans. These components shall have flexible connections provided between the component and associated ductwork, piping, and conduit.

A. Components weighing less than 400 pounds and have a center of mass located 4 feet or less above the adjacent floor or roof level that directly support the component.
B. Components weighing less than 20 pounds, or in the case of distributed systems, less than 5 pounds per foot, which are suspended from a roof or floor or hung from a wall.

For those elements that do not require details on the approved drawings, the installation shall be subject to the approval of the design professional in general responsible charge or structural engineer delegated responsibility and the DSA District Structural Engineer. The project inspector will verify that all components and equipment have been anchored in accordance with above requirements.

Piping, Ductwork, and Electrical Distribution System Bracing Note

Piping, ductwork, and electrical distribution systems shall be braced to comply with the forces and displacements prescribed in ASCE 7-10 Section 13.3 as defined in ASCE 7-10 Section 13.6.5.6, 13.6.7, 13.6.8, and 2016 CBC, Sections 1616A.1.24, 1616A.1.25 and 1616A.1.26.

The method of showing bracing and attachments to the structure for the identified distribution system are as noted below. When bracing and attachments are based on a preapproved installation guide (e.g., SMACNA or OSHPD OPM), copies of the bracing system installation guide or manual shall be available on the jobsite prior to the start of and during the hanging and bracing of the distribution systems. The Structural Engineer of Record shall verify the adequacy of the structure to support the hanger and brace loads.

Mechanical Piping (MP), Mechanical Ducts (MD), Plumbing Piping (PP), Electrical Distribution Systems (E):

MP☐MD☐PP☐ E☐ - Option 1: Detailed on the approved drawings with project specific notes and details.

MP☐MD☐PP☐ E☒ - Option 2: Shall comply with the applicable OSHPD Pre-Approval (OPM #) # OPM-0043-13 MASON WEST

MP☐MD☐PP☐ - Option 3: Shall comply with the SMACNA Seismic Restraint Manual, OSHPD Edition (2009), including any addenda. Fasteners and other attachments not specifically identified in the SMACNA Seismic Restraint Manual, OSHPD Edition, are detailed on the approved drawings with project specific notes and details. The details shall account for the applicable Seismic Hazard Level _____ and Connection Level _____ for the project and conditions.

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC: 01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY:	
KATHY GARCIA DEP. DIR. PUBLIC WORKS	ALEX AMERI INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

**1401 W. WINTON AVE.
HAYWARD, CA 94545**

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER
AMANDA J. BROWNLEE
No. E17267
ELECTRICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

ELECTRICAL LEGEND, ABBREVIATIONS AND DRAWING LIST

Drawn By: ELW Checked By: AJB

Scale: **NTS**

Date: **October 4, 2019**

Project No. B17.07369

3-E0.01
Drawing No.

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120V, 1-PHASE COPPER WIRE

MAXIMUM LENGTH OF CONDUCTOR IN FT TO BE USED PER VA AND WIRE SIZE

kVA	CONDUCTOR SIZE						
	#12	#10	#8	#6	#4	#2	#1
0.4	280ft	446ft	694ft	1,100ft	1,753ft	2,784ft	3,506ft
0.8	140ft	223ft	347ft	550ft	877ft	1,392ft	1,753ft
1.2	93ft	149ft	231ft	367ft	584ft	928ft	1,169ft
1.6	70ft	112ft	174ft	275ft	438ft	696ft	877ft
2.0	56ft	89ft	139ft	220ft	351ft	557ft	701ft
2.4	47ft	74ft	116ft	183ft	292ft	464ft	584ft
2.8	-	64ft	99ft	157ft	250ft	398ft	501ft
3.2	-	56ft	87ft	137ft	219ft	348ft	438ft
3.6	-	50ft	77ft	122ft	195ft	309ft	390ft
4.0	-	-	69ft	110ft	175ft	278ft	351ft
4.4	-	-	63ft	100ft	159ft	253ft	319ft
4.8	-	-	58ft	92ft	146ft	232ft	292ft
5.2	-	-	-	85ft	135ft	214ft	270ft
5.6	-	-	-	79ft	125ft	199ft	250ft
6.0	-	-	-	73ft	117ft	186ft	234ft
6.4	-	-	-	69ft	110ft	174ft	219ft
6.8	-	-	-	-	103ft	164ft	206ft
7.2	-	-	-	-	97ft	155ft	195ft
7.6	-	-	-	-	92ft	147ft	185ft
8.0	-	-	-	-	88ft	139ft	175ft
8.4	-	-	-	-	83ft	133ft	167ft
8.8	-	-	-	-	-	127ft	159ft
9.2	-	-	-	-	-	121ft	152ft
9.6	-	-	-	-	-	116ft	146ft
10.0	-	-	-	-	-	111ft	140ft
10.4	-	-	-	-	-	107ft	135ft
10.8	-	-	-	-	-	103ft	130ft
11.2	-	-	-	-	-	99ft	125ft
11.6	-	-	-	-	-	-	121ft
12.0	-	-	-	-	-	-	117ft
12.4	-	-	-	-	-	-	113ft
12.8	-	-	-	-	-	-	110ft
13.2	-	-	-	-	-	-	106ft
13.6	-	-	-	-	-	-	-
14.0	-	-	-	-	-	-	-
14.4	-	-	-	-	-	-	-
14.8	-	-	-	-	-	-	-
15.2	-	-	-	-	-	-	-
15.6	-	-	-	-	-	-	-
16.0	-	-	-	-	-	-	-

BASED ON 3% VOLTAGE DROP ALLOWED FOR BRANCH CIRCUITS PER TITLE 24 2013.

VOLTAGE DROP = (CIRCUIT AMPS) X (TWICE THE LENGTH OF CONDUCTOR) X (WIRE RESISTANCE)

208V, 1-PHASE COPPER WIRE

MAXIMUM LENGTH OF CONDUCTOR IN FT TO BE USED PER VA AND WIRE SIZE

kVA	CONDUCTOR SIZE						
	#12	#10	#8	#6	#4	#2	#1
0.7	480ft	766ft	1,192ft	1,888ft	3,010ft	4,779ft	6,020ft
1.4	240ft	383ft	596ft	944ft	1,505ft	2,389ft	3,010ft
2.1	160ft	255ft	397ft	629ft	1,003ft	1,593ft	2,007ft
2.8	120ft	192ft	298ft	472ft	753ft	1,195ft	1,505ft
3.5	96ft	153ft	238ft	378ft	602ft	956ft	1,204ft
4.2	80ft	128ft	199ft	315ft	502ft	796ft	1,003ft
4.9	-	109ft	170ft	270ft	430ft	683ft	860ft
5.6	-	96ft	149ft	236ft	376ft	597ft	753ft
6.3	-	85ft	132ft	210ft	334ft	531ft	669ft
7.0	-	-	119ft	189ft	301ft	478ft	602ft
7.7	-	-	108ft	172ft	274ft	434ft	547ft
8.4	-	-	99ft	157ft	251ft	398ft	502ft
9.1	-	-	-	145ft	232ft	368ft	463ft
9.8	-	-	-	135ft	215ft	341ft	430ft
10.5	-	-	-	126ft	201ft	319ft	401ft
11.2	-	-	-	118ft	188ft	299ft	376ft
11.9	-	-	-	-	177ft	281ft	354ft
12.6	-	-	-	-	167ft	265ft	334ft
13.3	-	-	-	-	158ft	252ft	317ft
14.0	-	-	-	-	151ft	239ft	301ft
14.7	-	-	-	-	-	228ft	287ft
15.4	-	-	-	-	-	217ft	274ft
16.1	-	-	-	-	-	208ft	262ft
16.8	-	-	-	-	-	199ft	251ft
17.5	-	-	-	-	-	191ft	241ft
18.2	-	-	-	-	-	184ft	232ft
18.9	-	-	-	-	-	177ft	223ft
19.6	-	-	-	-	-	171ft	215ft
20.3	-	-	-	-	-	-	208ft
21.0	-	-	-	-	-	-	201ft
21.7	-	-	-	-	-	-	194ft
22.4	-	-	-	-	-	-	188ft
23.1	-	-	-	-	-	-	-
23.8	-	-	-	-	-	-	-
24.5	-	-	-	-	-	-	-
25.2	-	-	-	-	-	-	-
25.9	-	-	-	-	-	-	-
26.6	-	-	-	-	-	-	-
27.3	-	-	-	-	-	-	-
28.0	-	-	-	-	-	-	-

BASED ON 3% VOLTAGE DROP ALLOWED FOR BRANCH CIRCUITS PER TITLE 24 2013.

VOLTAGE DROP = (CIRCUIT AMPS) X (TWICE THE LENGTH OF CONDUCTOR) X (WIRE RESISTANCE)

208V, 3-PHASE COPPER WIRE

MAXIMUM LENGTH OF CONDUCTOR IN FT TO BE USED PER VA AND WIRE SIZE

kVA	CONDUCTOR SIZE								
	1/0	2/0	3/0	4/0	250KCM	300KCM	350KCM	400KCM	500KCM
3.4	1,204ft	1,520ft	1,918ft	2,417ft	2,853ft	3,425ft	4,004ft	4,577ft	5,666ft
6.8	602ft	760ft	959ft	1,208ft	1,427ft	1,713ft	2,002ft	2,289ft	2,848ft
10.2	401ft	507ft	639ft	806ft	951ft	1,142ft	1,335ft	1,526ft	1,898ft
13.6	301ft	380ft	480ft	604ft	713ft	856ft	1,001ft	1,144ft	1,424ft
17.0	241ft	304ft	384ft	483ft	571ft	685ft	801ft	915ft	1,139ft
20.4	201ft	253ft	320ft	403ft	476ft	571ft	667ft	763ft	949ft
23.8	172ft	217ft	274ft	345ft	408ft	489ft	572ft	654ft	814ft
27.2	151ft	190ft	240ft	302ft	357ft	428ft	500ft	572ft	712ft
30.6	134ft	169ft	213ft	269ft	317ft	381ft	445ft	509ft	633ft
34.0	120ft	152ft	192ft	242ft	285ft	343ft	400ft	458ft	570ft
37.4	109ft	138ft	174ft	220ft	259ft	311ft	364ft	416ft	518ft
40.8	100ft	127ft	160ft	201ft	238ft	285ft	334ft	381ft	475ft
44.2	93ft	117ft	148ft	186ft	219ft	263ft	308ft	352ft	438ft
47.6	86ft	109ft	137ft	173ft	204ft	245ft	286ft	327ft	407ft
51.0	80ft	101ft	128ft	161ft	190ft	228ft	267ft	305ft	380ft
54.4	-	95ft	120ft	151ft	178ft	214ft	250ft	286ft	356ft
57.8	-	89ft	113ft	142ft	168ft	201ft	236ft	269ft	335ft
61.2	-	84ft	107ft	134ft	159ft	190ft	222ft	254ft	316ft
64.6	-	-	101ft	127ft	150ft	180ft	211ft	241ft	300ft
68.0	-	-	96ft	121ft	143ft	171ft	200ft	229ft	285ft
71.4	-	-	91ft	115ft	136ft	163ft	191ft	218ft	271ft
74.8	-	-	-	110ft	130ft	156ft	182ft	208ft	259ft
78.2	-	-	-	105ft	124ft	149ft	174ft	199ft	248ft
81.6	-	-	-	101ft	119ft	143ft	167ft	191ft	237ft
85.0	-	-	-	-	114ft	137ft	160ft	183ft	228ft
88.4	-	-	-	-	110ft	132ft	154ft	176ft	219ft
91.8	-	-	-	-	106ft	127ft	148ft	170ft	211ft
95.2	-	-	-	-	-	122ft	143ft	163ft	203ft
98.6	-	-	-	-	-	118ft	138ft	158ft	196ft
102.0	-	-	-	-	-	114ft	133ft	153ft	190ft
105.4	-	-	-	-	-	-	129ft	148ft	184ft
108.8	-	-	-	-	-	-	125ft	143ft	178ft
112.2	-	-	-	-	-	-	-	139ft	173ft
115.6	-	-	-	-	-	-	-	135ft	168ft
119.0	-	-	-	-	-	-	-	131ft	163ft
122.4	-	-	-	-	-	-	-	-	158ft
125.8	-	-	-	-	-	-	-	-	154ft
129.2	-	-	-	-	-	-	-	-	150ft
132.6	-	-	-	-	-	-	-	-	146ft
136.0	-	-	-	-	-	-	-	-	142ft

BASED ON 2% VOLTAGE DROP ALLOWED FOR FEEDERS PER TITLE 24 2016.

VOLTAGE DROP = (CIRCUIT AMPS) X (TWICE THE LENGTH OF CONDUCTOR) X (WIRE RESISTANCE)

MOTOR CONNECTION SCHEDULE: 208V-3 PHASE

HP	SHORT-CIRCUIT & GROUND FAULT		SWITCH AMPS	OVERLOAD FUSE AMPS	BRANCH CIRCUIT AMPACITY	GROUNDING CONDUCTOR SIZE	STARTER SIZE NEMA
	CIRCUIT BREAKER	FUSE SIZE					
1/2	15A	6A	30	2.5	15	#12	1
3/4	15A	10A	30	3.5	15	#12	1
1	15A	10A	30	5	15	#12	1
1 1/2	15A	15A	30	7	15	#12	1
2	15A	15A	30	9	15	#12	1
3	20A	20A	30	15	20	#12	1
5	35A	30A	30	20	30	#10	1
7 1/2	50A	45A	60	30	40	#10	2
10	60A	60A	60	40	50	#10	3
15	90A	90A	100	60	70	#8	3
20	100A	110A	100	80	80	#6	3
25	125A	150A	100	90	100	#6	4
30	150A	175A	200	110	125	#6	4
40	200A	200A	200	150	175	#6	5
50	250A	300A	200	175	200	#4	5
60	300A	300A	400	200	225	#4	5
75	350A	400A	400	250	300	#2	6
100	450A	500A	400	350	400	#2	6
125	600A	600A	600	450	450	#1	6
150	700A	700A	600	500	600	#1/0	6

REFER TO WIRING SCHEDULE FOR BRANCH CIRCUIT REQUIREMENTS
SIZES BASED ON COPPER CONDUCTORS

EQUIPMENT CONNECTION DESIGNATIONS LEGEND

DESIGNATION	DESCRIPTION	DESIGNATION	DESCRIPTION	DESIGNATION	DESCRIPTION
AC	AIR CONDITIONING UNIT	FCU	FAN COIL UNIT	P	PUMP
ACC	AIR COOLED CONDENSER	FOA	FUEL OIL ALARM PANEL	PS	PROJECTION SCREEN
AHU	AIR HANDLING UNIT	FOP	FUEL OIL PUMP	REF	REFRIGERATOR
BC	BATTERY CHARGER	FMS	FMS PANEL	RF	RETURN FAN
BMS	BMS PANEL	FP	FIRE PUMP	RTU	ROOF TOP UNIT
CH	CHILLER	FPB	FAN POWER BOX	SD	SMOKE DAMPER
COMP	COMPRESSOR	FSD	FIRE/SMOKE DAMPER	SE	SEWAGE EJECTOR
COP	COPIER	GD	GARBAGE DISPOSAL	SF	SUPPLY FAN
CP	CIRCULATING PUMP	GS	GRAPHIC SIGNAGE	SP	SUMP PUMP
CU	CONDENSING UNIT	HP	HEAT PUMP	UH	UNIT HEATER
DF	DUCT FURNACE	HV	HEATING/VENTILATING UNIT	VAV	VAV BOX ELECTRIC HEAT
DWBP	DOMESTIC WATER BOOSTER PUMP	IH	INSTANT HOT WATER HEATER	VM	VENDING MACHINE
ECH	ELECTRIC CABINET HEATER	JP	JOCKEY PUMP	VFD	VARIABLE FREQUENCY DRIVE
EDH	ELECTRIC DUCT HEATER	JWH	JACKET WATER HEATER	TYPE DP	DUPLEX PUMP
EF	EXHAUST FAN	MCS	MOTOR CONNECTION SCHEDULE	TYPE FR	FRACTIONAL HP MOTOR
EHC	ELECTRIC HEATING COIL	MD	MOTORIZED DOOR OR GATE	TYPE FWS	FURNISHED WITH STARTER
ELEV	ELEVATOR	MS	MOTORIZED SHADE	TYPE M	MOTOR WITH STARTER
EUH	ELECTRIC UNIT HEATER	MUA	MAKE UP AIR UNIT	TYPE SPC	SINGLE POINT CONNECTION
EWC	ELECTRIC WATER COOLER	MW	MICROWAVE OVEN	TYPE VFD	VARIABLE FREQUENCY DRIVE
EWH	ELECTRIC WATER HEATER	OH	OIL HEATER		

LIGHTING FIXTURE SCHEDULE

TYPE	DESCRIPTION	MANUFACTURER/CATALOG NO.	DESCRIPT	WATTS	VOLTS	REMARKS
W1	SURFACE OR PENDANT MOUNTED ENCLOSED AND GASKETED WET LOCATION LED, 24 INCH LONG.	LITHONIA DMW2	LED	40	120	HANGAR BUILDING
XW	LED WET LABEL EXIT SIGN MADE OF CAST ALUMINUM OR STAINLESS STEEL. SURFACE, WALL, CEILING OR PENDANT MOUNTED EXIT SIGN WITH DIRECTIONAL ARROWS AS INDICATED. GREEN LETTER, ALUMINUM ON BLACK FINISH	EMERGI-LITE SURVIVE-ALL SVX EXIT SERIES WILLIAMS EXITAVET LITHONIA LV SERIES	LED	5	120	EXTERIOR ROOF

EQUIPMENT CONNECTION SCHEDULE

DESIGNATION	HP	FLA	KVA	VOLT-AGE	PH	POWER SOURCE	CONNECTION TYPE	BRANCH CIRCUIT WIRING	REMARKS
3-SP-1-1	1 1/2			208	3	LP-B2A	SPC	MCS	

BUSSING: 225A, 10,000 AIC SYMMETRICAL
MAIN CB: MLO

LP-B2A

LOCATION:ELECTRICAL ROOM
MOUNTING: SURFACE

120/208V, 3 PHASE, 4 WIRE
100% RATED NEUTRAL + GROUND

TYP E	DESCRIPTION	LOAD	DEVICE	CKT	A	B	C	CKT	DEVICE	LOAD	DESCRIPTION	TYP E
E		960		1	●			2	20/1	720	BUILDING 3 RECEPTCS	R
E	EXTRACTOR	960	20/3	3		●		4	20/1	320	BUILDING 3 LTS	L
E		960		5			●	6	20/1	360	BREAK RM RECEPTS	R
E		960		7	●			8	20/1	1000	MICROWAVE BREAK RM	E
E	EXTRACTOR	960	20/3	9		●		10	20/1	1000	MICROWAVE BREAK RM	E
E		960		11			●	12	20/1	1000	PROJECTOR CLASSROOM	E
E		960		13	●			14	20/1	900	BREAK RM 110 RECEPTS	R
E	EXTRACTOR	960	20/3	15		●		16	20/1	300	SCREEN MOTOR	M
E		960		17			●	18	20/1	1080	CLASSROOM 105 RECEPTS	R
R	EQUIPMENT 107 RECEPTS	900	20/1	19	●			20	20/1	600	ICE MACHINE APPARATUS 106	E
R	FSR 111 RECEPTS	180	20/1	21		●		22	20/1	1000	PROJECTOR APPARATUS 106	E
R	MEN'S RESTROOM 109	720	20/1	23			●	24	20/1	720	APP BAY EAST 106 RECEPTS	R
R	CORRIDOR AND LOBBY RECEPTS	540	20/1	25	●			26	20/1	540	APP BAY SOUTH 106 RECEPTS	R
R	WOMEN'S RESTROOM 102	540	20/1	27		●		28	20/1	900	APP BAY WEST 106 RECEPTS	R
R	BREAK RM RECEPTS 104	540	20/1	29			●	30	20/1	540	APP BAY NORTH 106 RECEPTS	R
E	REFRIGERATOR BREAK RM	800	20/1	31	●			32	20/1	720	APP BAY 106 RECEPTS	R
E	ICE MACHINE BREAK RM	600	20/1	33		●		34	20/1	1000	MOTORIZED DOOR	E
E	DISHWASHER BREAK RM	1000	20/1	35			●	36	20/1	1000	MOTORIZED DOOR	E
E	VEHICLE EXH FAN CNTRL PANEL	500	20/1	37	●			38	20/1	1000	MOTORIZED DOOR	E
E	CEILING FAN CNTRL PANEL	500	20/1	39		●		40	20/1	1000	MOTORIZED DOOR	E
M	RCP-2-1	210	20/1	41			●	42	20/1	540	EXTERIOR RECEPTS	R
M	CA-2-1	4004	40/2	43	●			44	20/2	62	BS-B2-1	M
M		4004		45		●		46		62		M
M	DA-2-1	4004	40/2	47			●	48	20/2	62	BS-B2-2	M
M		4004		49	●			50		62		M
E	BUILDING 3 TELECOM	2496	30/2	51		●		52	30/2	2496	BUILDING 2 TELECOM RACK	E
E		2496		53			●	54		2496		E
R	EXTERIOR RECEPTACLE	180	20/1	55	●			56	20/1	200	LTG CONTROLS	E
E	SMOKE GENERATOR	1000	20/1	57		●		58	20/1	2880	BUILDING 2 TELECOM RACK	E
	SPARE	0	20/1	59			●	60	20/1		SPARE	
M		793		61	●			62	20/1		SPARE	
M	3-SP-1-1	793	20/1	63		●		64	20/1		SPARE	
M		793		65			●	66	20/1		SPARE	
	SPARE		20/1	67	●			68	20/1		SPACE	
	SPARE		20/1	69		●		70	20/1		SPARE	
	SPARE		20/1	71			●	72	20/1		SPARE	
	SPARE		20/1	73	●			74	20/1		SPACE	
	SPARE		20/1	75		●		76	20/1		SPARE	
	SPARE		20/1	77			●	78	20/1		SPACE	
	SPACE			79	●			80			SPACE	
	SPACE			81		●		82			SPACE	
	SPACE			83			●	84			SPACE	
TOTAL ALL PHASES (VA)		PHASE A (VA)		PHASE B (VA)			PHASE C (VA)			TOTAL ALL PHASES (AMPS)		
32887		9305		13731			9851			91		

LOAD SUMMARY BY TYPE	CONN. LOAD	DEMAND FACTOR	NEC LOAD
E = EQUIPMENT	34704 VA	1.00	34704 VA
H = ELECTRIC HEAT	0 VA	1.00	0 VA
K = KITCHEN EQUIPMENT	0 VA	1.00	0 VA
L = LIGHTING	320 VA	1.25	400 VA
M = MOTOR	11145 VA	1.00	11145 VA
M = LARGEST MOTOR	8008 VA	1.25	10010 VA
R = RECEPTACLE	10620 VA	NEC DEMAND	10310 VA

CONNECTED LOAD SUMMARY
64797 VA
180 AMPS

NEC LOAD SUMMARY
66569 VA
185 AMPS

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY:	
KATHY GARCIA DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER
AMANDA J. BROWN-LEE
No. E17287
ELECTRICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

ELECTRICAL SCHEDULES

Drawn By: ELW Checked By: AJB

Scale: **NTS**

Date: **October 4, 2019**

Project No. B17.07369

3-E0.02
Drawing No.

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STATE OF CALIFORNIA
OUTDOOR LIGHTING
CEC-NRCC-LTO-01-E (Revised 04/16) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTO-01-E
Outdoor Lighting	(Page 3 of 4)
Project Name: Hayward Fire Training Center - Building 3	Date Prepared: 7/16/2019

I. Outdoor Lighting Schedule and Field Inspection Energy Checklist

	01		02	03	04		05	06	07	08	09
	Name or Item Tag		Luminaire Schedule Complete Luminaire Description	Watts per Luminaire	Installed Watts: How wattage was determined: CEC Default from NAB	According to §130.0(c)	Number of Luminaires	Total Installed Watts in this area (3 x 5)	Location: Primary Function area in which the luminaires are installed (Outdoor Lighting Zone)	Cutoff: BUG Rating	Field Inspector: Pass / Fail
	W1	W1		40.0	☐	☑	10	400	Automotive Hardscape		
									BH:	BH: n/a	☐ / ☐
									FH:	FH: n/a	☐ / ☐
									BVH:	BVH: n/a	☐ / ☐
									FVH:	FVH: n/a	☐ / ☐
									UL:	UL: n/a	☐ / ☐
									UH:	UH: n/a	☐ / ☐
INSTALLED WATTS PAGE TOTAL:								400	Enter sum total of all pages (Sum Total) **INSTALLED** Outdoor lighting wattage) into NRCC-LTO-01-E, page 1.		400 / ☐

STATE OF CALIFORNIA
OUTDOOR LIGHTING
CEC-NRCC-LTO-01-E (Revised 04/16) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTO-01-E
Outdoor Lighting	(Page 2 of 4)
Project Name: Hayward Fire Training Center - Building 3	Date Prepared: 7/16/2019

G. Schedule of Luminaires Exempt from the Cutoff Requirements in §130.2(b)

01	02
Name or Symbol	Description of exempt luminaire in accordance with the exemptions

H. Schedule of Luminaires Exempt from the Outdoor Lighting Control Requirements in §130.2(c)

01	02
Name or Symbol	Description of exempt luminaire in accordance with the exemptions

STATE OF CALIFORNIA
OUTDOOR LIGHTING
CEC-NRCC-LTO-01-E (Revised 04/16) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTO-01-E
Outdoor Lighting	(Page 1 of 4)
Project Name: Hayward Fire Training Center - Building 3	Date Prepared:

A. General Information

Project Address: 1401 W. Winton Ave. Hayward, CA 94545	Total Illuminated Hardscape Area: 1,512
Phase of Construction: ☑ New Construction ☐ Addition ☐ Alteration	
Outdoor Lighting Zone (LZ) ☐ LZ-1 ☐ LZ-2 ☑ LZ-3 ☐ LZ-4	
I have confirmed with the AHJ which LZ applies to this site. For default lighting zone designations, see Title 24 Part 6, §10-114	

B. Lighting Compliance Documents (check box for each document included)

For detailed instructions on the use of this and all Energy Efficiency Standards compliance documents, refer to the Nonresidential Manual published by the California Energy Commission.

☑	NRCC-LTO-01-E	Certificate of Compliance
☑	NRCC-LTO-02-E	Outdoor Lighting Controls Certificate of Compliance
☑	NRCC-LTO-03-E	Outdoor Lighting Power Allowance Certificate of Compliance
☐	NRCC-LTO-04-E	Outdoor Lighting Existing Conditions Certificate of Compliance

C. Summary of Allowed Outdoor Lighting Power

		Watts
01	**Sum Total ALLOWED** Outdoor Lighting Wattage from NRCC-LTO-03-E, page 1 Alterations with NO increase of connected lighting load may instead use the allowed wattage from NRCC-LTO-04, page 2.	638
	Complies ONLY if **Installed** (Box 02) ≤ **Allowed** (Box 01)	
02	**Sum Total INSTALLED** Outdoor Lighting Wattage from NRCC-LTO-01-E, page 3.	400

D. Declaration of Required Installation Certificates

Declare by checking all Installation Certificates that will be submitted. (Retain copies and verify compliance documents are completed and signed.)

☑ NRCI-LTO-01-E - Must be submitted for all buildings	☐ Field Inspector
☑ NRCI-LTO-02-E - Must be submitted for a lighting control system, or for an Energy Management Control System (EMCS), to be recognized for compliance.	☐ Field Inspector

E. Declaration of Required Certificates of Acceptance

Declare by checking all of the Certificates of Acceptance that will be submitted. (Retain copies and verify compliance documents are completed and signed.)

☑ NRCA-LTO-02-A - Must be submitted for outdoor lighting controls.	☐ Field Inspector

F. Schedule of Luminaires Exempt from the Outdoor Lighting Power Requirements in §140.7

01	02
Name or Symbol	Description of exempt luminaire in accordance with the exemptions

STATE OF CALIFORNIA
Electrical Power Distribution
CEC-NRCC-ELC-01-E (Revised 01/16) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-ELC-01-E
Electrical Power Distribution	(Page 6 of 6)
Project Name: Hayward Fire Training Center - Building 3	Date Prepared: 7/16/2019

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

1. I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: Hayley Vero	Documentation Author Signature: Hayley Vero
Company: WSP	Signature Date: 7/16/2019
Address: 425 Market Street, 17th floor	CEA/ HERS Certification Identification (if applicable):
City/State/Zip: San Francisco, CA 94105	Phone: 415-243-4600

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer).
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name: Amanda Brownlee	Responsible Designer Signature: Amanda Brownlee
Company: WSP	Date Signed: 7/16/2019
Address: 425 Market Street, 17th Floor	License: E17287
City/State/Zip: San Francisco, CA 94105	Phone: 415-243-4600

STATE OF CALIFORNIA
Electrical Power Distribution
CEC-NRCC-ELC-01-E (Revised 01/16) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-ELC-01-E
Electrical Power Distribution	(Page 5 of 6)
Project Name: Hayward Fire Training Center - Building 3	Date Prepared: 7/16/2019

C. Voltage Drop — Enforcement Agency: Check that the system complies

Check all boxes below if the electrical power distribution system is in compliance with Section 130.5(c).

- ☒ The electrical power distribution system meets the voltage drop requirement of Section 130.5(c). The maximum combined voltage drop on feeder conductors and branch circuit conductors to the farthest connected load or outlet, do not exceed 5%. — ☐
- ☒ Voltage drop calculation documents showing compliance to Section 130.5(c) are submitted as part of the compliance document submittal. — ☐

D. Circuit Controls for 120-Volt Receptacles and Controlled Receptacles — Field Inspector: Check that the system complies

Check one or more boxes below for applicable requirements of Section 130.5(d) for the electrical power distribution system.

- ☒ The control is capable of automatically shutting OFF the controlled receptacles when the space is typically unoccupied, either at the receptacle or circuit level. For the automatic time switch control, it incorporates an override control that allows the controlled receptacle to remain ON for no more than 2 hours when an override is initiated and an automatic holiday "shut-OFF" feature that turns OFF all loads for at least 24 hours and then resumes the normally scheduled operation. Countdown timer switches are not be used to comply with the automatic time switch control requirements. The controls meet the requirement of Section 130.5(d)1. — ☐
- ☐ There is at least one controlled receptacle within 6 ft from each uncontrolled receptacle. Where receptacles are installed in modular furniture in open office area, at least one controlled receptacle is installed at each workstation. The receptacles meet the requirement of Section 130.5(d)2. — ☐
- ☐ There are installed split wired receptacles with at least one controlled and one uncontrolled receptacle. Where receptacles are installed in modular furniture in open office area, at least one controlled receptacle is installed at each workstation. The receptacles meet the requirement of Section 130.5(d)2. — ☐
- ☒ Permanent and durable marking for controlled receptacles or circuits to differentiate them from uncontrolled receptacles or circuits is provided. The markings meet the requirement of Section 130.5(d)3. — ☐
- ☐ For hotel and motel guest rooms, there are controlled receptacles for at least one-half of the 120-volt receptacles in each guest room. Electric circuits serving controlled receptacles in guestrooms are installed to have captive key controls, occupancy sensing controls, or automatic controls so the power is switched off no longer than 30 minutes after the guest room has been vacated. The receptacles meet the requirement of Section 130.5(d)4. — ☐
- ☐ Receptacles that are only for the following purposes are excepted from Section 130.5(d): -Receptacles specifically for refrigerators and water dispensers in kitchen areas. -Receptacles located a minimum of six ft above the floor that are specifically for clocks. -Receptacles for network copiers, fax machines, A/V and data equipment other than personal computers in copy rooms. -Receptacles on circuits rated more than 20 amperes. -Receptacles connected to an uninterruptible power supply (UPS) that are intended to be in continuous use, 24 hours per day/365 days per year, and are marked to differentiate them from other uncontrolled receptacles or circuits. — ☐

STATE OF CALIFORNIA
Electrical Power Distribution
CEC-NRCC-ELC-01-E (Revised 01/16) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-ELC-01-E
Electrical Power Distribution	(Page 4 of 6)
Project Name: Hayward Fire Training Center - Building 3	Date Prepared: 7/16/2019

B. Separation of Electrical Circuits for Electrical Energy Monitoring

Check all boxes below if the electrical power distribution system is in compliance with Section 130.5(b).

☒ The electrical power distribution system meets the separation of electrical circuits for electrical energy monitoring requirement of Section 130.5(b). The electrical power distribution systems is designed so that measurement devices can monitor the electrical energy usage of load types according to TABLE 130.5-B.

☒ Describe the electrical power distribution system installed and the compliance method chosen in meeting the requirement of Section 130.5(b). Use the space below to include the information. Examples of compliance methods are detailed in Nonresidential Compliance Manual Chapter 8.

Fill out Column 1 thru 3 with the compliance information.

General information	Electrical Power Distribution System information and Method of compliance	Electrical Service Rating	Enforcement Agency
01	02	03	04
Electrical Service Designation/Location/Description	Describe the electrical power distribution system installed and the compliance method used.	kVA	Check that the system complies ☐

Field Inspector Notes:

STATE OF CALIFORNIA
Electrical Power Distribution
CEC-NRCC-ELC-01-E (Revised 01/16) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-ELC-01-E
Electrical Power Distribution	(Page 3 of 6)
Project Name: Hayward Fire Training Center - Building 3	Date Prepared: 7/16/2019

A. Service Electrical Metering

Check one of the three boxes below if the electrical power distribution system is in compliance with Section 130.5(a).

☒ For newly installed electrical service in newly constructed buildings, Service Electrical Metering is required according to Section 130.5(a). *Fill out Column 1 thru 6 of table below.*

☐ For new or replacement electrical service equipment in existing buildings, Service Electrical Metering is required according to Section 141.0(b)2Pi. *Fill out Column 1 thru 6 of table below.*

☐ EXCEPTION to Electrical Service Metering: Service or feeder for which the utility company provides a metering system that indicates instantaneous kW demand and kWh for a utility-defined period. *Fill out Column 1, 2 and 6 of table below with the compliance information.*

Fill out a separate line for each electrical service that is connected to the building. If additional table space is needed for electrical service information, submit additional page with the information.

Electrical Service Schedule	Electrical Service Rating	Metering Capabilities (check all that are present)				Exception to 130.5(a)	Field Inspector
01	02	03	04	05	06	07	08
Electrical Service Designation/Location/Description	kVA	Instantaneous kW (at the time)	Historical peak kW	Tracking kWh for a user-definable period	kWh per time period	Utility metering system	Check that the metering complies
REFER TO PACKAGE 1 FOR ELECTRICAL SERVICE SCHEDULE		☐	☐	☐	☐	☐	☐
		☐	☐	☐	☐	☐	☐

STATE OF CALIFORNIA
Electrical Power Distribution
CEC-NRCC-ELC-01-E (Revised 01/16) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-ELC-01-E
Electrical Power Distribution	(Page 2 of 6)
Project Name: Hayward Fire Training Center - Building 3	Date Prepared: 7/16/2019

Document Number	Document Title / Descriptions (include description information for Table or Schedule if it contains compliance information)	Document Sheet # or Page #	Applicable subsection of Section 130.5

STATE OF CALIFORNIA
Electrical Power Distribution
CEC-NRCC-ELC-01-E (Revised 01/16) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-ELC-01-E
Electrical Power Distribution	(Page 1 of 6)
Project Name: Hayward Fire Training Center - Building 3	Date Prepared: 7/16/2019

General Information

Project Address: 1401 W. Winton Ave.		Climate Zone: 3	Conditioned Floor Area: 0
			Unconditioned Floor Area: 0
Building Type:	☐ Nonresidential ☐ Schools	☐ High-Rise Residential ☐ Relocatable Public Schools	☐ Hotel/Motel
Phase of Construction:	☑ New Construction	☐ Addition	☐ Alteration

In the table below identify all applicable construction documents that specify the requirements for the scope of responsibility reported by this certificate. Use additional pages as needed to list all construction documents related to compliance of Section 130.5.

Document Number	Document Title / Descriptions (include description information for Table or Schedule if it contains compliance information)	Document Sheet # or Page #	Indicate which subsection of Section 130.5 is related to the document (e.g. 130.5(a) for service electrical metering)
3-E0-02	ELECTRICAL SCHEDULES		c
3-E5-01	ELECTRICAL RISER DIAGRAM		a,b

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC. 01
REVIEWED FOR
SS ☑ ACS ☑
FLS ☐
DATE 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294 Sonoma Highway
Sonoma CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION
DESIGNED BY:
CHECKED BY:
APPROVED BY:
APPROVAL RECD:
KATHY GARCIA
DEP. DIR. OF PUBLIC WORKS
ALEX AMERI
INTERIM DIR. OF PUBLIC WORKS
PROJ. NO. 07481
& 07482
FILE NO. E-2157

WSP USA Buildings Inc.
425 Market St. 17th Floor
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(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER
1401 W. WINTON AVE.
HAYWARD, CA 94545

No. Description Date
REVISIONS

PERMIT SUBMITTAL V3

REGISTERED PROFESSIONAL ENGINEER — AMANDA J. BROWNLEE — No. E17287 — STATE OF CALIFORNIA — ELECTRICAL

Sheet Title
ELECTRICAL TITLE 24

Drawn By: ELW — Checked By: AJB
Scale: **NTS**
Date: **October 4, 2019**
Project No: B17.0739

3-E0.20
Drawing No.

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STATE OF CALIFORNIA
OUTDOOR LIGHTING POWER ALLOWANCES
CEC-NRCC-LTO-03-E (Revised 01/16) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTO-03-E
Outdoor Lighting Power Allowances	(Page 3 of 4)
Project Name: Hayward Fire Training Center - Building 3	Date Prepared: 7/16/2019

C-3. WATTAGE ALLOWANCE PER SQUARE FOOT OF HARDSCAPE AREA (Ornamental Lighting) – Table 140.7-B

☐ Allowance for the total site illuminated hardscape area. Luminaires qualifying for this allowance shall be rated for 100 watts or less as determined in accordance with Section 130.0(c), and shall be post-top luminaires, lanterns, pendant luminaires, or chandeliers.

☐ If more than one luminaire type is used per location, use multiple rows for that location

01	02	03	04	05	06	07	08	09	10
	ALLOTTED WATTS			DESIGN WATTS					
Name of area for which ornamental allowance is claimed	Square Feet of Hardscape	Wattage Allowance per Square Foot	Allotted Watts (02 x 03)	Luminaire Code or Symbol	Luminaire Description	Luminaire Quantity	Watts per Luminaire	Design Watts (07 x 08)	Allowed Watts (smaller of 04 or 09)
							Sum total allowance for ornamental lighting on the site:		0

C-4. WATTAGE ALLOWANCE PER SQUARE FOOT OF SPECIFIC AREA - Table 140.7-B

☐ Allowances for Building Facades; Outdoor Sales Lots; Vehicle Service Station Hardscape; Vehicle Service Station Canopies; Sales Canopies; Non-sales Canopies; Tunnels; Guard Stations; Student Pick-up/Drop-off zone: Outdoor Dining; Special Security Lighting for Retail Parking and Pedestrian Hardscape.

☐ If more than one luminaire type is used per location, use multiple rows for that location

01	02	03	04	05	06	07	08	09	10
	ALLOTTED WATTS			DESIGN WATTS					
Name of Location for Which Allowance is Claimed	Illuminated Area of Application	Wattage Allowance per square Foot	Allotted Watts (02 x 03)	Luminaire Code or Symbol	Luminaire Description	Luminaire Quantity	Watts per Luminaire	Design Watts (07 x 08)	Allowed Watts (smaller of 04 or 09)
							Sum total allowance for specific area on the site:		0

STATE OF CALIFORNIA
OUTDOOR LIGHTING CONTROLS
CEC-NRCC-LTO-02-E (Revised 08/16) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTO-02-E
Outdoor Lighting Controls	(Page 3 of 3)
Project Name: Hayward Fire Training Center - Building 3	Date Prepared: 7/16/2019

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

1. I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name:	Hayley Vero	Documentation Author Signature:	Hayley Vero
Company:	WSP	Signature Date:	7/16/2019
Address:	425 Market Street, 17th floor	CEA Certification Identification (if applicable):	
City/State/Zip:	San Francisco, CA 94105	Phone:	415-243-4600

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer).
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name:	Amanda Brownlee	Responsible Designer Signature:	Amanda Brownlee
Company :	WSP	Date Signed:	7/16/2019
Address:	425 Market Street, 17th Floor	License:	E17287
City/State/Zip:	San Francisco, CA 94105	Phone:	415-243-4600

STATE OF CALIFORNIA
OUTDOOR LIGHTING
CEC-NRCC-LTO-01-E (Revised 02/16) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTO-01-E
Outdoor Lighting	(Page 4 of 4)
Project Name: Hayward Fire Training Center - Building 3	Date Prepared: 7/16/2019

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

1. I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name:	Hayley Vero	Documentation Author Signature:	Hayley Vero
Company:	WSP	Signature Date:	7/16/2019
Address:	425 Market Street, 17th floor	CEA Certification Identification (if applicable):	
City/State/Zip:	San Francisco, CA 94105	Phone:	415-243-4600

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer).
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name:	Amanda Brownlee	Responsible Designer Signature:	Amanda Brownlee
Company :	WSP	Date Signed:	7/16/2019
Address:	425 Market Street, 17th Floor	License:	E17287
City/State/Zip:	San Francisco, CA 94105	Phone:	415-243-4600

STATE OF CALIFORNIA
OUTDOOR LIGHTING POWER ALLOWANCES
CEC-NRCC-LTO-03-E (Revised 01/16) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTO-03-E
Outdoor Lighting Power Allowances	(Page 4 of 4)
Project Name: Hayward Fire Training Center - Building 3	Date Prepared: 7/16/2019

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

1. I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name:	Hayley Vero	Documentation Author Signature:	Hayley Vero
Company:	WSP	Signature Date:	7/16/2019
Address:	425 Market Street, 17th floor	CEA Certification Identification (if applicable):	
City/State/Zip:	San Francisco, CA 94105	Phone:	415-243-4600

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

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Responsible Designer Name:	Amanda Brownlee	Responsible Designer Signature:	Amanda Brownlee
Company :	WSP	Date Signed:	7/16/2019
Address:	425 Market Street, 17th Floor	License:	E17287
City/State/Zip:	San Francisco, CA 94105	Phone:	415-243-4600

STATE OF CALIFORNIA
OUTDOOR LIGHTING POWER ALLOWANCES
CEC-NRCC-LTO-03-E (Revised 01/16) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTO-03-E
Outdoor Lighting Power Allowances	(Page 1 of 4)
Project Name: Hayward Fire Training Center - Building 3	Date Prepared: 7/16/2019

A. OUTDOOR LIGHTING POWER ALLOWANCE SUMMARY

1. General Hardscape Lighting Power Allowance (Site Total from Section B of NRCC-LTO-03-E)										1.	638
2. Additional Specific "use it or lose it" Lighting Power Allowances listed in each of these cells shall be identical to total allowed watts determined in Section C-1 to C-4 of NRCC-LTO-03-E.											
PER APPLICATION from Section C-1		PER UNIT LENGTH (SALES FRONTAGE) from Section C-2		PER HARDSCAPE AREA (ORNAMENTAL LIGHTING) from Section C-3		PER SPECIFIC AREA from Section C-4.					
0	+	0	+	0	+	0	=	2.	0		
3. **Sum Total ALLOWED** Outdoor Lighting Wattage (add rows 1 and 2)										3.	638

B. GENERAL HARDSCAPE LIGHTING POWER ALLOWANCE FROM TABLE 140.7-A

Area Wattage Allowance (AWA)				Linear Wattage Allowance (LWA)			Initial Wattage Allowance (IWA)	Total General Hardscape Lighting Allowance
01	02	03	04	05	06	07	08	09
Name of Area	Illuminated Hardscape Area	AWA Per Square Foot	AWA (B02 x B03)	Perimeter Length of General Hardscape	LPA per Linear Foot	LWA (B05 x B06)	IWA (Watts)	B04 + B07 + B08
Automotive Hardscape	1,512	0.040	60	164	0.350	57	520	638

SHEET NOTES:

A. PROVIDE CONDUIT AND WIRE FOR CIRCUITING AND SWITCHING SHOWN.

B. VERIFY EXACT LOCATION AND MOUNTING HEIGHT OF ALL DEVICES, SWITCHES, AND LIGHT FIXTURES WITH ARCHITECT.

C. RUN IN-GROUND CONDUIT 24" BELOW GRADE, MINIMUM.

D. CONNECT ALL 120/208V POWER EQUIPMENT, DEVICES AND LIGHTING FIXTURES TO PANEL LP-B2A, UON.

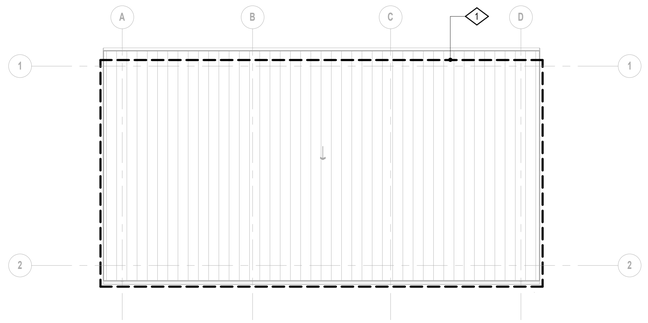
E. FIXTURES DENOTED WITH SHADING FOR EMERGENCY ARE ON EMERGENCY POWER AND CONTAIN AN INTEGRAL BATTERY BACK-UP.

F. ALL DIMMERS ARE TO HAVE A MASTER RAISE/LOWER.

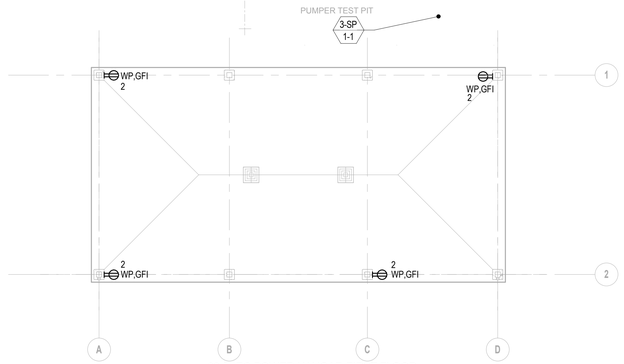
G. FOR ALL DATA CABLING, PATHWAY INFRASTRUCTURE AND DEVICES REFER TO T SERIES DRAWINGS.

NUMBERED NOTES:

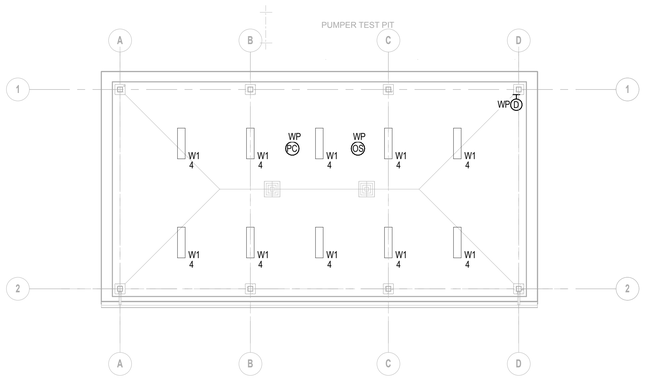
1. REFER TO BUILDING 3 PHOTOVOLTAIC SYSTEM DRAWINGS FOR PHOTOVOLTAIC PANEL LAYOUT AND DETAILS IN INCREMENT 2



3 03-ELEC POWER HANGAR-ROOF LEVEL
1/8" = 1'-0"



1 03-ELEC POWER HANGAR-FIRST FLOOR
1/8" = 1'-0"



2 03-ELEC LIGHTING HANGAR-FIRST FLOOR
1/8" = 1'-0"

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY:	
KATHY GARCIA DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

**1401 W. WINTON AVE.
HAYWARD, CA 94545**

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER
AMANDA J. BROWN, CE
No. E17287
ELECTRICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

ELECTRICAL HANGAR BUILDING FLOOR PLAN

Drawn By: ELW Checked By: AJB

Scale:
1/8" = 1'-0"

Date:
October 4, 2019

Project No. B17.07369

3-E2.01
Drawing No.

If this drawing is not 30" x 42", it is a reduced print - scale accordingly. All rights reserved. Material may not be reproduced in any form without permission from RossDrulisCusenbery Architecture, Inc.

WIRING SCHEDULE - COPPER CONDUCTORS (0-600V)

CIRCUIT RATING	CONDUIT SIZE (INCHES)							CONDUCTOR SIZE	
	NONE	G	N	NG	NGI	NNG	NNGI	PHASE/ NEUTRAL	GND/* IG
15	0.5	0.5	0.5	0.5	0.5	0.5	0.5	12	12
20	0.5	0.5	0.5	0.5	0.5	0.5	0.5	12	12
30	0.5	0.5	0.5	0.5	0.75	0.75	0.75	10	10
40	0.75	0.75	0.75	1	1	1	1	8	10
50	1	1	1	1.25	1.25	1.25	1.25	6	10
60	1	1.25	1.25	1.25	1.5	1.5	1.5	4	10
70	1	1.25	1.25	1.25	1.5	1.5	1.5	4	8
80	1.25	1.25	1.25	1.5	2	2	2	2	8
90	1.25	1.25	1.25	1.5	2	2	2	2	8
100	1.25	1.5	1.5	2	2	2	2.5	1	8
110	1.25	1.5	1.5	2	2	2	2.5	1	6
125	1.25	1.5	1.5	2	2	2	2.5	1	6
150	1.5	2	2	2	2.5	2.5	2.5	1/0	6
175	1.5	2	2	2	2.5	2.5	2.5	2/0	6
200	2	2	2	2.5	2.5	2.5	3	3/0	6
225	2	2.5	2.5	2.5	3	3	3	4/0	4
250	2.5	2.5	2.5	3	3	3	3.5	250	4
300	2.5	3	3	3.5	3.5	3.5	4	350	4
350	3	3.5	3.5	4	4	4	5	500	2
400	2@2	2@2	2@2	2@2.5	2@2.5	2@2.5	2@3	3/0	2
450	2@2	2@2.5	2@2.5	2@2.5	2@3	2@3	2@3	4/0	2
500	2@2.5	2@2.5	2@2.5	2@3	2@3	2@3	2@3.5	250	1
600	2@2.5	2@3	2@3	2@3.5	2@3.5	2@3.5	2@4	350	1
700	2@3	2@3.5	2@3.5	2@4	2@4	2@4	2@5	500	1/0
800	3@2.5	3@3	3@3	3@3	3@3.5	3@3.5	3@3.5	300	1/0
1000	3@3	3@3	3@3	3@3.5	3@4	3@4	3@4	400	2/0
1200	4@2.5	4@3	4@3	4@3.5	4@3.5	4@3.5	4@4	350	3/0
1600	5@3	5@3	5@3	5@3.5	5@4	5@4	5@4	400	4/0
2000	6@3.5	6@3.5	6@3.5	6@4	6@4	6@4	6@5	500	250
2500	7@3.5	7@3.5	7@3.5	7@4	7@4	7@4	7@4	500	350
3000	8@3.5	8@3.5	8@3.5	8@4	8@4	8@4	8@4	500	400

SUBSCRIPT KEY

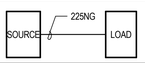
SUBSCRIPT	CONDUCTORS PER CONDUIT
NONE	3 PHASE CONDUCTORS, CONDUIT GROUND
G	3 PHASE CONDUCTORS, 1 GROUNDING CONDUCTOR
N	3 PHASE CONDUCTORS, 1 NEUTRAL CONDUCTOR, CONDUIT GROUND
NG	3 PHASE CONDUCTORS, 1 NEUTRAL CONDUCTOR, 1 GROUNDING CONDUCTOR
NGI	3 PHASE CONDUCTORS, 1 NEUTRAL CONDUCTOR, 1 GROUNDING CONDUCTOR, 1 ISOLATED GROUNDING CONDUCTOR
NNG	3 PHASE CONDUCTORS, 2 NEUTRAL CONDUCTORS*, 1 GROUNDING CONDUCTOR
NNGI	3 PHASE CONDUCTORS, 2 NEUTRAL CONDUCTORS*, 1 GROUNDING CONDUCTOR, 1 ISOLATED GROUNDING CONDUCTOR

* SINGLE NEUTRAL CONDUCTOR SIZES FOR CIRCUIT RATING 125 AND LESS

PARALLEL CONDUCTORS ARE NOT PERMITTED UNDER 1/0. WHERE DOUBLE NEUTRAL CONDUCTORS ARE INDICATED, PROVIDE AN OVERSIZED NEUTRAL CONDUCTOR IN ACCORDANCE WITH THE FOLLOWING TABLE:

CIRCUIT RATING	15	20	30	40	50	60
SINGLE NEUTRAL CONDUCOTR SIZE	10	8	4	2	1	1/0
CIRCUIT RATING	70	80	90	100	125	
SINGLE NEUTRAL CONDUCTOR SIZE	2/0	3/0	4/0	250	250	

EXAMPLES





NOTES

1. SCHEDULE IS BASED ON 3 CURRENT CARRYING CONDUCTORS IN RACEWAY, CABLE OR EARTH, AT AMBIENT AIR TEMPERATURE OF 30°C (86°F). CONDUIT SIZES BASED ON EMT.
2. MODIFY IF USE OF 600MCM CONDUCTORS ARE DESIRED CONFIRM LUG SIZES ARE AVAILABLE.

TRANSFORMER SCHEDULE

KVA	FEEDER AMPACITY			NEUTRAL GROUNDING ELECTRODE CONDUCTOR**
	PRIMARY 480V 3 PHASE-3 WIRE	SECONDARY 120/208V 3 PHASE-4 WIRE	SUPPLY SIDE BONDING JUMPER**	
3	15	15	#8	1/2"C-1#8
6	15	20	#8	1/2"C-1#8
9	15	30	#8	1/2"C-1#8
15	20	50	#8	1/2"C-1#8
30	50	100	#6	1/2"C-1#6
45	70	150	#6	1/2"C-1#6
75	110	250	#2	1/2"C-1#2
112 1/2	175	400	#1/0	3/4"C-1#3/0
150	225	500	#1/0	3/4"C-1#3/0
225	350	800	#2/0	3/4"C-1#3/0
300	450	1000	#2/0	3/4"C-1#3/0
500	800	1600	#4/0	3/4"C-1#3/0
750	1200	2500	#350	3/4"C-1#3/0

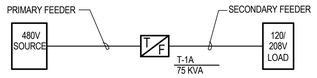
FEEDER KEY

TRANSFORMER IDENTIFICATION PREFIX	FEEDER CONFIGURATION	
	PRIMARY	SECONDARY
T	3 PHASE CONDUCTORS 1 GROUNDING CONDUCTOR (CIRCUIT SUBSCRIPT: G)	3 PHASE CONDUCTORS 1 NEUTRAL CONDUCTOR 1 GROUNDING CONDUCTOR (CIRCUIT SUBSCRIPT: NG***)
TK	3 PHASE CONDUCTORS 1 GROUNDING CONDUCTOR (CIRCUIT SUBSCRIPT: G)	3 PHASE CONDUCTORS 2 NEUTRAL CONDUCTORS 1 GROUNDING CONDUCTOR 1 ISOLATED GROUNDING CONDUCTOR (CIRCUIT SUBSCRIPT: NNGI***)

** = CONDUCTOR SIZES ARE BASED ON COPPER CONDUCTORS
*** = SUBSTITUTE GND/G CONDUCTOR FROM FEEDER SCHEDULE WITH SUPPLY SIDE BONDING JUMPER NOTED ABOVE

EXAMPLES





UNDERGROUND FEEDER CONDUIT SCHEDULE

TAG DESIGNATION	TO	FROM	QUANTITY	SIZE	SPARE	DESIGN FEEDER	ESTIMATED LENGTH	VOLT DROP (%)	BUILDING PACKAGE	REMARKS
F00	PG&E P/B	STREET	2	5"		PER PG&E	66'	N/A	1	
F01	PG&E TRANSF	PG&E P/B	2	5"		PER PG&E	208'	N/A	1	
F02	MS-B1A	PG&E TRANSF	7	5"		PER PG&E	40'	0.60	1	
F03	DPH-B1A	MS-B1A	1	2.5"		225NG	57'	0.12	1	
F04	FP-B1	MS-B1A	1	2.5"		70G	54'	0.29	1	LRA = 302.8A, VD_{dp}=1.7%
F05	ATS-E1B	MS-B1A	1	2"		100NG	31'	0.39	1	
F06	FP-B1	EDSH-B1A	1	2.5"		70G	138'	1.24	1	INCLUDE 1"C TO GENERATOR FOR GEN START LRA = 302.8A, VD_{dp}=6.4%
F07	ATS-E1A	MS-B1A	1	2"		150NG	33'	0.52	1	
F08	ATS-E1C	MS-B1A	2	3"		500NG	34'	0.47	1	
F09	HBI-B1	MS-B1A	1	4"	2"	300G	60'	0.35	1	
F10	CH-1	EDPH-B1A	1	2.5"		ECS	67'	0.26	1	
F11	ELEV-1	EDPH-B1A	1	1"		ECS	101'	0.18	1	
F12	FUEL	ELP-B1A	1	2"		100NG	102'	0.56	1	
F13	DPH-PV	HBI-B1	1	4"	2"	300G	77'	0.44	1	
F14	PULLBOX	MS-B1A			(2) 4"	37'	37'	N/A	1	SPARE FOR FUTURE USE
F15										NOT USED
F16										NOT USED
F17										NOT USED
F18										NOT USED
F19										NOT USED
F20	LPH-B2A	MS-B1A	2	2.5"	(2) 2.5"	400G	358'	0.86	1 / 2	
F30										NOT USED
F40	LP-B4A	DPL-B2A	1	3"	(1) 2"	250NG	150'	1.85	4	FEEDER OVERSIZED FOR VOLTAGE DROP
F50										NOT USED
F60	LP-B6A	DPL-B9A	1	2.5"		200NG	413'	1.54	6	
F70	LP-B7A	DPL-B9A	2	2.5"	(1) 2.5"	400NG	318'	0.77	7	
F80	LP-B8A	DPL-B9A	2	2.5"	(1) 2.5"	400NG	362'	1.06	8	
F81	LP-B8B	DPL-B9A	2	2.5"	(1) 2.5"	400NG	449'	0.84	8	
F90	LPH-B9A	MS-B1A	2	3.5"	(2) 2.5"	600G	515'	0.66	1 / 9	
F91	T-B9A	LPH-B9A	2	2.5"		450G	22'	0.04	9	
F92	DPL-B9A	T-B9A	3	3.5"		1000NG	10'	0.04	9	
F93	LP-B9A	DPL-B9A	1	2.5"		225NG	17'	0.02	9	
F94	LP-B9B	DPL-B9A	1	2.5"	(1) 2.5"	175NG	19'	0.07	9	
FE1	EDSH-B1A	GEN-B1	2	4"		700NG	20'	0.05	1	
FE2	ATS-E1A	EDSH-B1A	1	2"		150NG	100'	0.61	1	INCLUDE 1"C TO GENERATOR FOR GEN START
FE3	ATS-E1C	EDSH-B1A	2	3"		500NG	102'	0.18	1	INCLUDE 1"C TO GENERATOR FOR GEN START
FE4	ELPH-B1A	ATS-E1A	1	2"		150NG	40'	0.24	1	
FE5	EDPH-B1A	ATS-E1C	2	4"		600NG	29'	0.04	1	
FE6	UPS-B1A	ELPH-B1A	1	1.5"		70NG	70'	0.14	1	
FE7	ELP-B1A	ET-B1A	2	2.5"		400NG	69'	1.15	1	
FE8	ULP-B1A	UPS-B1A	1	1.5"		50NNGI	97'	0.25	1	
FE9	ATS-E1B	EDSH-B1A	1	2"		100NG	90'	0.04	1	INCLUDE 1"C TO GENERATOR FOR GEN START
FE10	ELPH-B1B	ATS-E1B	1	2"		100NG	56'	0.02	1	
FE11	PULLBOX	EDSH-B1A			(1) 4"			N/A	1	SPARE FOR FUTURE USE
FE12	ELPH-B2A	ELPH-B1B	1	2"		100NG	350'	0.08	2	

SHEET NOTES

A. CONFIRM AND COORDINATE ALL PG&E UTILITY ROUTING WITH PG&E PER PG&E STANDARDS AND REQUIREMENTS.

B. REFER TO "0" SERIES OF DRAWINGS FOR SITE UTILITY AND INFRASTRUCTURE INFORMATION.

C. ALL OUTDOOR EQUIPMENT SHALL BE RATED NEMA 4X, UON.

D. ALL OVERCURRENT PROTECTIVE DEVICES ASSOCIATED WITH COPS SHALL BE SELECTIVELY COORDINATED.

E. RUN IN-GROUND CONDUIT 24" BELOW GRADE, MINIMUM .

F. WIRING FROM AN EMERGENCY SOURCE OR EMERGENCY SOURCE DISTRIBUTION OVERCURRENT PROTECTION TO EMERGENCY LOADS SHALL BE KEPT ENTIRELY INDEPENDENT OF ALL OTHER WIRING AND EQUIPMENT PER CEC ARTICLE 700.10.

G. ARC ENERGY REDUCTION PER CEC ARTICLE 240.87 WITH RESPECT TO DOCUMENTATION & METHOD TO REDUCE CLEARING TIES IS APPLICABLE.

NUMBERED NOTES

1. EQUIPMENT TO SERVE ELECTRIC VEHICLE CHARGERS. PROVIDE PROGRAMMABLE ELECTRONIC CIRCUIT BREAKER LEVEL SUB-METERS FOR OWNER THIRD PARTY MEASUREMENT/METERING IN THIS PANEL. CONNECT WITH 3/4"C TO NEAREST TELECOM ROOM.
2. PROVIDE 2-HR FIRE RATED ASSEMBLY FOR FEEDERS.
3. PROVIDE 2-SOCKET PG&E UTILITY METER, WITH NET METER CAPABILITY PER PG&E REQUIREMENTS.
4. REFER TO HYBRID POWER SYSTEM DRAWINGS FOR MORE INFORMATION.
5. REFER TO PHOTOVOLTAIC SYSTEM DRAWINGS FOR MORE INFORMATION.
6. PROVIDE SURGE PROTECTION DEVICE PER NEC ARTICLE 708.
7. FLOOR MOUNTED UPS WITH INTEGRAL TRANSFORMER. APC OR APPROVED EQUAL.
   INPUT VOLTAGE: 480V, 3Ø, 3W
   OUTPUT VOLTAGE: 120/208V, 3Ø, 4W
   BATTERY RUN TIME (MINIMUM): 20 MINUTES
8. PROTECT FEEDER SERVING DESIGNATED CRITICAL OPERATIONS AREA (DCOA) EQUIPMENT AS REQUIRED BY NEC ARTICLE 708.
9. PROVIDE GROUND FAULT PROTECTION FOR ALL NEXT LEVEL FEEDER DISCONNECTING MEANS IN COMPLIANCE WITH NEC ARTICLE 708.
10. GROUND FAULT INDICATION ONLY.
11. FEEDER OVERSIZED FOR VOLTAGE DROP.
12. SERVICE ENTRANCE SECTION FOR FIRE PUMP CONNECTION.
13. PROVIDE SURGE PROTECTION DEVICE PER NEC 700.
14. PROVIDE WEATHERPROOF SOUND ATTENUATING ENCLOSURE.
15. EQUIP SWITCHBOARD WITH CAM LOCK TYPE CONNECTORS FOR CONNECTION TO PORTABLE GENERATOR. 700A, 277/480V, 3Ø, 4W.
16. PROVIDE SEPARATE SECTIONS FOR BREAKERS SERVING DIFFERENT BRANCHES OF EMERGENCY POWER PER NEC.
17. PROVIDE THE FOLLOWING PROTECTIVE RELAYS:
    UNDER VOLTAGE
    PHASE ROTATION
18. PROVIDE FULLY RATED LSI BREAKER.
19. PROVIDE THE FOLLOWING RELAYS:
    SYNC CHECK
    UNDER VOLTAGE
    OVER VOLTAGE
    LOSS-OF-PHASE
20. PANEL PROVIDED UNDER BUILDING 2 SCOPE OF WORK.

RossDrulisCusenbery
ARCHITECTURE
18294 Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
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wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	INC 01_ADD_01_V1	12/06/2019

REGISTERED PROFESSIONAL ENGINEER
AMANDA J. BROWNLEE
No. E17287
ELECTRICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

ELECTRICAL RISER DIAGRAM

Drawn By: ELW
Checked By: AJB

Scale: NTS

Date: October 4, 2019

Project No. B17.07369

3-E5.01
Drawing No.

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TECHNOLOGY LEGEND, ABBREVIATIONS AND DRAWING LIST

ABBREVIATIONS

AC	ABOVE COUNTER
ADA	AMERICANS WITH DISABILITIES ACT
AFC	ABOVE FINISHED CEILING
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
ALT	ALTERNATE
AMP, A	AMPERE
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
ATR	ALL THREADED ROD
AV	AUDIOVISUAL
AWG	AMERICAN WIRE GAUGE
BDA	BI-DIRECTIONAL ANTENNA
BFC	BELOW FINISHED CEILING
BFG	BELOW FINISHED GRADE
BICSI	BUILDING INDUSTRY CONSULTING SERVICES INTERNATIONAL
BMS	BUILDING MANAGEMENT SYSTEM
C	CONDUIT
CAT	CATEGORY
CATV	COMMUNITY ANTENNA TV (CABLE TV)
CLEC	COMPETITIVE LOCAL EXCHANGE CARRIER
CL	CLOSET
CLG	CEILING
CMP	COMMUNICATIONS PLENUM CABLE
CMR	COMMUNICATIONS RISER CABLE
CO	CENTRAL OFFICE
COAX	COAXIAL
CT	CABLE TRAY
DAS	DISTRIBUTED ANTENNA SYSTEM
DB	DECIBEL
DEMARC	DEMARCATION
DIA	DIAMETER
DWG	DRAWING
(E)	EXISTING TO REMAIN
E.G.	FOR EXAMPLE
EIA	ELECTRONICS INDUSTRY ALLIANCE
ELEC	ELECTRIC OR ELECTRICAL
ELEV	ELEVATOR
EMI	ELECTROMAGNETIC INTERFERENCE
EMT	ELECTRICAL METALLIC TUBING
EP	EXPLOSION PROOF
ERRCS	EMERGENCY RESPONDER RADIO COVERAGE SYSTEM
FACP	FIRE ALARM CONTROL PANEL
FBO	FURNISHED BY OTHERS
FCC	FEDERAL COMMUNICATIONS COMMISSION
FO	FIBER OPTIC
FR	FIRE RATED
FT	FOOT/FEET
GB	GIGABYTE
GBPS	GIGABITS PER SECOND
GC	GENERAL CONTRACTOR
GE	GROUNDING EQUALIZER
GMP	GUARANTEED MAXIMUM PRICE
GND	GROUND
GUI	GRAPHICAL USER INTERFACE
HC	HORIZONTAL CROSS-CONNECT
HVAC	HEATING, VENTILATING, AND AIR-CONDITIONING
ID	INSIDE DIAMETER
IDF	INTERMEDIATE DISTRIBUTION FRAME
IEC	INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEEE	INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC.
IG	ISOLATED GROUND
IMC	INTERMEDIATE METAL CONDUIT - SEE NEC ARTICLE 342
INT	INTERCOM
IP	INTERNET PROTOCOL
ISO	INTERNATIONAL ORGANIZATION OF STANDARDS
J-BOX, JB	JUNCTION BOX
KCMIL	THOUSANDS OF CIRCULAR MILLS
KM	KILOMETER
KVA	KILOVOLT AMPERES
KW	KILOWATT
LAN	LOCAL AREA NETWORK
LEC	LOCAL EXCHANGE CARRIER (OR SP)
LED	LIGHT-EMITTING DIODE
M	METER
MAG	MAGNETIC
MAN	METROPOLITAN AREA NETWORK
MAX	MAXIMUM
MB	MEGABYTE
MBPS	MEGABITS PER SECOND
MC	MAIN CROSS-CONNECT
MDF	MAIN DISTRIBUTION FRAME
MECH	MECHANICAL
MFR	MANUFACTURER
MH	MANHOLE
MI	MILE
MIN	MINIMUM
MM	MILLIMETER
MMFO	MULTIMODE FIBER OPTIC
MPOE	MAIN POINT OF ENTRY
NEC	NATIONAL ELECTRIC CODE - NFPA 70
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NIC	NETWORK INTERFACE CARD
NID	NETWORK INTERFACE DEVICE
NM	NANOMETER
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER

ABBREVIATIONS

OEM	ORIGINAL EQUIPMENT MANUFACTURER
OS	OPERATING SYSTEM
OSP	OUTSIDE PLANT
PA	PUBLIC ADDRESS
PABX	PRIVATE AUTOMATIC BRANCH EXCHANGE
PBX	PRIVATE BRANCH EXCHANGE
PB	PULL-BOX (SIZED PER BICSI TDMM)
PC	PERSONAL COMPUTER
PCN	PERSONAL COMMUNICATIONS NETWORK
PCS	PERSONAL COMMUNICATIONS SYSTEMS
PIR	PASSIVE INFRARED
POTS	PLAIN OLD TELEPHONE SERVICE
PR	PAIRS (NUMBER OF PAIRS IN COPPER CABLE)
PROX	PROXIMITY
PVC	POLYVINYL CHLORIDE
PWR	POWER
RCDD	REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER
RFI	RADIO FREQUENCY INTERFACE
RM	ROOM
RMC	RIGID METALLIC CONDUIT
RU	RACK UNIT; UNIT OF PATCH PANEL HEIGHT EQUAL TO 1.75 INCH
SCTP	SCREENED TWISTED PAIR
SMFO	SINGLEMODE FIBER OPTIC
SPOE	SECONDARY POINT OF ENTRY
SP	SERVICE PROVIDER
STD	STANDARD
STP	SHIELDED TWISTED PAIR
SW	SWITCH
TBB	TELECOMMUNICATIONS BONDING BACKBONE
TBD	TO BE DETERMINED
TCP/IP	TRANSMISSION CONTROL PROTOCOL W/ INTERNET PROTOCOL
TDMM	TELECOMMUNICATIONS DISTRIBUTION METHODS MANUAL
TEL	TELEPHONE
TELCO	TELEPHONE COMPANY (SP)
TELECOM	TELECOMMUNICATIONS
TEMP	TEMPERATURE
TGB	TELECOMMUNICATIONS GROUND BUS BAR
TIA	TELECOMMUNICATIONS INDUSTRY ASSOCIATION
TMGB	TELECOMMUNICATIONS MAIN GROUND BUS BAR
TR	TELECOMMUNICATIONS ROOM
TV	TELEVISION
TYP	TYPICAL
UC	UNDER COUNTER
UG	UNDERGROUND
UL	UNDERWRITER LABORATORIES
UON	UNLESS OTHERWISE NOTED
UPS	UNINTERRUPTIBLE POWER SUPPLY
UTP	UNSHIELDED TWISTED PAIR
V	VOLT
W	WATT
WAN	WIDE AREA NETWORK
WLAN	WIRELESS LOCAL AREA NETWORK
WP	WEATHERPROOF
(X)	EXISTING - TO BE DEMOLISHED

GENERAL SYMBOLS LEGEND

SYMBOL	DESCRIPTION
TC	TELECOMMUNICATIONS CONDUIT CONCEALED
TC	TELECOMMUNICATIONS CONDUIT SURFACE MOUNTED
TC	CONDUITS BELOW GRADE/SLAB OR EMBEDDED IN SLAB
J	J-HOOK PATHWAY
I	INNERDUCT PATHWAY
CAT	COPPER CATEGORY CABLE
FO	FIBER OPTIC CABLE
	CONDUIT UP
	CONDUIT DOWN
	CONDUIT CAPPED
	CONDUIT STUBBED OUT WITH BUSHING
	CONDUIT CROSS-SECTION
	TELECOMMUNICATIONS CABLE TRAY
	VERTICAL WALL MOUNTED CABLE LADDER
	TELECOMMUNICATIONS RACEWAY
	PULL-BOX
TGB	TELECOMMUNICATIONS GROUNDING BUSBAR
TMGB	TELECOMMUNICATIONS MAIN GROUNDING BUSBAR
	TELECOMMUNICATIONS GROUNDING BUSBAR (PLAN VIEW)
	CABLE SERVICE LOOP # DENOTES LENGTH
	COPPER CABLE SPLICE
	FIBER OPTIC CABLE SPLICE
	COPPER CABLE TERMINATION
	FIBER OPTIC CABLE TERMINATION
X Y	DETAIL REFERENCE "X" DENOTES DETAIL NUMBER "Y" DENOTES DRAWING NUMBER
X Y	SECTION REFERENCE "X" DENOTES DETAIL NUMBER "Y" DENOTES DRAWING NUMBER
#	NUMBERED NOTE IDENTIFIER

TELECOMMUNICATIONS DEVICE LEGEND

SYMBOL	DESCRIPTION
	WALL MOUNTED DATA DEVICE WITH (2) CAT.6 U.O.N
TV	TELEVISION LOCATION, (1) SERIES-6 COAX & (2) CAT.6
	RECESSED MOUNTED MULTIMEDIA PANEL (MMP)
W	WALLPHONE OUTLET, (1) CAT.6 CABLE
# E	TELECOMMUNICATIONS OUTLET/ CONNECTIVITY TO ELEVATOR CONTROL PANEL, U.O.N # DENOTES QUANTITY OF CAT.6 CABLES
AP	WALL-MOUNTED WI-FI ACCESS POINT LOCATION , (2) CAT.6 CABLES
#	WALL-MOUNTED TELECOMMUNICATIONS OUTLET, # DENOTES NUMBER OF CAT.6 CABLES
#	RECESSED FLOOR BOX TELECOMMUNICATIONS OUTLET, # DENOTES NUMBER OF CAT.6 CABLES
#	CEILING-MOUNTED TELECOMMUNICATIONS OUTLET MOUNTED WITHIN CEILING SPACE , U.O.N. # DENOTES NUMBER OF CAT.6 CABLES
AP	CEILING-MOUNTED DATA OUTLET AT WI-FI ACCESS POINT LOCATION, (2) CAT.6 CABLES
#	FLOOR POKE-TRU TELECOM DATA OUTLET, # DENOTES NUMBER OF CAT.6 CABLES
P	CEILING-MOUNTED TELECOMMUNICATIONS CONSOLIDATION POINT PATCH PANEL
P	CABINET-MOUNTED TELECOMMUNICATIONS CONSOLIDATION POINT PATCH PANEL
P	WALL-MOUNTED TELECOMMUNICATIONS CONSOLIDATION POINT PATCH PANEL
P	FLOOR-MOUNTED TELECOMMUNICATIONS CONSOLIDATION POINT PATCH PANEL TO BE PLACED WITHIN RAISED ACCESS FLOOR U.O.N.
# T	TELECOMMUNICATIONS EQUIPMENT CONNECTION
	RECESSED WALL-MOUNTED SYSTEMS FURNITURE FEEDPOINT
	RECESSED FLOOR BOX SYSTEMS FURNITURE FEEDPOINT
	CEILING-MOUNTED SYSTEMS FURNITURE FEEDPOINT
	POKE-THRU SYSTEMS FURNITURE FEEDPOINT
MH #	UNDERGROUND MANHOLE, (#) DENOTES IDENTIFIER
HH #	UNDERGROUND HANDHOLE, (#) DENOTES IDENTIFIER
P #	PEDESTAL, (#) DENOTES IDENTIFIER
U #	UNDERGROUND PULL BOX, (#) DENOTES IDENTIFIER

ELECTRONIC SECURITY DEVICE LEGEND

SYMBOL	DESCRIPTION
	FIXED SECURITY CAMERA
	PTZ SECURITY CAMERA
ACX	ACCESS CONTROL PANEL
GP	GUEST ENTRY PHONE
CR	CARD READER
DC	DOOR CONTACT
EL	ELECTRIFIED LOCK
IC	INTERCOM
ICM	INTERCOM MASTER
KP	KEY PAD
MON	LCD DISPLAY MONITOR
MS	MOTION SENSOR, ARROW INDICATES DIRECTION OF SENSOR
NVR	NETWORK VIDEO RECORDER
PB	PANIC BUTTON
PLC	PROGRAMMABLE LOGIC CONTROLLER
REX	REQUEST TO EXIT
RF	RADIO FREQUENCY VEHICLE GATE CONTROLLER
SS	SECURITY SERVER
WR	WIRELESS DURESS REPEATER SECURITY
WS	WORKSTATION

AUDIOVISUAL SYSTEM DEVICE LEGEND

SYMBOL	DESCRIPTION - SEE LINE DIAGRAMS FOR COORDINATION REQUIREMENTS
AVTC AV	AUDIOVISUAL TERMINATION CABINET: PROVIDE 12" x 12" x 4" NEMA 1 ENCLOSURE WITH CONDUITS AS INDICATED ON PLANS AND (1) 3/4" CONDUIT STUBBED TO FIRE ALARM PANEL
CP AV	WALL-MOUNT TOUCH PANEL BACKBOX: PROVIDE 3-GANG DEEP JUNCTION BOX AT PROJECT STANDARD SWITCH HEIGHT.
WP AV	AUDIOVISUAL SYSTEM INPUT WALL PLATE: PROVIDE 2-GANG JUNCTION BOX AT 18" AFF U.O.N.
LCD AV	LCD FLAT PANEL BACKBOX
IO AV	SHARED SERVICE AUDIOVISUAL FLOOR BOX.
PT AV	AUDIOVISUAL SYSTEM PASS THROUGH
S	6" CEILING LOUDSPEAKER: PROVIDE 6" CEILING LOUDSPEAKER WITH LOUDSPEAKER CABLE VIA J-HOOK/CONDUIT PATHWAY TO ROOM EQUIPMENT HEADEND AS SHOWN. PROVIDE ACOUSTICAL LOUDSPEAKER ENCLOSURE. COORDINATE FINAL LOCATION WITH ARCHITECT.
	THIS SYMBOL DENOTES A TELECOMMUNICATIONS OUTLET WITH (1) COPPER TWISTED PAIR CABLE.

TELECOMMUNICATIONS OUTLET CABLING LEGEND

DENOTES QUANTITY OF UTP COPPER CATEGORY 6 CABLES
DENOTES QUANTITY OF COAXIAL CABLES
DENOTES QUANTITY OF FIBER OPTIC CABLES
X. X. X
WALL MOUNTED

DENOTES QUANTITY OF UTP COPPER CATEGORY 6 CABLES
DENOTES QUANTITY OF COAXIAL CABLES
DENOTES QUANTITY OF FIBER OPTIC CABLES
X. X. X
FLOOR MOUNTED

DENOTES QUANTITY OF UTP COPPER CATEGORY 6 CABLES
DENOTES QUANTITY OF COAXIAL CABLES
DENOTES QUANTITY OF FIBER OPTIC CABLES
X. X. X
CEILING MOUNTED

TECHNOLOGY GENERAL NOTES

1. THE LOCATIONS AND ELEVATIONS OF TECHNOLOGY DEVICES SHOWN ON THESE DRAWINGS ARE SCHEMATIC UNLESS ACTUAL DIMENSIONS ARE SHOWN ON THE DRAWINGS. REFER TO THE ARCHITECTURAL PLANS AND OBTAIN THE APPROVAL OF THE ARCHITECT FOR THE ACTUAL LOCATIONS AND ELEVATIONS OF ALL DEVICES.
2. CONTRACTOR SHALL ENSURE THAT ALL MOUNTING HEIGHTS COMPLY WITH CURRENT ADA REQUIREMENTS.
3. ABOVE CONTER DEVICES SHALL BE MOUNTED 8" ABOVE COUNTER OR A MAXIMUM OF 44" AFF (TO TOP OF DEVICE).
4. PROVIDE SUPPORTS AND ANCHORING FOR PIPING, CONDUIT, DUCTS, EQUIPMENT, AND OTHER NON-STRUCTURAL ELEMENTS. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
5. PROVIDE SOUND PUTTY PADS IN ALL BACK BOXES.
6. FIRESTOPPING: ALL PENETRATIONS THROUGH RATED WALLS AND FLOORS AND CONDUIT/SLEEVE OPENINGS SHALL BE SEALED WITH MATERIAL CAPABLE OF PREVENTING THE PASSAGE OF FLAMES, HOT GASSES AND SMOKE WHEN SUBJECTED TO THE REQUIREMENTS OF THE TEST STANDARD SPECIFIC FOR ALL APPLICABLE CODES.
7. ALL COMMUNICATIONS CONDUIT, CABLE TRAYS, LADDER RACKS AND EQUIPMENT RACKS SHALL BE BONDED TO BUILDING GROUND SYSTEM PER NEC 250 AND ANSI/TIA-607-B.
8. LABEL ALL CLOSETS, RACKS, FRAMES, CABINETS, TERMINATION BLOCKS, CABLES, TERMINATIONS, RACEWAYS, ETC. IN ACCORDANCE WITH ANSI/TIA-606-B.
9. ALL COMMUNICATIONS RACEWAYS AND PATHWAYS SHALL BE INSTALLED TO MINIMIZE UNNECESSARY CABLE LENGTHS AND MAINTAIN INDUSTRY STANDARD LENGTH LIMITATIONS FOR HORIZONTAL CABLE DISTRIBUTION (E.G. CAT.6). BASIC LINK CABLE LENGTH SHALL NOT EXCEED 295-FT (90M) FOR UTP CABLE, 200-FT (60M) FOR SERIES-6 COAXIAL CABLE.
10. ALL COMMUNICATIONS CABLE SHALL BE PLENUM RATED (CMP), RISER RATED (CMR) AND UNDERGROUND RATED (WATERBLOCK) ACCORDING TO USE AND ENVIRONMENTAL CONDITIONS.
11. PROVIDE PROTECTIVE BUSHINGS ON ALL COMMUNICATIONS CONDUITS AND WHERE CABLING ROUTES THROUGH METAL STUDS.
12. ALL NON-ARMORED FIBER OPTIC CABLE SHALL BE INSTALLED IN APPROVED INNERDUCT.
13. ALWAYS INSTALL LOW-VOLTAGE CABLES IN CONDUITS, CABLE TRAYS, WIREWAYS OR OTHER APPROVED CABLE MANAGEMENT DEVICES OR SYSTEMS. NEVER INSTALL CABLES IN SUCH A MANNER THAT THEY ARE SUPPORTED BY CEILING SYSTEMS (CEILING TILE OR GRID, GYPSUM BOARD, LATH & PLASTER), HVAC DUCTS OR PIPES, LIGHTING FIXTURES, ELECTRICAL CONDUITS OR CABLES, PLUMBING/FIRE PROTECTION PIPES, OR ANY OTHER DEVICES NOT INTENDED FOR THE SUPPORT OF LOW-VOLTAGE CABLING.
14. PROVIDE WEATHERPROOF, IN-USE COVER FOR EXTERIOR DATA DEVICES.
15. ALL CABLE TRAY MOUNTING HEIGHTS INDICATED ON FLOOR PLANS ARE TO THE BOTTOM OF CABLE TRAY SUPPORTS.
16. SEISMIC BRACING FOR ALL CABLE TRAYS SHALL BE PROVIDED AS REQUIRED BY CODE. LOCAL GOVERNING JURISDICTION AND CABLE TRAY MANUFACTURER SPECIFICATIONS.
17. ALL CABLE TRAY ROUTING THROUGH ELECTRICAL ROOMS SHALL BE FULLY ENCLOSED. REFER TO CABLE TRAY DETAILS AND SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
18. REUSABLE VELCRO TIES SHALL BE USED TO BUNDLE OR MANAGE CABLES. PLASTIC ZIP TIES ARE NOT APPROVED FOR USE.
19. SIZE AND ORIENTATION OF ALL TELECOM PULL-BOXES SHALL MEET OR EXCEED THE PER BICSI TDMM REQUIREMENTS.
20. PROVIDE PROTECTIVE BUSHINGS WHERE CABLING ROUTES THROUGH METAL STUDS.
21. ALL LOW-VOLTAGE CONDUIT LARGER THAN 2" SHALL HAVE A MINIMUM BEND RADIUS OF 10:1 OF THE INSIDE DIAMETER FOR ALL ELBOWS. ALL LOW-VOLTAGE CONDUIT 2" AND SMALLER SHALL HAVE A MINIMUM BEND RADIUS OF 6:1 OF THE INSIDE DIAMETER FOR ALL ELBOWS.
22. ALL CONDUITS SHALL BE INSTALLED WITH PULL-STRINGS.

TECHNOLOGY BUILDING 3 DRAWING LIST

SHEET NUMBER	SHEET NAME	50% DD - 07/05/2017	100% DD - 08/25/2017
3-T0.01	TECHNOLOGY LEGEND, ABBREVIATIONS AND DRAWING LIST	X	X
3-T2.01	TECHNOLOGY HANGER BUILDING FLOOR PLAN	X	X
3-T7.01	TECHNOLOGY DETAILS		
3-T7.02	TECHNOLOGY DETAILS		
3-T7.03	TECHNOLOGY DETAILS		
3-T7.04	SECURITY DETAILS		

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY:	
KATHY GARCIA DEP. DIR. PUBLIC WORKS	ALEX AMERI INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

**1401 W. WINTON AVE.
HAYWARD, CA 94545**

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER
AMANDA J. BROWNLEE
No. E17387
ELECTRICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

TECHNOLOGY LEGEND, ABBREVIATIONS AND DRAWING LIST

Drawn By: Author
Checked By: Checker

Scale:
NTS

Date:
October 4, 2019

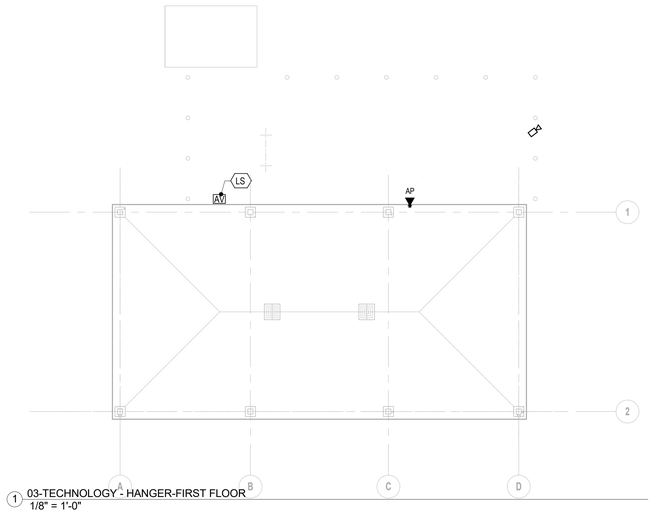
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3-T0.01
Drawing No.

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SHEET NOTES:

A. FOR SEISMIC MOUNTING DETAILS OF AV EQUIMENT SEE 3-T7.03



1 03-TECHNOLOGY - HANGER-FIRST FLOOR
1/8" = 1'-0"

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
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DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY:	
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HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	INC 01_ADD_01_V1	12/06/2019

REGISTERED PROFESSIONAL ENGINEER
AMANDA J. BROWNLEE
No. E17287
ELECTRICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

TECHNOLOGY HANGER BUILDING FLOOR PLAN

Drawn By: Author
Checked By: Checker

Scale:
1/8" = 1'-0"

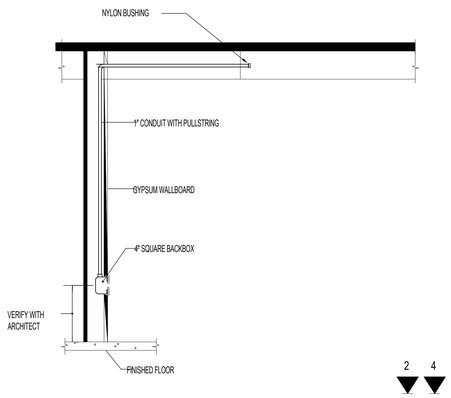
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Project No. B17.07369

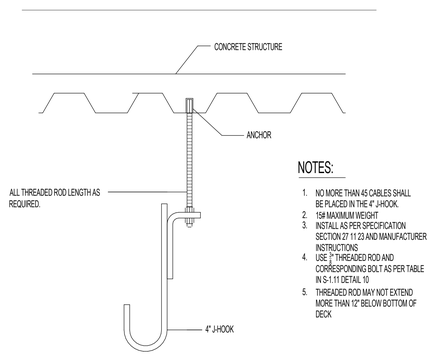
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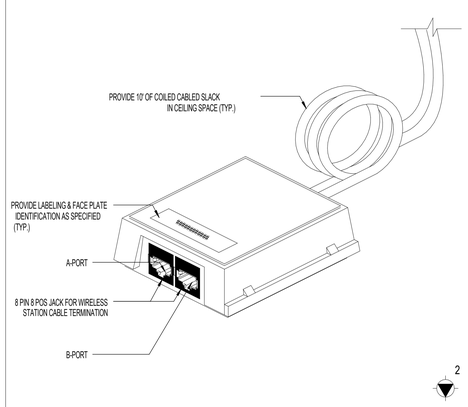
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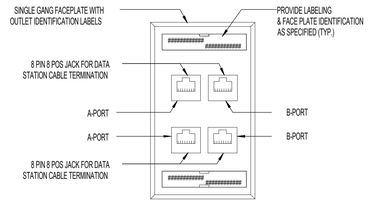
9 WALL MOUNTED SYSTEMS OUTLET — NO SCALE



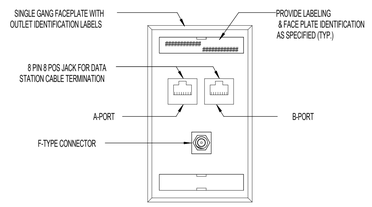
7 J-HOOK MOUNTED CEILING DETAIL — NO SCALE



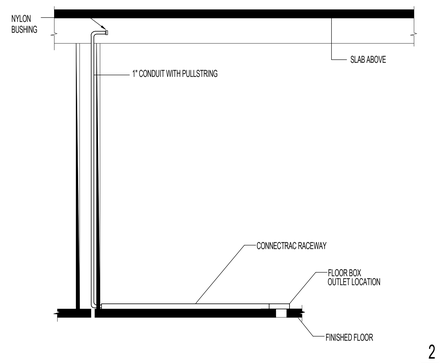
4 2-PORT CEILING OUTLET
(2) DATA — NO SCALE



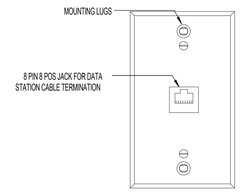
1 WALL MOUNTED OUTLET
(4) DATA — NO SCALE



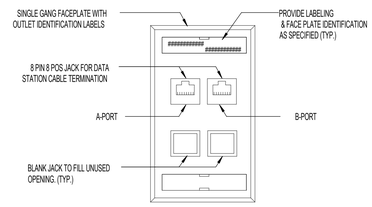
10 WALL MOUNTED OUTLET
(2) DATA (1) CO-AXIAL — NO SCALE



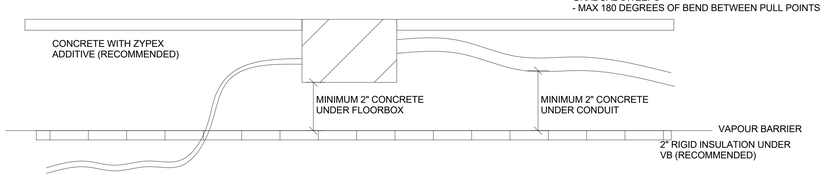
8 TELECOMMUNICATIONS SYSTEM OUTLET
CONNECTRAC — NO SCALE



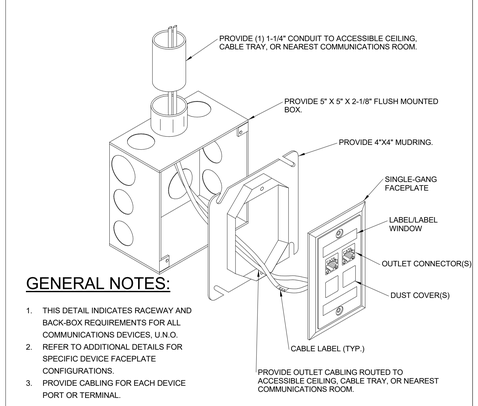
5 UTILITY ROOM WALLPHONE
(1) VOICE — NO SCALE



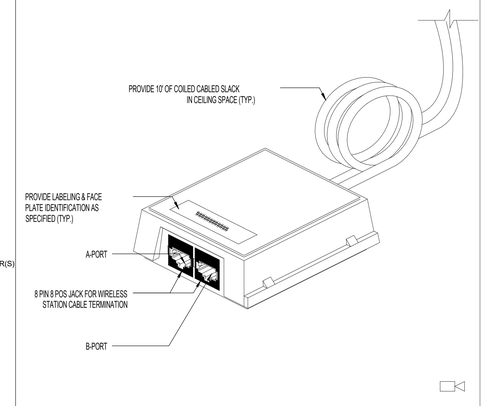
2 WALL MOUNTED OUTLET
(2) DATA — NO SCALE



11 FLOORBOX DETAIL — NO SCALE



6 TYPICAL COMMUNICATIONS OUTLET ROUGH-IN DETAIL — NO SCALE



3 2-PORT SURFACE MOUNTED CAMERA OUTLET
(2) DATA — NO SCALE

DETAILS ON THIS SHEET ARE GENERIC. PLEASE REFER TO OPM DETAILS FOR HANGAR AND ANCHOR INFORMATION FOR ALL SUPPORTS AND CONNECTION INFORMATION NOT INDICATED

RossDrulisCusenbery
ARCHITECTURE
18294 Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION	
DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	INC 01_ADD_01_V1	12/06/2019

REGISTERED PROFESSIONAL ENGINEER — JAMES W. BROWNEE — No. M30295 — MECHANICAL — STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

TECHNOLOGY DETAILS

Drawn By: Author
Checked By: Checker

Scale: **NTS**

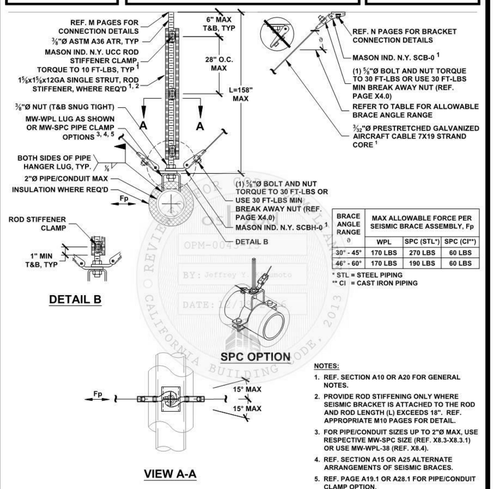
Date: **October 4, 2019**

Project No. B17.07369

3-T7.01
Drawing No.

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HANGER ROD DIAMETER = 3/8"	PIPING/CONDUIT TRANSVERSE SEISMIC CABLE BRACING SYSTEM 2"Ø PIPE/CONDUIT MAX	KIT OPTIONS C0T



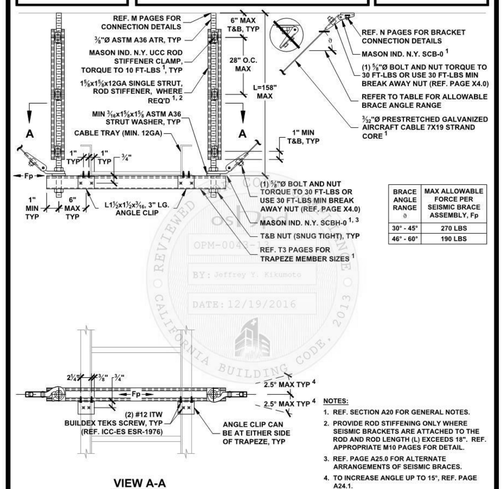
BRACE ANGLE RANGE θ	MAX ALLOWABLE FORCE PER SEISMIC BRACE ASSEMBLY, Fp		
	WPL	SPC (STL*)	SPC (CI**)
30° - 45°	170 LBS	270 LBS	60 LBS
46° - 60°	170 LBS	190 LBS	60 LBS

* STL = STEEL PIPING
** CI = CAST IRON PIPING

NOTES:
1. REF. SECTION A10 OR A20 FOR GENERAL NOTES.
2. PROVIDE ROD STIFFENING ONLY WHERE SEISMIC BRACKET IS ATTACHED TO THE ROD AND ROD LENGTH (L) EXCEEDS 18". REF. APPROPRIATE M10 PAGES FOR DETAIL.
3. FOR PIPE/CONDUIT SIZES UP TO 2"Ø MAX, USE RESPECTIVE MW-SPC SIZE (REF. X8.3-X8.3.1) OR USE MW-WPL-38 (REF. X8.4).
4. REF. SECTION A15 OR A25 ALTERNATE ARRANGEMENTS OF SEISMIC BRACES.
5. REF. PAGE A19.1 OR A28.1 FOR PIPE/CONDUIT CLAMP OPTION.

MASON WEST, INC.		PAGE
1601 E. Miraloma Ave. Placentia, CA 92870 TEL (714) 630 - 0701, www.masonwest.com	Jiefu "Jeff" Zhang, SE California SE No. S5270	C2.10

HANGER ROD DIAMETER = 3/8"	CABLE TRAY TRANSVERSE TRAPEZE SEISMIC CABLE BRACING SYSTEM 20 PLF MAX	KIT OPTIONS TC0T

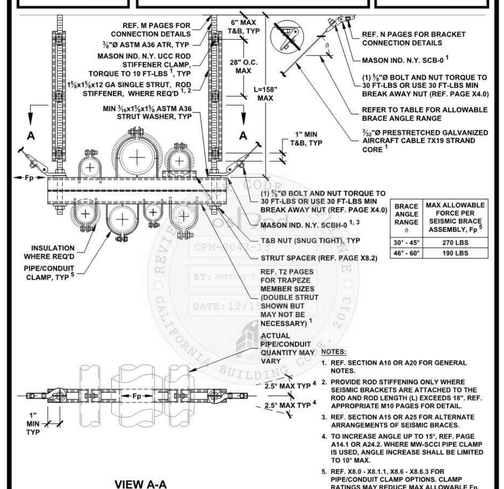


BRACE ANGLE RANGE θ	MAX ALLOWABLE FORCE PER SEISMIC BRACE ASSEMBLY, Fp
30° - 45°	270 LBS
46° - 60°	190 LBS

NOTES:
1. REF. SECTION A20 FOR GENERAL NOTES.
2. PROVIDE ROD STIFFENING ONLY WHERE SEISMIC BRACKETS ARE ATTACHED TO THE ROD AND ROD LENGTH (L) EXCEEDS 18". REF. APPROPRIATE M10 PAGES FOR DETAIL.
3. REF. PAGE A25.0 FOR ALTERNATE ARRANGEMENTS OF SEISMIC BRACES.
4. TO INCREASE ANGLE UP TO 15°, REF. PAGE A24.1.

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HANGER ROD DIAMETER = 3/8"	PIPING/CONDUIT TRANSVERSE TRAPEZE SEISMIC CABLE BRACING SYSTEM 30 PLF MAX	KIT OPTIONS TC0T

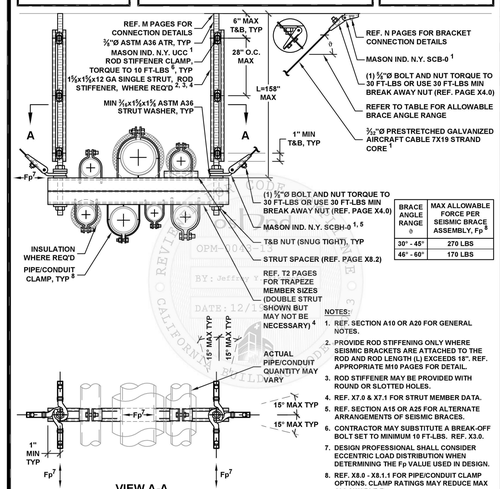


BRACE ANGLE RANGE θ	MAX ALLOWABLE FORCE PER SEISMIC BRACE ASSEMBLY, Fp [5]
30° - 45°	270 LBS
46° - 60°	190 LBS

NOTES:
1. REF. SECTION A10 OR A20 FOR GENERAL NOTES.
2. PROVIDE ROD STIFFENING ONLY WHERE SEISMIC BRACKETS ARE ATTACHED TO THE ROD AND ROD LENGTH (L) EXCEEDS 18". REF. APPROPRIATE M10 PAGES FOR DETAIL.
3. REF. SECTION A15 OR A25 FOR ALTERNATE ARRANGEMENTS OF SEISMIC BRACES.
4. TO INCREASE ANGLE UP TO 15°, REF. PAGE A14.1 OR A24.2. WHERE MW-SCCI PIPE CLAMP IS USED, ANGLE INCREASE SHALL BE LIMITED TO 10° MAX.
5. REF. X8.6 - X8.1.1, X8.6 - X8.6.3 FOR PIPE/CONDUIT CLAMP OPTIONS. CLAMP RATINGS MAY REDUCE MAX ALLOWABLE Fp.

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HANGER ROD DIAMETER = 3/8"	PIPING/CONDUIT ALL-DIRECTIONAL TRAPEZE SEISMIC CABLE BRACING SYSTEM 30 PLF MAX	KIT OPTIONS TC0A

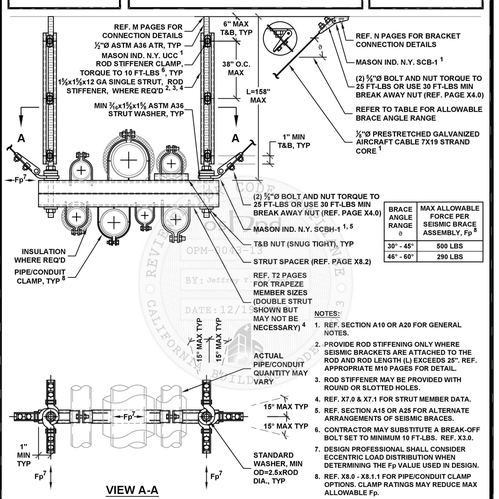


BRACE ANGLE RANGE θ	MAX ALLOWABLE FORCE PER SEISMIC BRACE ASSEMBLY, Fp [5]
30° - 45°	270 LBS
46° - 60°	170 LBS

NOTES:
1. REF. SECTION A10 OR A20 FOR GENERAL NOTES.
2. PROVIDE ROD STIFFENING ONLY WHERE SEISMIC BRACKETS ARE ATTACHED TO THE ROD AND ROD LENGTH (L) EXCEEDS 18". REF. APPROPRIATE M10 PAGES FOR DETAIL.
3. ROD STIFFENER MAY BE PROVIDED WITH ROUND OR SLOTTED HOLES.
4. REF. X7.0 & X7.1 FOR STRUT MEMBER DATA.
5. REF. SECTION A15 OR A25 FOR ALTERNATE ARRANGEMENTS OF SEISMIC BRACES.
6. CONTRACTOR MAY SUBSTITUTE A BREAK-OFF BOLT SET TO MINIMUM 10 FT-LBS. REF. X3.0.
7. DESIGN PROFESSIONAL SHALL CONSIDER ECCENTRIC LOAD DISTRIBUTION WHEN DETERMINING THE Fp VALUE USED IN DESIGN.
8. REF. X8.0 - X8.1.1 FOR PIPE/CONDUIT CLAMP OPTIONS. CLAMP RATINGS MAY REDUCE MAX ALLOWABLE Fp.

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HANGER ROD DIAMETER = 5/8"	PIPING/CONDUIT ALL-DIRECTIONAL TRAPEZE SEISMIC CABLE BRACING SYSTEM 60 PLF MAX	KIT OPTIONS TC1A

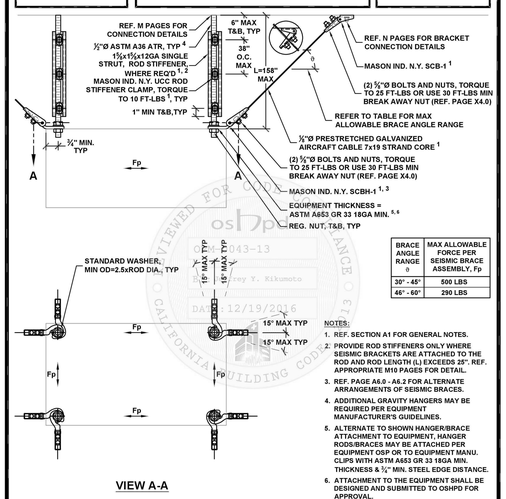


BRACE ANGLE RANGE θ	MAX ALLOWABLE FORCE PER SEISMIC BRACE ASSEMBLY, Fp [8]
30° - 45°	500 LBS
46° - 60°	290 LBS

NOTES:
1. REF. SECTION A10 OR A20 FOR GENERAL NOTES.
2. PROVIDE ROD STIFFENING ONLY WHERE SEISMIC BRACKETS ARE ATTACHED TO THE ROD AND ROD LENGTH (L) EXCEEDS 25". REF. APPROPRIATE M10 PAGES FOR DETAIL.
3. ROD STIFFENER MAY BE PROVIDED WITH ROUND OR SLOTTED HOLES.
4. REF. X7.0 & X7.1 FOR STRUT MEMBER DATA.
5. REF. SECTION A15 OR A25 FOR ALTERNATE ARRANGEMENTS OF SEISMIC BRACES.
6. CONTRACTOR MAY SUBSTITUTE A BREAK-OFF BOLT SET TO MINIMUM 10 FT-LBS. REF. X3.0.
7. DESIGN PROFESSIONAL SHALL CONSIDER ECCENTRIC LOAD DISTRIBUTION WHEN DETERMINING THE Fp VALUE USED IN DESIGN.
8. REF. X8.0 - X8.1.1 FOR PIPE/CONDUIT CLAMP OPTIONS. CLAMP RATINGS MAY REDUCE MAX ALLOWABLE Fp.

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HANGER ROD DIAMETER = 1/2"	SUSPENDED EQUIPMENT SEISMIC CABLE BRACING SYSTEM 375 LB MAX VERTICAL LOAD PER HANGER	KIT OPTIONS C1SE

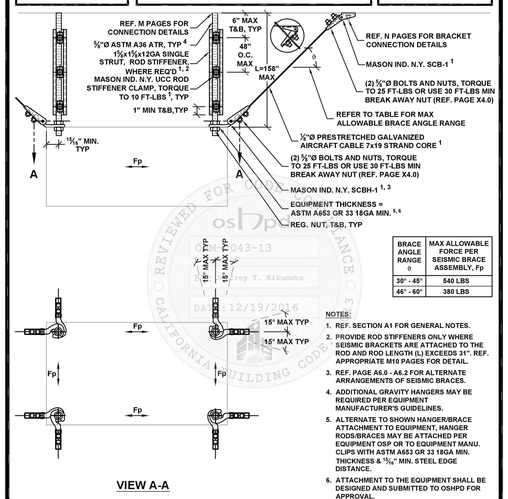


BRACE ANGLE RANGE θ	MAX ALLOWABLE FORCE PER SEISMIC BRACE ASSEMBLY, Fp
30° - 45°	500 LBS
46° - 60°	290 LBS

NOTES:
1. REF. SECTION A1 FOR GENERAL NOTES.
2. PROVIDE ROD STIFFENERS ONLY WHERE SEISMIC BRACKETS ARE ATTACHED TO THE ROD AND ROD LENGTH (L) EXCEEDS 25". REF. APPROPRIATE M10 PAGES FOR DETAIL.
3. REF. PAGE A6.0 - A6.2 FOR ALTERNATE ARRANGEMENTS OF SEISMIC BRACES.
4. ADDITIONAL GRAVITY HANGERS MAY BE REQUIRED PER EQUIPMENT MANUFACTURER'S GUIDELINES.
5. ALTERNATE TO SHOWN HANGER/BRACE ATTACHMENT TO EQUIPMENT, HANGER RODS/BRACES MAY BE ATTACHED PER EQUIPMENT OSP OR TO EQUIPMENT MANU. CLIPS WITH ASTM A653 GR 33 18GA MIN. THICKNESS & 3 1/2" MIN. STEEL EDGE DISTANCE.
6. ATTACHMENT TO THE EQUIPMENT SHALL BE DESIGNED AND SUBMITTED TO OSHPD FOR APPROVAL.

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HANGER ROD DIAMETER = 5/8"	SUSPENDED EQUIPMENT SEISMIC CABLE BRACING SYSTEM 750 LB MAX VERTICAL LOAD PER HANGER	KIT OPTIONS C1SE

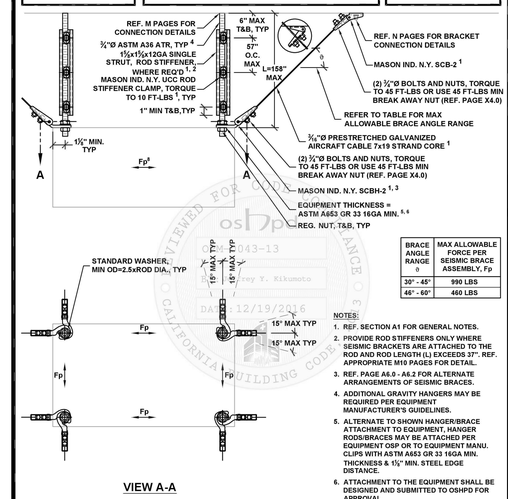


BRACE ANGLE RANGE θ	MAX ALLOWABLE FORCE PER SEISMIC BRACE ASSEMBLY, Fp
30° - 45°	540 LBS
46° - 60°	380 LBS

NOTES:
1. REF. SECTION A1 FOR GENERAL NOTES.
2. PROVIDE ROD STIFFENERS ONLY WHERE SEISMIC BRACKETS ARE ATTACHED TO THE ROD AND ROD LENGTH (L) EXCEEDS 31". REF. APPROPRIATE M10 PAGES FOR DETAIL.
3. REF. PAGE A6.0 - A6.2 FOR ALTERNATE ARRANGEMENTS OF SEISMIC BRACES.
4. ADDITIONAL GRAVITY HANGERS MAY BE REQUIRED PER EQUIPMENT MANUFACTURER'S GUIDELINES.
5. ALTERNATE TO SHOWN HANGER/BRACE ATTACHMENT TO EQUIPMENT, HANGER RODS/BRACES MAY BE ATTACHED PER EQUIPMENT OSP OR TO EQUIPMENT MANU. CLIPS WITH ASTM A653 GR 33 18GA MIN. THICKNESS & 5/16" MIN. STEEL EDGE DISTANCE.
6. ATTACHMENT TO THE EQUIPMENT SHALL BE DESIGNED AND SUBMITTED TO OSHPD FOR APPROVAL.

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HANGER ROD DIAMETER = 3/4"	SUSPENDED EQUIPMENT SEISMIC CABLE BRACING SYSTEM 1250 LB MAX VERTICAL LOAD PER HANGER	KIT OPTIONS C2SE



BRACE ANGLE RANGE θ	MAX ALLOWABLE FORCE PER SEISMIC BRACE ASSEMBLY, Fp
30° - 45°	990 LBS
46° - 60°	460 LBS

NOTES:
1. REF. SECTION A1 FOR GENERAL NOTES.
2. PROVIDE ROD STIFFENERS ONLY WHERE SEISMIC BRACKETS ARE ATTACHED TO THE ROD AND ROD LENGTH (L) EXCEEDS 37". REF. APPROPRIATE M10 PAGES FOR DETAIL.
3. REF. PAGE A6.0 - A6.2 FOR ALTERNATE ARRANGEMENTS OF SEISMIC BRACES.
4. ADDITIONAL GRAVITY HANGERS MAY BE REQUIRED PER EQUIPMENT MANUFACTURER'S GUIDELINES.
5. ALTERNATE TO SHOWN HANGER/BRACE ATTACHMENT TO EQUIPMENT, HANGER RODS/BRACES MAY BE ATTACHED PER EQUIPMENT OSP OR TO EQUIPMENT MANU. CLIPS WITH ASTM A653 GR 33 16GA MIN. THICKNESS & 1/2" MIN. STEEL EDGE DISTANCE.
6. ATTACHMENT TO THE EQUIPMENT SHALL BE DESIGNED AND SUBMITTED TO OSHPD FOR APPROVAL.

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SHEET NOTES:

A. REFER TO MASON OPM'S PER THE FOLLOWING:
M-ATR VERTICAL HANGARS
CONCRETE FILLED DECK- M2.10, M2.11, M2.12, M2.20, M2.21.1, M2.23, M2.70- DO NOT SPACE CLOSER THAN 5' OC EW
WIDE FLANGED STEEL- M3.10-MAX 1 CON PER BEAM UNLESS SPACED 13' OC
COLD FORMED STEEL- M6.10, 3/1-S4 31-DO NOT SPACE CLOSER THAN 9'6" OC EW
BARE METAL DECK- M7.10 M7.11, M7.12 - DO NOT SPACE CLOSER THAN 2' OC EW
N-SEISMIC BRACKET
CONCRETE FILLED DECK- N2.10, N2.11, N2.12, N2.20, N2.21 - DO NOT SPACE CLOSER THAN 3' OC EW
WID EFLANGED STEEL- N3.11, N3.15 - MAX 1 CON PER BEAM UNLESS SPACED 12' OC
COLD FORMED STEEL - 4/1-S4.31 - DO NOT SPACE CLOSER THAN 10' OC EW
BARE METAL DECK- N7.10 DO NOT SPACE CLOSER THAN 1'6" OC EW

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY:	
KATHY GARCIA DEP. DIR. PUBLIC WORKS	ALEX AMERI INTERIM DIR. PUBLIC WORKS
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WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

**1401 W. WINTON AVE.
HAYWARD, CA 94545**

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER
AMANDA J. BROWNLEE
No. E17387
ELECTRICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

TECHNOLOGY DETAILS

Drawn By: Author Checked By: Checker

Scale: **NTS**

Date: **October 4, 2019**

Project No. B17.07369

3-T7.02
Drawing No.

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GENERAL NOTES:

1. THIS OSHPD PRE-APPROVAL OF MANUFACTURER'S CERTIFICATION (OPM) IS BASED ON THE CBC 2013. THE DEMAND (DESIGN FORCES) FOR USE WITH THIS OPM SHALL BE BASED ON THE CBC 2013.
2. IT IS THE RESPONSIBILITY OF THE STRUCTURAL ENGINEER OF RECORD FOR A SITE SPECIFIC PROJECT TO VERIFY:
   - A. THE ADEQUACY OF THE NEW OR EXISTING STRUCTURE TO RESIST THE FORCES AND WEIGHT SPECIFIED FOR EACH EQUIPMENT IN ADDITION TO ALL OTHER LOADS. PROVIDE AND DESIGN SUPPLEMENTARY MEMBERS AS REQUIRED.
   - B. THAT THE FLOOR AND WALL ANCHORS ARE LOCATED AT AN ADEQUATE DISTANCE FROM ANY SLAB OR WALL EDGES OR OPENINGS.
   - C. THAT THE FLOOR AND WALL ANCHORS ARE LOCATED AT AN ADEQUATE DISTANCE FROM ANY NEW OR EXISTING ANCHORS. THE SPACING SHOWN WITHIN THIS DOCUMENT IS THE REQUIRED MINIMUM SPACING OF THE INDICATED DIAMETER ANCHOR BOLTS. THE REQUIRED SPACING FROM ANCHORS OF OTHER DIAMETERS AND EMBEDMENTS MAY VARY AND SHALL BE EVALUATED BY THE SEOR.
   - D. THAT THE INSTALLATION IS IN CONFORMANCE WITH THE CBC 2013 AND WITH THE DETAILS SHOWN IN THIS PRE-APPROVAL.
   - E. THAT THE ACTUAL EQUIPMENT'S WEIGHT, CENTER OF GRAVITY (CG) LOCATION, ANCHOR LOCATIONS, ANCHOR DETAILS, AND THE MATERIAL AND GAUGE OF THE EQUIPMENT WHERE ATTACHMENTS ARE MADE, AGREE WITH THE INFORMATION SHOWN ON THE PRE-APPROVAL DOCUMENTS.

3A. EXPANSION ANCHORS INSTALLED IN NORMAL WEIGHT OR SAND-LIGHTWEIGHT CONCRETE SHALL BE CARBON STEEL HILTI KB-TZ EXPANSION ANCHORS COMPLYING WITH ESR-1917 REISSUED MAY 1, 2013.

B. INSTALLATION: INSTALL THE EXPANSION ANCHORS IN ACCORDANCE WITH THE REQUIREMENTS GIVEN IN THE ICC EVALUATION REPORT FOR THE SPECIFIC ANCHOR AND THE PARAMETERS GIVEN IN THE TABLE ON PAGE 3.

C. JOB TESTING: FOR VERIFYING SATISFACTORY INSTALLATION WORKMANSHIP, PERFORM JOB SITE TESTING IN ACCORDANCE WITH THE TORQUE LOAD TABLE PROVIDED IN THIS DOCUMENT. TEST 50% OF THE INSTALLED ANCHORS. THE TEST LOAD MAY BE APPLIED BY ANY METHOD THAT WILL EFFECTIVELY MEASURE THE TENSION IN THE ANCHOR SUCH AS CALIBRATED TORQUE WRENCH METHOD. ALL TESTS SHALL BE CONDUCTED IN THE PRESENCE OF THE INSPECTOR OF RECORD. REPORT OF TEST RESULTS SHALL BE SUBMITTED TO OSHPD. IF ANY ANCHOR FAILS THE TEST, TEST ALL ANCHORS. THE TEST SHALL BE PERFORMED 24 HOURS OR MORE AFTER INSTALLATION. TESTING MAY BE DONE PRIOR TO EQUIPMENT INSTALLATION. ALSO REFER TO CBC 1913A.7 "FIELD TESTS FOR POST-INSTALLED ANCHORS IN CONCRETE".

D. FAILURE/ACCEPTANCE CRITERIA: THE FOLLOWING CRITERIA APPLY FOR THE ACCEPTANCE OF INSTALLED ANCHORS:
   - TORQUE WRENCH METHOD: THE APPLICABLE TEST TORQUE MUST BE REACHED WITHIN THE FOLLOWING LIMITS: WEDGE TYPE: ONE-HALF (½) TURN OF THE NUT.

REGISTERED PROFESSIONAL ENGINEER PETER T. SYSTAD No. S4346 STRUCTURAL STATE OF CALIFORNIA

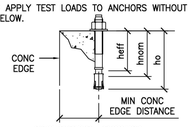
SHEET TITLE: GENERAL NOTES

CYS STRUCTURAL ENGINEERS, INC.
2495 NATOMAS PARK DRIVE, SUITE 650 TEL (916) 920-2020
SACRAMENTO, CA 95833 www.cyseng.com

Job No:	13127
Date:	06-30-2014
Page:	2 of 13

GENERAL NOTES CONTINUED:

3E. TEST VALUES: APPLY TEST LOADS TO ANCHORS WITHOUT REMOVING THE NUT IF POSSIBLE, SEE TABLE BELOW.

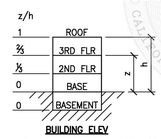


MECHANICAL ANCHOR

ANCHOR DIA (INCH) da	INSTALLATION EMBED (INCH) hnom	EFFECTIVE EMBED (INCH) heff	HOLE DEPTH (INCH) ho	MIN CONC THICKNESS (INCH) h	MIN CONC EDGE DISTANCE (INCH)	MIN AB SPACING (INCH)	TEST LOAD TORQUE (FT-LBS)	CONDITION OF ANCHORAGE
⅜	2⅝	2	2⅝	4*	6	6¾	25	CASE 1

* SEE PAGE 11 FOR UNDERSIDE OF METAL DECK DETAIL.

4. A SINGLE CASE OF ANCHORAGE IS SPECIFIED AND PRESENTED IN THIS PRE-APPROVAL:



BUILDING ELEV

CASE 1: ANCHORAGE DETAILS LOCATED AT ANY LEVEL OF A BUILDING (z/h<=1.0), IT IS ASSUMED THAT THE FLOORS ARE BUILT OF A MINIMUM 3¼" SAND-LIGHT WEIGHT CONCRETE OR NORMAL WEIGHT CONCRETE TOPPING OVER METAL DECK OR 4" NORMAL WEIGHT CONCRETE SLAB (f'c = 3000 PSI, MINIMUM).

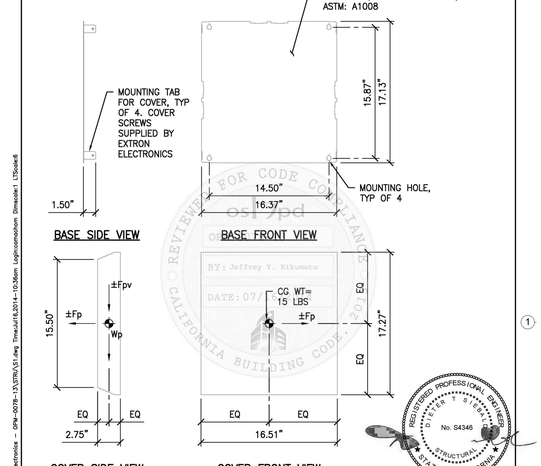
5. THIS PRE-APPROVAL MAY BE USED AT ANY GEOGRAPHICAL LOCATION IN THE STATE OF CALIFORNIA. WHERE S_{DS} IS LESS THAN OR EQ TO 2.50.

REGISTERED PROFESSIONAL ENGINEER PETER T. SYSTAD No. S4346 STRUCTURAL STATE OF CALIFORNIA

SHEET TITLE: GENERAL NOTES (CONTINUED)

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Job No:	13127
Date:	06-30-2014
Page:	3 of 13

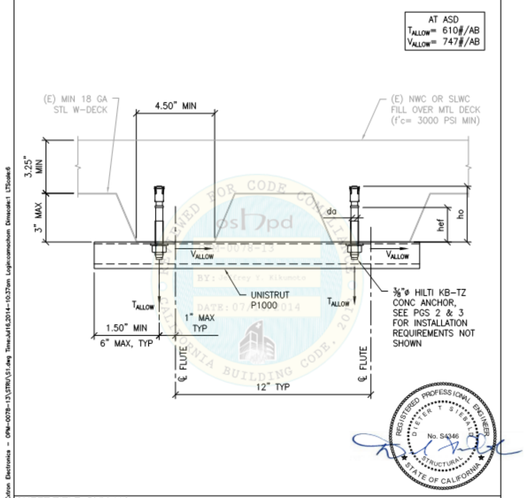


REGISTERED PROFESSIONAL ENGINEER PETER T. SYSTAD No. S4346 STRUCTURAL STATE OF CALIFORNIA

SHEET TITLE: WMK 160
ELEVATIONS

CYS STRUCTURAL ENGINEERS, INC.
2495 NATOMAS PARK DRIVE, SUITE 650 TEL (916) 920-2020
SACRAMENTO, CA 95833 www.cyseng.com

Job No:	13127
Date:	06-30-2014
Page:	6 of 13

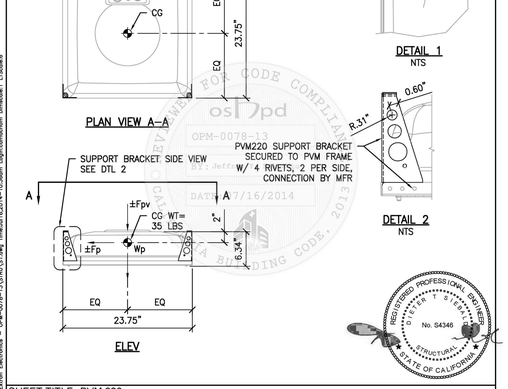


REGISTERED PROFESSIONAL ENGINEER PETER T. SYSTAD No. S4346 STRUCTURAL STATE OF CALIFORNIA

SHEET TITLE: PVM 220
UNDERSIDE OF METAL DECK

CYS STRUCTURAL ENGINEERS, INC.
2495 NATOMAS PARK DRIVE, SUITE 650 TEL (916) 920-2020
SACRAMENTO, CA 95833 www.cyseng.com

Job No:	13127
Date:	06-30-2014
Page:	13 of 13

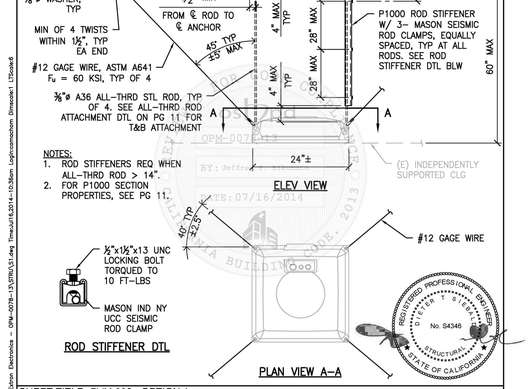


REGISTERED PROFESSIONAL ENGINEER PETER T. SYSTAD No. S4346 STRUCTURAL STATE OF CALIFORNIA

SHEET TITLE: PVM 220
PLAN & ELEVATIONS

CYS STRUCTURAL ENGINEERS, INC.
2495 NATOMAS PARK DRIVE, SUITE 650 TEL (916) 920-2020
SACRAMENTO, CA 95833 www.cyseng.com

Job No:	13127
Date:	06-30-2014
Page:	9 of 13

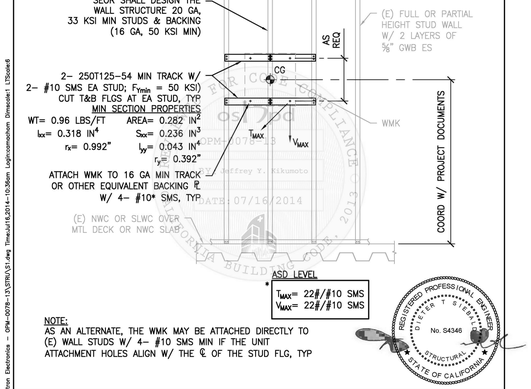


REGISTERED PROFESSIONAL ENGINEER PETER T. SYSTAD No. S4346 STRUCTURAL STATE OF CALIFORNIA

SHEET TITLE: PVM 220 - OPTION 1:
UNDERSIDE OF METAL DECK SUPPORT & ATTACHMENT

CYS STRUCTURAL ENGINEERS, INC.
2495 NATOMAS PARK DRIVE, SUITE 650 TEL (916) 920-2020
SACRAMENTO, CA 95833 www.cyseng.com

Job No:	13127
Date:	06-30-2014
Page:	10 of 13

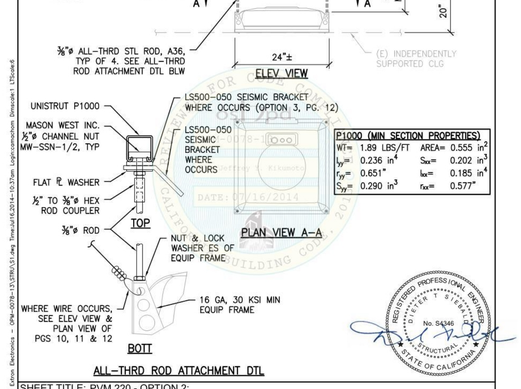


REGISTERED PROFESSIONAL ENGINEER PETER T. SYSTAD No. S4346 STRUCTURAL STATE OF CALIFORNIA

SHEET TITLE: WMK 160
STUD WALL ATTACHMENT

CYS STRUCTURAL ENGINEERS, INC.
2495 NATOMAS PARK DRIVE, SUITE 650 TEL (916) 920-2020
SACRAMENTO, CA 95833 www.cyseng.com

Job No:	13127
Date:	06-30-2014
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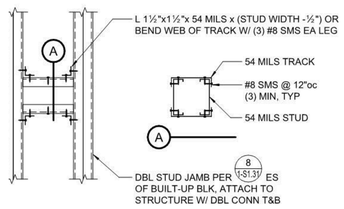


REGISTERED PROFESSIONAL ENGINEER PETER T. SYSTAD No. S4346 STRUCTURAL STATE OF CALIFORNIA

SHEET TITLE: PVM 220 - OPTION 2:
UNDERSIDE OF METAL DECK SUPPORT & ATTACHMENT

CYS STRUCTURAL ENGINEERS, INC.
2495 NATOMAS PARK DRIVE, SUITE 650 TEL (916) 920-2020
SACRAMENTO, CA 95833 www.cyseng.com

Job No:	13127
Date:	06-30-2014
Page:	11 of 13



1 HEAVY DUTY WALL BACKING PLATING
NTS

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

**1401 W. WINTON AVE.
HAYWARD, CA 94545**

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER AMANDA J. BROWNLEE No. E17387 ELECTRICAL STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

TECHNOLOGY DETAILS

Drawn By: Author Checked By: Checker

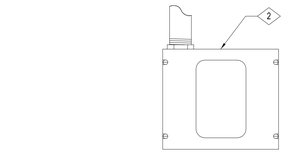
Scale: NTS

Date: October 4, 2019

Project No. B17.07369

3-T7.03
Drawing No.

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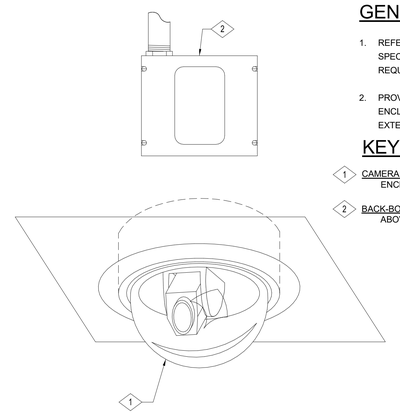
GENERAL NOTES:

1. REFER TO SECURITY SCHEDULES AND WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
2. PROVIDE WEATHER PROOF/WATER RESISTANT ENCLOSURE WITH HEATER/BLOWER FOR ALL EXTERIOR CAMERAS.

KEYNOTES:

1. CAMERA: PROVIDE MINI-DOME TYPE CAMERA WITH ENCLOSURE.
2. BACK-BOX: CAMERA CABLE BACK-BOX MOUNTED FLUSH IN WALL.

4 FIXED WALL SURFACE MOUNT CCTV CAMERA — NO SCALE



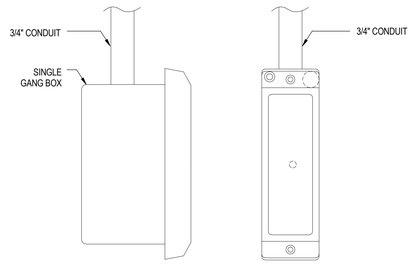
GENERAL NOTES:

1. REFER TO SECURITY SCHEDULES AND WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
2. PROVIDE WEATHER PROOF/WATER RESISTANT ENCLOSURE WITH HEATER/BLOWER FOR ALL EXTERIOR CAMERAS.

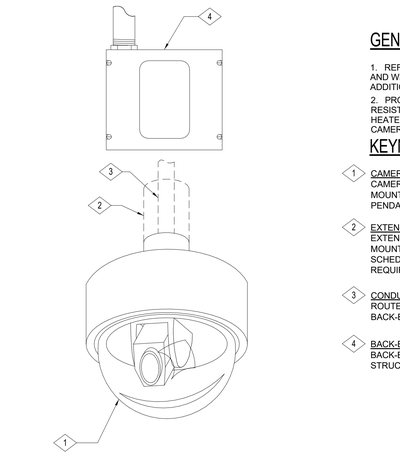
KEYNOTES:

1. CAMERA: PROVIDE MINI-DOME TYPE CAMERA WITH ENCLOSURE.
2. BACK-BOX: CAMERA CABLE BACK-BOX MOUNTED ABOVE CEILING.

1 FIXED CEILING MOUNT CCTV CAMERA — NO SCALE



5 CARD READER DETAIL - MULLION — NO SCALE



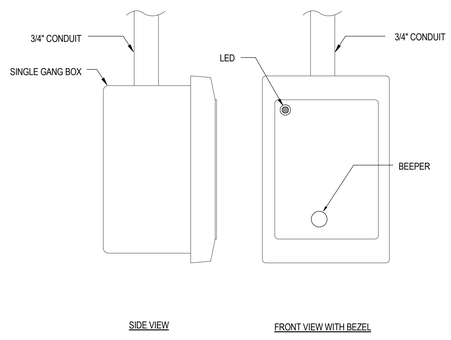
GENERAL NOTES:

1. REFER TO SECURITY SCHEDULES AND WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
2. PROVIDE WEATHER PROOF/WATER RESISTANT ENCLOSURE WITH HEATER/BLOWER FOR ALL EXTERIOR CAMERAS.

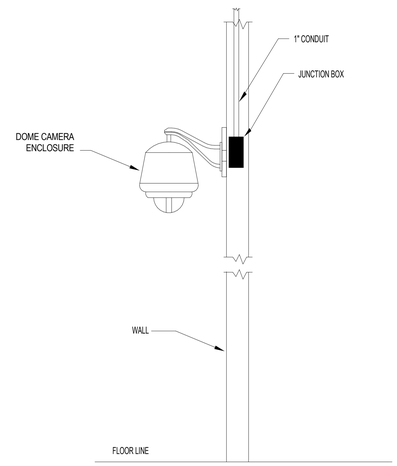
KEYNOTES:

1. CAMERA: PROVIDE MINI-DOME TYPE CAMERA WITH ENCLOSURE SURFACE MOUNTED DIRECTLY TO BACK-BOX OR PENDANT MOUNTED FROM BACK-BOX.
2. EXTENSION: PROVIDE PENDANT MOUNT EXTENSION AS REQUIRED BASED ON CAMERA MOUNTING HEIGHT. REFER TO CAMERA SCHEDULES FOR MOUNTING HEIGHT REQUIREMENTS.
3. CONDUIT: PROVIDE (1) 1-INCH CONDUIT ROUTED FROM CAMERA TO DATA DEVICE BACK-BOX.
4. BACK-BOX: CAMERA CABLE BACK-BOX SURFACE MOUNTED TO STRUCTURE.

2 FIXED OVERHEAD MOUNT CCTV CAMERA — NO SCALE



6 CARD READER DETAIL — NO SCALE



3 WALL MOUNTED DOME CAMERA ENCLOSURE — NO SCALE

DETAILS ON THIS SHEET ARE GENERIC. PLEASE REFER TO OPM DETAILS FOR HANGER AND ANCHOR INFORMATION FOR ALL SUPPORTS AND CONNECTION INFORMATION NOT INDICATED

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY:	
KATHY GARCIA DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

WSP USA Buildings Inc.
425 Market St. 17th Floor
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(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER
AMANDA J. BROWN LEE
No. E17287
ELECTRICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

SECURITY DETAILS

Drawn By: Author
Checked By: Checker

Scale:
NTS

Date:
October 4, 2019

Project No. B17.07369

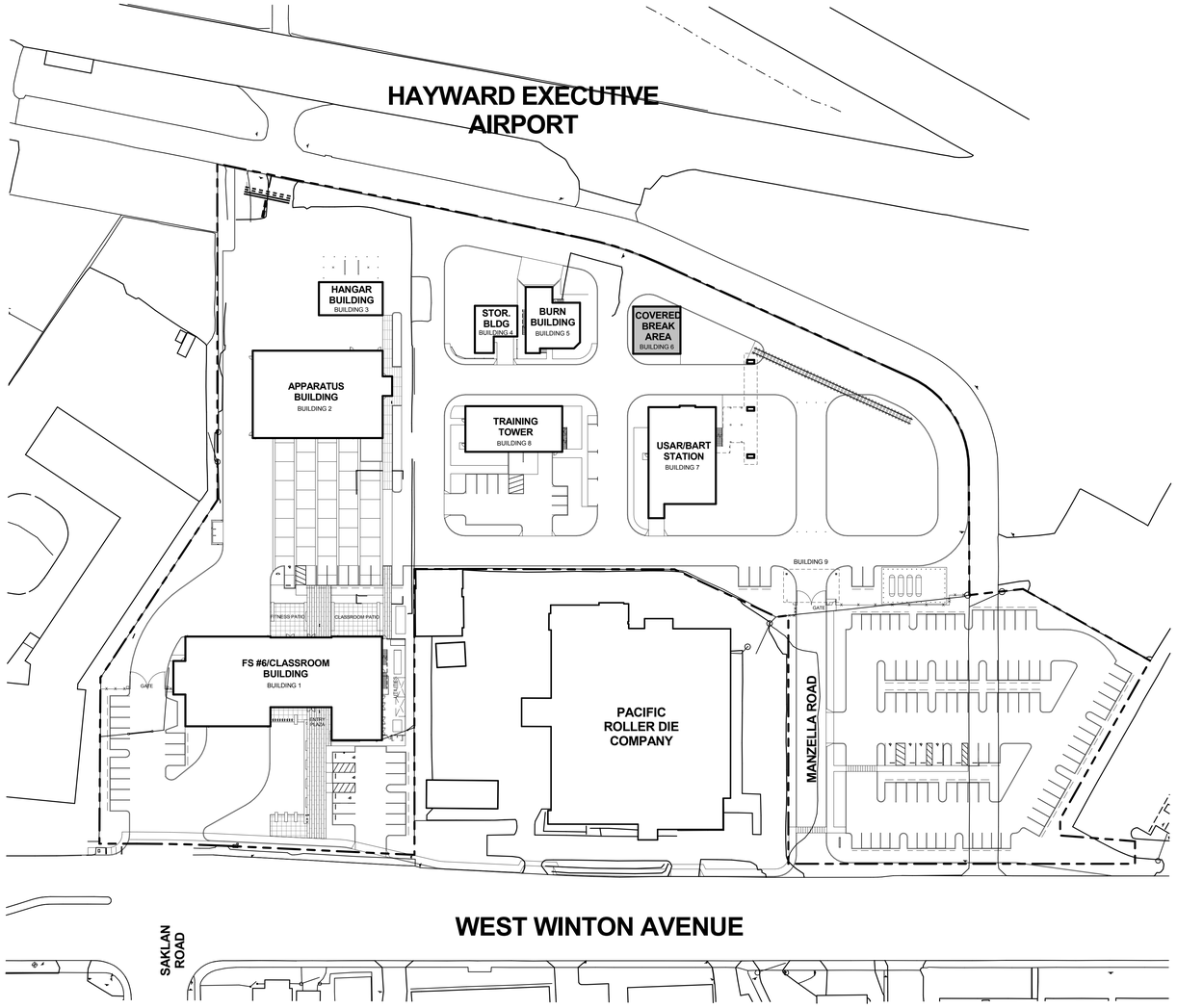
3-T7.04
Drawing No.

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HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

BUILDING 6

PERMIT SUBMITTAL - INCREMENT #1



1 SITE LOCATION PLAN
1" = 50'-0"

BUILDING 6 SCOPE OF WORK

The general scope of work covered under this contract includes but is not limited to:

Structure
- New concrete slab, cast-in-place concrete walls, structural steel framing.
- New interior non-bearing walls (cast-in-place concrete & light-gauge metal.
- New standing seam metal and membrane roofs.
- New covered break area with portable bleachers.
- New single-occupancy restrooms with finishes and accessories.
- New storage room with overhead coiling door.
- Required signage.

Mechanical
- Exhaust fans for restrooms.

Plumbing
- New single-occupancy restroom fixtures and water cooler.

Electrical
- New power, data, and lighting systems.
- New roof-mounted photovoltaic system, including inverter. (Reviewed and approved under DSA Increment #2)
- New audio-visual equipment.

PROJECT INFORMATION

APN:	432-124-1-4 (PORTION)
PROJECT:	HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER BUILDING 6 1401 WEST WINTON AVENUE, HAYWARD, CA 94545
DESCRIPTION:	ROOF CANOPY, RESTROOMS, & STORAGE (BUILDING 6)
BUILDING AREAS:	39,156 SF SITE COVERAGE 66,278 SF GROSS FLOOR AREA
TOTAL BUILDING AREA FOR THIS PERMIT:	1,600 SF
SITE:	293,364 SF (6.73 ACRES) SITE DEVELOPMENT AREA 13% LOT COVERAGE (TOTAL DEVELOPMENT)
BUILDING FLOOR AREA RATIO:	23% (TOTAL DEVELOPMENT)
FIRE SPRINKLERED:	NO (BUILDING 6)
BUILDING USE/OCCUPANCY:	A-3 (ASSEMBLY), S-2 (STORAGE)
CONSTRUCTION TYPE:	II-B
ZONING:	AT/AC
TOTAL BUILDING STORIES:	1
DEFERRED SUBMITTALS:	NONE

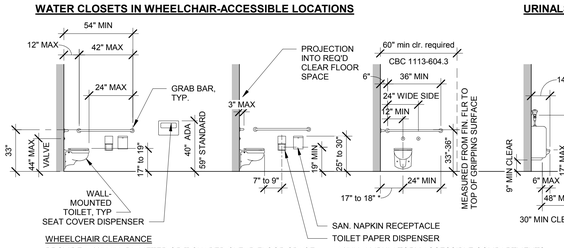
SHEET INDEX - INCREMENT #1

NUMBER	NAME
ARCHITECTURAL	
6-A0.10	BUILDING 6 SHEET INDEX, PROJECT INFORMATION
6-A0.11	BUILDING 6 CODE ANALYSIS OCCUPANCY & EGRESS PLAN EXTERIOR AXONOMETRIC VIEWS
6-A2.10	BUILDING 6 FLOOR PLAN, ROOF PLAN
6-A3.10	BUILDING 6 EXTERIOR ELEVATIONS
6-A3.40	BUILDING 6 BUILDING CROSS SECTIONS, ARCHITECTURAL DETAILS
6-A5.10	BUILDING 6 INTERIOR ELEVATIONS
6-A6.10	BUILDING 6 REFLECTED CEILING PLAN
6-A8.01	BUILDING 6 ARCHITECTURAL DETAILS
6-A8.02	BUILDING 6 ARCHITECTURAL DETAILS
STRUCTURAL	
6-S0.10	BUILDING 6 GENERAL NOTES AND SPECIFICATIONS
6-S1.10	BUILDING 6 TYPICAL CONCRETE DETAILS
6-S1.20	BUILDING 6 STEEL FRAMING DETAILS
6-S1.30	BUILDING 6 TYPICAL METAL STUD ELEVATION AND CONNECTION DETAILS
6-S1.50	BUILDING 6 TYPICAL METAL DECKING DETAILS
6-S2.10	BUILDING 6 FLOOR PLAN, ROOF PLAN
6-S3.10	BUILDING 6 ELEVATIONS
6-S4.10	BUILDING 6 SECTIONS AND DETAILS
6-S4.11	BUILDING 6 CONCRETE WALL DETAILS
PLUMBING	
6-P0.01	BUILDING 6 PLUMBING LEGEND AND ABBREVIATION, DRAWING LIST
6-P0.02	BUILDING 6 PLUMBING SCHEDULE
6-P0.03	BUILDING 6 PLUMBING TITLE 24
6-P2.01	BUILDING 6 PLUMBING COVERED BREAK AREA BUILDING FLOOR PLAN
ELECTRICAL	
6-E0.01	BUILDING 6 ELECTRICAL LEGEND, ABBREVIATIONS AND DRAWING LIST
6-E0.02	BUILDING 6 ELECTRICAL SCHEDULES
6-E0.10	BUILDING 6 ELECTRICAL LIGHT FIXTURE SCHEDULE
6-E0.20	BUILDING 6 ELECTRICAL TITLE 24
6-E0.21	BUILDING 6 ELECTRICAL TITLE 24
6-E0.22	BUILDING 6 ELECTRICAL TITLE 24
6-E0.23	BUILDING 6 ELECTRICAL TITLE 24
6-E2.01	BUILDING 6 ELECTRICAL COVERED BREAK AREA FLOOR PLAN & ROOF PLAN
6-E5.01	BUILDING 6 ELECTRICAL RISER DIAGRAM
6-E5.02	BUILDING 6 ELECTRICAL GROUNDING DIAGRAM
6-E6.01	BUILDING 6 ELECTRICAL DETAILS
FIRE ALARM	
6-FA0.00	FIRE ALARM COVER SHEET
6-FA1.00	FIRE ALARM SITE PLAN
6-FA1.03	BUILDING 6 FIRE ALARM PLAN
6-FA2.01	FIRE ALARM RISER DIAGRAM
6-FA3.01	FIRE ALARM CALCULATIONS
6-FA4.01	FIRE ALARM FACU AND ANNUNCIATOR DETAILS
6-FA4.02	FIRE ALARM FIELD DEVICE WIRING DETAILS
6-FA4.03	FIRE ALARM FIELD DEVICE WIRING DETAILS
TECHNOLOGY	
6-T0.01	BUILDING 6 TECHNOLOGY LEGEND, ABBREVIATIONS AND DRAWING LIST
6-T2.01	BUILDING 6 TECHNOLOGY COVERED BREAK AREA FLOOR PLAN
6-T7.01	BUILDING 6 TECHNOLOGY DETAILS
6-T7.02	BUILDING 6 TECHNOLOGY DETAILS
6-T7.03	BUILDING 6 TECHNOLOGY DETAILS
6-T7.04	BUILDING 6 TECHNOLOGY DETAILS
6-T7.05	BUILDING 6 SECURITY DETAILS
6-T7.06	BUILDING 6 SECURITY DETAILS

MOUNTING HEIGHTS AND CLEARANCES

NOTES: 1. DIMENSIONS FROM FLOOR ARE MEASURED FROM FLOOR FINISH

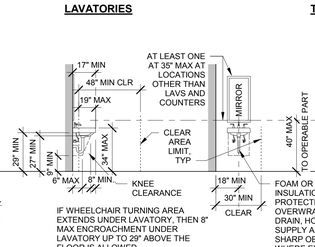
WATER CLOSETS IN WHEELCHAIR-ACCESSIBLE LOCATIONS



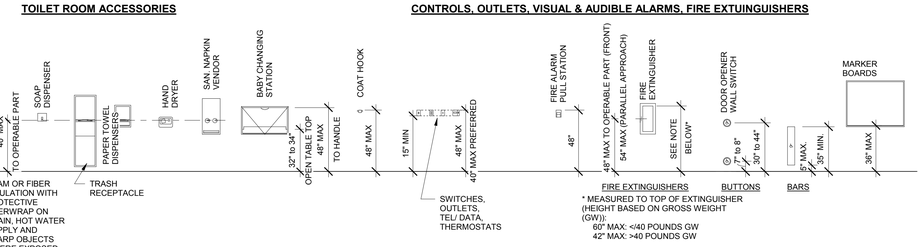
WHEELCHAIR CLEARANCE
PROVIDE A 60" MIN. DIAMETER OR T-SHAPED CLEAR FLOOR SPACE WITHIN EACH SINGLE OR MULTIPLE ACCOMMODATION TOILET FACILITY

URINALS

LAVATORIES

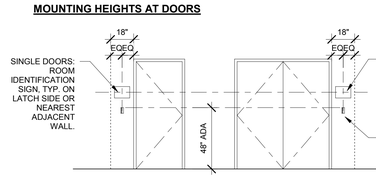


TOILET ROOM ACCESSORIES



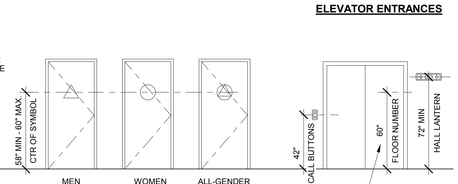
CONTROLS, OUTLETS, VISUAL & AUDIBLE ALARMS, FIRE EXTUINGUISHERS

MOUNTING HEIGHTS AT DOORS



ROOM IDENTIFICATION SIGN MOUNTING HEIGHT:
48" MINIMUM TO BASELINE OF LOWEST LINE OF BRAILLE
60" MAXIMUM TO BASELINE OF HIGHEST LINE OF RAISED CHARACTERS

ELEVATOR ENTRANCES

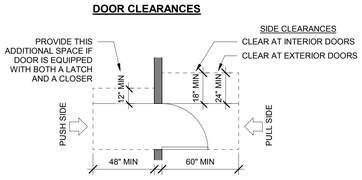


MEN
SIGN ON DOOR:
1/4" THICK EQUILATERAL TRIANGLE w/ 12" EDGES

WOMEN
SIGN ON DOOR:
12"ø CIRCLE, 1/4" THICK

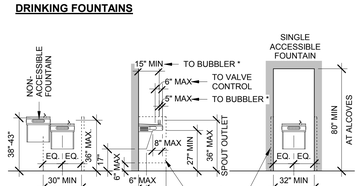
ALL-GENDER
*At single user toilet facilities
SIGN ON DOOR:
12"ø CIRCLE (1/4" THICK) w/ 1/4" THICK TRIANGLE SUPERIMPOSED ON CIRCLE

DOOR CLEARANCES



TYPICAL DOOR LANDING CLEARANCES

DRINKING FOUNTAINS



Ross Drulis Cusenbery ARCHITECTURE
18294 Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY:	
KATHY GARCIA DEP. DIR. PUBLIC WORKS	ALEX AMERI INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3 - INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
9/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 6
SHEET INDEX, PROJECT INFORMATION

Drawn By: EW Checked By: EW

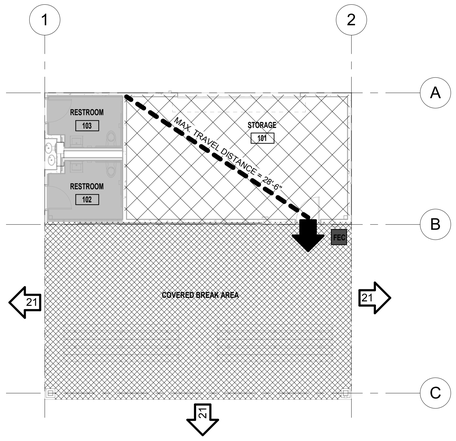
Scale:
As indicated

Date:
October 4, 2019

Project No. 2016039

6-A0.10
Drawing No.

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1 FLOOR PLAN - OCCUPANCY & EGRESS
1/8" = 1'-0"

OCCUPANCY ANALYSIS					
RM. NO.	RM. NAME	AREA	OCC.	O.L.F.	O.L.
000	COVERED BREAK AREA	910 SF	A-3	15 SF	61
101	STORAGE	461 SF	S-2	300 SF	2
102	RESTROOM	70 SF	-	0 SF	
103	RESTROOM	61 SF	-	0 SF	
Grand total: 4		1502 SF			63

OCCUPANCY LOAD FACTORS

(REFERENCE: TABLE 1004.1.2)

ASSEMBLY WITHOUT FIXED SEATS (TABLES AND CHAIRS)	15
ACCESSORY STORAGE AREAS, MECH. EQUIPMENT ROOM	300

NOTE: RESTROOMS ARE DESIGNATED AS UNOCCUPIED

LEGEND- EGRESS PLAN

EXIT OCCUPANT LOAD

0 MEANS OF EGRESS OCCUPANT LOAD

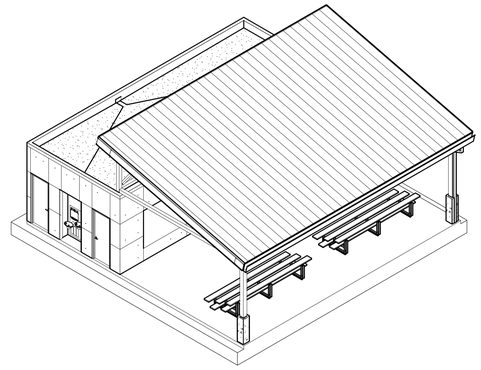
PATH OF TRAVEL

LEGEND- FIRE PROTECTION

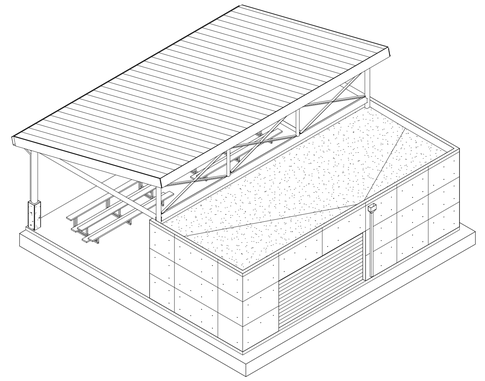
FEC FIRE EXTINGUISHER CABINET

LEGEND- CODE- EGRESS
1/8" = 1'-0"

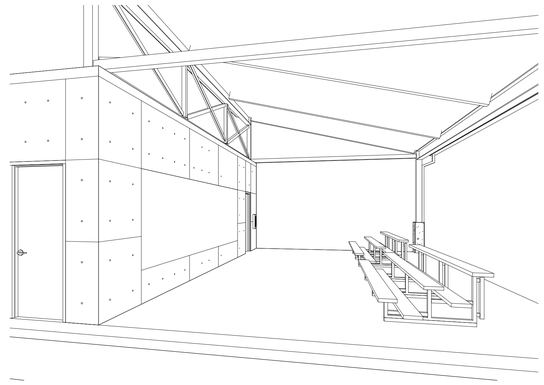
LEGEND- CODE- FIRE PROTECTION
1/8" = 1'-0"



2 SOUTHWEST AXONOMETRIC VIEW



3 NORTHEAST AXONOMETRIC VIEW



4 PERSPECTIVE VIEW OF COVERED BREAK AREA

GRAPHIC FOR REFERENCE ONLY

RossDrulisCusenbery

Code Analysis - Hayward Fire Station #6/Fire Training Center Building 6

Project Location: 1401 West Winton Avenue, Hayward, CA 94545

Date: 09/21/2018

SUMMARY:

APPLICABLE REGULATIONS

2016 California Building Standards Code (Title 24, California Code of Regulations)
2016 California Building Standards Administrative Code (Title 24, California Code of Regulations, Part 1)
2016 California Building Code (Title 24, California Code of Regulations, Part 2)
2016 California Electrical Code (Title 24, California Code of Regulations, Part 3)
2016 California Mechanical Code (Title 24, California Code of Regulations, Part 4)
2016 California Plumbing Code (Title 24, California Code of Regulations, Part 5)
2016 California Energy Code (Title 24, California Code of Regulations, Part 6)
2016 California Fire Code (Title 24, California Code of Regulations, Part 9)
2016 California Existing Building Code (Title 24, California Code of Regulations, Part 10)
2016 California Green Building Standards Code (Title 24, California Code of Regulations, Part 11)
2016 California Reference Standards Code (Title 24, California Code of Regulations, Part 12)
Uniform Fire Code With Approved California Amendments
Title 19 - Public Safety, State Fire Marshal California Code Of Regulations
Title 24 - California Code Of Regulations, Americans With Disabilities Act Accessibility Guidelines (ADAAG) Uniform Accessibility Standards
NFPA 101, Life Safety Code, 2015 Edition - Chapters 5 And 13
NFPA 13-2015 Edition

APPLICABLE STANDARDS

UL - Underwriters Laboratories Fire Resistive Directory, 2016 Edition
UL - Underwriters Laboratory Building Materials Directory, 2006 Edition
SMACNA - Fire, Smoke & Radiation Damper Installation Guide For Hvac Systems, 5th Edition, 2002

BUILDING CODE ANALYSIS

BUILDING 6: COVERED BREAK AREA	NOTES
TYPE OF CONSTRUCTION: Type II-B	
FIRE PROTECTION Non-sprinklered	
PRIMARY STRUCTURE Non-rated	Table 601
BEARING WALLS, EXTERIOR AND INTERIOR Non-Rated	Table 601
EXTERIOR WALLS (based on fire separation distance) Non-rated / II-B / A-3 & S-2 Occ / Separation > 10' but < 30'	Table 602
Non-rated / II-B / A-3 & S-2 Occ / Separation > 30'	Table 602
NONBEARING INTERIOR WALLS AND PARTITIONS Non-rated	Table 601
FLOOR CONSTRUCTION & SECONDARY FRAMING Non-rated	Table 601
ROOF CONSTRUCTION & SECONDARY FRAMING Non-rated	Table 601
MECHANICAL SHAFTS Not Applicable	Single story building
ELEVATOR SHAFT AND OPENINGS Not Applicable	Single story building
ATRIUM Not Applicable	Single story building
EXIT STAIRS Not Applicable	Single story building
EXIT STAIR INTERIOR DOORS Not Applicable	Single story building
BUILDING OCCUPANCY **Nonseparated** mixed use, A-3; S-2	CBC 508.3 Nonseparated Occupancies. A-3 Occupancy most restrictive
TOTAL OCCUPANT LOAD **63 Total Building Occupants**	
MAXIMUM BUILDING AREA PER STORY [Allowable] Ground Floor: 1,600 sq ft [9,500 sq ft]	CBC 506.2.2 Mixed Occupancy, One Story Buildings CBC 508.3 Nonseparated Occupancies. CBC Table 506.2, NS
BUILDING HEIGHT [Allowable] 1 story, 21.0' [2 story, 55']	CBC Tables 504.3 & 504.4 NS
MIN. NUMBER OF EXITS [Required] A-3 Occupancy = open three sides	CBC 1006.2.1 & Table 1006.2.1: Exits per story; 2 required if the design occ. load exceeds the values listed in Table 1006.2.1.
S-2 Occupancy = 1 at Ground Floor	
[2 from A-3 Occupancy]	
[1 from S-2 Occupancy]	
MIN. EXIT SEPARATON [Required] Not Applicable - only 1 exit required	CBC 1007.1.1: Greater than 1/2 the diagonal distance of the area to be served for non-sprinklered building
MAXIMUM TRAVEL DISTANCE [Allowable] 28.5' < [300']	CBC Table 1017.2: 300' is the allowable travel distance for a building without a sprinkler system for S-2 Occupancy.
EXIT ACCESS A-3 and S-2 Occupancies exit directly to the building exterior	No Exit Access Hallways in building.
Corridors: Not Applicable	No cooridors in building.

APPROVED
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DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY: **KATHY GARCIA** DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

HAYWARD FIRE STATION #6 FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3 - INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
9/30/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 6 CODE ANALYSIS, OCCUPANCY & EGRESS PLAN, EXTERIOR AXONOMETRIC VIEWS

Drawn By: TG Checked By: EW

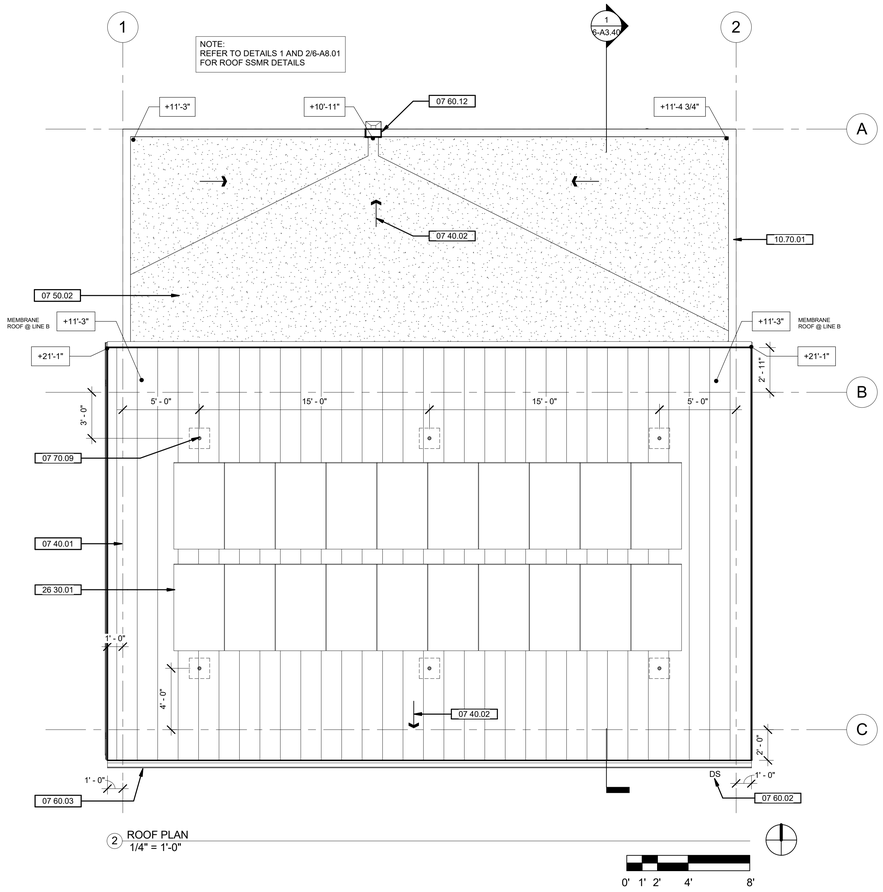
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Project No. 2016039

6-A0.11
Drawing No.

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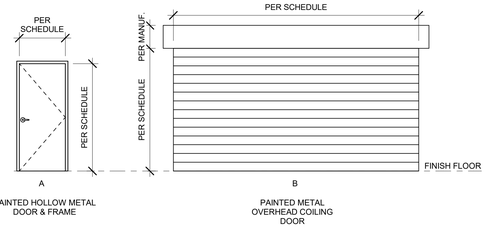
2 ROOF PLAN
1/4" = 1'-0"

0' 1' 2' 4' 8'

DOOR AND FRAME SCHEDULE

	DOOR						FRAME							
		SIZE							DETAILS					
MARK	TYPE	WIDTH	HEIGHT	THICKNESS	MATERIAL	FINISH	MATERIAL	FINISH	HEAD	JAMB	SILL	FIRE RATING	HARDWARE GROUP	REMARKS
101A	A	3' - 0"	7' - 10"	1 3/4"	HM	FP	HM	FP	14/6-A8.02	20/6-A8.02	26/6-A8.02		6-02	EQUIPPED WITH CARD READER
101B	B	16' - 0"	8' - 0"	2"	MTL	FF	MTL	FF	15/6-A8.02	21/6-A8.02	27/6-A8.02		6-03	
102	A	3' - 0"	7' - 10"	1 3/4"	HM	FP	HM	FP	13/6-A8.02	19/6-A8.02	25/6-A8.02		6-01	
103	A	3' - 0"	7' - 10"	1 3/4"	HM	FP	HM	FP	13/6-A8.02	19/6-A8.02	25/6-A8.02		6-01	

DOOR TYPE ELEVATIONS



DOOR SCHEDULE LEGEND

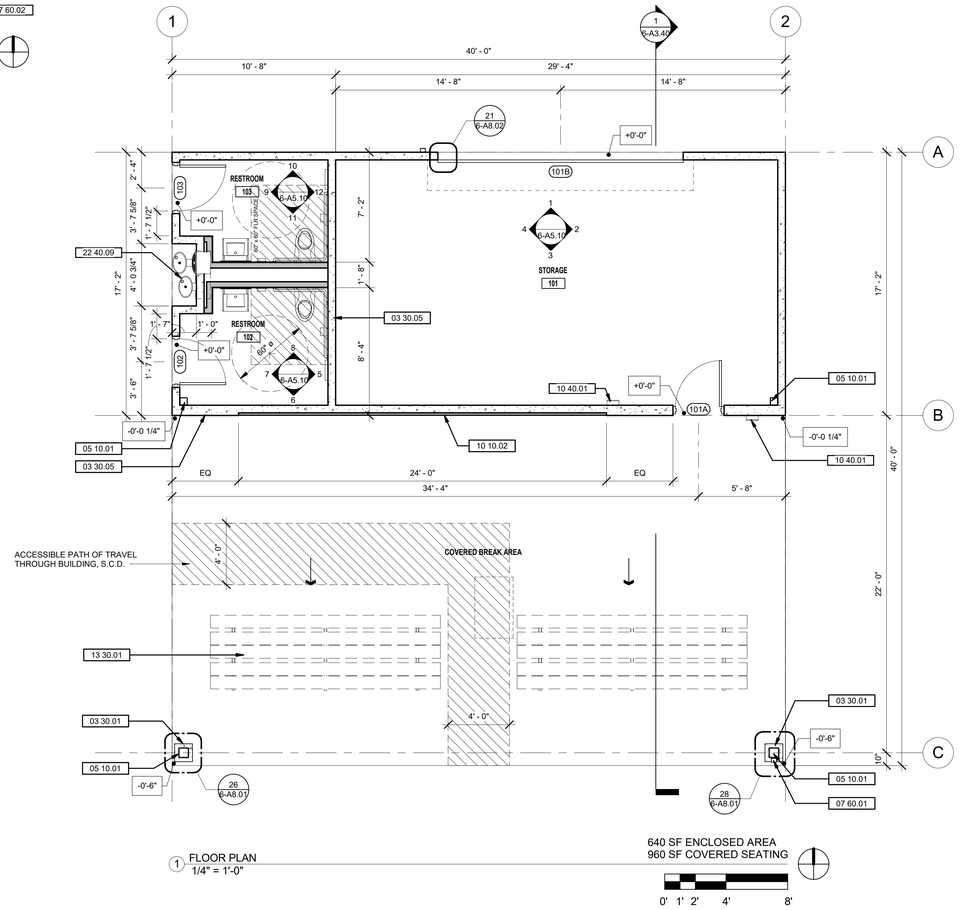
DOOR CONSTRUCTION:
AL = ALUMINUM
FAB = FABRIC
GL = TEMPERED GLASS
HC = HOLLOW CORE
SC = SOLID CORE
HM = HOLLOW METAL
MTL = METAL

DOOR FINISHES:
ANOD = ANODIZED
FF = FACTORY FINISHED
FP = FIELD PAINT
FS = FIELD STAIN

FRAME MATERIAL:
AL = ALUMINUM
HM = HOLLOW METAL
MTL = METAL
WD = WOOD

FRAME FINISHES:
ANOD = ANODIZED
FF = FACTORY FINISHED
FP = FIELD PAINT
FS = FIELD STAIN

DOOR SCHEDULE LEGEND
12" = 1'-0"



1 FLOOR PLAN
1/4" = 1'-0"

640 SF ENCLOSED AREA
960 SF COVERED SEATING

0' 1' 2' 4' 8'

GENERAL SHEET NOTES

1. SEE SHEET 6-A0.01 FOR ACCESSIBLE MOUNTING HEIGHTS AND CLEARANCES.
2. REFER TO DETAILS 11, 17, & 23 ON SHEET 6-A8.02 FOR BIRD DETERRENT ASSEMBLIES.
3. CONCRETE AND CMU WALL DIMENSIONS MEASURED TO FACE OF CONCRETE OR BLOCK, U.O.N.
4. FOR LOCATION AND DETAILED INFORMATION ON SIGNAGE, REFER TO "VOLUME 5 CONSTRUCTION DOCUMENT DRAWINGS (SIGNAGE)"
5. "ALIGN" ANNOTATIONS AT WALLS REFER TO FACE OF FINISH, U.O.N.
6. SEE PLUMBING DRAWINGS FOR FLOOR DRAIN AND CLEANOUT LOCATIONS.
7. MINIMUM ROOF SLOPES SHALL BE 1/4" PER FOOT, U.O.N.
8. SLOPE ARROWS @ ROOF AREAS INDICATE DOWN SLOPE, TYP.
9. REFER TO PLUMBING DRAWINGS AND PLUMBING SYSTEM TO BE INSTALLED FOR ALL ROOF PLUMBING PENETRATIONS.
10. CONTRACTOR SHALL COORDINATE THE LOCATION OF ROOF DRAINS AND PIPING TO AVOID CONFLICTS WITH STRUCTURE, MECHANICAL SYSTEM AND INFRASTRUCTURE.
11. REFER TO ARCHITECTURAL DETAIL SERIES FOR TYPICAL PENETRATION WATERPROOFING ASSEMBLIES
12. PHOTOVOLTAIC ARRAY SHALL COMPLY TO THE 2016 CALIFORNIA FIRE CODE.
13. ALUMINUM ROOFING SHALL BE INSTALLED IN A MANNER SO AS TO PROVIDE SEPARATION BETWEEN DISSIMILAR METALS

WALL LEGEND

CONCRETE WALL, S.S.D. FOR THICKNESS & REINFORCING

WALL LEGEND
1/4" = 1'-0"

4" DEEP 20-GAGE METAL STUDS @ 16" O.C. w/ 5/8" W.R. GYPSUM BOARD ON ROOM SIDE

SHEET KEYNOTE LEGEND

03 30.01	PROTECTIVE CONCRETE CASING @ BASE OF STEEL COLUMN, TYPICAL U.N.O.
03 30.05	SEALED CAST-IN-PLACE (CIP) CONCRETE EXTERIOR WALLS, TYPICAL
05 10.01	PAINTED STEEL COLUMN, S.S.D.
07 40.01	PRE-FINISHED STANDING SEAM METAL ROOF PANELS, TYPICAL
07 40.02	ARROW INDICATES DOWNWARD DIRECTION OF ROOF SLOPE, TYPICAL
07 50.02	MODIFIED BITUMEN MEMBRANE ROOF OVER STRUCTURAL DECK
07 60.01	PAINTED ALUMINUM DOWNSPOUT FROM GUTTER ABOVE, SECURED TO STEEL COLUMN
07 60.02	INDICATES DOWNSPOUT LOCATION, TYPICAL
07 60.03	PAINTED ALUMINUM EAVE GUTTER
07 60.12	MINIMUM 8" WIDE X 4" HIGH ROOF SCUPPER THROUGH WALL
07 70.09	MAINTENANCE TIE-OFF ANCHOR, SEE 10/6-S1.50 FOR DETAIL
10 10.02	BACKPAINTED GLASS MARKER BOARD MOUNTED WITH STAND-OFFS SET INTO RECESS IN CONCRETE WALL
10 40.01	SURFACE-MOUNTED FIRE EXTINGUISHER CABINET
10.70.01	PROVIDE POST & WIRE BIRD DETERRENT ASSEMBLY FOR ENTIRE LENGTH OF PARAPET
13 30.01	PORTABLE METAL BLEACHERS
22 40.09	HI-LOW DRINKING FOUNTAIN, S.P.D. AND SEE ACCESSIBILITY STANDARDS FOR MOUNTING REQUIREMENTS
26 30.01	ROOF-MOUNTED PHOTOVOLTAIC PANELS, TYPICAL. S.E.D.

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY:	
KATHY GARCIA, DEP. DIR. PUBLIC WORKS	**ALEX AMERI**, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

HAYWARD FIRE STATION #6 FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	INC 01_ADD_01_V1	12/06/2019

PERMIT SUBMITTAL V3 - INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
RENEWAL DATE 5/31/21
STATE OF CALIFORNIA

Sheet Title

BUILDING 6
FLOOR PLAN, ROOF PLAN

Drawn By: SF/EW
Checked By: EW

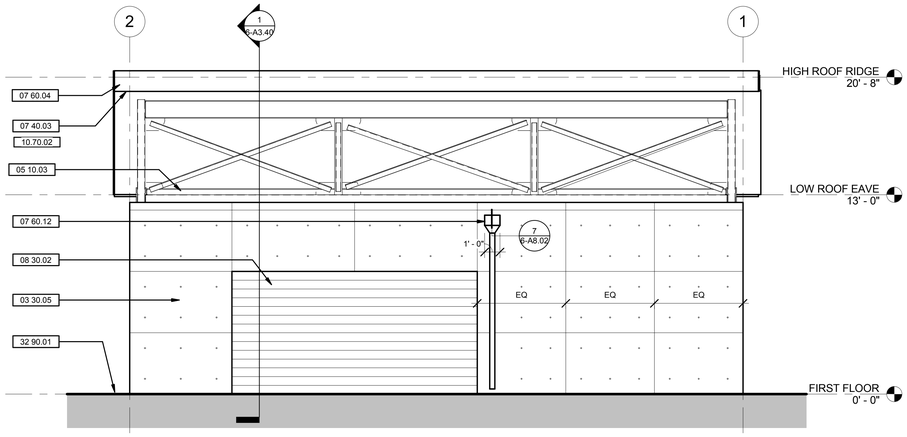
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October 4, 2019

Project No. 2016039

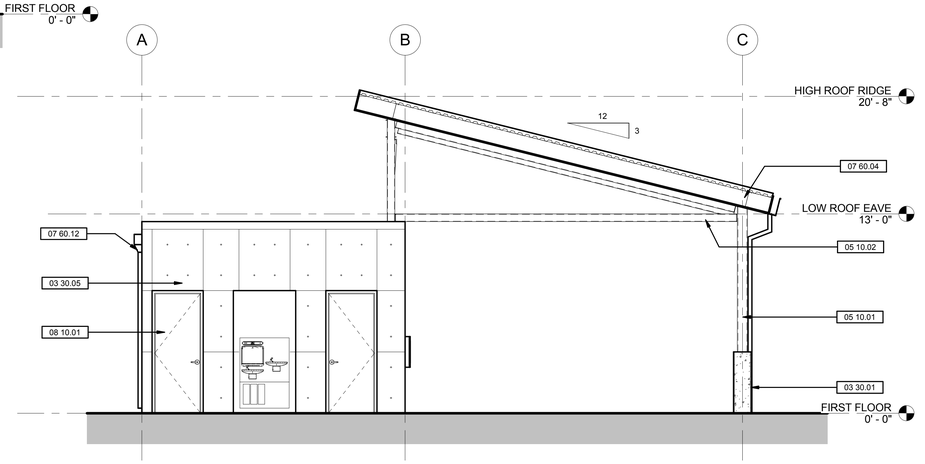
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Drawing No.

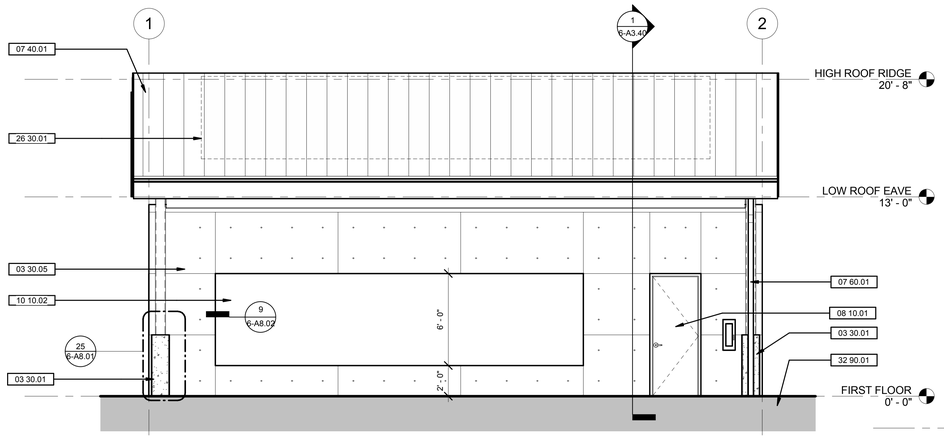
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1 NORTH EXTERIOR ELEVATION
1/4" = 1'-0"

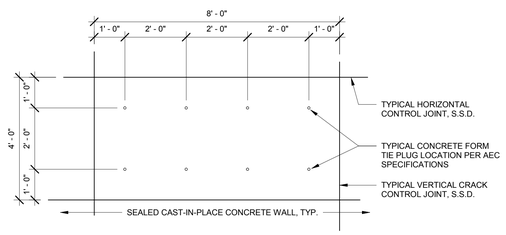
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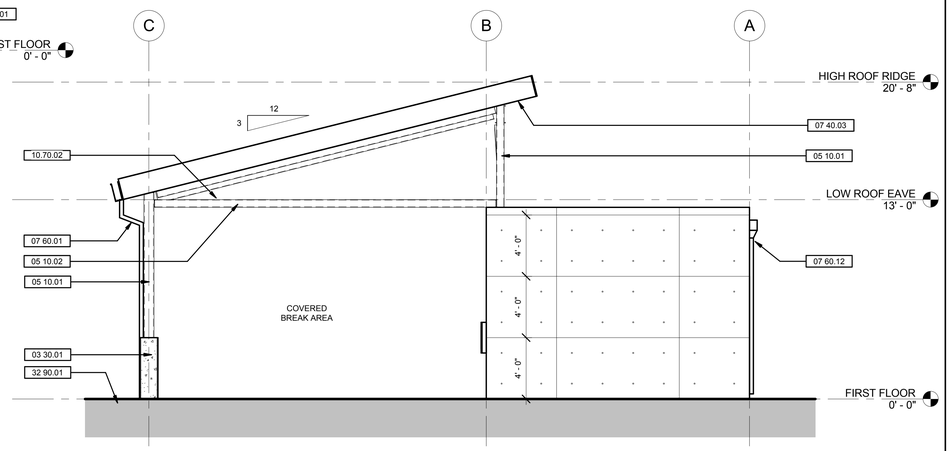


3 SOUTH EXTERIOR ELEVATION
1/4" = 1'-0"

0' 1' 2' 4' 8'



4 TYPICAL CIP WALL JOINT PATTERN
1/2" = 1'-0"



5 EAST EXTERIOR ELEVATION
1/4" = 1'-0"

0' 1' 2' 4' 8'

GENERAL SHEET NOTES

1. PHOTOVOLTAIC ARRAY SHALL CONFORM TO THE 2016 CALIFORNIA FIRE CODE.
2. REFER TO DETAILS 11, 17, & 23 ON SHEET 6-A8.02 FOR BIRD DETERRENT ASSEMBLIES.
3. SEE DETAIL 4/6-A3.10 FOR CAST-IN-PLACE ARCHITECTURAL CONCRETE LINER PANEL & FORM TIE HOLE LAYOUT ELEVATION.

SHEET KEYNOTE LEGEND

03 30.01	PROTECTIVE CONCRETE CASING @ BASE OF STEEL COLUMN, TYPICAL U.N.O.
03 30.05	SEALED CAST-IN-PLACE (CIP) CONCRETE EXTERIOR WALLS, TYPICAL
05 10.01	PAINTED STEEL COLUMN, S.S.D.
05 10.02	PAINTED STEEL BEAM, S.S.D.
05 10.03	PAINTED STEEL CROSS BRACING & CONNECTION PLATES, S.S.D.
07 40.01	PRE-FINISHED STANDING SEAM METAL ROOF PANELS, TYPICAL
07 40.03	PRE-FINISHED METAL SOFFIT PANELS, TYPICAL
07 60.01	PAINTED ALUMINUM DOWNSPOUT FROM GUTTER ABOVE, SECURED TO STEEL COLUMN
07 60.04	PAINTED ALUMINUM FASCIA TRIM
07 60.12	MINIMUM 8" WIDE X 4" HIGH ROOF SCUPPER THROUGH WALL
08 10.01	PAINTED HOLLOW METAL DOOR & FRAME
08 30.02	PAINTED METAL OVERHEAD COILING DOOR
10 10.02	BACKPAINTED GLASS MARKER BOARD MOUNTED WITH STAND-OFFS SET INTO RECESS IN CONCRETE WALL
10.70.02	PROVIDE SPIKE BIRD DETERRENT ASSEMBLY AT TOP OF EXPOSED HORIZONTAL BEAMS AND AT VALLEYS OF CROSS BRACING, TYP.
26 30.01	ROOF-MOUNTED PHOTOVOLTAIC PANELS, TYPICAL. S.E.D.
32 90.01	LANDSCAPE AREA, SEE CIVIL AND LANDSCAPE DRAWINGS

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542
ARCHITECTURE

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: **KATHY GARCIA** DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

HAYWARD FIRE STATION #6 FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3 - INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
9/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 6 EXTERIOR ELEVATIONS

Drawn By: EW
Checked By: EW

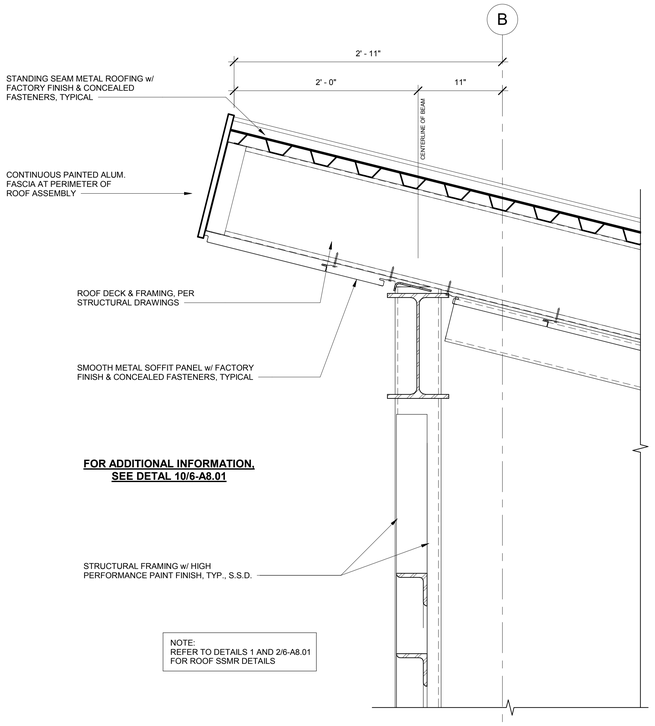
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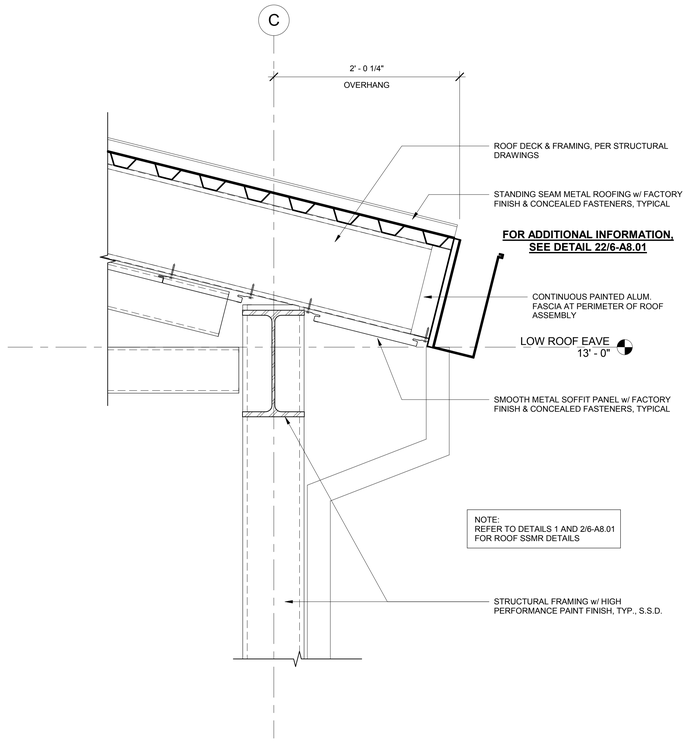
Project No. 2016039

6-A3.10
Drawing No.

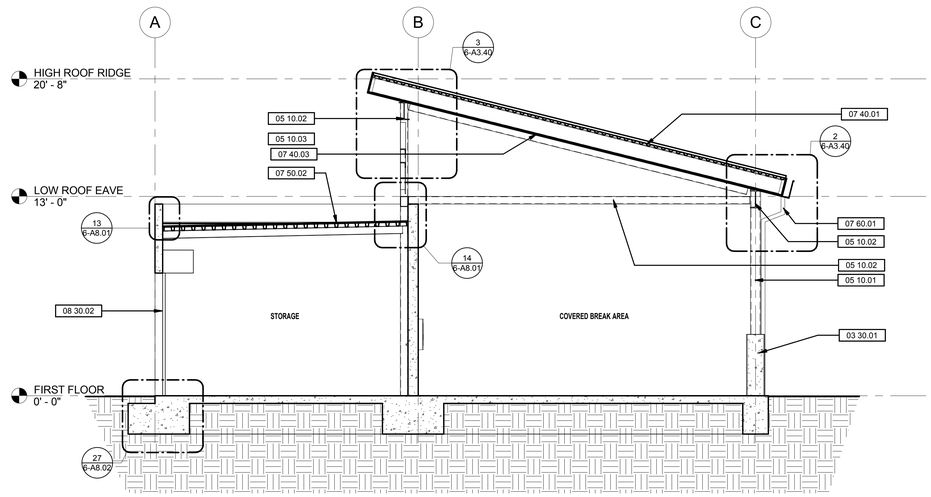
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3 HIGH ROOF EAVE
1 1/2" = 1'-0"



2 LOW ROOF EAVE
1 1/2" = 1'-0"



1 TRANSVERSE SECTION
1/4" = 1'-0"

GENERAL SHEET NOTES

SHEET KEYNOTE LEGEND

03 30.01	PROTECTIVE CONCRETE CASING @ BASE OF STEEL COLUMN, TYPICAL U.N.O.
05 10.01	PAINTED STEEL COLUMN, S.S.D.
05 10.02	PAINTED STEEL BEAM, S.S.D.
07 40.01	PRE-FINISHED STANDING SEAM METAL ROOF PANELS, TYPICAL
07 40.03	PRE-FINISHED METAL SOFFIT PANELS, TYPICAL
07 50.02	MODIFIED BITUMEN MEMBRANE ROOF OVER STRUCTURAL DECK
07 60.01	PAINTED ALUMINUM DOWNSPOUT FROM GUTTER ABOVE, SECURED TO STEEL COLUMN
08 30.02	PAINTED METAL OVERHEAD COILING DOOR

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DIV. OF THE STATE ARCHITECT
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DATE: 11/12/2019

RossDrulisCusenbery
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542
ARCHITECTURE

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
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APPROVED BY:	
KATHY GARCIA DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
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MICHAEL B. ROSS
No. C-18867
9/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 6
BUILDING CROSS SECTION, ARCHITECTURAL DETAILS

Drawn By: EW Checked By: EW

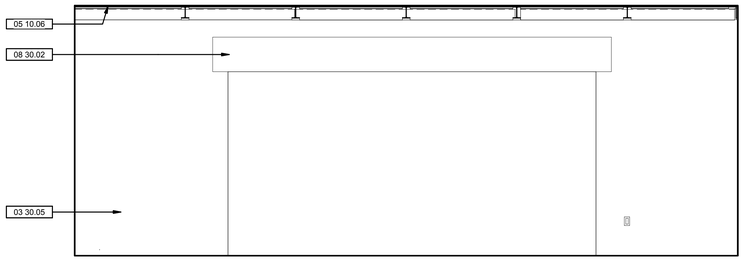
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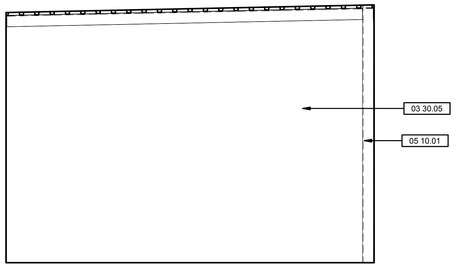
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6-A3.40
Drawing No.

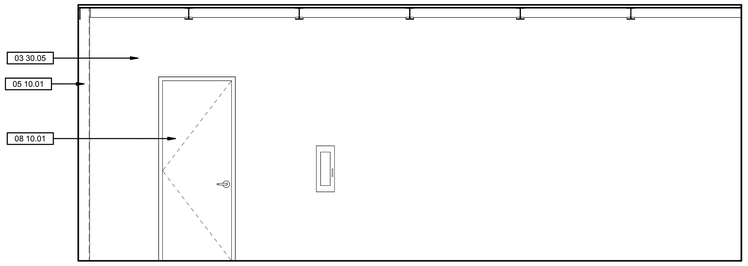
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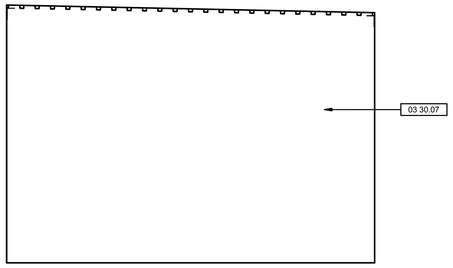
1 STORAGE 101- NORTH
3/8" = 1'-0"



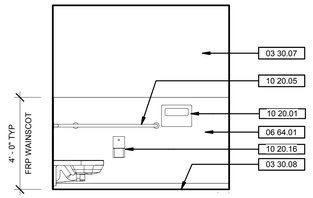
2 STORAGE 101 - EAST
3/8" = 1'-0"



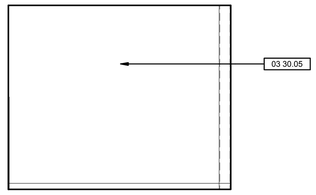
3 STORAGE 101- SOUTH
3/8" = 1'-0"



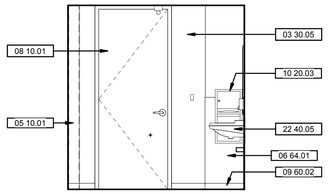
4 STORAGE 101- WEST
3/8" = 1'-0"



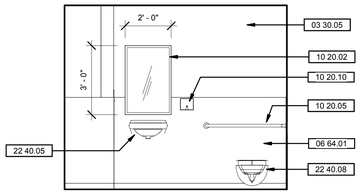
5 RESTROOM 102 - EAST
3/8" = 1'-0"



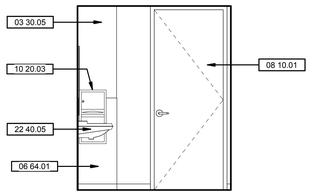
6 RESTROOM 102 - SOUTH
3/8" = 1'-0"



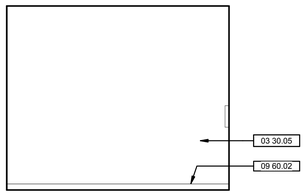
7 RESTROOM 102 - WEST
3/8" = 1'-0"



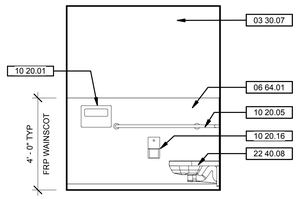
8 RESTROOM 102 - NORTH
3/8" = 1'-0"



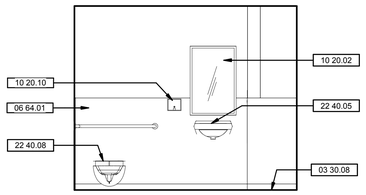
9 RESTROOM 103 - WEST
3/8" = 1'-0"



10 RESTROOM 103 - NORTH
3/8" = 1'-0"



12 RESTROOM 103 - EAST
3/8" = 1'-0"



11 RESTROOM 103 - SOUTH
3/8" = 1'-0"

TOILET ROOM ACCESSORIES

ITEM	MANUFACTURER	MODEL	FINISH	QTY.	LOCATION
SURFACE MOUNTED TOILET SEAT COVER DISPENSER	BOBRICK	B-221	SATIN S.S.	2	(1) EA. RESTROOM PER PLAN/ELEV'S
RECESSED PAPER TOWEL DISPENSER & WASTE RECEPTACLE	BOBRICK	B-369	SATIN S.S.	2	(1) EA. RESTROOM PER PLAN/ELEV'S
MIRROR	BOBRICK	B-290	SATIN S.S.	2	(1) EA. RESTROOM PER PLAN/ELEV'S
SURFACE MOUNTED SOAP DISPENSER	BOBRICK	B-2112	SATIN S.S.	2	(1) EA. RESTROOM PER PLAN/ELEV'S
L-SHAPED GRAB BAR	BOBRICK	B-5897	SATIN S.S.	2	(1) EA. RESTROOM PER PLAN/ELEV'S
SURFACE MOUNTED TOILET TISSUE DISPENSER	BOBRICK	B-2888	SATIN S.S.	2	(1) EA. RESTROOM PER PLAN/ELEV'S

GENERAL SHEET NOTES

1. SEE SHEET 6-A0.10 FOR ACCESSIBLE MOUNTING HEIGHTS AND CLEARANCES.

SHEET KEYNOTE LEGEND

03 30.05	SEALED CAST-IN-PLACE (CIP) CONCRETE EXTERIOR WALLS, TYPICAL
03 30.07	CAST-IN-PLACE CONCRETE WALL, S.S.D.
03 30.08	CAST-IN-PLACE (CIP) CONCRETE SLAB WITH PENETRATING SEALER
05 10.01	PAINTED STEEL COLUMN, S.S.D.
05 10.06	PAINT ALL EXPOSED STEEL FRAMING, TYPICAL
06 64.01	FIBERGLASS REINFORCED PLASTIC PANELS
08 10.01	PAINTED HOLLOW METAL DOOR & FRAME
08 30.02	PAINTED METAL OVERHEAD COILING DOOR
09 60.02	ANODIZED ALUMINUM WALL BASE, TYP.
10 20.01	SURFACE-MOUNTED SEAT COVER DISPENSER
10 20.02	WALL-MOUNTED 2'-0" X 3'-0" RECTANGULAR MIRROR. SEE ACCESSIBILITY STANDARDS FOR MOUNTING REQUIREMENTS. SHIM @ UNEVEN WALL FINISH FOR PLUMB INSTALLATION & PROVIDE CONTINUOUS SEALANT AROUND PERIMETER
10 20.03	RECESSED COMBINATION PAPER TOWEL AND WASTE DISPOSAL UNIT, SEE ACCESSIBILITY STANDARDS FOR MOUNTING REQUIREMENTS. SHIM AT UNEVEN WALL FINISHES FOR PLUMB INSTALLATION & PROVIDE CONTINUOUS SEALANT AROUND PERIMETER
10 20.05	S.S. GRAB BAR. SEE ACCESSIBILITY STANDARDS FOR MOUNTING AND LENGTH REQUIREMENTS
10 20.10	SOAP DISPENSER, MOUNTED 40" MAX. A.F.F. PER CBC 11B-608.10
10 20.16	SURFACE-MOUNTED TOILET TISSUE DISPENSER
22 40.05	ACCESSIBLE SINK, WALL MOUNTED, S.P.D. AND SEE ACCESSIBILITY STANDARDS FOR MOUNTING REQUIREMENTS
22 40.08	WALL MOUNTED WATER CLOSET, TYP. S.P.D. AND SEE ACCESSIBILITY STANDARDS FOR MOUNTING REQUIREMENTS

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3 - INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
9/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 6 INTERIOR ELEVATIONS

Drawn By: EW
Checked By: EW

Scale:
As indicated

Date:
October 4, 2019

Project No. 2016039

6-A5.10
Drawing No.

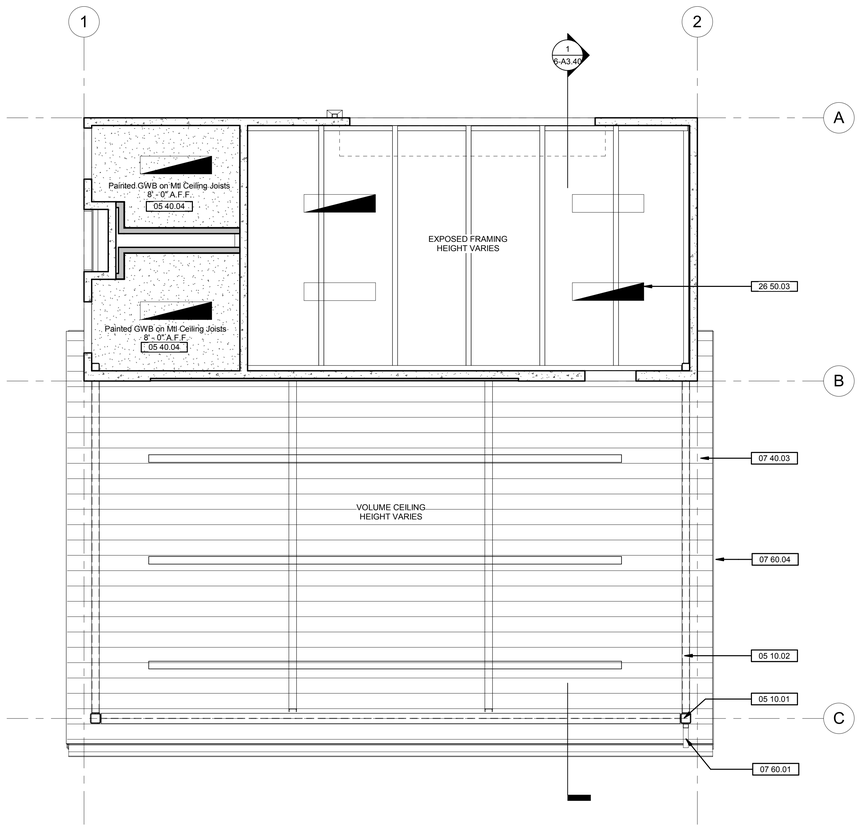
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GENERAL SHEET NOTES

1. DEVICES ARE SHOWN FOR LOCATION CRITERIA ONLY, SEE ASSOCIATED CONSULTANT DRAWINGS FOR COUNT AND ADDITIONAL INFORMATION.
2. EXIT SIGNS TO BE CENTERED ON DOOR, U.O.N.
3. PROVIDE LAYOUT OF DEVICES FOR ARCHITECTURAL APPROVAL PRIOR TO INSTALLATION.
4. REPORT ANY DISCREPANCIES BETWEEN CONSULTANT DRAWINGS AND ARCHITECTURAL DRAWINGS TO ARCHITECT UPON DISCOVERY.
5. DETAIL REFERENCES LISTED ARE PROVIDED FOR CONVENIENCE. ADDITIONAL DETAILS MAY NEED TO BE REFERENCED, TYPICAL.

SHEET KEYNOTE LEGEND

05 10.01	PAINTED STEEL COLUMN, S.S.D.
05 10.02	PAINTED STEEL BEAM, S.S.D.
05 40.04	PROVIDE METAL CEILING JOISTS AS NECESSARY TO SUPPORT GYPSUM BOARD CEILING IN COMPLIANCE WITH DETAIL 1/6-S1.30
07 40.03	PRE-FINISHED METAL SOFFIT PANELS, TYPICAL
07 60.01	PAINTED ALUMINUM DOWNSPOUT FROM GUTTER ABOVE, SECURED TO STEEL COLUMN
07 60.04	PAINTED ALUMINUM FASCIA TRIM
26 50.03	LIGHT FIXTURE, TYPICAL. S.E.D.



1 REFLECTED CEILING PLAN
1/4" = 1'-0"

0' 1' 2' 4' 8'

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: **KATHY GARCIA** DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

HAYWARD FIRE STATION #6 FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3 - INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
12/31/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 6
REFLECTED CEILING PLAN

Drawn By: EW Checked By: EW

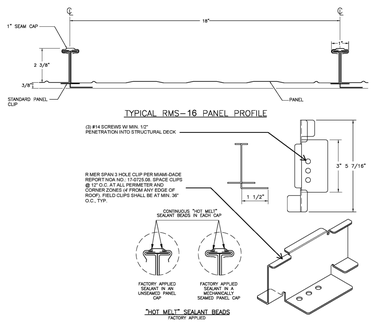
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Date: **October 4, 2019**

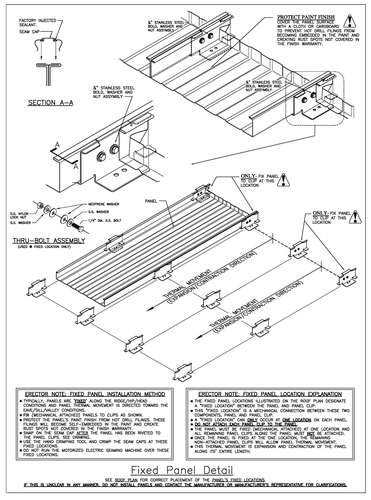
Project No. 2016039

6-A6.10
Drawing No.

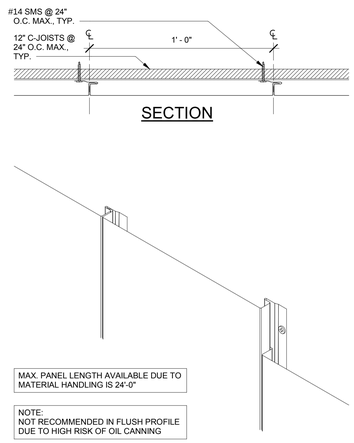
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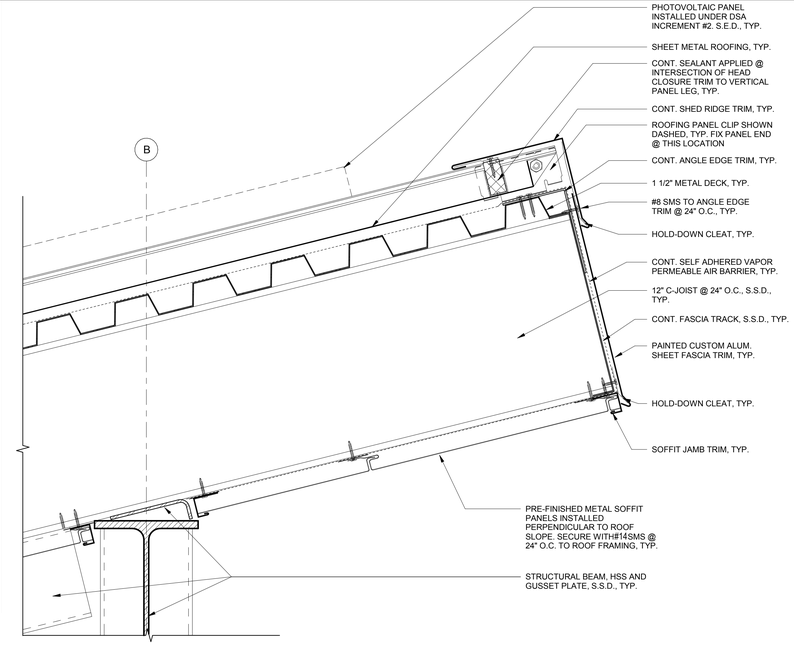
1 TYP. ROOF PANEL AND CLIPS
3" = 1'-0"



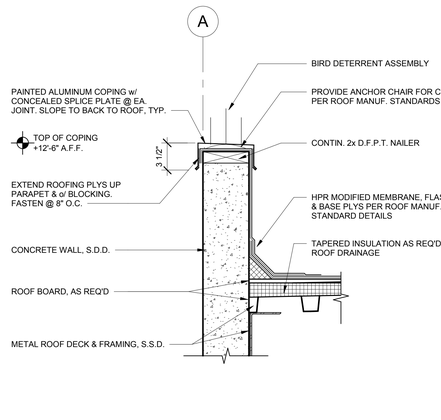
2 TYP. ROOF PANEL REQUIREMENTS
3" = 1'-0"



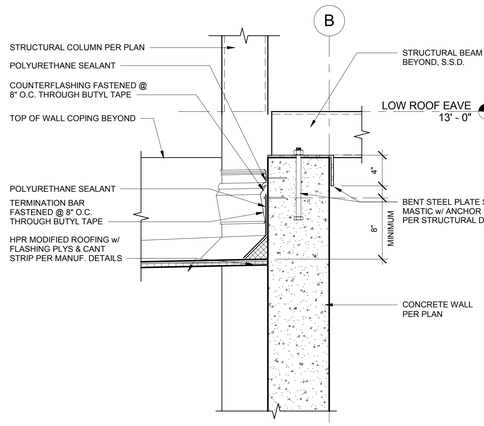
3 TYP. NON-PERF ALUMINUM SOFFIT PANEL
3" = 1'-0"



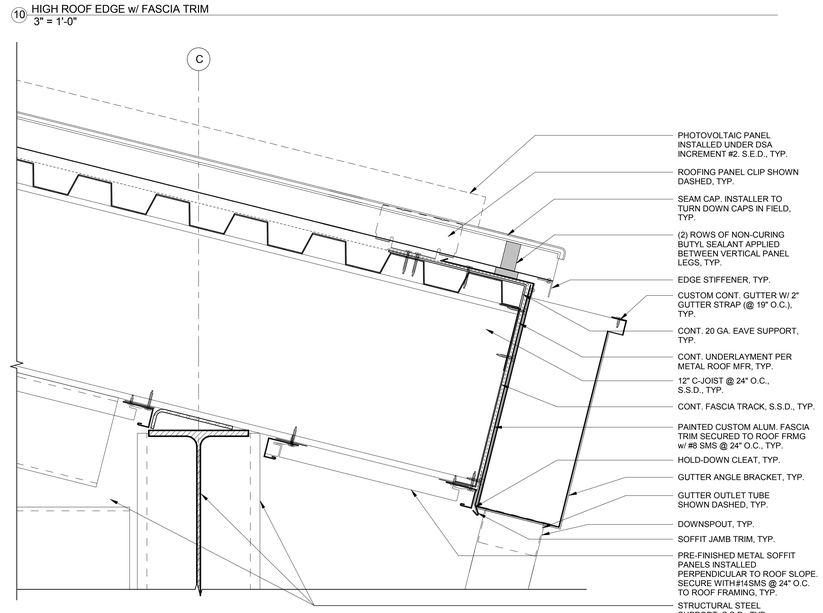
10 HIGH ROOF EDGE w/ FASCIA TRIM
3" = 1'-0"



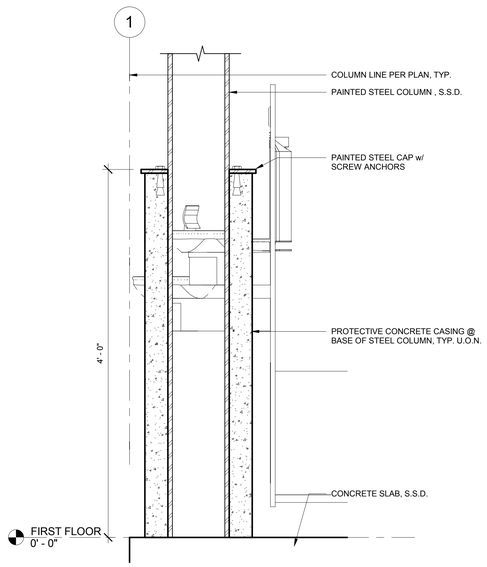
13 CIP WALL CAP
1 1/2" = 1'-0"



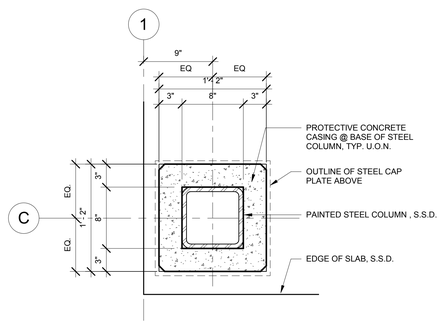
14 ROOF-WALL INTERSECTION - LINE B
1 1/2" = 1'-0"



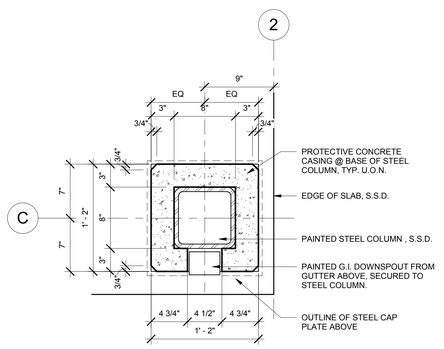
22 ROOF EDGE w/ CUSTOM GUTTER
3" = 1'-0"



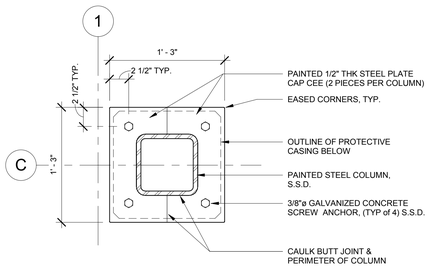
25 STEEL COLUMN BASE
1 1/2" = 1'-0"



26 TYPICAL COLUMN CASING
1 1/2" = 1'-0"



28 COLUMN CASING w/ DOWNSPOUT
1 1/2" = 1'-0"



29 TYPICAL COLUMN CASING CAP
1 1/2" = 1'-0"

APPROVED
DIV. OF THE STATE ARCHITECT
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DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY:	
KATHY GARCIA DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

HAYWARD FIRE STATION #6 FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3 - INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
RENEWAL DATE 08/31/21
STATE OF CALIFORNIA

Sheet Title

BUILDING 6 ARCHITECTURAL DETAILS

Drawn By: EW
Checked By: EW

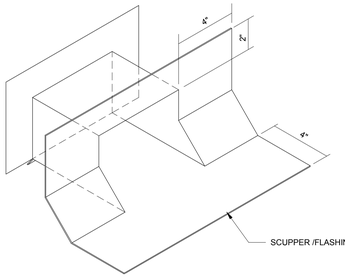
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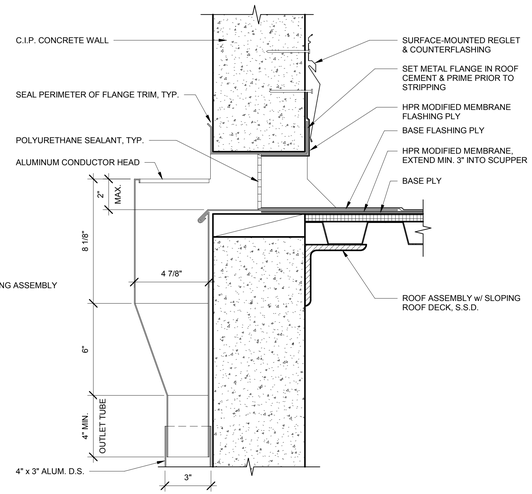
Date:
October 4, 2019

Project No. 2016039

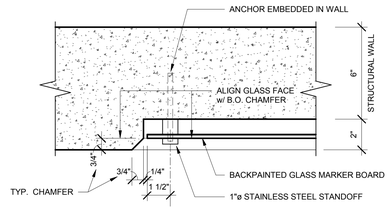
6-A8.01
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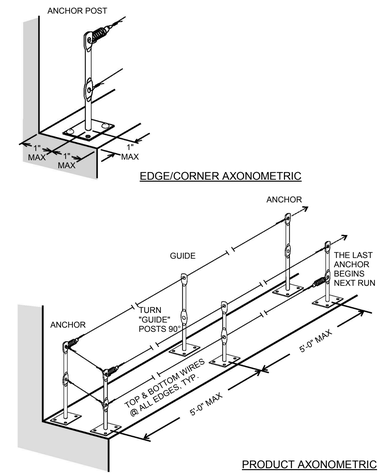




7 DOOR THRESHOLD @ 8" CONC. WALL
3" = 1'-0"



9 MARKER BOARD RECESS
3" = 1'-0"



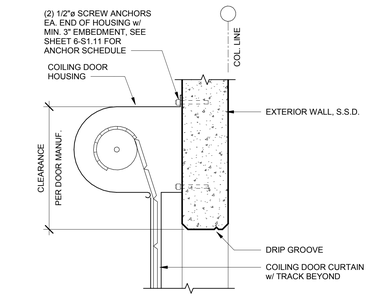
11 BIRD DETERRENT - INSTALLATION REQUIREMENTS
6" = 1'-0"



13 DOOR HEAD @ 6" CONCRETE WALL
3" = 1'-0"



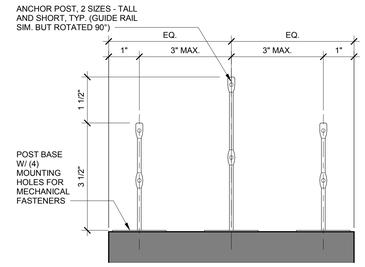
14 DOOR HEAD @ 8" CONCRETE WALL
3" = 1'-0"



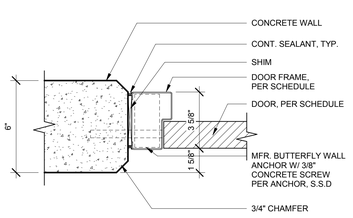
15 COILING DOOR HEAD
1 1/2" = 1'-0"

POST AND WIRE REQUIREMENTS:

1. TO BE USED AT BUILDING EXTERIOR AT PARAPET COPINGS
2. 100% STAINLESS STEEL WIRE ASSEMBLY
3. MAX. (3) ROWS OF POSTS PER PARAPET COPING
4. MAX 3" OF SPACE BETWEEN ROWS
5. MAX 1" OF SPACE BETWEEN ANY OUTSIDE EDGE OR WALL
6. MAX. SPACE BETWEEN ANCHOR POSTS IS 10'-0" O.C.
7. MAX. SPACE BETWEEN ANCHOR POSTS AND GUIDE POSTS IS 5'-0" O.C.
8. CABLE TO BE UV RESISTANT POLY-JACKET OVER 1x7 AIRCRAFT CABLE, 1/32" DIAMETER AND 110 LB BREAKING STRENGTH
9. CABLE SPRINGS ARE TO BE 1/4" x1/2" TENSION SPRINGS - CLOSED LOOP ON ONE END, QUARTER OPEN LOOP AT OTHER END
10. (2) 3/8" SCREW ANCHORS PER BASEPLATE. COORDINATE W. ANCHORAGE DETAILS ON 15/6-S1.10



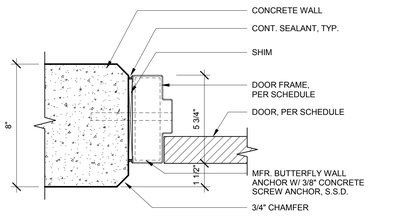
17 BIRD DETERRENT - POST AND WIRE ASSEMBLY
6" = 1'-0"



ANCHOR QUANTITIES:
- PROVIDE (4) ANCHORS FOR DOORS OVER 7'-6" TO 12'-0" HEIGHT
- PROVIDE (1) SILL ANCHOR EACH JAMB SIDE W/ 3/8" CONCRETE SCREW ANCHOR PER 15/6-S1.10

ANCHOR LOCATIONS:
1. LOCATE ALL ANCHORS ON HINGE JAMB AS CLOSE TO TOP OF HINGE REINFORCEMENT AS POSSIBLE.
2. LOCATE ANCHORS ON STRIKE JAMB IN THE CORRESPONDING POSITION AS THE HINGE JAMB.

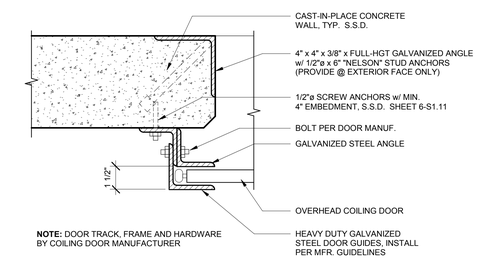
19 DOOR JAMB @ 6" CONCRETE WALL
3" = 1'-0"



ANCHOR QUANTITIES:
- PROVIDE (4) ANCHORS FOR DOORS OVER 7'-6" TO 12'-0" HEIGHT
- PROVIDE (1) SILL ANCHOR EACH JAMB SIDE W/ 3/8" CONCRETE SCREW ANCHOR PER 15/6-S1.10

ANCHOR LOCATIONS:
1. LOCATE ALL ANCHORS ON HINGE JAMB AS CLOSE TO TOP OF HINGE REINFORCEMENT AS POSSIBLE.
2. LOCATE ANCHORS ON STRIKE JAMB IN THE CORRESPONDING POSITION AS THE HINGE JAMB.

20 DOOR JAMB @ 8" CONCRETE WALL
3" = 1'-0"

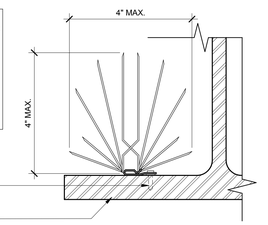


NOTE: DOOR TRACK, FRAME AND HARDWARE BY COILING DOOR MANUFACTURER

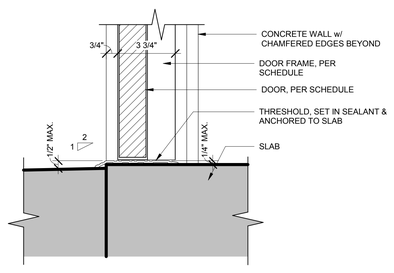
21 COILING DOOR JAMB
3" = 1'-0"

BIRD SPIKE REQUIREMENTS:

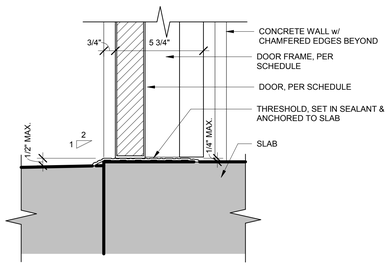
1. TO BE USED AT EXTERIOR FOR:
   A. EXPOSED WIDE FLANGE AND HSS BEAMS,
   B. AT VALLEYS AT CROSS BRACING
2. 100% STAINLESS STEEL WIRE ASSEMBLY
3. MIN. 120 WIRE POINTS PER FOOT
4. GAP FREE 180 DEGREES WIRE COVERAGE



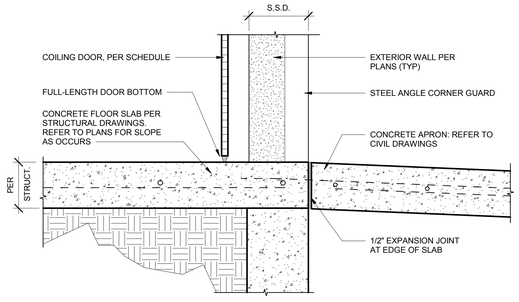
23 BIRD DETERRENT - SPIKE ASSEMBLY
6" = 1'-0"



25 DOOR THRESHOLD @ 6" CONC. WALL
3" = 1'-0"



26 DOOR THRESHOLD @ 8" CONC. WALL
3" = 1'-0"



27 DR- EXTERIOR COILING DOOR SILL
1 1/2" = 1'-0"

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SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: **KATHY GARCIA** DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

HAYWARD FIRE STATION #6 FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3 - INCREMENT #1

LICENSED ARCHITECT
MICHAEL B. ROSS
No. C-18867
9/30/21
RENEWAL DATE
STATE OF CALIFORNIA

Sheet Title

BUILDING 6 ARCHITECTURAL DETAILS

Drawn By: EW
Checked By: EW

Scale:
As indicated

Date:
October 4, 2019

Project No. 2016039

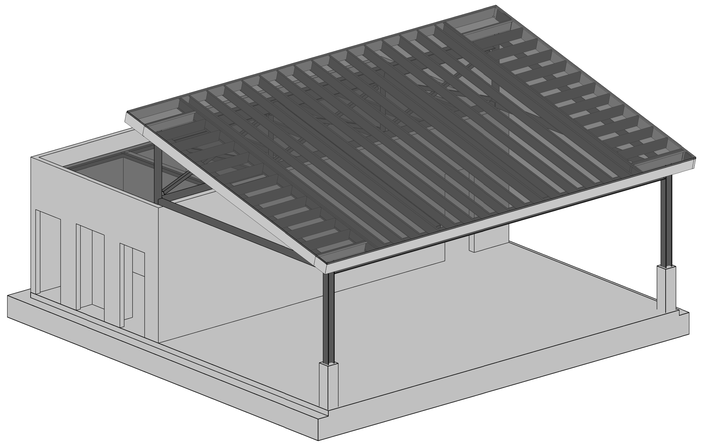
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Drawing No.

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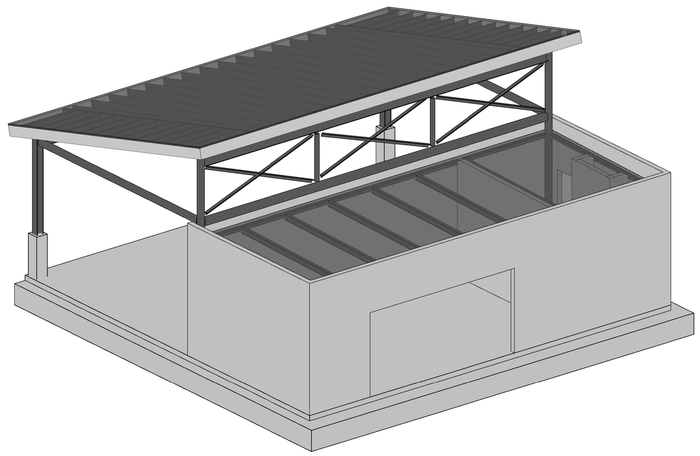
ABBREVIATIONS

AB	ANCHOR BOLT	GB	GRADE BEAM	PTDF	PRESSURE TREATED DOUGLAS FIR
ABV	ABOVE	GLB	GLUE LAMINATED BEAM	PT	POINT
AC	AIR CONDITIONING	GR	GRADE	PTN	PARTITION
ADJ	ADJUSTABLE	HD	HOLD DOWN	R	RISER
ADDL	ADDITIONAL	HDG	HOT-DIP GALVANIZED	RBS	REDUCED BEAM SECTION
ALT	ALTERNATE	HDR	HEADER	RFTR	RAFTER
ALUM	ALUMINUM	HGR	HANGER	REF	REFERENCE
ARCH	ARCHITECT	HK	HOOK	REINF	REINFORCING
@	AT	HORIZ	HORIZONTAL	REQD	REQUIRED
BLDG	BUILDING	HS	HIGH STRENGTH	RET	RETAINING
BLK/BLKG	BLOCK/BLOCKING	HSB	HIGH STRENGTH BOLT	REV	REVISION
BLW	BELOW	HSFB	HIGH STRENGTH FLOOR BOLT	RF	ROOF
BM	BEAM		HIGH STRENGTH GROUT	RWD	REDWOOD
BN	BOUNDARY NAIL	HSG	HORIZONTAL SLOTTED HOLE	S	AMERICAN STANDARD BEAM
BOT	BOTTOM	HSH	HORIZONTAL SLOTTED HOLE	SAD	SEE ARCHITECTURAL DRAWINGS
BRG	BEARING		HOLD		
BTWN	BETWEEN	HSS	HOLLOW STRUCTURAL SECTION	SB	SOLID BLOCK
BU	BUILT-UP			SC	SLIP CRITICAL
BYND	BEYOND	HT	HEIGHT	SCBF	SPECIAL CONCENTRIC BRACED FRAME
C	AMERICAN STANDARD CHANNEL	ID	INSIDE DIAMETER	SCD	SEE CIVIL DRAWINGS
CANT	CANTILEVER	IJ	I SHAPED WOOD BUILT UP JOIST	SDD	SEE DETAILS
CB	CARRIAGE BOLT	INT	INTERIOR	SED	SEE ELECTRICAL DRAWINGS
CIP	CAST IN PLACE	JST	JOIST	SEOR	STRUCTURAL ENGINEER OF RECORD
CGL	CERTIFIED GLUED LUMBER	JT	JOINT		
CJ	CONTROL JOINT	KP	KING POST	SFRS	SEISMIC FORCE RESISTING SYSTEM
℄	CENTERLINE		STEEL ANGLE		
⊏⊐P	COMPLETE JOINT PENETRATION	Lb or #	POUND(s)	SHTG	SHEATHING
		LGMF	LIGHT GAGE METAL FRAMING	SIM	SIMILAR
CLG	CEILING			SKYLT	SKYLIGHT
CLR	CLEAR	LGMFC	LIGHT GAGE METAL FRAMING CONTRACTOR	SMF	SPECIAL MOMENT FRAME
COL	COLUMN			SMS	SHEET METAL SCREW
COLL	COLLECTOR	LL	LIVE LOAD	SMD	SEE MECHANICAL DRAWINGS
CONC	CONCRETE	LLH	LONG LEG HORIZONTAL	SOG	SLAB ON GRADE
CONN	CONNECTION	LLV	LONG LEG VERTICAL	SPCG	SPACING
CONT	CONTINUOUS	LOC	LOCATION	SPD	SEE PLUMBING DRAWINGS
COORD	COORDINATE/ COORDINATION	LS	LAG SCREW	SPEC	SPECIFICATION
CMU	CONCRETE MASONRY UNIT	LSL	LAMINATED STRAND LUMBER	SQ	SQUARE
CPK	COUNTERSINK	LVL	LAMINATED VENEER LUMBER	SS	SELECT STRUCTURAL
CJK	CUT KNEE WALL	MAS	MASONRY		STAINLESS STEEL
CW	CUT WASHER	MB	MACHINE BOLT	STGR	STAGGERED
DBL	DOUBLE	MBM	METAL BUILDING MANUFACTURER	STD	STANDARD
DCW	DEMAND CRITICAL WELD			STIFF	STIFFENER
DF	DOUGLAS FIR	MC	MISCELLANEOUS CHANNEL	STL	STEEL
DIA or ⌀	DIAMETER	MECH	MECHANICAL	STRUCT	STRUCTURAL
DIAG	DIAGONAL	MEZZ	MEZZANINE	SW	SHEAR WALL
DIM	DIMENSION	MF	MOMENT FRAME	SYM	SYMMETRICAL
DJ	DOWEL JOINT	MFR	MANUFACTURER	T&B	TOP AND BOTTOM
DL	DEAD LOAD	MIN	MINIMUM	T&G	TONGUE AND GROOVE
DN	DOWN	MISC	MISCELLANEOUS	TNS	TENSION
DO	DITTO	MW	MALLEABLE IRON WASHER	THRD	THREADED
DWG	DRAWING	MTL	METAL	THRU	THROUGH
DWL	DOWEL	(N)	NEW	TL	TOTAL LOAD
EA	EACH	NIC	NOT IN CONTRACT	TN	TOE NAIL
EE	EACH END	NO or #	NUMBER	TOC	TOP OF CONCRETE
EF	EACH FACE	NS	NEAR SIDE	TOF	TOP OF FRAMING
ELEC	ELECTRICAL	NSG	NON-SHRINK GROUT	TOM	TOP OF MASONRY
ELEV	EMBED/ELEVATION	NTS	NOT TO SCALE	TOP	TOP OF PLYWOOD
EMBED	EMBEDMENT	OC	ON CENTER	TOS	TOP OF STEEL
EQ	EQUAL	oc	ON CENTER	TOT	TOTAL
EQUIP	EQUIPMENT	OD	OUTSIDE DIAMETER	TU	TILT UP
ES	EACH SIDE	OH	OPPOSITE HAND	TYP	TYPICAL
EW	EACH WAY	OPNG	OPENING	UNO	UNLESS NOTED OTHERWISE
EXIST or (E)	EXISTING	OPP	OPPOSITE	VERT	VERTICAL
EXP	EXPANSION	OW	OTHERWISE	VIF	VERIFY IN FIELD
EXT	EXTERIOR	OWT	OPEN WEB TRUSS	VSH	VERTICAL SLOTTED HOLE
FDN	FOUNDATION	P	PLATE or PROPERTY LINE	W	WIDE FLANGE STEEL BEAM
FIN	FINISH	PA	PLATE AT	W/	WITH
FG	FINISH GRADE	PDP	POWDER DRIVEN PINS	W/O	WITHOUT
FLU	FERRULE LOOP INSERT	PEN	PANEL EDGE NAIL	WD	WOOD
FLR	FLOOR	PERP	PERPENDICULAR	WHS	WELDED HEADED STUD
FN	FACE NAIL	PES	PANEL EDGE SCREWS	WLD	WELDED
FOC	FACE OF CONCRETE	PJP	PARTIAL JOINT PENETRATION	WP	WORK POINT/WATERPROOF
FOM	FACE OF MASONRY	PLF	POUNDS PER LINEAR FOOT	WS	WOOD SCREW
FOS	FACE OF STUD	PNL	PANEL	WT	WEIGHT
FRMG	FRAMING	PSF	POUNDS PER SQUARE FOOT	WTS	WELDED THREADED STUD
FS	FAR SIDE	PSI	POUNDS PER SQUARE INCH	WWR	WELDED WIRE REINFORCEMENT
FTG	FOOTING	PSL	PARALLEL STRAND LUMBER		
GA	GAGE or GAUGE	PTB	PANEL TIE BAR		
GALV	GALVANIZED				



THREE DIMENSIONAL VIEWS SHOWN IN THESE PLANS ARE FOR CONCEPTUAL USE ONLY. THE STRUCTURAL PLANS AND DETAILS TAKE PRECEDENCE OVER THREEDIMENSIONAL VIEWS.

1 3D REFERENCE VIEW



THREE DIMENSIONAL VIEWS SHOWN IN THESE PLANS ARE FOR CONCEPTUAL USE ONLY. THE STRUCTURAL PLANS AND DETAILS TAKE PRECEDENCE OVER THREEDIMENSIONAL VIEWS.

2 3D REFERENCE VIEW

D FOUNDATION NOTES

A. FOUNDATION DESIGN PRESSURES ARE:

SHALLOW FOOTINGS:
DEAD LOAD + LIVE LOAD = 3,000 PSF
DEAD LOAD + LIVE LOAD + LATERAL = 4,000 PSF

2. ALL SOILS WORK SHALL BE DONE IN ACCORDANCE WITH THE SPECIFICATIONS, THE REQUIREMENTS OF THE GEOTECHNICAL REPORT NOTED BELOW AND CHAPTER 18A OF THE CBC, TITLE 24, PART 2. ALL FOUNDATIONS SHALL BEAR ON FIRM, UNDISTURBED, NATIVE SOILS OR ENGINEERED FILL AT OR EXCEEDING DEPTHS SHOWN ON THE DRAWINGS. ENGINEERED FILL TO BE COMPACTED PER GEOTECHNICAL REPORT. INCREASE FILL AND OR FOOTING DEPTH AS REQUIRED BY GEOTECHNICAL ENGINEER. ALL FOOTING EXCAVATIONS SHALL BE AS NEAT AS PRACTICABLE. OVER-EXCAVATIONS IN WIDTH SHALL BE FILLED WITH CONCRETE, AND IN DEPTH MAY BE FILLED WITH LEAN CONCRETE OR COMPACTED APPROVED BACKFILL. ALL LOOSE SOILS SHALL BE REMOVED FROM EXCAVATIONS PRIOR TO PLACEMENT OF REINFORCING OR CONCRETE. GEOTECHNICAL REPORT BY:

ROCKRIDGE GEOTECHNICAL
PROJECT NO. 15-9198
DATED: September 21, 2018

3. TYPICAL SLAB: 6" CONCRETE REINFORCED WITH #5 @ 12"oc EACH WAY LOCATED 1½" CLEAR FROM TOP OF SLAB OVER VAPOR RETARDER (PER SPECIFICATIONS) AND 6" MINIMUM FREE DRAINING COMPACTED ROCK PER SPECIFICATIONS ON SUBGRADE PER THE GEOTECHNICAL RECOMMENDATIONS, AND AS APPROVED BY THE GEOTECHNICAL ENGINEER. DO NOT DRIVE CONCRETE TRUCKS OR LARGE SCREED MACHINES ON VAPOR BARRIER WITHOUT ADDITIONAL BUFFER MATERIAL AND APPROVAL FROM THE STRUCTURAL ENGINEER.

4. REFER TO ARCHITECTURAL AND PLUMBING DRAWINGS FOR DEPRESSED SLABS FOR ARCHITECTURAL FLOORING OR INSERTS, SLOPED SLABS TO DRAIN AND PIPES OR CONDUITS AT SLAB. SEE **7/6-S1.10** AT DEPRESSED SLAB & **6/6-S1.10** FOR PIPES AND CONDUITS.

5. PROVIDE CONTROL JOINTS PER **5/6-S1.10** (OR CONSTRUCTION/DOWEL JOINTS AT CONTRACTOR'S OPTION) AS SHOWN ON PLAN AND AS REQUIRED TO MEET A MAXIMUM SPACING IN FEET OF 3 TIMES THE SLAB DEPTH IN INCHES (FOR EXAMPLE 3x4" = 12'-0"oc MAX). PROVIDE CONSTRUCTION/DOWEL JOINTS PER **10/6-S1.10** AS SHOWN ON PLAN, BUT NOT GREATER THAN 60'-0"oc EACH WAY. INSTALL JOINTS TO DIVIDE SLAB INTO RECTANGULAR AREAS WITH LONG DIMENSION LESS THAN 1.5 x SHORT DIMENSION. INSTALL JOINTS AT FACE OF STUDS OF WALL WHERE POSSIBLE. SUBMIT JOINT LAYOUT PLAN FOR REVIEW PRIOR TO PLACEMENT.

6. TOP OF FOOTING ELEVATIONS TO BE DETERMINED BY THE CONTRACTOR BASED ON INFORMATION FROM THE CIVIL DRAWINGS, GEOTECHNICAL REPORT, LANDSCAPE, ETC.

E MATERIAL DATA

(INFORMATION SHOWN IS FOR STRUCTURAL DESIGN REFERENCE ONLY. SEE THE PROJECT SPECIFICATIONS FOR ALL MATERIAL SPECIFICATIONS.)

CONCRETE 28-DAY ULTIMATE COMPRESSIVE STRENGTH:
F'_c = 5,000 PSI FOUNDATIONS
F'_c = 3,000 PSI INTERIOR SLAB ON GRADE (4,000 PSI AT 56 DAYS)
F'_c = 5,000 PSI WALLS, COLUMNS, ELEVATED SLABS

REINFORCING STEEL YIELD STRENGTH:
ALL SPECIAL CONCRETE SHEARWALL REINFORCING SHALL BE A706 GR. 60.
ALL OTHER REINFORCING, EXCEPT AS NOTED ABOVE:
F_y = 40,000 PSI AT #3 AND SMALLER
F_y = 60,000 PSI AT #4 AND LARGER

STEEL YIELD STRENGTH (UNO):
F_y = 50,000 PSI W SHAPES
F_y = 36,000 PSI ANGLES, CHANNELS, AND PLATES
F_y = 50,000 PSI PLATES AT MOMENT OR BRACE FRAME CONNECTIONS
F_y = 46,000 PSI RECTANGULAR HSS
F_y = 42,000 PSI ROUND HSS
F_y = 35,000 PSI PIPES

FASTENERS:
MACHINE BOLTS SHALL BE ASTM A307
HIGH STRENGTH BOLTS, NUTS, AND HARDENED WASHERS SHALL BE ASTM F3125 GRADE A325, ASTM A563, AND ASTM F436, RESPECTIVELY.
ANCHOR RODS SHALL BE ASTM F1554 GR 36 UNO
PDP TO BE 0.157"⌀ x MINIMUM 1½" LONG HILTI X-U (ICC-ESR-2269) UNO. AT STRUCTURAL STEEL USE 0.157"⌀ x¾" LONG HILTI X-U UNO.
ARC-WELDING ELECTRODES SHALL BE E70

COLD FORMED METAL FRAMING YIELD STRENGTH:
F_y = 33,000 PSI 33 & 43 MILS (20 & 18 GAUGE)
F_y = 50,000 PSI 54, 68, & 97 MILS (16, 14, & 12 GAUGE)

FOR METAL CONNECTOR DESIGNATION REFER TO SIMPSON STRONG-TIE PER SPECIFICATIONS.

F WIND C&C NOTES

NET COMPONENTS AND CLADDING WIND PRESSURES (PSF)

HEIGHT (FT)	SURFACE (PER ASCE 7-10 CHAPTER 30 PART 2)				
	ROOF ZONE			WALL ZONE	
	1	2	3	4	5
26	19 / -30	19 / -52	19 / -77	30 / -33	30 / -40
OVERHANGS	---	19 / -66	19 / -108	---	---

1. GIVEN VALUES SHALL BE USED FOR DESIGN OF CLADDING SYSTEMS UNLESS ENGINEERING IS SUBMITTED FOR REVIEW PER ITEM 3.
2. SEE **A/6-S0.10** FOR WIND DESIGN CRITERIA.
3. GIVEN PRESSURES ARE BASED ON AN EFFECTIVE AREA OF 10 SQUARE FEET OR LESS. ENGINEERING MAY BE SUBMITTED TO SUBSTANTIATE USE OF LOWER PRESSURES BASED ON GREATER EFFECTIVE WIND AREAS.
4. NEGATIVE VALUES INDICATE PRESSURE DIRECTED AWAY FROM THE EXTERIOR SURFACE OF THE STRUCTURE. BOTH THE POSITIVE AND NEGATIVE PRESSURE CASES SHALL BE CONSIDERED.

A DESIGN CRITERIA

DESIGN CRITERIA: 2016 CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 2 (CBC)
FLOOR LIVE LOAD: 60 PSF (REDUCIBLE) + 15 PSF PARTITION
ROOF LIVE LOAD: 20 PSF (REDUCIBLE)
FUTURE SOLAR: 4 PSF
RISK CATEGORY: II
WIND DATA: ULTIMATE WIND SPEED (3 SEC GUST) IN MPH: 115
NOMINAL WIND SPEED (3 SEC GUST) IN MPH: 89
WIND EXPOSURE: C
INTERNAL WIND PRESSURE COEFFICIENT (GCPI) = ±0.18
COMPONENTS AND CLADDING DESIGN PRESSURES FOR SYSTEMS DESIGNED BY OTHERS SHALL COMPLY WITH THE "ASCE 7" DESIGN STANDARD. SEE **F/6-S0.10**

EARTHQUAKE DATA: SEISMIC IMPORTANCE FACTOR, I_e: 1.0
SITE SPECIFIC SPECTRAL RESPONSE ACCELERATIONS:
S_{MS} = 1.985; S_{M1} = 1.975
SITE CLASS: D
SPECTRAL RESPONSE COEFFICIENTS: S_{DS} = 1.323; S_{D1} = 1.975
SEISMIC DESIGN CATEGORY: E

SEISMIC FORCE RESISTING SYSTEM(S):
SPECIAL REINFORCED CONCRETE SHEAR WALLS (N/S & EW)
RESPONSE MODIFICATION FACTOR(S): R = 5
STEEL SPECIAL MOMENT FRAME (GRIDLINE C ONLY)
RESPONSE MODIFICATION FACTOR(S): R = 8

DESIGN BASE SHEAR: 18K (N/S, LRFD), 15K (E/W, LRFD)
SEISMIC RESPONSE COEFFICIENT(S), C_S = 0.265 (LRFD)
HORIZONTAL IRREGULARITIES: NONE
VERTICAL IRREGULARITIES: NONE
ANALYSIS PROCEDURE USED: EQUIVALENT LATERAL FORCE

MAXIMUM ANTICIPATED STORY DRIFT = 0.025 X HEIGHT
PROVIDE DEFORMATION COMPATIBILITY PER ASCE 7 SECTION 12.12.5 FOR NON-STRUCTURAL ITEMS, INCLUDING CLADDING, STAIRS, GLAZING, ETC.

NARRATIVE: BUILDING #6: COVERED BREAKROOM BUILDING

GENERAL DESCRIPTION: 1 STORY, CAST IN PLACE (CIP) CONCRETE WALL BUILDING STRUCTURE DESIGNED FOR INSTRUCTION WITH COVERED CANOPY AREA WITH VIDEO DISPLAY WALL, FIXED BENCH SEATING FOR 20, TWO ENCLOSED ACCESSIBLE RESTROOMS AND A 400 SF ENCLOSED STORAGE ROOM. THE BUILDING IS NOT INTENDED TO BE DESIGNED AS ESSENTIAL SERVICE FACILITY AND WILL NOT BE USED FOR THAT PURPOSE.

•SINGLE STORY, 1,600 SF NON-ESSENTIAL SERVICES BUILDING
•CIP CONCRETE WALLS FOR GRAVITY AND LATERAL SUPPORT
•STEEL ROOF FRAMING, SUPPORTING LIGHT GAGE RAFTERS
•OPEN-SIDED (3 SIDES) OUTDOOR CLASSROOM (CANOPY)
•SINGLE-OCCUPANCY RESTROOMS
•STORAGE

B GENERAL NOTES

1. REFER TO SHEETS **6-S1.10** THROUGH **6-S1.50** FOR STANDARD DETAILS OF CONSTRUCTION. REFER TO THE PROJECT SPECIFICATIONS FOR MATERIALS AND METHODS.
2. BUILDING DIMENSIONS SHOWN ARE FOR GENERAL REFERENCE ONLY. SEE ARCHITECTURAL DRAWINGS (SAD) FOR ALL ACTUAL BUILDING DIMENSIONS. ANY DISCREPANCIES ARE TO BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER SO CLARIFICATION CAN BE MADE PRIOR TO COMMENCING WORK.
3. STRUCTURAL DRAWINGS SHALL NOT BE SCALED. ALL DIMENSIONS AND FIT SHALL BE DETERMINED AND VERIFIED BY THE CONTRACTOR PRIOR TO COMMENCING WORK.
4. DETAILS NOT FULLY OR SPECIFICALLY SHOWN SHALL BE OF SAME NATURE AS OTHER SIMILAR CONDITIONS.
5. REFER TO ARCHITECTURAL DRAWINGS FOR SIDEWALK SLABS AND DIMENSIONS.
6. COORDINATION OF MECHANICAL, ELECTRICAL, PLUMBING, AND SITE UTILITY SYSTEMS WITH THE STRUCTURAL SYSTEM IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR. AT CONDITIONS WHERE FIELD MODIFICATIONS OF MECHANICAL, ELECTRICAL, PLUMBING, OR SITE UTILITIES AFFECT STRUCTURAL SYSTEMS, NOTIFY STRUCTURAL ENGINEER PRIOR TO INSTALLATION.
7. VERIFY WEIGHTS AND LOCATIONS OF MECHANICAL UNITS WITH MECHANICAL ENGINEER PRIOR TO PLACEMENT. UNITS VARYING OVER 5% IN WEIGHT SHALL BE REVIEWED BY THE STRUCTURAL ENGINEER PRIOR TO INSTALLATION (MECHANICAL WEIGHTS SHOWN ARE MAXIMUM). CONTRACTOR TO VERIFY MECHANICAL UNIT SIZES AND WEIGHTS AS INSTALLED PRIOR TO INSTALLATION OF SPECIAL FRAMING TO ENSURE CORRECT PLACEMENT UNDER CURBS, ETC.
8. SHORING AND BRACING DESIGN, MATERIALS AND INSTALLATION SHALL BE PROVIDED BY THE GENERAL CONTRACTOR, AND SHALL BE ADEQUATE FOR ALL LOADS. LEAVE IN PLACE AS LONG AS MAY BE REQUIRED FOR SAFETY AND UNTIL FINAL STRUCTURAL CONSTRUCTION IS COMPLETED. THE CONTRACTOR SHALL ENGAGE A LICENSED CIVIL OR STRUCTURAL ENGINEER TO PROVIDE SHORING.
9. SPECIAL INSPECTIONS ARE REQUIRED PER THE TESTING AND INSPECTION FORM, SEE SPECIFICATIONS.
10. SITE REVIEWS BY ZFA ARE REQUIRED FOR THE FOLLOWING UNLESS DIRECTED OTHERWISE:
    - FOOTING SIZE AND REINFORCING STEEL.

    NOTIFY ZFA AT LEAST 2 WORKING DAYS PRIOR TO COMPLETION OF WORK.

C STEEL NOTES

1. COORDINATE TOP OF FOOTING ELEVATIONS AS DETERMINED BY THE CONTRACTOR PER **D/6-S0.1** NOTE #6.
2. TOP OF STEEL ELEVATIONS ARE TO BE DETERMINED BY THE CONTRACTOR BASED ON ARCHITECTURAL DRAWINGS AND STRUCTURAL DRAWINGS.
3. WHERE INDICATED ON PLAN "C" INDICATES MIDSPAN CAMBER IN INCHES.
4. ALL FRAMING AND CONNECTIONS ALONG GRID LINES OR OTHERWISE INDICATED AS (SFRS) ARE PART OF THE SEISMIC FORCE RESISTING SYSTEM. TESTING AND INSPECTION OF FRAMING AND CONNECTIONS INDICATED AS SFRS SHALL MEET ALL REQUIREMENTS OF AISC 341 AND AWS D1.8. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
5. ALL BOLTS THAT ARE A PART OF THE SFRS ARE TO BE SLIP CRITICAL.
6. DEMAND CRITICAL WELDS ARE AS INDICATED ON PLANS, ADDITIONALLY ALL COLUMN SPLICES AND COLUMN TO BASE PLATE WELDS IN THE SFRS ARE DEMAND CRITICAL. DEMAND CRITICAL WELDS AND THE TESTING AND INSPECTION OF THEM ARE TO MEET ALL REQUIREMENTS OF AISC 341, AWS D1.1, AND AWS D1.8. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

STRUCTURAL SHEET INDEX

6-S0.10	BUILDING 6	GENERAL NOTES
6-S1.10	BUILDING 6	TYPICAL CONCRETE DETAILS
6-S1.20	BUILDING 6	TYPICAL STEEL FRAMING DETAILS
6-S1.30	BUILDING 6	TYPICAL METAL STUD CONNECTION DETAILS
6-S1.50	BUILDING 6	TYPICAL METAL DECKING DETAILS
6-S2.10	BUILDING 6	FLOOR PLAN, ROOF PLAN
6-S3.10	BUILDING 6	ELEVATIONS
6-S4.10	BUILDING 6	SECTIONS AND DETAILS
6-S4.11	BUILDING 6	CONCRETE WALL DETAILS

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery ARCHITECTURE
18294 Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: **KATHY GARCIA** DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date
		December 6, 2018
1	PC	June 11
2	PLAN CHECK RESPONSE	08/13/19

PERMIT SUBMITTAL V3-INCREMENT #1

ZFA STRUCTURAL ENGINEERS
1390 el camino real | suite 100 zfa.com
san carlos ca 94070 650.394.8869
zfa job no. 17143

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REGISTERED PROFESSIONAL ENGINEER KEVIN G. ZUCCO STRUCTURAL No. 4861 STATE OF CALIFORNIA

Sheet Title

BUILDING 6 GENERAL NOTES

Drawn By: LS Checked By: SRP

Scale: **As indicated**

Date: **July 19, 2019**

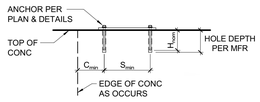
Project No. 17143

6-S0.10
Drawing No.

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SCREW ANCHOR IN 2500 PSI MIN CONCRETE							
ANCHOR TYPE	ANCHOR AND PILOT HOLE DIA	MINIMUM EMBEDMENT H_{nom}	MINIMUM EDGE DIST C_{min}	MINIMUM SPCG S_{min}	MINIMUM CONCRETE DEPTH H_{min}	INSTALL TORQUE (FT-LB)	MAX INSTALL TORQUE (FT-LB)
SIMPSON TITEN HD (ICC-ESR 2713)	⅜"	2½"	1¾"	3"	4"	10	50
	½"	3¼"	1¾"	3"	5"	10	65
	⅝"	4"	1¾"	3"	6"	10	100
	¾"	5½"	1¾"	3"	8¾"	20	150
HILTI KH-EZ (ICC-ESR 3027)	⅜"	2½"	1½"	3"	4"	10	40
	½"	3"	1¾"	3"	4¾"	10	45
	⅝"	3¼"	1¾"	4"	5"	10	85
	¾"	4"	1¾"	4"	6"	20	115

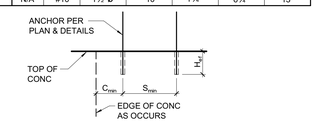


NOTES:

1. INSTALL SCREW ANCHORS PER MANUFACTURER'S INFORMATION AND ICC REPORT INSTRUCTIONS. SPECIAL INSPECTION IS REQUIRED PER SECTION 1705A OF THE CBC AND THE REQUIREMENTS OF THE ICC REPORTS. INSTALLED ANCHORS SHALL BRING CONNECTED PLIES INTO FIRM CONTACT, MEETING THE INSTALL TORQUE BUT NOT EXCEEDING THE MAXIMUM INSTALL TORQUE.
2. CONTRACTOR TO VERIFY MINIMUM EDGE DISTANCES, SPACING AND THICKNESS ARE IN ACCORDANCE W/ SCHEDULE PRIOR TO INSTALLING ANCHOR.
3. HOLES TO BE DRILLED W/ ROTARY DRILL ONLY. WHEN INSTALLING DRILLED-IN ANCHORS IN EXISTING REINFORCED CONCRETE, USE CARE AND CAUTION TO AVOID CUTTING OR DAMAGING THE EXISTING REINFORCING BARS. MAINTAIN A REASONABLE CLEARANCE BETWEEN REINFORCEMENT AND THE DRILLED-IN ANCHOR. FILL ABANDONED HOLES W/ HIGH STRENGTH GROUT.
4. THE SPECIAL INSPECTOR MUST BE ON THE JOBSITE PERIODICALLY DURING ANCHOR INSTALLATION TO VERIFY ANCHOR TYPE, ANCHOR DIMENSIONS, HOLE CLEANLINESS, EMBEDMENT DEPTH, CONCRETE TYPE, CONCRETE COMPRESSIVE STRENGTH, DRILL BIT DIAMETER, HOLE DEPTH, EDGE DISTANCE(S), ANCHOR SPACING(S), CONCRETE THICKNESS, AND TIGHTENING TORQUE.
5. TEST ANCHORS IN ACCORDANCE W/ CBC SECTION 1910A.5.

15 SCREW ANCHOR IN CONCRETE
3/4" = 1'-0"

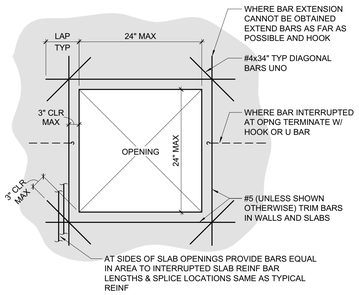
ADHESIVE ANCHOR IN 2500 PSI MIN CONCRETE							
ADHESIVE TYPE	ANCHOR THRD ROD	ANCHOR REBAR	PILOT HOLE	MIN EMBED UNO H_{ef}	MIN EDGE DISTANCE C_{min}	MIN SPCG S_{min}	MIN CONC DEPTH H_{min}
SIMPSON SET-XP (ICC-ESR 2508)	⅜"ø	#3	⅜"ø	3"	1¾"	3"	5"
	½"ø	#4	⅝"ø	4"	1¾"	3"	6½"
	⅝"ø	#5	¾"ø	5"	1¾"	3"	8¼"
	¾"ø	#6	⅞"ø	6"	1¾"	3"	9½"
	⅞"ø	#7	1"ø	7"	1¾"	3"	11½"
	1"ø	#8	1⅛"ø	8"	1¾"	3"	13"
	1¼"ø	#10	1⅜"ø	10"	2¾"	6"	16¾"
HILTI HIT-HY 200R (ICC-ESR 3187)	⅜"ø	N/A	⅝"ø	3"	1¾"	1⅞"	4½"
	N/A	#3	½"ø	3"	1¾"	1⅞"	4¼"
	½"ø	N/A	⅝"ø	4"	1¾"	2½"	5½"
	N/A	#4	¾"ø	4"	1¾"	2½"	5½"
	⅝"ø	#5	¾"ø	5"	1¾"	3¼"	6½"
	¾"ø	#6	⅞"ø	6"	1¾"	3½"	7½"
	⅞"ø	#7	1"ø	7"	1¾"	4⅜"	9"
	1"ø	#8	1⅛"ø	8"	1¾"	5"	10¼"
	N/A	#9	1⅜"ø	9"	1¾"	5⅝"	11⅜"
	1¼"ø	N/A	1⅜"ø	10"	1¾"	6½"	12⅜"
	N/A	#10	1½"ø	10"	1¾"	6½"	13"



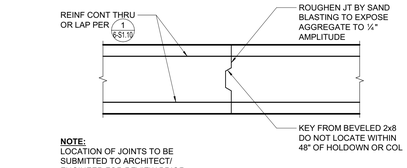
NOTES:

1. INSTALL ADHESIVE ANCHORS PER MANUFACTURER'S INFORMATION AND ICC REPORT.
2. CONTRACTOR TO VERIFY MINIMUM EDGE DISTANCES, SPACING, AND THICKNESS ARE IN ACCORDANCE W/ SCHEDULE PRIOR TO INSTALLING ANCHOR.
3. HOLES TO BE DRILLED W/ ROTARY DRILL ONLY. WHEN DRILLING HOLES IN EXISTING CONCRETE, USE CARE AND CAUTION TO AVOID CUTTING OR DAMAGING THE EXISTING REINFORCING BARS. MAINTAIN A REASONABLE CLEARANCE BETWEEN REINFORCEMENT AND THE DRILLED-IN ANCHOR. FILL ABANDONED HOLES W/ HIGH STRENGTH GROUT.
4. SPECIAL INSPECTION IS REQUIRED PER SECTION 1705A AND THE REQUIREMENTS OF THE ICC REPORTS. THE SPECIAL INSPECTOR MUST BE ON THE JOB SITE PERIODICALLY DURING ANCHOR INSTALLATION TO VERIFY ANCHOR TYPE, ANCHOR DIMENSIONS, HOLE CLEANLINESS, EMBEDMENT DEPTH, CONCRETE TYPE, CONCRETE COMPRESSIVE STRENGTH, DRILL BIT DIAMETER, HOLE DEPTH, EDGE DISTANCE(S), ANCHOR SPACING(S), CONCRETE THICKNESS, AND ADHESIVE INJECTION. TEST ANCHORS IN ACCORDANCE W/ CBC SECTION 1910A.5. SEE DRAWINGS FOR SPECIFIC TENSION TEST LOADS FOR ANCHORS.

16 ADHESIVE ANCHOR IN CONCRETE
3/4" = 1'-0"

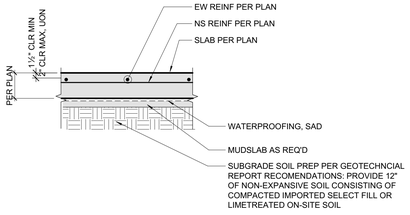


17 SMALL SLAB AND WALL PENETRATIONS
1" = 1'-0"

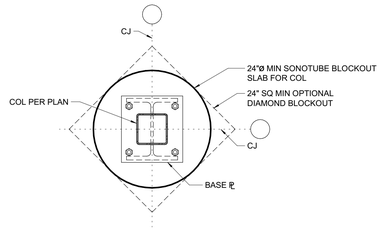


NOTE:
LOCATION OF JOINTS TO BE SUBMITTED TO ARCHITECT/ ENGINEER FOR REVIEW PRIOR TO PLACEMENT OF CONCRETE

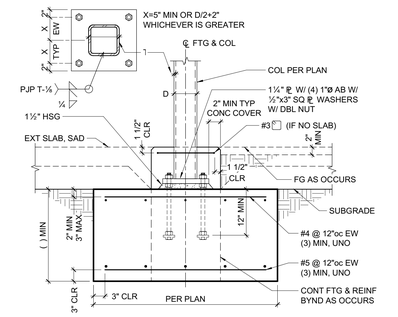
10 FOOTING CONSTRUCTION JOINT
3/4" = 1'-0"



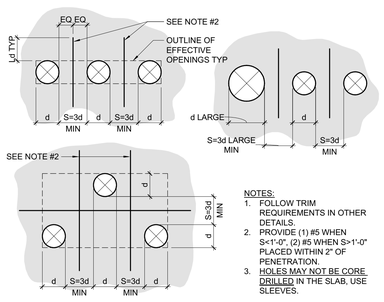
11 TYPICAL SLAB ON GRADE
1" = 1'-0"



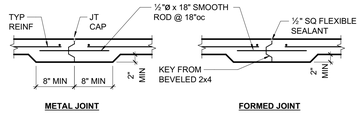
12 SLAB BLOCKOUT
1" = 1'-0"



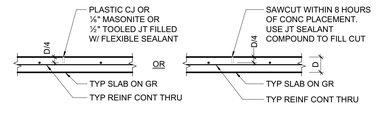
13 TYPICAL HSS COLUMN TO FOOTING
3/4" = 1'-0"



14 MULTIPLE SLAB AND WALL PENETRATIONS
1" = 1'-0"



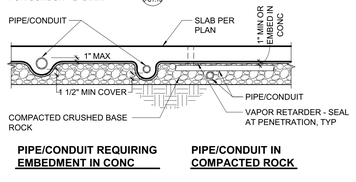
A CONSTRUCTION/DOWEL JOINT



B CONTROL JOINT

5 SLAB ON GRADE JOINTS
3/4" = 1'-0"

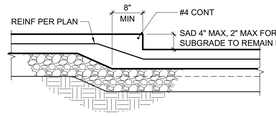
NOTES:
1. LOCATION OF PIPE/CONDUIT BY OTHERS.
2. PROVIDE SLEEVE AT PIPE PER 2 S1.10 SIM, NOT REQD FOR CONDUIT <2" DIAM.



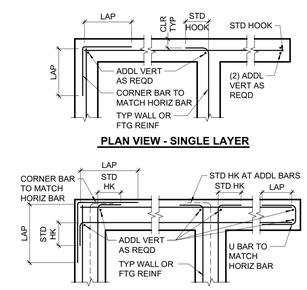
PIPE/CONDUIT REQUIRING EMBEDMENT IN CONC

PIPE/CONDUIT IN COMPACTED ROCK

6 CONDUIT & PIPE AT SLAB ON GRADE
3/4" = 1'-0"

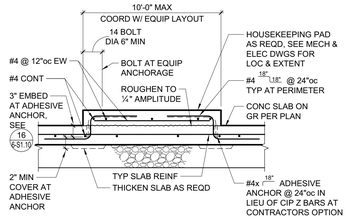


7 DEPRESSED SLAB - 4" MAX
3/4" = 1'-0"

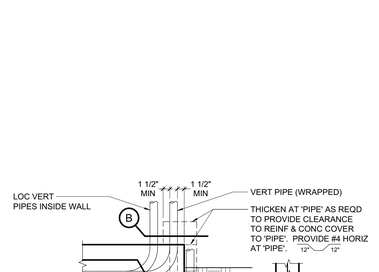


NOTE:
FOOTING REINFORCING AT CORNER AND INTERSECTION TO BE SIMILAR

8 TYPICAL CORNER, INTERSECTION AND END REINFORCING
3/4" = 1'-0"

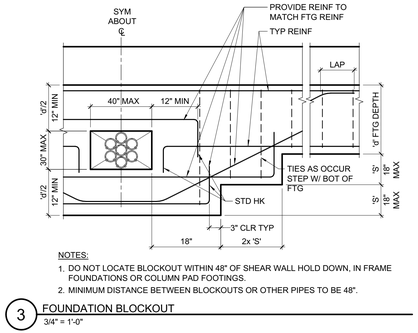


9 TYPICAL HOUSEKEEPING PAD AT SLAB ON GRADE
3/4" = 1'-0"



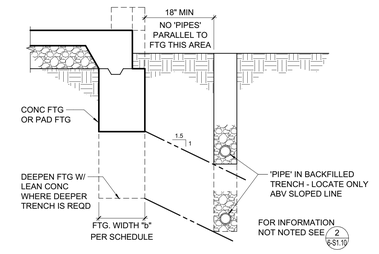
NOTES:
1. 'PIPE' = ANY PENETRATION THRU OR EMBEDDED IN FOUNDATION.
2. ALL PIPES THROUGH FOOTINGS TO BE WRAPPED OR SLEEVED AS FOLLOWS:
   a. SLEEVES: PROVIDE 1" MIN CLEAR ALL AROUND O.D. PIPE TO I.D. SLEEVE, UNO. SEAL SLEEVE ENDS W/ MASTIC OR PLASTIC BITUMINOUS CEMENT.
   b. WRAPPED VERTICAL PIPES: PROVIDE ¼" NOMINAL SHEET FOAM W/ (3) WRAPS MINIMUM, UNO.
   c. WRAPPED HORIZONTAL PIPES: PROVIDE ¼" NOMINAL SHEET FOAM W/ (8) WRAPS MINIMUM, UNO.
   d. UNDERGROUND FIRE LINES 4" AND LARGER:
      1. SLEEVES: PROVIDE 2" MIN CLEAR ALL AROUND O.D. PIPE TO I.D. SLEEVE. SEAL ENDS PER ABOVE.
      2. WRAPPED: PROVIDE ¼" NOMINAL SHEET FOAM W/ (16) WRAPS MINIMUM.
3. WRAPPED AND SLEEVED PIPES SHALL HAVE 1½" MIN CLEAR TO REINF STEEL. MINIMUM CONCRETE COVER AT PIPES TO BE 3".
4. CLEARANCE BETWEEN 'PIPES' TO BE 3d MIN TYP W/ A MAXIMUM OF (8) PIPES PER 48". GROUPS OF PIPES MAY BE BUNDLED AS SHOWN, EXCEPT IN PAD FOOTINGS.
5. NO 'PIPE' TO RUN PARALLEL IN FOOTINGS, STEM OR CURB.
6. PVC CONDUIT ('PIPE') EMBEDDED IN CURB/STEM MAY BE WIRE TIED TO HORIZONTAL REINF.
7. NO HORIZONTAL PIPES ALLOWED THROUGH FOOTING WITHIN 2'-0" EACH SIDE OF HOLDOWNS OR STEEL COLUMNS. NO VERTICAL PIPES ALLOWED IN FOOTINGS AT BRACED FRAMES.
8. PROVIDE 18" MIN OF COMPACTED FILL ABOVE PIPES UP TO 12"ø, FOR LARGER PIPES INCREASE COMPACTED FILL DEPTH 1'-0" OF FOR EACH 6" INCREASE IN PIPE DIAMETER. OTHERWISE DEEPEN FOOTING AS SHOWN.

2 PIPES THRU FOOTING
3/4" = 1'-0"



NOTES:
1. DO NOT LOCATE BLOCKOUT WITHIN 48" OF SHEAR WALL HOLD DOWN, IN FRAME FOUNDATIONS OR COLUMN PAD FOOTINGS.
2. MINIMUM DISTANCE BETWEEN BLOCKOUTS OR OTHER PIPES TO BE 48".

3 FOUNDATION BLOCKOUT
3/4" = 1'-0"



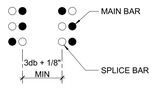
4 TRENCHING ADJACENT TO FOOTING
3/4" = 1'-0"

DEVELOPMENT LENGTHS (ld) GR60										
	LOCATION	SIZE								
		#3	#4	#5	#6	#7	#8	#9	#10	#11
CONCRETE f'c = 3000 PSI AT 28 DAYS	TOP	12"	22"	32"	43"	69"	86"	103"	122"	141"
	OTHER	12"	17"	25"	33"	53"	66"	80"	94"	109"
CONCRETE f'c = 4000 PSI AT 28 DAYS	TOP	12"	19"	28"	37"	60"	74"	90"	106"	122"
	OTHER	12"	15"	21"	29"	46"	57"	69"	81"	94"
CONCRETE f'c = 5000 PSI AT 28 DAYS	TOP	12"	17"	25"	34"	54"	67"	80"	95"	109"
	OTHER	12"	13"	19"	26"	42"	51"	62"	73"	84"

HOOKED DEVELOPMENT LENGTHS (Ldh)										
	LOCATION	SIZE								
		#3	#4	#5	#6	#7	#8	#9	#10	#11
CONCRETE f'c = 3000 PSI AT 28 DAYS	ANY	9"	11"	14"	17"	20"	22"	25"	28"	-
CONCRETE f'c = 4000 PSI AT 28 DAYS	ANY	8"	10"	12"	15"	17"	19"	22"	24"	-
CONCRETE f'c = 5000 PSI AT 28 DAYS	ANY	7"	9"	11"	13"	15"	17"	20"	22"	-

LAP SPLICE LENGTHS (Ls) GR60										
	LOCATION	SIZE								
		#3	#4	#5	#6	#7	#8	#9	#10	#11
CONCRETE f'c = 3000 PSI AT 28 DAYS	TOP	17"	28"	41"	56"	90"	112"	134"	158"	183"
	OTHER	13"	22"	32"	43"	69"	86"	103"	122"	141"
CONCRETE f'c = 4000 PSI AT 28 DAYS	TOP	15"	25"	36"	49"	78"	97"	116"	137"	159"
	OTHER	12"	19"	28"	37"	60"	74"	90"	106"	122"
CONCRETE f'c = 5000 PSI AT 28 DAYS	TOP	13"	22"	32"	44"	70"	87"	104"	123"	142"
	OTHER	12"	17"	25"	34"	54"	67"	80"	95"	109"

NOTES:
1. TOP REINFORCING IS HORIZONTAL REINFORCEMENT WITH MORE THAN TWELVE INCHES (12") OF CONCRETE PLACED BELOW IT.
2. IF THE LAP SPLICE REINFORCEMENT DOES NOT HAVE A MINIMUM SPACING 3db + 1/8 INCHES & A MINIMUM COVER OF db + 1/8 INCHES, USE WELDED SPLICE OR MECHANICAL CONNECTOR.



3. HOOKED DEVELOPMENT LENGTHS (Ldh) MAY BE USED IN LIEU OF DEVELOPMENT LENGTH (Ld) IF STANDARD HOOK IS PROVIDED AT END OF BAR.
4. MECHANICAL CONNECTORS SHALL BE TENSION-COMPRESSION TYPE WITH THE ABILITY TO DEVELOP 125% OF THE YIELD STRENGTH FOR THE SPLICED REINFORCEMENT (75 KSI). MECHANICAL CONNECTORS SHALL HAVE & BE INSTALLED PER AN ICC EVALUATION REPORT.
5. WWR SHALL LAP MINIMUM (3) BAR CROSSINGS.

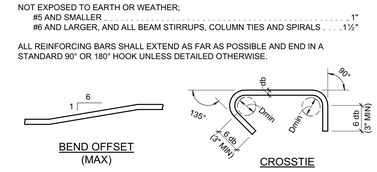
CONCRETE COVER FOR REINFORCING STEEL 'CLR'

CAST AGAINST EARTH OR GRADE . . . . . 3"

EXPOSED TO EARTH (FORMED) OR WEATHER;
#5 AND SMALLER . . . . . 1½"
#6 AND LARGER . . . . . 2"

NOT EXPOSED TO EARTH OR WEATHER;
#5 AND SMALLER . . . . . 1"
#6 AND LARGER, AND ALL BEAM STIRRUPS, COLUMN TIES AND SPIRALS . . . . . 1½"

ALL REINFORCING BARS SHALL EXTEND AS FAR AS POSSIBLE AND END IN A STANDARD 90° OR 180° HOOK UNLESS DETAILED OTHERWISE.



PRINCIPAL REINF

REINF	Dmin
#3 TO #8	6 db
#9 TO #11	8 db
#14 TO #18	10 db

CROSSTIES, HOOPS & STIRRUPS

REINF	Dmin
#3	1 1/2"
#4	2"
#5	2 1/2"

NOTE:
1. ALL BENDS SHALL BE MADE COLD.

1 REINFORCING LAPS AND SPLICES AND BENDS
1" = 1'-0"

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294 Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

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DRAWN BY:	APPROVAL REC'D:
APPROVED BY: **KATHY GARCIA** DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date
		December 6, 2018
1	PC	June 11
2	PLAN CHECK RESPONSE	08/13/19

PERMIT SUBMITTAL V3-INCREMENT #1

ZFA STRUCTURAL ENGINEERS
1390 el camino real | suite 100 zfa.com
san carlos ca 94070 650.394.8869
zfa job no.17143

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KEVIN G. ZUCCO — REGISTERED PROFESSIONAL ENGINEER — STRUCTURAL No. 4861 — STATE OF CALIFORNIA

Sheet Title

BUILDING 6 TYPICAL CONCRETE DETAILS

Drawn By: LS Checked By: SRP

Scale: **As indicated**

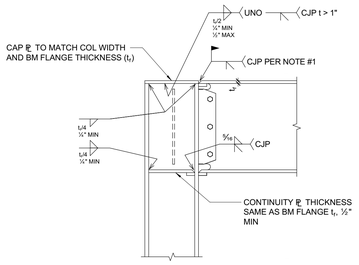
Date: **July 19, 2019**

Project No. 17143

6-S1.10
Drawing No.

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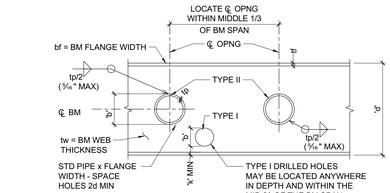
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MOMENT CONNCETION NOTES:

1. CJP GROOVE WELD AT T&B FLANGES. AT T&B FLANGE, REMOVE WELD BACKING, BACK GOUGE, AND ADD ⅜" MINIMUM FILLET WELD. WELD: QC/QA CATEGORY AH/T.
2. CJP GROOVE WELD FULL LENGTH OF WEB BETWEEN WELD ACCESS HOLES. PROVIDE NON-FUSIBLE WELD TABS. REMOVE WELD TABS AFTER WELDING AND GRIND END OF WELD SMOOTH AT WELD ACCESS HOLE. WELD: QC/QA CATEGORY BH/T.
3. SHEAR TAB OF THICKNESS EQUAL TO THAT OF BEAM WEB (½" MIN). SHEAR TAB LENGTH SHALL BE SO AS TO ALLOW ¼" OVERLAP WITH THE WELD ACCESS HOLE AT T&B, AND THE WIDTH SHALL EXTEND 2" MINIMUM BACK ALONG THE BEAM, BEYOND THE END OF THE WELD ACCESS HOLE.
4. FULL LENGTH PARTIAL JOINT PENETRATION (t - ⅛") FROM FAR SIDE OF BEAM WEB, WITH FILLET WELD OVER EQUAL TO CONNECTION PLATE THICKNESS. WELD: QC/QA CATEGORY BM/T.
5. FILLET WELD SHEAR TAB TO BEAM WEB. WELD SIZE SHALL BE EQUAL TO THE THICKNESS OF THE SHEAR TAB MINUS ¼." WELD SHALL EXTEND OVER THE T&B ONE-THIRD OF THE SHEAR TAB HEIGHT AND ACROSS THE T&B. WELD: QC/QA CATEGORY BL/L.
6. QC/QA = QUALITY ASSURANCE PER FEMA-353.

16 MOMENT CONNECTION ONE SIDE
3/4" = 1'-0"

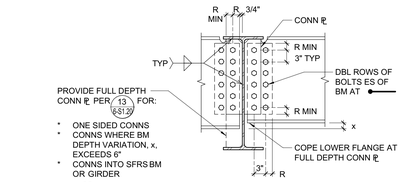


LIMITS OF OPENINGS:
TYPE I: b = 1/6d MAX
SPACED A MINIMUM OF 2d APART
TYPE II:b = 2/3d MAX
SPACED A MINIMUM 2d APART

NOTES:

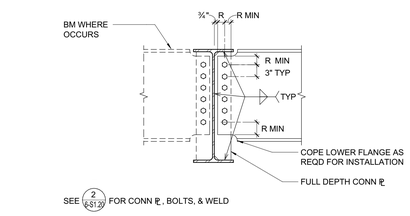
1. PROVIDE HOLES IN BEAMS ONLY WHERE SPECIFICALLY SHOWN ON STRUCTURAL DRAWINGS.
2. DO NOT TORCH CUT OPENINGS ON SITE. TORCH CUT OPENINGS MADE IN SHOP TO BE GROUND SMOOTH. NO OVERCUTS OF ANY TYPE ALLOWED WITHOUT REPAIR.

11 OPENING IN STEEL BEAM
3/4" = 1'-0"



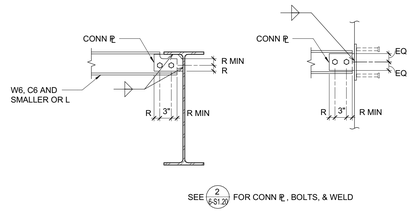
SEE 2 6-S1.20 FOR CONN ℄, BOLTS, & WELD

12 TYPICAL BEAM TO BEAM CONNECTION
3/4" = 1'-0"



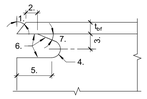
SEE 2 6-S1.20 FOR CONN ℄, BOLTS, & WELD

13 TYPICAL FULL DEPTH BEAM TO BEAM CONNECTION
3/4" = 1'-0"

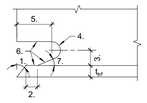


SEE 2 6-S1.20 FOR CONN ℄, BOLTS, & WELD

14 TYPICAL SHALLOW BEAM DETAIL
3/4" = 1'-0"



UPPER ACCESS HOLE

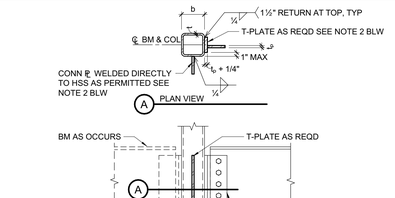


LOWER ACCESS HOLE

NOTES:

1. ANGLE AS REQUIRED FOR SPECIFIED GROOVE WELD PROCEDURE.
2. t_{cr} OR ½" (WHICHEVER IS GREATER) (+ ½ t_{cr}, - ¼ t_{cr})
3. MINIMUM ¾ t_{cr} OR ¾" (WHICHEVER IS GREATER), MAXIMUM t_{cr} (+¼", -0")
4. ⅜" MINIMUM RADIUS (+ UNLIMITED, - 0")
5. 3 t_{cr} (±½")
6. SURFACES SHALL BE FREE OF NOTCHES AND GOUGES. SURFACE ROUGHNESS SHALL NOT EXCEED 500 MICRO INCHES.
7. TOLERANCES SHALL NOT ACCUMULATE TO THE EXTENT THAT THE ANGLE OF THE ACCESS HOLE CUT TO THE FLANGE SURFACE EXCEEDS 25 DEGREES.

15 WELD ACCESS HOLE DETAIL
3/4" = 1'-0"

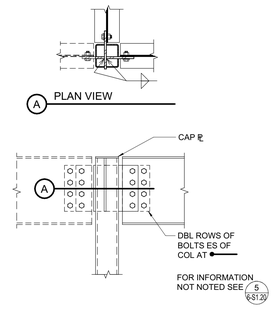


NOTES:

1. DETAIL IS NOT PERMITTED AS SFRS CONNECTIONS UNO.
2. IT IS PERMITTED TO OMIT T-PLATE AND WELD CONN ℄ DIRECTLY TO FACE OF HSS COL WHERE BOTH OF THE FOLLOWING ARE SATISFIED:
   a. bt ≤ 33.7 AND
   b. t ≤ ⅝t_b (OR ⅛t_b FOR 50 KSI ℄)

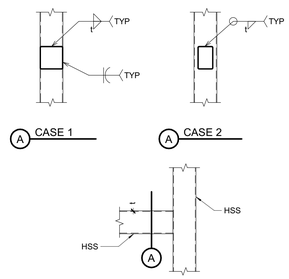
FOR CONN ℄, BOLTS & WELD SEE 2 6-S1.20

6 BEAM TO HSS COLUMN ('T' PLATE)
3/4" = 1'-0"

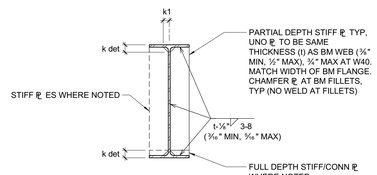


7 BEAM TO HSS COLUMN (2-WAY)
3/4" = 1'-0"

8 HSS BEAM TO HSS COLUMN
3/4" = 1'-0"



9 TYPICAL HSS TO HSS CONNECTION
3/4" = 1'-0"



10 TYPICAL BEAM WEB STIFFENER PLATE DETAIL
3/4" = 1'-0"

1 ¾"ø MACHINE BOLT (MB) CONNECTION SCHEDULE
3/4" = 1'-0"

BM DEPTH	NO. BOLTS PER ROW	CONN. PLATE	WELD SIZE
W8, W10	2	℄ ¾"	⅜"
W12, W14	3	℄ ¾"	⅜"
W16	4	℄ ¾"	⅜"
W18	5	℄ ¾"	⅜"
W21	5	℄ ½"	⅜"
W24	6	℄ ½"	⅜"
W27	7	℄ ½"	⅜"
W30	8	℄ ½"	⅜"
W33	9	℄ ½"	⅜"
W36	10	℄ ½"	⅜"

NOTES:

1. R = 1½" SEE TYP CONNECTION DETAILS. BOLT SPACING AND EDGE DISTANCE SHALL CONFORM TO AISC SPECIFICATIONS.
2. A COMPLETE PENETRATION BEVEL WELD MAY BE SUBSTITUTED FOR THE FILLET WELDS SPECIFIED.
3. USE ASTM A36 CONNECTION PLATES, UNO.
4. HOLE SIZE = BOLT SIZE + ⅛". SHORT SLOTTED HOLES (+ ⅛" VERT, + ¼" HORIZ) MAY BE SUBSTITUTED (EXCEPT AS NOTED).

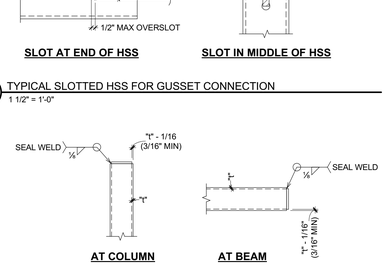
2 ⅞"ø HIGH STRENGTH BOLT (HSB) CONNECTION SCHEDULE
3/4" = 1'-0"

BM DEPTH	NO. BOLTS PER ROW	CONN. PLATE	WELD SIZE
W8, W10	2	℄ ⅞"	⅜"
W12, W14	3	℄ ⅞"	⅜"
W16	4	℄ ⅞"	⅜"
W18	5	℄ ⅞"	⅜"
W21	5	℄ ½"	⅜"
W24	6	℄ ½"	⅜"
W27	7	℄ ½"	⅜"
W30	8	℄ ½"	⅜"
W33	9	℄ ½"	⅜"
W36	10	℄ ½"	⅜"

NOTES:

1. R = 1¾" SEE TYP CONNECTION DETAILS. BOLT SPACING AND EDGE DISTANCE SHALL CONFORM TO AISC SPECIFICATIONS.
2. HIGH STRENGTH BOLTS (HSB) ARE GRADE A325-N UNO. PREPARE MATING SURFACES & TIGHTEN "SNUG TIGHT" AS DEFINED IN THE SPECIFICATIONS.
3. USE ASTM A36 CONNECTION PLATES, UNO.
4. A COMPLETE PENETRATION BEVEL WELD MAY BE SUBSTITUTED FOR THE FILLET WELDS SPECIFIED.
5. HOLE SIZE = BOLT SIZE +⅛". SHORT SLOTTED HOLES (+⅛" VERT, + ¼" HORIZ) MAY BE SUBSTITUTED (EXCEPT AS NOTED) ROUND HOLES ARE REQUIRED AT SFRS CONNECTIONS.

3 TYPICAL SLOTTED HSS FOR GUSSET CONNECTION
1 1/2" = 1'-0"



SLOT AT END OF HSS **SLOT IN MIDDLE OF HSS**

AT COLUMN **AT BEAM**

ALTERNATE

AT COLUMN **AT BEAM**

4 TYPICAL CAP PLATE
3/4" = 1'-0"

5 BEAM EACH SIDE TO HSS COLUMN
3/4" = 1'-0"

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: **KATHY GARCIA** DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	PC	December 6, 2018 June 11

PERMIT SUBMITTAL V3-INCREMENT #1

ZFA STRUCTURAL ENGINEERS
1390 el camino real | suite 100 zfa.com
san carlos ca 94070 650.394.8869
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KEVIN G. ZUCCO — No. 4861 — STRUCTURAL — STATE OF CALIFORNIA — REGISTERED PROFESSIONAL ENGINEER

Sheet Title

BUILDING 6
TYPICAL STEEL FRAMING DETAILS

Drawn By: LS Checked By: SRP

Scale: **As indicated**

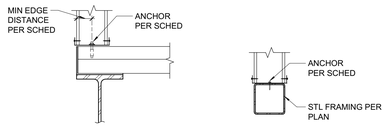
Date: **July 19, 2019**

Project No. 17143

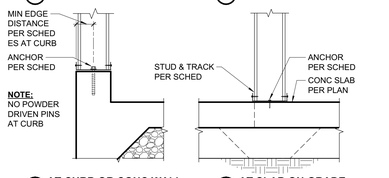
6-S1.20
Drawing No.

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C CONC OVER METAL DECK **D STL FRAMING**

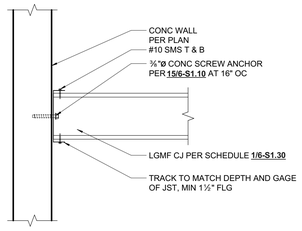


A AT CURB OR CONC WALL **B AT SLAB ON GRADE**

LOCATION	ANCHOR TYPE, DIAMETER AND SPACING					DETAIL
	SCREW ANCHOR	POWDER DRIVEN PINS	EXPANSION ANCHOR	CAST-IN-PLACE		
EXTERIOR WALL SLAB ON GRADE (H=15'-0" MAX)	½"ø @ 36"oc	NOT PERMITTED	½"ø @ 36"oc	½"ø @ 48"oc	½"ø @ 48"oc	A
INTERIOR WALL SLAB ON GRADE	½"ø @ 48"oc	0.157"ø @ 16"oc	½"ø @ 48"oc	½"ø @ 48"oc	½"ø @ 48"oc	B
INTERIOR WALL SLAB ON MTL DECK	NOT PERMITTED	0.157"ø @ 16"oc	¾"ø @ 48"oc	N/A		C
EXTERIOR WALL SLAB ON MTL DECK (H=15'-0" MAX)	NOT PERMITTED	NOT PERMITTED	¾"ø @ 16"oc	N/A		C
STL FRAMING (H=14'-0" MAX)	N/A	0.157"ø @ 16"oc	N/A	N/A		D
MIN CONC EDGE DISTANCE	1¾"	3"	3"	3"		
REF DETAIL & NOTES		STAGGER PINS		NOTE #4		

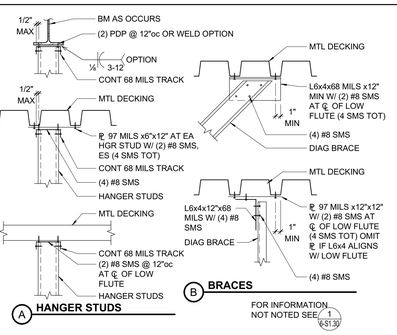
NOTES:
1. PROVIDE (2) ANCHORS MIN PER TRACK SEGMENT.
2. FOUNDATION AND SLAB REINFORCING PER OTHER DETAILS.
3. CENTER FASTENERS W/ TRACK, UNO.
4. SEE PLAN AND SCHEDULE FOR ADDITIONAL ANCHORAGE REQUIREMENTS, AS OCCURS.

18 TYPICAL BOTTOM TRACK ANCHORS AT CONCRETE
1" = 1'-0"



SECTION VIEW

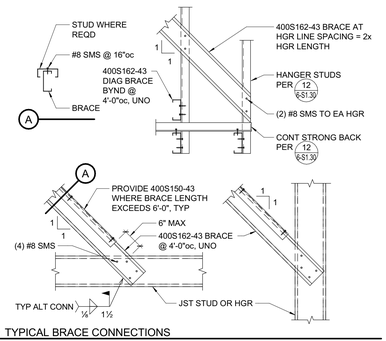
19 TYPICAL LGMF JOIST TO CONC WALL
1 1/2" = 1'-0"



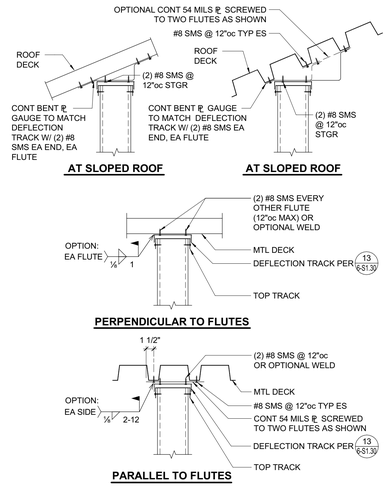
A HANGER STUDS **B BRACES**

FOR INFORMATION NOT NOTED SEE 1 6-S1.30

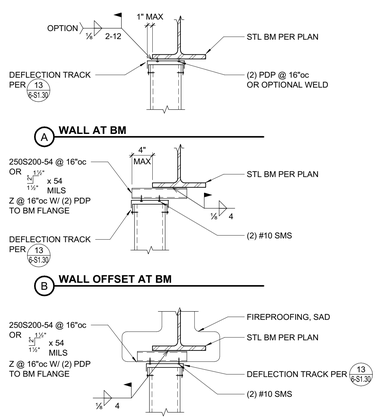
14 HANGERS & BRACES AT METAL DECK
1" = 1'-0"



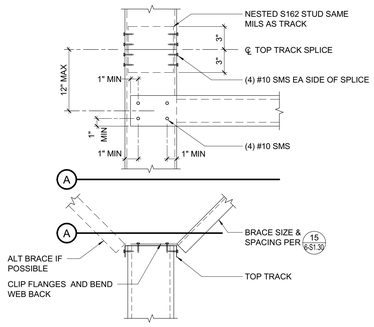
15 TYPICAL BRACE CONNECTIONS
1" = 1'-0"



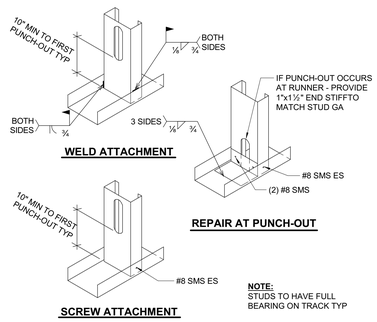
16 ATTACHMENT OF NON-BEARING STUDS TO METAL DECK
1" = 1'-0"



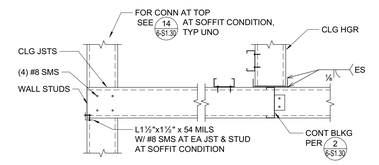
17 ATTACHMENT OF NON-BEARING STUDS TO STEEL BEAM
1" = 1'-0"



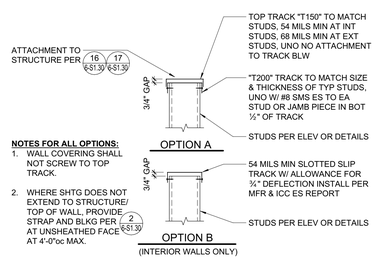
10 TYPICAL BRACE AT TOP OF PARTIAL HT WALL
1 1/2" = 1'-0"



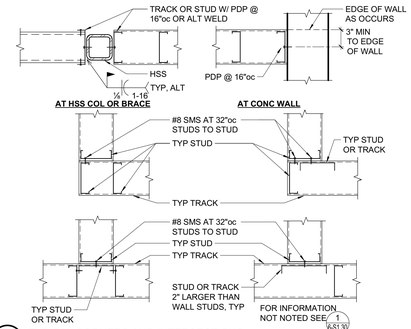
11 STUD OR JOIST TO TRACK
1" = 1'-0"



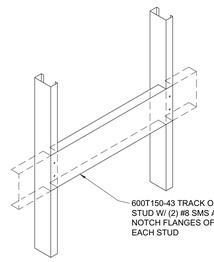
12 TYPICAL CEILING JOIST FRMG AT FULL HEIGHT METAL STUDS
1" = 1'-0"



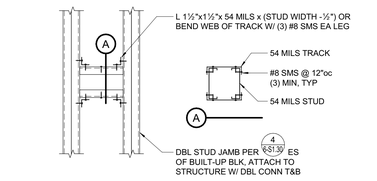
13 NON-BEARING WALL DEFLECTION TRACK AT TOP
1" = 1'-0"



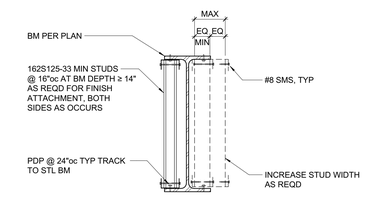
5 TYPICAL CORNERS AND INTERSECTIONS
1" = 1'-0"



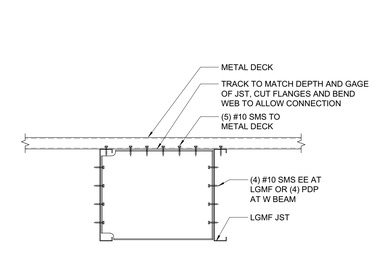
6 WALL BACKING PLATE
1" = 1'-0"



7 HEAVY DUTY WALL BACKING PLATE
1" = 1'-0"



8 INFILL AT STEEL BEAM
1 1/2" = 1'-0"



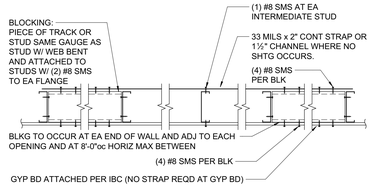
9 TYPICAL LGMF JOIST BLOCKING
1 1/2" = 1'-0"

LIGHT GAUGE FRAMING SCHEDULE

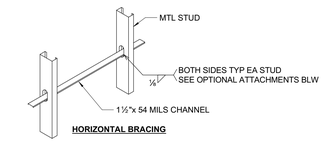
LOCATION	MINIMUM MEMBER SIZE	MAX SPAN/LENGTH	MAX SPACING UNO	REFERENCE DETAIL
CEILING JOISTS	400S162-33	10'-0"	16"oc	SEE 12 6-S1.30
	600S162-43	17'-0"	16"oc	
CEILING HANGERS	400S162-43	h ≤ 6'-0"		SEE 14 6-S1.30
	400S162-43 & 400T150-43	h ≤ 8'-0"		

1. TYP TRACK TO BE SAME GAUGE AS STUD OR 43 MILS MIN, UNO. FLANGE TO BE 1½" MIN.
2. AT EXTERIOR WALL W/ BUMP OUT BOTH MAIN WALL & FURRING WALL ARE EXTERIOR STUDS. PROVIDE BRIDGING @ 4'-0"oc MAX PER 2/6-S1.30 AT BOTH WALLS.
3. A WALL W/ ANY PORTION HAVING EXTERIOR EXPOSURE SHALL BE FRAMED ENTIRELY AS AN EXTERIOR WALL.
4. MULTIPLE ADJACENT WINDOWS TO EACH HAVE INDIVIDUAL HEADERS AND FULL JAMB STUDS BETWEEN WINDOWS.
5. TYP WALL BRIDGING/BLKG PER 2/6-S1.30 .
6. TYP STUD/JOIST TO TRACK PER 11/6-S1.30 .
7. COORDINATE STUD DEPTH W/ ARCH DRAWINGS. INCREASE MIN HDR, SILL OR JAMB MEMBER DEPTHS AS REQD TO MATCH ACTUAL WALL STUD DEPTH.

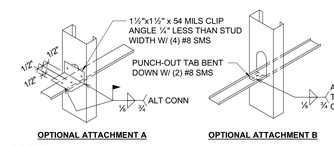
1 SCHEDULE - LIGHT GAUGE METAL FRAMING, UNO
3/4" = 1'-0"



OPTION 2



HORIZONTAL BRACING

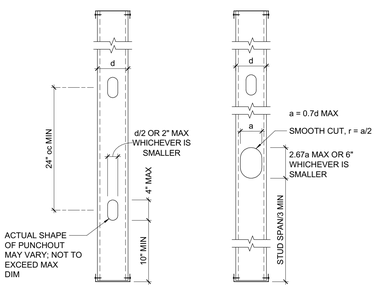


OPTIONAL ATTACHMENT A **OPTIONAL ATTACHMENT B**

OPTION 1

NOTES:
1. BRIDGING MAY BE PER OPTION 1 OR 2.
2. PROVIDE BRIDGING @ 4'-0"oc.
3. BRIDGING IS NOT REQUIRED WHERE PROPERLY ATTACHED SHEATHING OCCURS ON BOTH SIDES OF STUDS.
4. THE MAX STUD DEPTH FOR OPTION 1 IS 8" MAX.
5. PROVIDE BLOCKING PER OPTION 2 AT LOCATIONS INDICATED ON DRAWINGS OR OTHER DETAILS

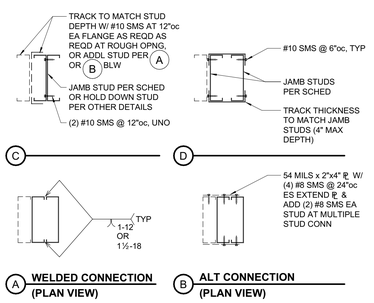
2 WALL BRIDGING/BLOCKING
1" = 1'-0"



TYP STUD/TRACK PUNCHOUT **SPECIAL STUD PUNCHOUT**

USE ONLY IF REQUIRED; USE ONLY AT NON-BEARING WALLS UNDER 15'-0" TALL

3 TYPICAL STUD PUNCHOUT
1" = 1'-0"



A WELDED CONNECTION (PLAN VIEW) **B ALT CONNECTION (PLAN VIEW)**

4 TYPICAL MULTIPLE STUD CONNECTION
1 1/2" = 1'-0"

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

Ross Drulis Cusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: **KATHY GARCIA** DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	PC	June 11

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ZFA STRUCTURAL ENGINEERS
1390 el camino real | suite 100 zfa.com
san carlos ca 94070 650.394.8869
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REGISTERED PROFESSIONAL ENGINEER KEVIN G. ZUCCO STRUCTURAL No. 4861 STATE OF CALIFORNIA

Sheet Title

BUILDING 6 TYPICAL METAL STUD CONNECTION DETAILS

Drawn By: LS Checked By: SRP

Scale: **As indicated**

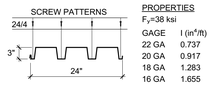
Date: **July 19, 2019**

Project No. 17143

6-S1.30
Drawing No.

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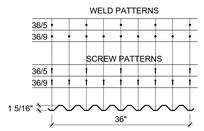


PROPERTIES
F_y=38 ksi

GAGE	I (in⁴/ft)
22 GA	0.737
20 GA	0.917
18 GA	1.283
16 GA	1.655

TYPE "C" DECK

VERCO PLN, N, (PER ER 0217)
OR APPROVED EQUAL



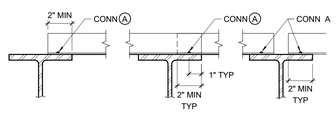
PROPERTIES
F_y=60 ksi

GAGE	I (in⁴/ft)
26 GA	0.073
24 GA	0.098
22 GA	0.123
20 GA	0.143

TYPE "G" DECK

VERCO DEEP VERCOR(PER ER 0217)
OR APPROVED EQUAL

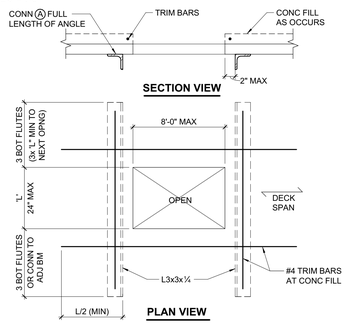
7 DECKING TYPE AND CONNECTION PATTERN
NOT TO SCALE



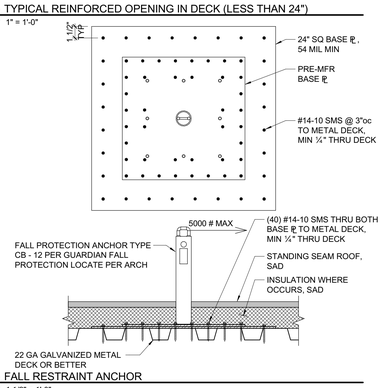
DECK PERPENDICULAR TO BEAM

NOTES:
1. DECK FASTENERS PER SCHEDULE. FOR DECKING SCHEDULE SEE **1/6-S1.50**.

8 TYPICAL STEEL DECK SUPPORT
3/4" = 1'-0"



9 TYPICAL REINFORCED OPENING IN DECK (LESS THAN 24")
1" = 1'-0"



10 FALL RESTRAINT ANCHOR
1 1/2" = 1'-0"

MARK	STEEL DECK GAGE & PROFILE TYPE SEE 7/S1.50	DECK CONNECTIONS						MINIMUM SLAB FILL THICKNESS ABV DECK	MINIMUM SLAB FILL REINFORCING	REMARKS
		END/INT BEARING CONN (A)		SIDE BEARING CONN (B)		SIDELAP CONNECTION (C)				
		SIZE & TYPE	PATTERN	SIZE & TYPE	SPACING	SIZE & TYPE	SPACING			
3	C - 18 GA	¾"ø PW	24/4	¾"ø PW	12"	1½" TSW	12"	NO CONCRETE COVER. SAD FOR INSUL	N/A	
4	G - 20 GA	¾"ø PW	36/9	¾"ø PW	12"	1½" TSW OR ⅜"x1½" ASW	12"	NO CONCRETE COVER. SAD FOR INSUL	N/A	SEE **2/6-S1.50** FOR SCREW CONNECTION AT LGMF, TYP UNO

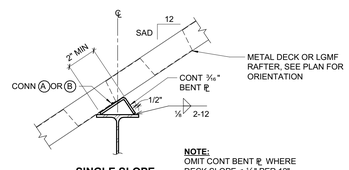
NOTES:
1. ATTACH DECK TO ALL STEEL SUPPORT FRAMING AS OCCURS.
2. PW = PUDDLE WELD WITH ½"ø MIN OF FUSION (EFFECTIVE WELD).
3. TSW = TOP SEAM WELD (¼" FILLET).
4. ASW = ARC SEAM WELD.
5. VSC2 = VERCO SIDE LAP CONNECTION.
6. PINS = HILTI X-ENP-19 L15 PER ICC ESR-2776.
7. ABOVE REFERENCED DECKS AND COMPOSITE DEPTHS ARE BASED ON ALLOWABLE DESIGN LOADS PER IAPMO ER-0217 VERCO MANUFACTURING, ESR-2047 EPIC METAL DECK CORP - EQUIVALENT DECK MUST HAVE EQUIVALENT ALLOWABLE VERTICAL LOADS, DIAPHRAGM SHEAR VALUES, AND FLEXIBILITY FACTORS.
8. SHORING OF DECK REQUIRED AT SINGLE SPAN & 2 SPAN CONDITIONS. NOT REQUIRED AT 3 SPAN CONDITIONS. AT CONTRACTOR'S OPTION, HEAVIER DECK MAY BE USED TO AVOID SHORING PER SEOR WRITTEN APPROVAL.
9. PROVIDE FULL WIDTH DECK SHEET ON EACH SIDE OF BEAMS IN THE SFRS, AND AT THE BUILDING PERIMETER.

1 DECKING SCHEDULE
3/4" = 1'-0"

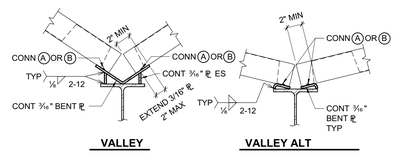
1. SCHEDULED OR REFERENCED DECKS ARE BASED ON ALLOWABLE DESIGN LOADS PER IAPMO ER-0217 VERCO MANUFACTURING PHOENIX, ARIZONA - EQUIVALENT DECK MUST HAVE EQUIVALENT ALLOWABLE LOADS.
2. SCREWS FOR DECK TO DECK SEAM FASTENING SHALL BE No. 12-14 x ¾" TEKS 1. SCREWS FOR DECK SUPPORT FASTENING SHALL BE ONE OF THE FOLLOWING:

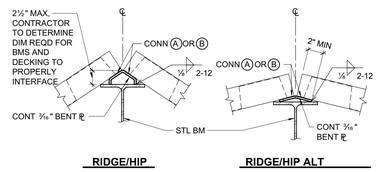
FASTENER DESCRIPTION	SUPPORT THICKNESS
#12-14 x ¾" TEKS 3	16 GAGE TO ⅜"
#12-24 x ¾" TEKS 4	⅛" TO ½"
#12-24 x 1¼" TEKS 5	⅛" TO ½"

3. SEE ICC-ES ER-3056 AND ESR-1976 FOR ADDITIONAL DETAILS ON TEKS SCREWS.
4. DECK SUPPORT FASTENER PATTERNS ARE AS DESCRIBED IN (A).
5. EIGHT OR FOUR SCREWS USED FOR INVERTED 1 9/16" VERCOR. NINE OR FIVE SCREWS USED FOR "NORMAL" 1 9/16" VERCOR.



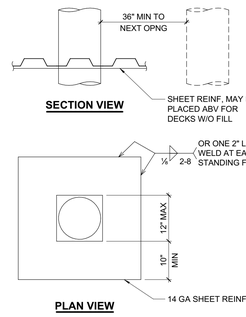
NOTE:
OMIT CONT BENT ℄ WHERE DECK SLOPE < ½" PER 12"



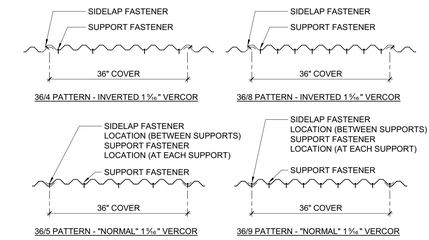


NOTE:
OMIT CONTINOUS BENT ℄ WHERE DECK SLOPE < ½" PER 12"

5 TYPICAL SLOPED DECK SUPPORT
1 1/2" = 1'-0"

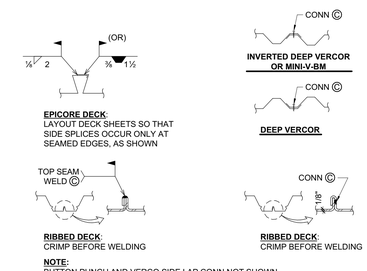


6 TYPICAL REINFORCED OPENING IN DECK (LESS THAN 12")
3/4" = 1'-0"



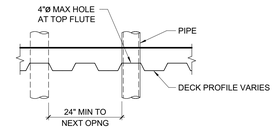
A TEKS FASTENER PATTERN FOR 1 9/16" VERCOR

2 DECKING SCHEDULE - SCREW CONNECTIED
3/4" = 1'-0"



NOTE:
BUTTON PUNCH AND VERCO SIDE LAP CONN NOT SHOWN.

3 TYPICAL DECK SIDE LAP CONNECTION
3" = 1'-0"



4 TYPICAL UNREINFORCED OPENING IN DECK (≤ 4")
3/4" = 1'-0"

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: **KATHY GARCIA** DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	INC 01_ADD_01_V1	12/6/2019

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REGISTERED PROFESSIONAL ENGINEER KEVIN G. ZUCCO No. 4861 STRUCTURAL STATE OF CALIFORNIA

Sheet Title

BUILDING 6 TYPICAL METAL DECKING DETAILS

Drawn By: LS Checked By: SRP

Scale: **As indicated**

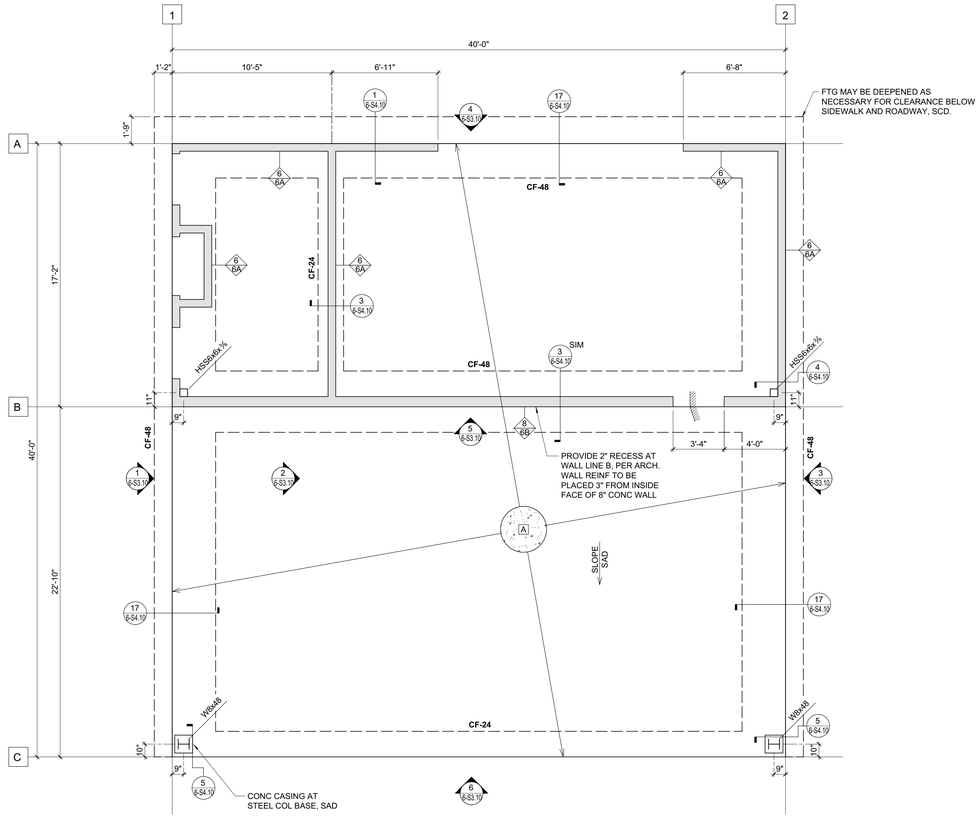
Date: **July 19, 2019**

Project No. 17143

6-S1.50
Drawing No.

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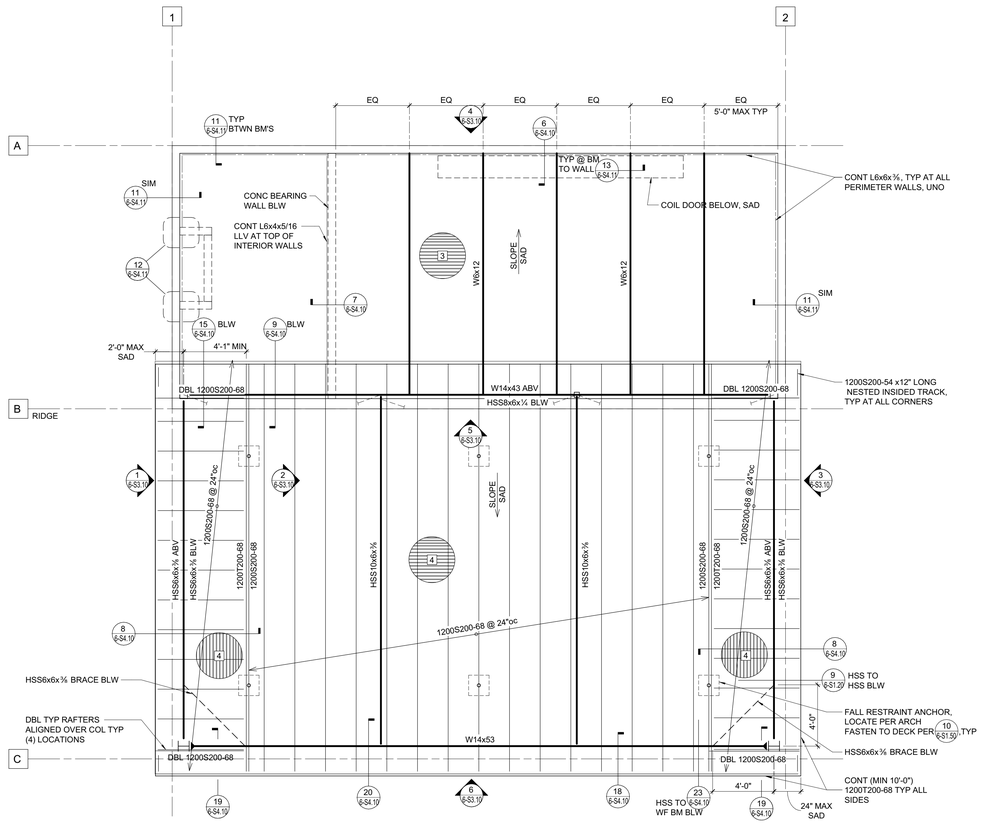
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NORTH

FOUNDATION PLAN

1/4" = 1'-0"



NORTH

ROOF FRAMING PLAN

1/4" = 1'-0"

FRAMING PLAN NOTES:

1. REFER TO SHEETS **6-S0.10** THROUGH **6-S1.50** FOR GENERAL NOTES AND TYPICAL DETAILS. THE FOLLOWING DETAIL REFERENCES ARE PROVIDED FOR THE CONTRACTOR'S CONVENIENCE ONLY. ALL GENERAL NOTES AND TYPICAL DETAIL SHEETS NOTED ABOVE ARE APPLICABLE AND SHALL BE FOLLOWED.
2. COORDINATE ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS PRIOR TO CONSTRUCTION. NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES.
3. NO VERTICAL OR HORIZONTAL PIPES OR CONDUITS SHALL BE LOCATED THROUGH STEEL FRAMING, COLUMNS, OR ASE PLATES. CONDUIT OR PLUMBING NOT ALLOWED WITHIN CONCRETE FILL ON METAL DECK. PROVIDE FURRING WHERE REQUIRED TO CLEAR UTILITY SYSTEMS. NOTIFY ARCHITECT/ENGINEER PRIOR TO ANY INSTALLATION NOT CONFORMING TO THESE RESTRICTIONS.
4. FIRE PROTECTION SYSTEM SUPPORTS TO BE LOCATED TO MAINTAIN A MAXIMUM OF (2) 500 LB MAX POINT LOADS WITH 15'-0" MINIMUM SEPARATION TO ANY STEEL BEAM. NO SUPPORTS TO BE HUNG FROM METAL DECKING.
5. SEE ARCHITECTURAL DRAWINGS FOR EDGE OF SLAB, FACE OF WALL, ETCETERA.
6. SEE ARCHITECTURAL DRAWINGS FOR TOP OF SLAB OR TO TOP OF STEEL ELEVATION.
7. BEAM CENTERLINES TO ALIGN WITH COLUMN CENTERLINES, UNLESS NOTED OTHERWISE.
8. BEAMS TO BE EQUALLY SPACED IN EACH BAY, UNLESS NOTED OTHERWISE.

FOUNDATION PLAN NOTES:

1. REFER TO SHEETS **6-S0.10** THROUGH **6-S1.50** FOR GENERAL NOTES AND TYPICAL DETAILS. THE FOLLOWING DETAIL REFERENCES ARE PROVIDED FOR THE CONTRACTOR'S CONVENIENCE ONLY. ALL GENERAL NOTES AND TYPICAL DETAILS NOTED ABOVE ARE APPLICABLE AND SHALL BE FOLLOWED.
2. COORDINATE ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS PRIOR TO CONSTRUCTION. NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES.
3. SEE DETAILS OR CURB PLAN FOR CURB LOCATIONS. COORDINATE WITH ARCHITECTURAL DRAWINGS PRIOR TO CONSTRUCTION. NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES.
4. PLUMBING AND ELECTRICAL CONDUIT AND GROUND STRAP SHALL NOT BE LAID WITHIN FOUNDATIONS. NO UTILITY PIPES OR CONDUITS SHALL BE LOCATED THRU COLUMN FOOTINGS OR FRAME FOOTINGS. NO PIPES OR CONDUITS THRU SILL PLATES SHALL BE WITHIN 12" OF HOLDOWN BOLTS. NO MECHANICAL, ELECTRICAL, OR PLUMBING OPENINGS SHALL BE LOCATED IN SHEAR WALLS UNLESS SHOWN AND DETAILED ON THE STRUCTURAL DRAWINGS. NO VERTICAL OR HORIZONTAL PIPES OR CONDUITS SHALL BE LOCATED THROUGH STEEL FRAMES, STEEL COLUMNS, OR STEEL BASE PLATES. PROVIDE FURRING AND/OR THICKENED CONCRETE WHERE REQUIRED TO CLEAR UTILITY SYSTEMS. NOTIFY STRUCTURAL ARCHITECT/ENGINEER PRIOR TO ANY INSTALLATION NOT CONFORMING TO THESE DETAILS.

   PIPES THROUGH FOOTINGS SHALL BE PER **2/6-S1.10** AND **3/6-S1.10**.

   PIPES PARALLEL TO FOOTINGS SHALL BE PER **4/6-S1.10**.

   PIPES AT SLAB ON GRADE SHALL BE PER **6/6-S1.10**.
5. ELEVATION OF THE TOP OF FINISHED SLAB = 0'-0", UNLESS NOTED OTHERWISE. SLAB OVER 15 MIL VAPOR RETARDER OVER MIN 16" OF NON-EXPANSIVE SOIL CONSISTING OF COMPACTED IMPORTED SELECT FILL OR LIME-TREATED ON-SITE SOIL.

PLAN LEGEND

SYMBOL	REFERENCE DETAIL	DESCRIPTION
1/A	1/6-S4.11	INDICATES CAST IN PLACE CONCRETE WALL PANEL W/ THICKNESS "t" AND REINFORCING TYPE "A" PER SCHEDULE TYP, UNO.
		INDICATES STEEL COLUMN.
		INDICATES FOUNDATION.
CF-24		INDICATES CONTINUOUS FOOTING SIZE AND REINFORCING PER SCHEDULE.
88		INDICATES GRIDLINE AT FACE OF WALL/SLAB.
1/S3.1		INDICATES ELEVATION.
		INDICATES "T" PLATE BEAM CONNECTION TO COLUMN.
	16/6-S1.20	INDICATES FRAME MOMENT RESISTING CONNECTION.
		INDICATES ANGLE BRACE BELOW.
		INDICATES LEDGER. SEE PLAN FOR SIZE AND ANCHORAGE.
		INDICATES CONCRETE WALL BELOW.
TOF - 10"		INDICATES TOP OF FOOTING RELATIVE TO 0'-0". TOP OF FOOTING SHALL BE -10", UNLESS NOTED OTHERWISE. TOP OF FOOTING ELEVATIONS ARE TO BE COORDINATED BY THE CONTRACTOR UTILIZING THE STRUCTURAL, CIVIL, GEOTECHNICAL, AND LANDSCAPE DRAWINGS. ANY DISCREPANCIES ARE TO BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER SO CLARIFICATION CAN BE MADE PRIOR TO CONSTRUCTION.
1	1/6-S1.50	INDICATES BARE METAL DECK AND DIRECTION OF DECK SPAN. SEE SCHEDULE FOR ADDITIONAL INFORMATION
A	11/6-S1.10	6" CONC SLAB-ON-GRADE PER D/6-S0.10 NOTE 3. SEE REFERENCE DETAIL FOR SUBGRADE SLAB PREPARATION

FOOTING SCHEDULE

MARK	WIDTH	DEPTH	REINFORCING
CF-24	24"	24"	(2) #6 CONT T & B W/ #3 TIES AT 12" O.C.
CF-48	48"	24"	(4) #6 CONT T & B W/ #3 TIES AT 8" O.C.

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVED REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

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HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	INC 01_ADD_01_V1	12/6/2019

PERMIT SUBMITTAL V3-INCREMENT #1

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1390 el camino real | suite 100 **zfa.com**
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REGISTERED PROFESSIONAL ENGINEER — KEVIN G. ZUCCO — STRUCTURAL — No. 4861 — STATE OF CALIFORNIA

Sheet Title

BUILDING 6
FLOOR PLAN, ROOF PLAN

Drawn By: LS
Checked By: SRP

Scale:
As indicated

Date:
July 19, 2019

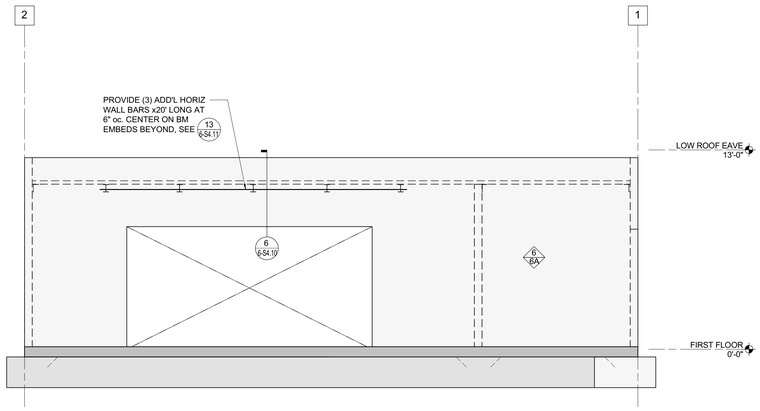
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6-S2.10

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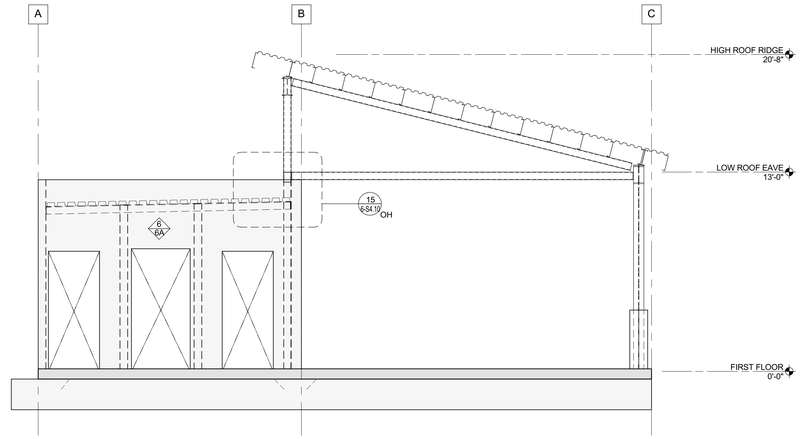
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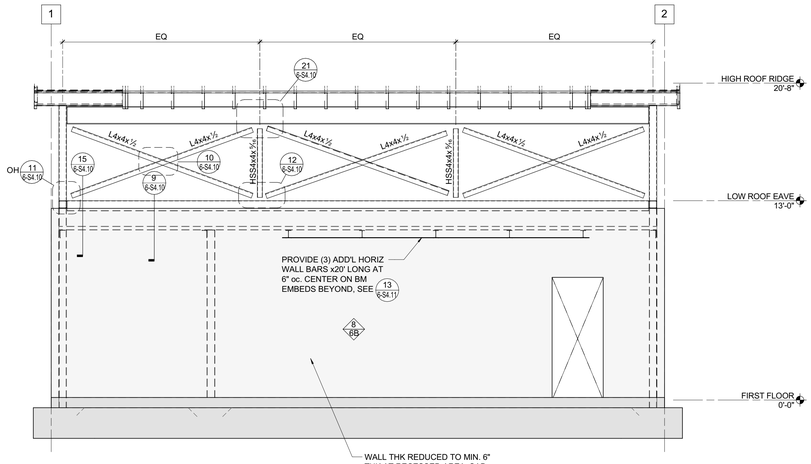
4 ELEVATION AT GRID A
1/4" = 1'-0"

FRAME ELEVATION NOTES:

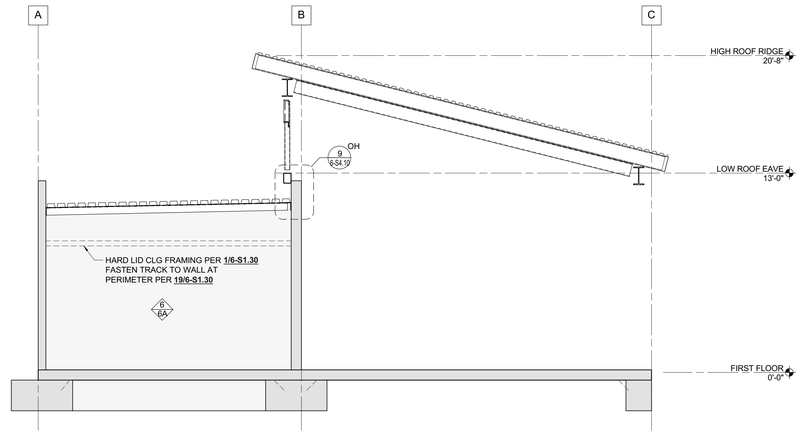
1. ELEVATION VIEWS SHOWN IN THESE PLANS ARE SCHEMATIC. THE STRUCTURAL PLANS AND DETAILS TAKE PRECEDENCE OVER ELEVATION VIEWS. SEE PLANS FOR ADDITIONAL INFORMATION.
2. SEE PLANS FOR ALL COLUMN AND BEAM SIZES.
3. SEE SHEET **6-S4.10** FOR BRACE DETAILS.
4. SAD FOR FRAMING HEIGHTS, BEAM SLOPES AND ALL DIMENSIONS.
5. ALL CONNECTIONS INDICATED ON ELEVATIONS ARE PART OF THE SFRS, ALL WELDS ARE DEMAND CRITICAL WHERE NOTED AS DCW.



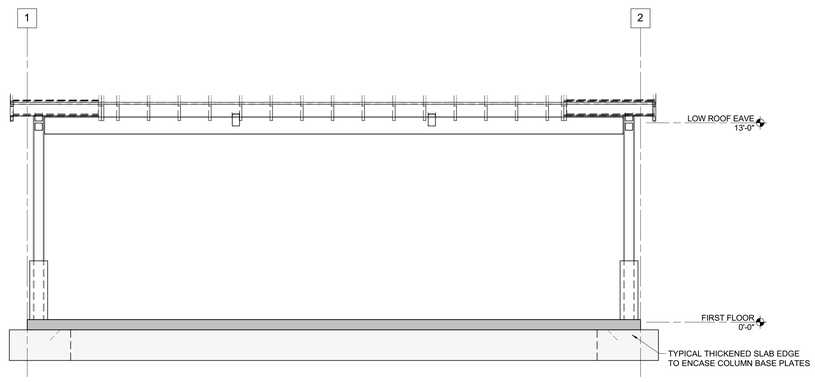
1 ELEVATION AT GRID 1
1/4" = 1'-0"



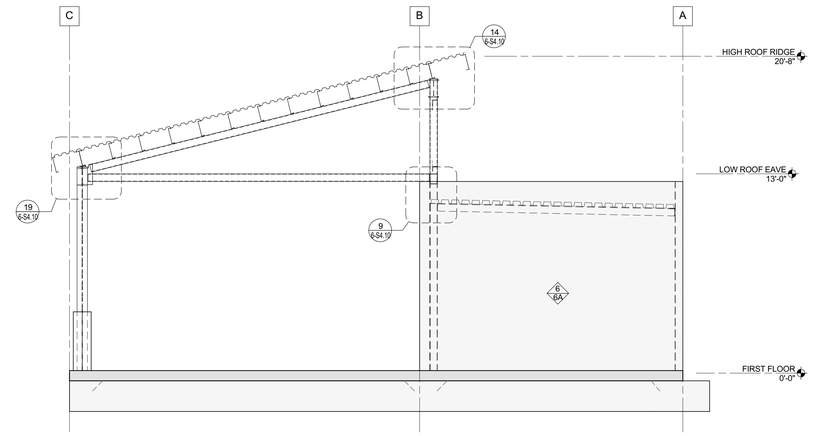
5 ELEVATION AT GRID B
1/4" = 1'-0"



2 ELEVATION AT GRID 1.3
1/4" = 1'-0"



6 ELEVATION AT GRID C
1/4" = 1'-0"



3 ELEVATION AT GRID 2
1/4" = 1'-0"

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: **KATHY GARCIA** DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	PC	December 6, 2018 June 11

PERMIT SUBMITTAL V3-INCREMENT #1

ZFA STRUCTURAL ENGINEERS
1390 el camino real | suite 100 zfa.com
san carlos ca 94070 650.394.8869
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LICENSED PROFESSIONAL ENGINEER
KEVIN G. ZUCCO
STRUCTURAL No. 4861
STATE OF CALIFORNIA

Sheet Title

BUILDING 6 ELEVATIONS

Drawn By:- Checked By:-

Scale:
As indicated

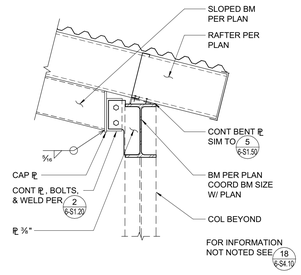
Date:
July 19, 2019

Project No. 17143

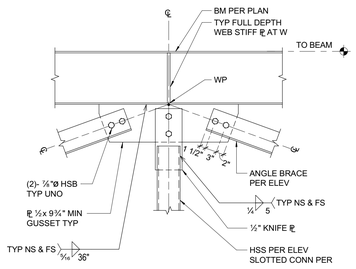
6-S3.10
Drawing No.

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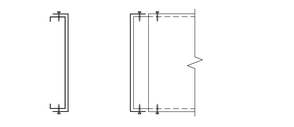
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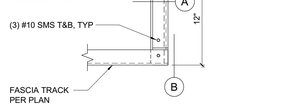


20 CONNECTION DETAIL
3/4" = 1'-0"

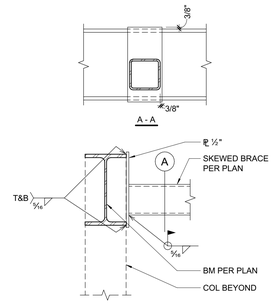


21 BRACE TO TOP BEAM CONNECTION
3/4" = 1'-0"

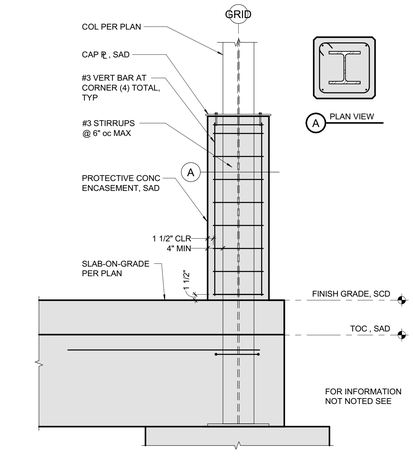




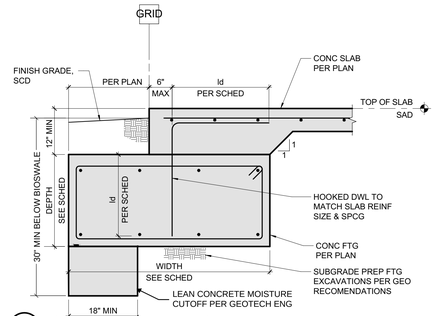
22 CORNER TRACK DETAIL
1 1/2" = 1'-0"



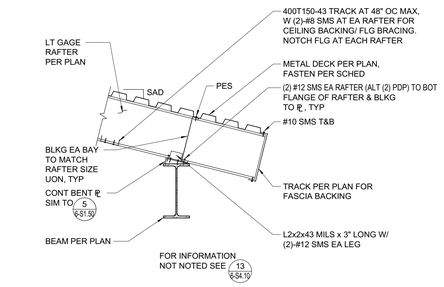
23 BEAM BRACE CONNECTION
1" = 1'-0"



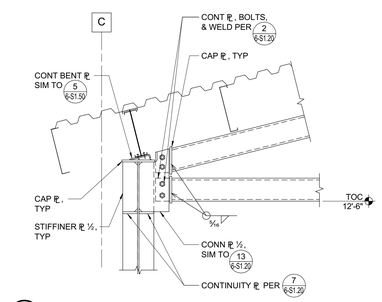
16 TYPICAL PROTECTIVE COLUMN BASE DETAIL
3/4" = 1'-0"



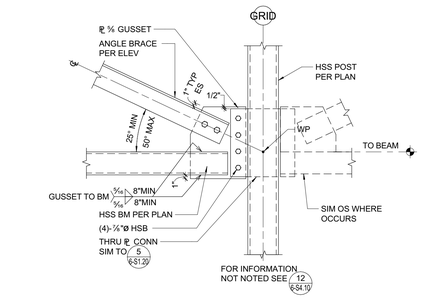
17 FOUNDATION DETAIL WIDE FTG
3/4" = 1'-0"



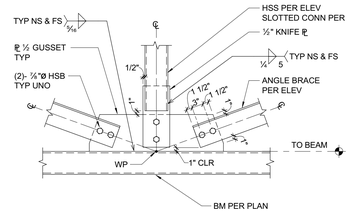
18 ROOF DETAIL AT EAVE OVERHANG
3/4" = 1'-0"



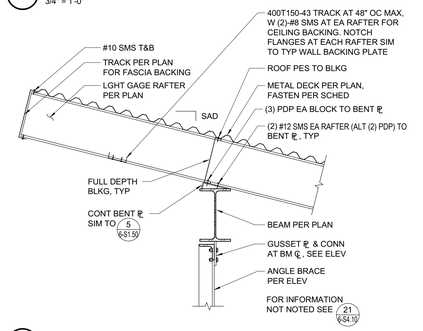
19 ROOF CONNECTION DETAIL AT GRID C
3/4" = 1'-0"



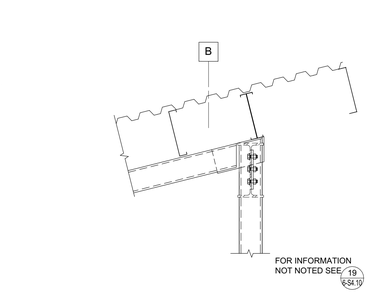
11 BRACED - BEAM TO COLUMN CONNECTION
3/4" = 1'-0"



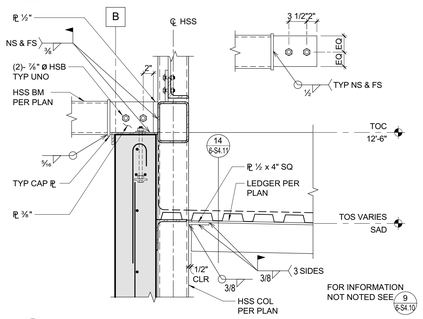
12 BRACE TO BOTTOM BEAM CONNECTION
3/4" = 1'-0"



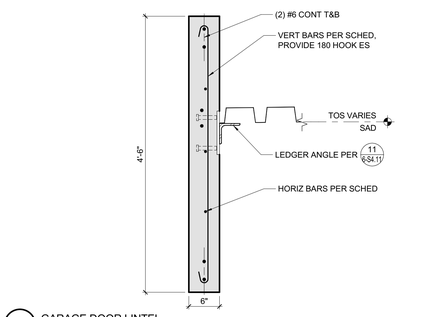
13 ROOF DETAIL AT EAVE OVERHANG
3/4" = 1'-0"



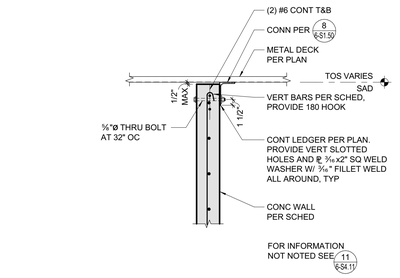
14 ROOF CONNECTION DETAIL AT GRID B
3/4" = 1'-0"



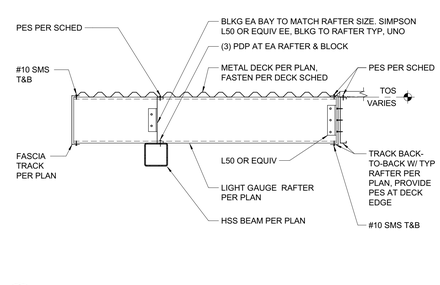
15 COLLECTOR CONNECTION AT GRID 1 & 2
1" = 1'-0"



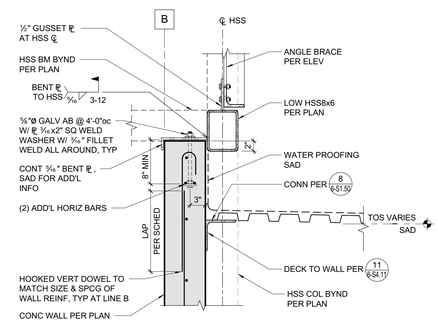
6 GARAGE DOOR LINTEL
1" = 1'-0"



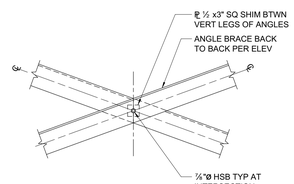
7 FRAMING DETAIL
3/4" = 1'-0"



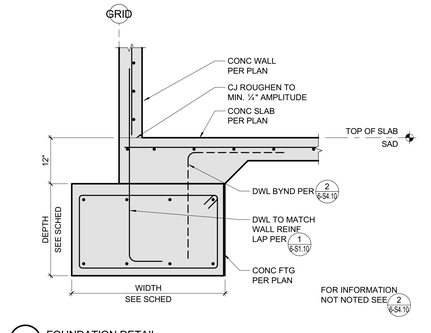
8 HIGH ROOF FRAMING DETAIL
3/4" = 1'-0"



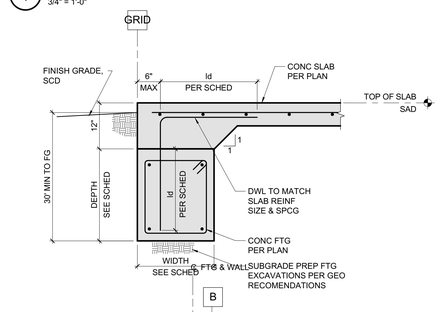
9 LOW ROOF AND BRACE TO WALL CONNECTION
1" = 1'-0"



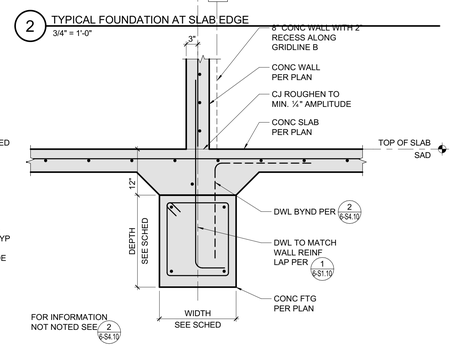
10 ANGLE "X" CONNECTION
3/4" = 1'-0"



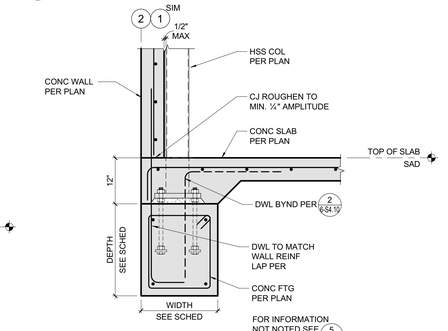
1 FOUNDATION DETAIL
3/4" = 1'-0"



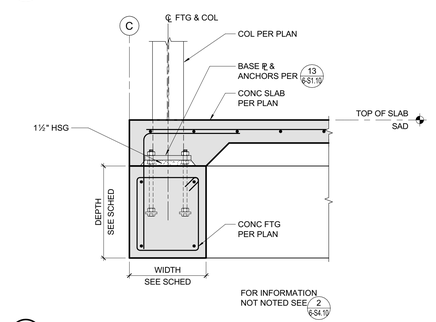
2 TYPICAL FOUNDATION AT SLAB EDGE
3/4" = 1'-0"



3 FOUNDATION DETAIL
3/4" = 1'-0"



4 FOUNDATION DETAIL
3/4" = 1'-0"



5 FOUNDATION DETAIL
3/4" = 1'-0"

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date
		December 6, 2018
1	PC	June 11
2	PLAN CHECK RESPONSE	08/13/19
3	PC 2 -Internal Tracking	10/01/19

PERMIT SUBMITTAL V3-INCREMENT #1

ZFA STRUCTURAL ENGINEERS
1390 el camino real | suite 100 zfa.com
san carlos ca 94070 650.394.8869
zfa job no.17143

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REGISTERED PROFESSIONAL ENGINEER KEVIN G. ZUCCO STRUCTURAL No. 4861 STATE OF CALIFORNIA

Sheet Title

BUILDING 6 SECTIONS AND DETAILS

Drawn By: -
Checked By: -

Scale: **As indicated**

Date: **July 19, 2019**

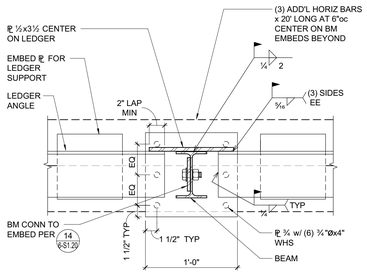
Project No. 17143

6-S4.10

Drawing No.

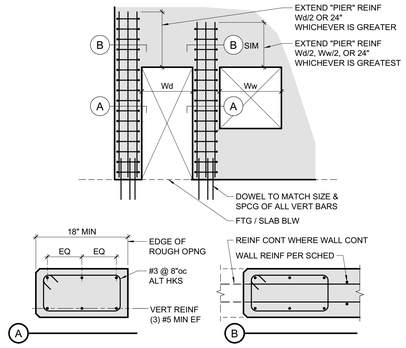
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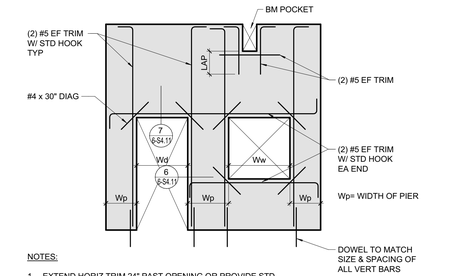


FOR INFORMATION NOT NOTED SEE 12 6-S4.11

13 BEAM CONNECTION - ELEVATION VIEW
1 1/2" = 1'-0"



9 WALL PIER REINFORCING AT DOORS AND WINDOWS
1" = 1'-0"



NOTES:
1. EXTEND HORIZ TRIM 24" PAST OPENING OR PROVIDE STD HOOK AT ENDS UNO.
2. WALL SEGMENTS LESS THAN 36" ARE PIERS.
3. WHERE Wd > 4'-0" OR Ww > 4'-0", Wp MUST BE ≥ 27", UNO.
4. Wp ≤ 24" SEE 9/6-S4.11 , UNO.
5. 24" < Wp TO 36" SEE10/6-S4.11, UNO.
6. OMIT STD HOOK AT U-BAR.

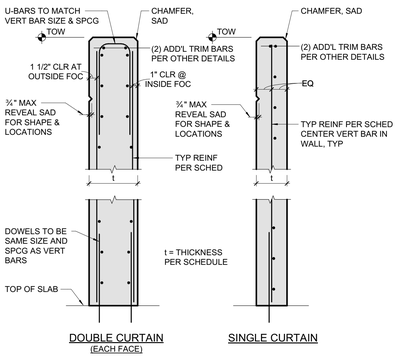
5 TYPICAL TRIM STEEL AT OPENINGS
1" = 1'-0"

CONCRETE WALL REINFORCING SCHEDULE

WALL TYPE	THICKNESS (N)	# OF CURTAINS	HORIZONTAL REINFORCING	VERTICAL REINFORCING	REFERENCE DETAIL	REMARKS
6 6A	6"	1	#5 @ 12"oc	#5 @ 12"oc, CENTERED		
8 6B	8"	1	#5 @ 12"oc	#5 @ 12"oc, CENTERED		

NOTES:
1. SEE CONCRETE WALL ELEVATIONS FOR ADD BAR EXTENTS, UNO.
2. FOR SOLID PANEL SECTION SEE 2/6-S4.11 .
3. FOR TYPICAL PANEL REINFORCEMENT SEE 3/6-S4.11 .
4. FOR TYPICAL TRIM STEEL SEE 5/6-S4.11 .
5. FOR TYPICAL DOOR / WINDOW HEADER OR JAMB SEE 7/6-S4.11 & 6/6-S4.11 .
6. FOR END CONDITION SEE 8/6-S1.10 .
7. FOR TYPICAL HORIZONTAL AND VERTICAL JOINTS SEE 8/6-S4.11 .

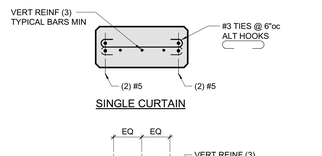
1 CONCRETE WALL SCHEDULE
12" = 1'-0"



2 SOLID WALL SECTION
1" = 1'-0"

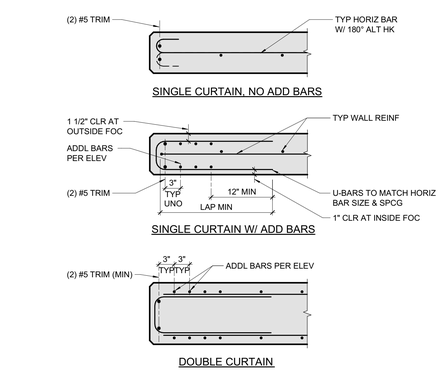
FOR INFORMATION NOT NOTED SEE 15 6-S4.10 & 11 6-S4.11

14 ANGLE LEDGER CONNECTION AT HSS POST
1 1/2" = 1'-0"



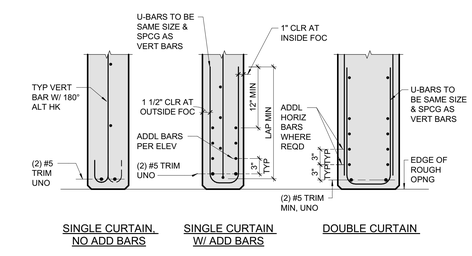
NOTES:
1. EXTEND U-BARS OR TIES 24" MIN PAST OPENINGS

10 WALL PIER REINFORCING
1" = 1'-0"

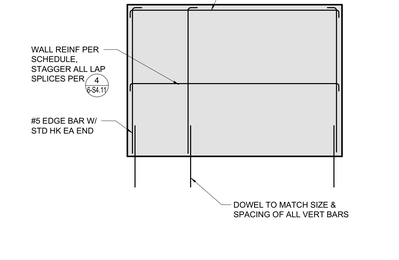


6 ADDITIONAL REINFORCEMENT AT EDGE OF WALL OPENING
1" = 1'-0"

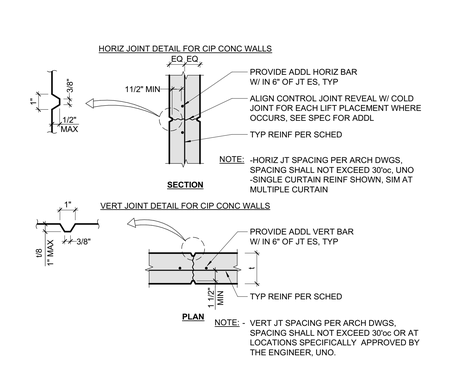
11 ANGLE LEDGER CONNECTION
1 1/2" = 1'-0"



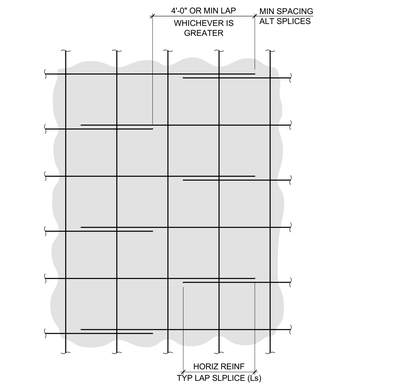
7 DOOR/WINDOW HEADER
1" = 1'-0"



3 TYPICAL PANEL REINFORCING
1" = 1'-0"



8 TYPICAL WALL JOINTS AND REVEALS
3/4" = 1'-0"



4 TYPICAL WALL REINFORCING
1" = 1'-0"

12 BEAM / LEDGER CONNECTION - PLAN VIEW
1 1/2" = 1'-0"

ROSS DRULIS CUSENBERY ARCHITECTURE
18294 Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

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DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 WEST WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date
		December 6, 2018
1	PC	June 11
3	PC 2 -Internal Tracking	10/01/19

PERMIT SUBMITTAL V3-INCREMENT #1

ZFA STRUCTURAL ENGINEERS
1390 el camino real | suite 100 zfa.com
san carlos ca 94070 650.394.8869
zfa job no.17143

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REGISTERED PROFESSIONAL ENGINEER KEVIN G. ZUCCO STRUCTURAL No. 4961 STATE OF CALIFORNIA

Sheet Title

BUILDING 6 CONCRETE WALL DETAILS

Drawn By: LS Checked By: SRP

Scale: As indicated

Date: July 19, 2019

Project No. 17143

6-S4.11
Drawing No.

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10/9/2019 11:29:07 AM C:\revit_local\17143_B6 - Outdoor Classroom Bldg_S17C_dannn@zfa.com.rvt

PLUMBING AND FIRE PROTECTION LEGEND AND ABBREVIATIONS

ABBREVIATIONS - PLUMBING

ABD	AUTOMATIC BALL DRIP
AD	AREA DRAIN
AFF	ABOVE FINISHED FLOOR
AP	ACCESS PANEL
BLDG	BUILDING
BOB	BOTTOM OF BEAM
BOP	BOTTOM OF PIPE
BV	BALANCING VALVE
CD	CONDENSATE DRAIN
CFH	CUBIC FEET PER HOUR
CFM	CUBIC FEET PER MINUTE
CFS	CUBIC FEET PER SECOND
CI	CAST IRON
CLG	CEILING
CO	CLEANOUT
COTG	CLEANOUT TO GRADE
CONN	CONNECTION
CONT	CONTINUATION
CV	CHECK VALVE
CW	COLD WATER
DF	DRINKING FOUNTAIN
DIA	DIAMETER
DN	DOWN
DR	DRAIN
DROP	DROP (WITHIN FLOOR)
DWG	DRAWING
EL	ELEVATION
EWC	ELECTRIC WATER COOLER
EWH	ELECTRIC WATER HEATER
FCO	FLOOR CLEANOUT
FD	FLOOR DRAIN
FL	FLOOR
FSK	FLOOR SINK
FT	FEET
FU	FIXTURE UNIT
GAL	GALLONS
GPM	GALLONS PER MINUTE
GV	GATE VALVE
HB	HOSE BIBB
HD	HUB DRAIN

ABBREVIATIONS - PLUMBING

HW	HOT WATER
ID	INSIDE DIAMETER
IE	INVERT ELEVATION
IN	INCH
IW	INDIRECT WASTER
JS	JANITOR SINK
L	LAVATORY
LDR	LEADER
MAX	MAXIMUM
MIN	MINIMUM
MS	MOP SINK
(N)	NEW
NIC	NOT IN THIS CONTRACT
OD	OUTSIDE DIAMETER
OS&Y	OUTSIDE SCREW & YOKE GATE VALVE
P/FT	PITCH PER FOOT
POC	POINT OF CONNECTION
PRV	PRESSURE REDUCING VALVE
PSI	POUNDS PER SQUARE INCH
PSIG	POUNDS PER SQUARE INCH (GAUGE)
RISE	RISE (WITH IN FLOOR)
SAN	SANITARY
SF	SQUARE FEET
SK	SINK
SPKR	SPRINKLER
TMV	TEMPERATURE MIXING VALVE
TOP	TOP OF PIPE
TOS	TOP OF SLAB
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
UP	UP (PENETRATES FLOOR SLAB)
V	VENT
VR	VENT RISE
VTR	VENT THROUGH ROOF
WC	WATER CLOSET
WHA	WALL HAMMER ARRESTER
W&T	WASTE AND TRAP
Z	ZONE

SYMBOL LEGEND

	Y STRAINER WITH BLOW OFF VALVE
	FLEXIBLE CONNECTION
	SEISMIC JOINT
	PRESSURE GAUGE AND COCK
	THERMOMETER
	RUNNING TRAP
	VALVE (SPECIFICATION FOR TYPE)
	CHECK VALVE
	PRESSURE REDUCING VALVE
	GLOBE VALVE
	UNION
	SLEEVE
M	METER
	HOSE BIBB
	WATER HAMMER ARRESTER
	FLOOR DRAIN, AREA DRAIN, PLANT DRAIN, GARAGE DRAIN
	FLOOR SINK
	POINT OF CONNECTION (NEW TO EXISTING)
RPBP	REDUCED PRESSURE BACKFLOW PREVENTER ASSEMBLY
	BOTTOM PIPE CONNECTION
	TOP PIPE CONNECTION
	VALVE IN VERTICAL
	P-TRAP
	UP TO CLEANOUT
	WALL CLEANOUT
	END OF PIPE CLEANOUT / PLUG
	FLOOR CLEANOUT
	GRADE CLEANOUT
	PIPE DROP UNLESS OTHERWISE NOTED
	PIPE UP UNLESS OTHERWISE NOTED
	CHANGE IN PIPE ELEVATION
	ARROW INDICATES DIRECTION OF FLOW
	PITCH PIPE DOWN IN DIRECTION OF ARROW

PIPING LEGEND

WASTE / VENT

SAN	SANITARY (ABOVE FLOOR)
SAN	SANITARY (BELOW FLOOR)
V	VENT PIPING
CD	CONDENSATE DRAIN PIPING

POTABLE WATER

	DOMESTIC COLD WATER PIPING
	DOMESTIC HOT WATER PIPING (DHW)

MISCELLANEOUS

CP 1	EQUIPMENT DESIGNATION		EQUIPMENT EQUIPMENT NO.
1 P2.1	DETAIL DESIGNATION		DETAIL NUMBER DWG. SHEET NO.
1	SHEET NOTE NUMBER		
1	REVISION NUMBER		

PLBG_DRAWING LIST Bldg 6

SHEET NUMBER	SHEET NAME
6-P0.01	PLUMBING AND FIRE PROTECTION LEGEND AND ABBREVATION, DRAWING LIST
6-P0.02	PLUMBING SCHEDULES
6-P0.03	PLUMBING TITLE 24
6-P2.01	PLUMBING AND FIRE PROTECTION COVERED BREAK AREA BUILDING FLOOR PLAN

September 13, 2016

MEP Component Anchorage Note

All mechanical, plumbing, and electrical components shall be anchored and installed per the details on the DSA approved construction documents. Where no detail is indicated, the following components shall be anchored or braced to meet the force and displacement requirements prescribed in the 2016 CBC, Sections 1616A.1.18 through 1616A.1.26 and ASCE 7-10 Chapter 13, 26 and 30.

1. All permanent equipment and components.
2. Temporary or movable equipment that is permanently attached (e.g. hard wired) to the building utility services such as electricity, gas or water.
3. Movable equipment which is stationed in one place for more than 8 hours and heavier than 400 pounds or has a center of mass located 4 feet or more above the adjacent floor or roof level that directly support the component are required to be anchored with temporary attachments.

The following mechanical and electrical components shall be positively attached to the structure, but the attachment need not be detailed on the plans. These components shall have flexible connections provided between the component and associated ductwork, piping, and conduit.

A. Components weighing less than 400 pounds and have a center of mass located 4 feet or less above the adjacent floor or roof level that directly support the component.
B. Components weighing less than 20 pounds, or in the case of distributed systems, less than 5 pounds per foot, which are suspended from a roof or floor or hung from a wall.

For those elements that do not require details on the approved drawings, the installation shall be subject to the approval of the design professional in general responsible charge or structural engineer delegated responsibility and the DSA District Structural Engineer. The project inspector will verify that all components and equipment have been anchored in accordance with above requirements.

Piping, Ductwork, and Electrical Distribution System Bracing Note

Piping, ductwork, and electrical distribution systems shall be braced to comply with the forces and displacements prescribed in ASCE 7-10 Section 13.3 as defined in ASCE 7-10 Section 13.6.5.6, 13.6.7, 13.6.8, and 2016 CBC, Sections 1616A.1.24, 1616A.1.25 and 1616A.1.26.

The method of showing bracing and attachments to the structure for the identified distribution system are as noted below. When bracing and attachments are based on a preapproved installation guide (e.g., SMACNA or OSHPD OPM), copies of the bracing system installation guide or manual shall be available on the jobsite prior to the start of and during the hanging and bracing of the distribution systems. The Structural Engineer of Record shall verify the adequacy of the structure to support the hanger and brace loads.

Mechanical Piping (MP), Mechanical Ducts (MD), Plumbing Piping (PP), Electrical Distribution Systems (E):

MP☐MD☐PP☐ E☐ - Option 1: Detailed on the approved drawings with project specific notes and details.

MP☐MD☐PP☒ E☐ - Option 2: Shall comply with the applicable OSHPD Pre-Approval (OPM #)
OPM-0043-12 MASON WEST

MP☐MD☐PP☐ - Option 3: Shall comply with the SMACNA Seismic Restraint Manual, OSHPD Edition (2009), including any addenda. Fasteners and other attachments not specifically identified in the SMACNA Seismic Restraint Manual, OSHPD Edition, are detailed on the approved drawings with project specific notes and details. The details shall account for the applicable Seismic Hazard Level _____ and Connection Level _____ for the project and conditions.

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery ARCHITECTURE
18294 Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

WSP USA Buildings, Inc.
405 Howard St. Suite 500
San Francisco, CA 94105
(415) 398-3833
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER
TODD M SEE
No. M30765
MECHANICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

PLUMBING AND FIRE PROTECTION LEGEND AND ABBREVATION, DRAWING LIST

Drawn By: NE Checked By: Checker

Scale: **12" = 1'-0"**

Date: **October 4, 2019**

Project No. B17.07369

6-P0.01
Drawing No.

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ELECTRIC WATER HEATER SCHEDULE

TAG	DESCRIPTION	MANUFACTURER	MODEL NO.	FLOW RATE	TEMP IN (F)	TEMP PRESET (F)	ELECTRICAL DATA				WEIGHT	EMERGENCY POWER	COMMENTS
							KW	V	PH	HZ			
6EWH-1-1	POINT-OF-USE	CHRONOMITE	M-40/208	.35 GPM	50	110	3.12	208	1	60	5	NO	
6EWH-1-2	POINT-OF-USE	CHRONOMITE	M-40/208	.35 GPM	50	110	3.12	208	1	60	5	NO	

DRAINS AND CLEANOUTS SCHEDULE

TAG	DESCRIPTION	MANUFACTURER	MODEL NO.	STRAINER	REMARKS
WCO-1	WALL CLEANOUT	JR SMITH	4532S-Y-U	5" DIA	CAST IRON BODY, TAPERED BRONZE PLUG, HUBLESS CONNECTIONS, SS COVER WITH SCREW
GCO-1	GRADE CLEANOUT	JR SMITH	4223S-U	8" DIA	CAST IRON BODY, TAPERED BRONZE PLUG, ADJUSTABLE SCORIATED COVER, VANDAL RESISTANT

PLUMBING FIXTURE ROUGH-IN SCHEDULE

DESIGNATION	FIXTURE TYPE	AFTER CONNECTION		WASTE CONNECTIONS				REMARKS
		DCW	DHW	TRAP	IW	SS	SV	
HWC-1	WATER CLOSET	1"	-	-	-	4"	2"	ADA, VITREOUS CHINA, SIPHON JET, WALL MOUNTED, REAR OUTLET, TOP SPUD, 1.28 GPF, SENSOR ACTIVATED FLUSH VALVE, HINGED SEAT
L-2	LAVATORY	1/2"	1/2"	1-1/2"	-	1-1/2"	1-1/2"	ADA, VITREOUS CHINA, WALL HUNG, CONCELAED ARMS, OVERFLOW, SENSOR ACTIVATED 0.35 GPM FAUCET, WRAPPED P-TRAP, SUPPLIES AND RISERS
EWC-1	ELECTRIC WATER COOLER	1/2"	-	1-1/2"	-	1-1/2"	1-1/2"	WALL HUNG, INTEGRAL CHILLER, DUAL HEIGHT, BOTTLE FILLER

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
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SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

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DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: **KATHY GARCIA** DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
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REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER
TODD M SEE
No. M30765
MECHANICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

PLUMBING SCHEDULES

Drawn By: NE
Checked By: Checker

Scale:
12" = 1'-0"

Date:
October 4, 2019

Project No. B17.07369

6-P0.02
Drawing No.

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City and County of San Francisco
Department of Building Inspection

Edwin M. Lee, Mayor
Tom C. Hui, S.E., C.B.O., Director

NOTICE

TITLE-24 NON-RESIDENTIAL ENERGY INSPECTION REQUIREMENTS (PLUMBING)

Please note that Certificates of Installation and/or Acceptance and/or Verification are required for this project, as indicated on this form issued with this permit. Ensuring the accurate completion of this documentation is the direct responsibility of the engineer/architect of record. This documentation is required *in addition to* the called inspections performed by the Department of Building Inspection.

For questions regarding the details or extent of required documentation or testing, and if there are any field problems regarding documentation or testing, please call your District Plumbing Inspector or 415-558-6570.

Before final plumbing inspection is scheduled, documentation of energy compliance "Certificate of Installation, Acceptance, and Verification" must be completed and signed by the responsible person in charge. ***The permit will not be finalized without compliance with the energy inspection requirements.***

Energy Inspection Services Contact Information

1. **Telephone: (415) 558-6132**
2. **Fax: (415) 558-6474**
3. **Email:** dbi.energyinspections@sfgov.org
4. **In person: 3rd floor at 1660 Mission St.**

Note: We are moving towards a 'paperless' mode of operation. All special inspection submittals, including final letters, may be emailed (preferred) or faxed. We will also be shifting to a paperless fax receipt mode.

Installation, Acceptance, and Verification certificates can be found on the California Energy Commission website at http://energy.ca.gov/title24/2013standards/

Information Sheet MEP-06 provides submittal instructions for the Title-24 installation, verification, and acceptance energy certificates. MEP-06 may be found on the SFDBI website at http://sfdbi.org/information-sheets

Energy Inspection Services
1660 Mission Street– San Francisco CA 94103
Office (415) 558-6132 – FAX (415) 558-6474 – www.sfgov.org/dbi (website)

IS MEP-04
Attachment NRP

TITLE-24 NON-RESIDENTIAL ENERGY INSPECTION (PLUMBING)

A COPY OF THIS DOCUMENT SHALL BE KEPT WITH THE APPROVED DRAWING SET

JOB ADDRESS 1401 W. WINTON AVE. APPLICATION NO. ADDENDUM NO.
HAYWARD, CA 94545
ENGINEER/ARCHITECT NAME Todd See PHONE NO. (415) 402-2292

Ensuring the completion of installation documentation as well as the required acceptance/verification testing is the direct responsibility of the undersigned. Installation documentation must be completed by the contractor performing the installation. Acceptance testing must be performed by an individual licensed to perform the specific testing needed. Verification testing must be completed by a certified HERS rater.

In accordance with the requirements of the 2013 California Energy Code, the following documentation is required for the **plumbing** work in this project:

1. Installation

Plumbing
[✓] NRCI-PLB-01-E Certificate of Installation – Water Heating Systems **(IP10)**

[ ] NRCI-PLB-02-E High Rise Residential/Hotel/Motel Central Hot Water System Distribution **(IP11)**

[ ] NRCI-PLB-03-E High Rise Residential/Hotel/Motel Single Dwelling Unit Hot Water System Distribution **(IP12)**

[ ] NRCI-PLB-21-H HERS High Rise Residential/Hotel/Motel Central hot Water System Distribution **(IP13)**

[ ] NRCI-PLB-22-H HERS High Rise Residential/Hotel/Motel Single Dwelling Unit Hot Water System Distribution **(IP14)**

Solar
[ ] NRCI-STH-01-E Solar Water Heating System **(IP15)**

2. Acceptance

Mechanical
[ ] NRCA-MCH-08-A Valve Leakage Test **(AP1)**
[ ] NRCA-MCH-09-A Supply Water Temperature Reset Controls **(AP2)**

[ ] NRCA-MCH-10-A Hydronic System Variable Flow Controls **(AP3)**
[ ] NRCA-MCH-17-A Condenser Water Temperature Reset Controls **(AP4)**

3. Verification

Plumbing
[ ] NRCV-PLB-21-H High Rise Residential/Hotel/Motel Central Hot Water System Distribution **(VP1)**

[ ] NRCV-PLB-22-H High Rise Residential/Hotel/Motel Single Dwelling Unit Hot Water System Distribution **(VP4)**

Prepared by: Todd See Date: 11/02/2018
Engineer/Architect of Record Signature

Required information:
Fax: **Email:** Todd.See@wsp.com

Review by: Phone: (415) 402-2292
DBI Engineer or Plan Checker

APPROVAL (Based on submitted reports)

DATE DBI Plumbing Inspector or Energy Inspection Services Staff

QUESTIONS ABOUT TITLE-24 ENERGY INSPECTION SHOULD BE DIRECTED TO:
Energy Inspection Services (415) 558-6132; or, dbi.energyinspections@sfgov.org ; or FAX (415) 558-6474

STATE OF CALIFORNIA
WATER HEATING SYSTEM GENERAL INFORMATION
CEC-NRCC-PLB-01-E (Revised 01/16) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-PLB-01-E
Water Heating System General Information	(Page 2 of 2)
Project Name: Hayward Fire Building 6	Date Prepared: 11/02/2018

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT
I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: Calvin Wong	Documentation Author Signature:
Company: WSP	Signature Date: 11/02/2018
Address: 425 Market Street, 17th Floor	CEA/ HERS Certification Identification (if applicable):
City/State/Zip: San Francisco, CA, 94105	Phone: (415)-402-2233

RESPONSIBLE PERSON'S DECLARATION STATEMENT
I certify the following under penalty of perjury, under the laws of the State of California:
1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer).
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name: Todd See	Responsible Designer Signature:
Company: WSP	Date Signed: 11/02/2018
Address: 425 Market Street, 17th Floor	License: 30765
City/State/Zip: San Francisco, CA, 94105	Phone: (415)-402-2292

CA Building Energy Efficiency Standards - 2016 Nonresidential Compliance January 2016

STATE OF CALIFORNIA
WATER HEATING SYSTEM GENERAL INFORMATION
CEC-NRCC-PLB-01-E (Revised 01/16) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-PLB-01-E
Water Heating System General Information	(Page 1 of 2)
Project Name: Hayward Fire Building 6	Date Prepared: 11/02/2018

A. GENERAL INFORMATION/SYSTEM INFORMATION

01	Water Heater System Name:	6EWH-1
02	Water Heater System Configuration:	Electric
03	Water Heater System Type:	Instantaneous
04	Building Type:	Nonresidential
05	Total Number of Water Heaters in Systems:	1
06	Central DHW Distribution Type:	N/A
07	Dwelling Unit DHW Distribution Type:	N/A

B. WATER HEATER INFORMATION
Each water heater type requires a separate compliance document.

01	Water Heater Type:	Instantaneous - Electric
02	Fuel Type:	Electricity
03	Manufacture Name:	A.O. Smith
04	Model Number:	CHRONOMITE M-40/208
05	Number of Identical Water Heaters:	1
06	Installed Water Heater System Efficiency:	99%
07	Required Minimum Efficiency:	0
08	Standby Loss Percent or Standby Loss Total:	0
09	Rated Input:	3.12 kW
10	Pilot Energy:	0
11	Water Heater Tank Storage Volume:	0
12	Exterior Insulation on Water Heater:	N/A
13	Volume of Supplemental Storage:	N/A
14	Internal Insulation on Supplemental Storage:	N/A
15	Exterior Insulation on Supplemental Storage:	N/A

C. PLUMBING COMPLIANCE FORMS & WORKSHEETS
Check box if worksheet is included.
For detailed instructions on the use of this and all Energy Standards compliance documents, refer to the 2016 Nonresidential Manual
Note: The Enforcement Agency may require all compliance documents to be incorporated onto the building plans.

YES	NO	Doc/Worksheet #	Title
⊗	○	NRCC-PLB-01-E	Certificate of Compliance, Declaration. Required on plans for all submittals.
⊗	○	NRCI-PLB-01-E	Certificate of Installation. Required on plans for all submittals.
○	⊗	NRCI-PLB-02-E	Certificate of Installation, required on central systems in high-rise residential, hotel/motel application.
○	⊗	NRCI-PLB-03-E	Certificate of Installation, required on single dwelling unit systems in high-rise residential, hotel/motel application.
○	⊗	NRCI-PLB-21-H	Certificate of Installation, required on HERS verified central systems in high-rise residential, hotel/motel application.
○	⊗	NRCI-PLB-22-H	Certificate of Installation, required on HERS verified single dwelling unit systems in high-rise residential, hotel/motel application.
○	⊗	NRCI-STH-01-E	Certificate of Installation, required on any solar water heating

CA Building Energy Efficiency Standards - 2016 Nonresidential Compliance January 2016

STATE OF CALIFORNIA
WATER HEATING SYSTEM GENERAL INFORMATION
CEC-NRCC-PLB-01-E (Revised 01/16) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-PLB-01-E
Water Heating System General Information	(Page 2 of 2)
Project Name: Hayward Fire Building 6	Date Prepared: 11/02/2018

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT
I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: Calvin Wong	Documentation Author Signature:
Company: WSP	Signature Date: 11/02/2018
Address: 425 Market Street, 17th Floor	CEA/ HERS Certification Identification (if applicable):
City/State/Zip: San Francisco, CA, 94105	Phone: (415)-402-2233

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I certify the following under penalty of perjury, under the laws of the State of California:
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CA Building Energy Efficiency Standards - 2016 Nonresidential Compliance January 2016

STATE OF CALIFORNIA
WATER HEATING SYSTEM GENERAL INFORMATION
CEC-NRCC-PLB-01-E (Revised 01/16) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-PLB-01-E
Water Heating System General Information	(Page 1 of 2)
Project Name: Hayward Fire Building 6	Date Prepared: 11/02/2018

A. GENERAL INFORMATION/SYSTEM INFORMATION

01	Water Heater System Name:	6EWH-2
02	Water Heater System Configuration:	Electric
03	Water Heater System Type:	Instantaneous
04	Building Type:	Nonresidential
05	Total Number of Water Heaters in Systems:	1
06	Central DHW Distribution Type:	N/A
07	Dwelling Unit DHW Distribution Type:	N/A

B. WATER HEATER INFORMATION
Each water heater type requires a separate compliance document.

01	Water Heater Type:	Instantaneous - Electric
02	Fuel Type:	Electricity
03	Manufacture Name:	A.O. Smith
04	Model Number:	CHRONOMITE M-40/208
05	Number of Identical Water Heaters:	1
06	Installed Water Heater System Efficiency:	99%
07	Required Minimum Efficiency:	0
08	Standby Loss Percent or Standby Loss Total:	0
09	Rated Input:	3.12 kW
10	Pilot Energy:	0
11	Water Heater Tank Storage Volume:	0
12	Exterior Insulation on Water Heater:	N/A
13	Volume of Supplemental Storage:	N/A
14	Internal Insulation on Supplemental Storage:	N/A
15	Exterior Insulation on Supplemental Storage:	N/A

C. PLUMBING COMPLIANCE FORMS & WORKSHEETS
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⊗	○	NRCC-PLB-01-E	Certificate of Compliance, Declaration. Required on plans for all submittals.
⊗	○	NRCI-PLB-01-E	Certificate of Installation. Required on plans for all submittals.
○	⊗	NRCI-PLB-02-E	Certificate of Installation, required on central systems in high-rise residential, hotel/motel application.
○	⊗	NRCI-PLB-03-E	Certificate of Installation, required on single dwelling unit systems in high-rise residential, hotel/motel application.
○	⊗	NRCI-PLB-21-H	Certificate of Installation, required on HERS verified central systems in high-rise residential, hotel/motel application.
○	⊗	NRCI-PLB-22-H	Certificate of Installation, required on HERS verified single dwelling unit systems in high-rise residential, hotel/motel application.
○	⊗	NRCI-STH-01-E	Certificate of Installation, required on any solar water heating

CA Building Energy Efficiency Standards - 2016 Nonresidential Compliance January 2016

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY:	
KATHY GARCIA DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

WSP USA Buildings, Inc.
405 Howard St. Suite 500
San Francisco, CA 94105
(415) 398-3833
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER
TODD M SEE
No. M30785
MECHANICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

PLUMBING TITLE 24

Drawn By: NE Checked By: Checker

Scale:
NTS

Date:
October 4, 2019

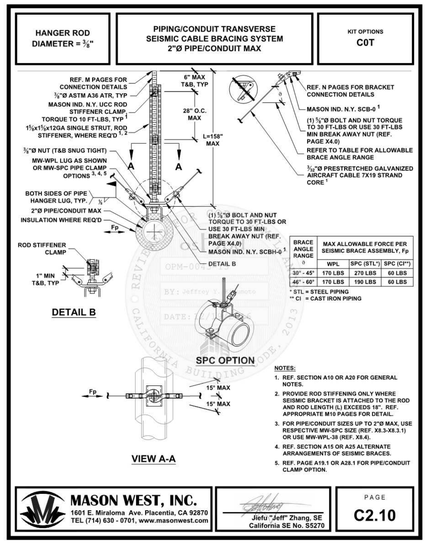
Project No. B17.07369

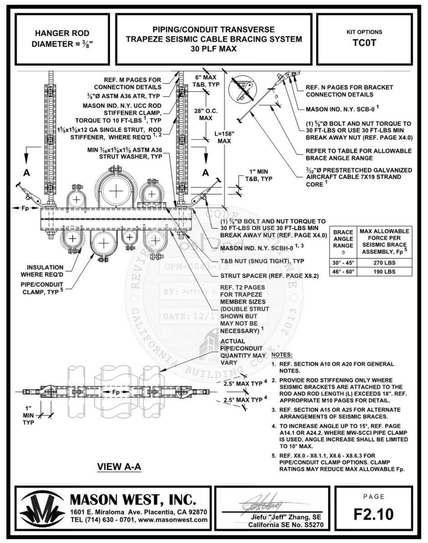
6-P0.03
Drawing No.

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NOTE: REFER TO MASON OPM'S PER THE FOLLOWING:
M-ATR VERTICAL HANGARS
- CONCRETE FILLED DECK - M2.10, M2.11, M2.12, M2.20, M2.21.1, M2.23, M2.70 - DO NOT SPACE CLOSER THAN 5' OC EW
- WIDE FLANGED STEEL - M3.10 - MAX 1 CON PER BEAM UNLESS SPACED 13' OC
- COLD FORMED STEEL – M6.10, 3/1-S4.31 - DO NOT SPACE CLOSER THAN 9'6" OC EW
- BARE METAL DECK - M7.10, M7.11, M7.12 - DO NOT SPACE CLOSER THAN 2' OC EW

N-SEISMIC BRACKET
- CONCRETE FILLED DECK - N2.10, N2.11, N2.12, N2.20, N2.21 - DO NOT SPACE CLOSER THAN 3' OC EW
- WIDE FLANGED STEEL - N3.11, N3.15 - MAX 1 CON PER BEAM UNLESS SPACED 12' OC
- COLD FORMED STEEL – 4/1-S4.31 - DO NOT SPACE CLOSER THAN 10' OC EW
- BARE METAL DECK - N7.10 - DO NOT SPACE CLOSER THAN 1'6" OC EW

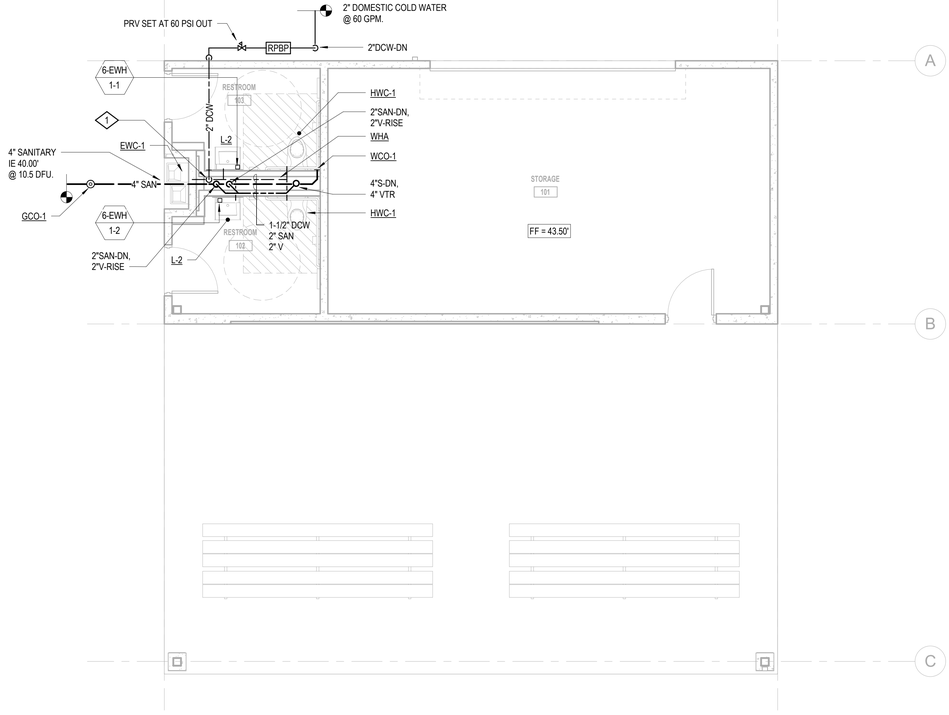




2 Pipe Hanging Details #3
NTS

NUMBERED NOTES:

1 2" CW DROP. PROVIDE SHUT-OFF VALVE BEHIND ACCESS PANEL.



1 06-PLBG COVERED BREAK AREA-01-FIRST FLOOR
1/4" = 1'-0"

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18294 Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

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DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

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REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER TODD M SEE No. M30785 MECHANICAL STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

PLUMBING AND FIRE PROTECTION COVERED BREAK AREA BUILDING FLOOR PLAN

Drawn By: NE
Checked By: Checker

Scale:
As indicated

Date:
October 4, 2019

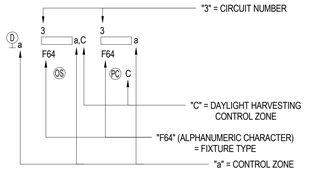
Project No. B17.07369

6-P2.01
Drawing No.

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ELECTRICAL LEGEND AND ABBREVIATIONS

LIGHTING & CONTROL DEVICE SUBSCRIPT LEGEND

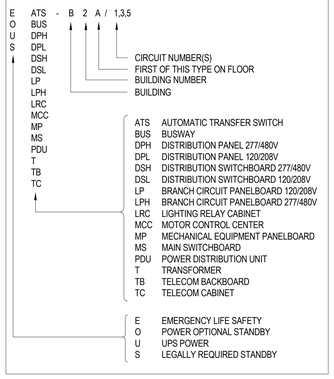


NOTE: OCCUPANCY SENSOR TYPICALLY CONTROLS ALL LIGHTS IN ROOM, UON.

CONTROL ZONE SUBSCRIPT KEY

a-z =	ZONE CONTROLLED BY MANUAL DEVICES AND OCCUPANCY SENSORS INDICATED
A-Z =	DAYLIGHT HARVESTING ZONE CONTROLLED BY PHOTOCELL INDICATED

EQUIPMENT NAMING LEGEND



WIRING DEVICE LEGEND

	DUPLEX RECEPTACLE OUTLET: 125V; WALL MOUNTED
	DUPLEX RECEPTACLE OUTLET: 125V, DEDICATED; WALL MOUNTED
	DOUBLE DUPLEX RECEPTACLE OUTLET: 125V; WALL MOUNTED
	SPECIAL PURPOSE RECEPTACLE OUTLET: RATING AS INDICATED; WALL MOUNTED
	DUPLEX RECEPTACLE OUTLET: 125V; CEILING MOUNTED
	DUPLEX RECEPTACLE OUTLET: 125V, DEDICATED; CEILING MOUNTED
	DOUBLE DUPLEX RECEPTACLE OUTLET: 125V; CEILING MOUNTED
	SPECIAL PURPOSE RECEPTACLE OUTLET: RATING AS INDICATED; CEILING MOUNTED
	PUSH BUTTON
	TELECOM OUTLET
TV	TELEVISION OUTLET
$	SINGLE POLE SWITCH
D	WALL DIMMER
LV	LOW VOLTAGE SWITCH
PC	PHOTOCELL
OS	OCCUPANCY SENSOR; WALL MOUNTED
OS	2 WAY OCCUPANCY SENSOR; CEILING MOUNTED
OS	1 WAY OCCUPANCY SENSOR; CEILING MOUNTED

WIRING DEVICE SUBSCRIPT LEGEND

AC	AC = ABOVE COUNTER
GFI	GFI = GROUND FAULT INTERRUPTER
IG	IG = ISOLATED GROUND
WP	WP = WEATHERPROOF
a	a = LOWER CASE LETTER INDICATES SWITCH CONTROL
6	6 = NUMBER INDICATES CIRCUIT NUMBER
IG	IG = ISOLATED GROUND (ONE OF DOUBLE DUPLEX)
$a	a = LOWER CASE INDICATES SWITCH CONTROL

FIRE ALARM LEGEND

	AREA SMOKE DETECTOR, WALL MOUNTED
	DUCT TYPE SMOKE DETECTOR
S	FIRE ALARM SPEAKER; WALL MOUNTED
S	COMBINATION FIRE ALARM SPEAKER/VISUAL ALARM; WALL MOUNTED
H	FIRE ALARM HORN; WALL MOUNTED
H	COMBINATION FIRE ALARM HORN/VISUAL ALARM; WALL MOUNTED
	VISUAL ALARM; WALL MOUNTED

SECURITY LEGEND

	FIXED CCTV CAMERA
CR	CARD READER
EL	ELECTRIC LOCK
ES	ELECTRIC STRIKE

PROGRAMMABLE LIGHTING & RECEPTACLE CONTROL SYSTEM DEVICE LEGEND

$	SWITCH
D	DIMMER
PC	PHOTOCELL
OS	OCCUPANCY SENSOR; WALL MOUNTED
OS	2 WAY OCCUPANCY SENSOR; CEILING MOUNTED
OS	1 WAY OCCUPANCY SENSOR; CEILING MOUNTED
OS	CORRIDOR OCCUPANCY SENSOR; CEILING MOUNTED
#B	MULTI-BUTTON KEYPAD, # INDICATES QTY OF BUTTONS
#S	MULTI-BUTTON PRESET SCENE CONTROLLER WITH MASTER RAISE/LOWER, # INDICATES QTY OF SCENE BUTTONS
C	GRAPHICAL INTERFACE CONTROLLER

RACEWAY LEGEND

	CONDUIT CONCEALED ABOVE CEILING OR WITHIN WALL
	CONDUIT BELOW GRADE OR EMBEDDED WITHIN SLAB
	CONDUIT UP
	CONDUIT DOWN
	CONDUIT STUBBED OUT WITH BUSHING NOTE: PROVIDE PULLSTRING IN EACH EMPTY RACEWAY
	CONDUIT STUBBED OUT AND CAPPED NOTE: PROVIDE PULLSTRING IN EACH EMPTY RACEWAY
AV	AUDIO/VISUAL SYSTEM RACEWAY
E	ELECTRICAL SYSTEM RACEWAY
G	GROUNDING SYSTEM RACEWAY
FA	FIRE ALARM SYSTEM RACEWAY
S	SECURITY SYSTEM RACEWAY NOTE: PROVIDE PULLSTRING IN EACH EMPTY RACEWAY
T	TELECOM SYSTEM RACEWAY NOTE: PROVIDE PULLSTRING IN EACH EMPTY RACEWAY
	CONDUIT HOMERUN, MAXIMUM OF (3) BRANCH CIRCUITS, UON NOTE: MAXIMUM OF THREE BRANCH CIRCUITS FOR EACH HOMERUN, UON
	PHASE CONDUCTOR(S) GROUNDING CONDUCTOR ISOLATED GROUNDING CONDUCTOR NEUTRAL CONDUCTOR

POWER LEGEND

	ATS, CPC, DPH, DPL, DSH, DSL, MCC OR MS: SIZE APPROXIMATELY AS SHOWN. DOUBLE LINE INDICATES FRONT.
	SURFACE MOUNTED LPH, LRC, MP OR TC: SIZE APPROXIMATELY AS SHOWN
	RECESSED MOUNTED LPH, LRC, MP OR TC: SIZE APPROXIMATELY AS SHOWN
	SURFACE MOUNTED LP: SIZE APPROXIMATELY AS SHOWN
	RECESSED MOUNTED LP: SIZE APPROXIMATELY AS SHOWN
	TB: LENGTH APPROXIMATELY AS SHOWN
T F	STEP DOWN TRANSFORMER
G	GENERATOR IN WP ENCLOSURE
	AUTOMATIC TRANSFER SWITCH
	HEAVY DUTY DISCONNECT SWITCH
	HEAVY DUTY DISCONNECT SWITCH WITH FUSE
	MOTOR STARTER
MS	MOTOR STARTER, NOT PROVIDED UNDER ELECTRICAL SCOPE
	COMBINATION MOTOR STARTER/DISCONNECT SWITCH
MS	COMBINATION MOTOR STARTER/DISCONNECT SWITCH, NOT PROVIDED UNDER ELECTRICAL SCOPE
VFD	VFD WITH DISCONNECT, NOT PROVIDED UNDER ELECTRICAL SCOPE
VFD	VFD WITHOUT DISCONNECT, NOT PROVIDED UNDER ELECTRICAL SCOPE
EPO	EMERGENCY POWER OFF BUTTON
$ MD	MOTORIZED DOOR CONTROLLER (FURNISHED WITH DOOR)
$ MS	MOTORIZED SHADE CONTROLLER (FURNISHED WITH SHADES)
$ PS	PROJECTION SCREEN CONTROLLER (FURNISHED WITH SCREEN)
$ T	THERMAL OVERLOAD/DISCONNECT SWITCH
M	MOTOR CONNECTION
J	JUNCTION BOX, CEILING MOUNTED
J	JUNCTION BOX, WALL MOUNTED
P B	PULL BOX
S B	SPLICE BOX
G	GROUND BUS CABINET
	GROUND ROD
	GROUND TEST WELL
	CIRCUIT BREAKER
	SWITCH AND FUSE
	CIRCUIT BREAKER IN ENCLOSURE
M	CURRENT TRANSFORMER COMPARTMENT AND KWH METER
GFR	GROUND FAULT RELAY
	NORMALLY OPEN CONTACT
	NORMALLY CLOSED CONTACT
	TRANSFORMER
CT 1-1	EQUIPMENT DESIGNATION EQUIPMENT TYPE NUMERICAL DESIGNATION REFER TO EQUIPMENT CONNECTION SCHEDULE FOR CONNECTION DETAILS

LIGHTING LEGEND

	LIGHTING FIXTURE, SIZE APPROXIMATELY AS SHOWN; CEILING MOUNTED
	LIGHTING FIXTURE, SIZE APPROXIMATELY AS SHOWN; WALL MOUNTED
	LIGHTING FIXTURE CONNECTED TO
	EMERGENCY POWER SYSTEM
2 a A	LIGHTING FIXTURE SUBSCRIPTIONS: NUMBER INDICATES CIRCUIT, LOWERCASE LETTER INDICATES SWITCH CONTROL UPPERCASE LETTER INDICATES FIXTURE TYPE
EXIT SIGNS	ARROWS AS SHOWN, ILLUMINATED FACE AS INDICATED BY SHADING, CONNECT TO EMERGENCY POWER SYSTEM
	EXIT SIGN; WALL MOUNTED
	EXIT SIGN; CEILING MOUNTED
R	EXIT SIGN; RECESSED IN WALL
P	EXIT SIGN; PENDENT MOUNTED
L	EXIT SIGN, LOW LEVEL; RECESSED IN WALL

ABBREVIATIONS

℄	CENTER LINE
AFF	ABOVE FINISHED FLOOR
AIC	AMPERES INTERRUPTING CAPACITY
AF/AS	AMPERE RATING OF FUSE/SWITCH
AT/AF	AMPERE RATING OF CIRCUIT, BREAKER TRIP/FRAME
A/V	AUDIO/VISUAL
BMS	BUILDING MANAGEMENT SYSTEM
CKT	CIRCUIT
COPS	CRITICAL OPERATIONS POWER SYSTEM
DPDT	DOUBLE POLE DOUBLE THROW
DPST	DOUBLE POLE SINGLE THROW
EC	EMPTY CONDUIT
ELEV	ELEVATOR
EMT	ELECTRICAL METALLIC TUBING
FCC	FIRE CONTROL CENTER
GFI	GROUND FAULT INTERRUPTOR
GND	GROUND
IDF	INTERMEDIATE DISTRIBUTION FRAME ROOM
IG	ISOLATED GROUND
MCP	MOTOR CIRCUIT PROTECTOR
MDF	MAIN DISTRIBUTION FRAME ROOM
MIC	MINERAL INSULATED CABLE
MS	MAIN SWITCHBOARD
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
NTS	NOT TO SCALE
PVC	POLYVINYL CHLORIDE CONDUIT
RAC	RIGID ALUMINUM CONDUIT
RSC	RIGID STEEL CONDUIT
SCC	SECURITY CONTROL CENTER
SPDT	SINGLE POLE DOUBLE THROW
SPST	SINGLE POLE SINGLE THROW
TEL	TELECOM
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSION
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
UPS	UNINTERRUPTIBLE POWER SUPPLY
WP	WEATHERPROOF
WT	WATERTIGHT
XP	EXPLOSION PROOF

HAYWARD FIRE TRAINING FACILITY
BUILDING 6 - ELECTRICAL DRAWING LIST
7/19/2019
WSP PROJECT: B17.07369.000

DRAWING NUMBER	DRAWING NAME	SCALE	50%CD 1/17/2018	90%CD 11/2/2018	100%CD 7/19/2019
6-E0.01	ELECTRICAL LEGEND, ABBREVIATIONS AND DRAWING LIST	NTS	X	X	X
6-E0.02	ELECTRICAL SCHEDULES	NTS	X	X	X
6-E0.10	ELECTRICAL LIGHT FIXTURE SCHEDULE	NTS	X	X	X
6-E0.20	ELECTRICAL TITLE 24	NTS		X	X
6-E0.21	ELECTRICAL TITLE 24	NTS		X	X
6-E0.22	ELECTRICAL TITLE 24	NTS		X	X
6-E0.23	ELECTRICAL TITLE 24	NTS		X	X
6-E2.01	ELECTRICAL OUTDOOR CLASSROOM BUILDING FLOOR PLAN & ROOF PLAN	1/8" = 1'-0"	X	X	X
6-E5.01	ELECTRICAL RISER DIAGRAM	NTS	X	X	X
6-E5.02	ELECTRICAL GROUNDING DIAGRAM	NTS		X	X
6-E6.01	ELECTRICAL DETAILS	NTS		X	X

September 13, 2016

MEP Component Anchorage Note
All mechanical, plumbing, and electrical components shall be anchored and installed per the details on the DSA approved construction documents. Where no detail is indicated, the following components shall be anchored or braced to meet the force and displacement requirements prescribed in the 2016 CBC, Sections 1616A.1.18 through 1616A.1.26 and ASCE 7-10 Chapter 13, 26 and 30.

1. All permanent equipment and components.
2. Temporary or movable equipment that is permanently attached (e.g. hard wired) to the building utility services such as electricity, gas or water.
3. Movable equipment which is stationed in one place for more than 8 hours and heavier than 400 pounds or has a center of mass located 4 feet or more above the adjacent floor or roof level that directly support the component are required to be anchored with temporary attachments.

The following mechanical and electrical components shall be positively attached to the structure, but the attachment need not be detailed on the plans. These components shall have flexible connections provided between the component and associated ductwork, piping, and conduit.

A. Components weighing less than 400 pounds and have a center of mass located 4 feet or less above the adjacent floor or roof level that directly support the component.
B. Components weighing less than 20 pounds, or in the case of distributed systems, less than 5 pounds per foot, which are suspended from a roof or floor or hung from a wall.

For those elements that do not require details on the approved drawings, the installation shall be subject to the approval of the design professional in general responsible charge or structural engineer delegated responsibility and the DSA District Structural Engineer. The project inspector will verify that all components and equipment have been anchored in accordance with above requirements.

Piping, Ductwork, and Electrical Distribution System Bracing Note
Piping, ductwork, and electrical distribution systems shall be braced to comply with the forces and displacements prescribed in ASCE 7-10 Section 13.3 as defined in ASCE 7-10 Section 13.6.5.6, 13.6.7, 13.6.8, and 2016 CBC, Sections 1616A.1.24, 1616A.1.25 and 1616A.1.26.

The method of showing bracing and attachments to the structure for the identified distribution system are as noted below. When bracing and attachments are based on a preapproved installation guide (e.g., SMACNA or OSHPD OPM), copies of the bracing system installation guide or manual shall be available on the jobsite prior to the start of and during the hanging and bracing of the distribution systems. The Structural Engineer of Record shall verify the adequacy of the structure to support the hanger and brace loads.

Mechanical Piping (MP), Mechanical Ducts (MD), Plumbing Piping (PP), Electrical Distribution Systems (E):

MP☐MD☐PP☐ E☐ - Option 1: Detailed on the approved drawings with project specific notes and details.

MP☐MD☐PP☐ E☒ - Option 2: Shall comply with the applicable OSHPD Pre-Approval (OPM #) # OPM-0043-13 MASON WEST

MP☐MD☐PP☐ - Option 3: Shall comply with the SMACNA Seismic Restraint Manual, OSHPD Edition (2009), including any addenda. Fasteners and other attachments not specifically identified in the SMACNA Seismic Restraint Manual, OSHPD Edition, are detailed on the approved drawings with project specific notes and details. The details shall account for the applicable Seismic Hazard Level _____ and Connection Level _____ for the project and conditions.

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RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

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HEART OF THE BAY
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY:	
KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

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1401 W. WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER
AMANDA J. BROWNLEE
No. E17387
ELECTRICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

ELECTRICAL LEGEND, ABBREVIATIONS AND DRAWING LIST

Drawn By: ELW Checked By: AJB

Scale: **NTS**

Date: **October 4, 2019**

Project No. B17.07369

6-E0.01
Drawing No.

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EQUIPMENT CONNECTION SCHEDULE

DESIGNATION	HP	FLA	KVA	VOLT-AGE	PH	POWER SOURCE	CONNECTION TYPE	BRANCH CIRCUIT WIRING	REMARKS
6EWH-1-1		15.00		208	1	LP-B6A	SPC	2#12, 1#12G, 0.5"C	
6EWH-1-2		15.00		208	1	LP-B6A	SPC	2#12, 1#12G, 0.5"C	

EQUIPMENT CONNECTION DESIGNATIONS LEGEND

DESIGNATION	DESCRIPTION	DESIGNATION	DESCRIPTION	DESIGNATION	DESCRIPTION
AC	AIR CONDITIONING UNIT	FCU	FAN COIL UNIT	P	PUMP
ACC	AIR COOLED CONDENSER	FOA	FUEL OIL ALARM PANEL	PS	PROJECTION SCREEN
AHU	AIR HANDLING UNIT	FOP	FUEL OIL PUMP	REF	REFRIGERATOR
BC	BATTERY CHARGER	FMS	FMS PANEL	RF	RETURN FAN
BMS	BMS PANEL	FP	FIRE PUMP	RTU	ROOF TOP UNIT
CH	CHILLER	FPB	FAN POWER BOX	SD	SMOKE DAMPER
COMP	COMPRESSOR	FSD	FIRE/SMOKE DAMPER	SE	SEWAGE EJECTOR
COP	COPIER	GD	GARBAGE DISPOSAL	SF	SUPPLY FAN
CP	CIRCULATING PUMP	GS	GRAPHIC SIGNAGE	SP	SUMP PUMP
CU	CONDENSING UNIT	HP	HEAT PUMP	UH	UNIT HEATER
DF	DUCT FURNACE	HV	HEATING/VENTILATING UNIT	VAV	VAV BOX ELECTRIC HEAT
DWBP	DOMESTIC WATER BOOSTER PUMP	IH	INSTANT HOT WATER HEATER	VM	VENDING MACHINE
ECH	ELECTRIC CABINET HEATER	JP	JOCKEY PUMP	VFD	VARIABLE FREQUENCY DRIVE
EDH	ELECTRIC DUCT HEATER	JWH	JACKET WATER HEATER	TYPE DP	DUPLEX PUMP
EF	EXHAUST FAN	MCS	MOTOR CONNECTION SCHEDULE	TYPE FR	FRACTIONAL HP MOTOR
EHC	ELECTRIC HEATING COIL	MD	MOTORIZED DOOR OR GATE	TYPE FWS	FURNISHED WITH STARTER
ELEV	ELEVATOR	MS	MOTORIZED SHADE	TYPE M	MOTOR WITH STARTER
EUH	ELECTRIC UNIT HEATER	MUA	MAKE UP AIR UNIT	TYPE SPC	SINGLE POINT CONNECTION
EWC	ELECTRIC WATER COOLER	MW	MICROWAVE OVEN	TYPE VFD	VARIABLE FREQUENCY DRIVE
EWH	ELECTRIC WATER HEATER	OH	OIL HEATER		

MOTOR CONNECTION SCHEDULE: 208V-3 PHASE

HP	SHORT-CIRCUIT & GROUND FAULT		SWITCH AMPS	OVERLOAD FUSE AMPS	BRANCH CIRCUIT AMPACITY	GROUNDING CONDUCTOR SIZE	STARTER SIZE NEMA
	CIRCUIT BREAKER	FUSE SIZE					
1/2	15A	6A	30	2.5	15	#12	1
3/4	15A	10A	30	3.5	15	#12	1
1	15A	10A	30	5	15	#12	1
1 1/2	15A	15A	30	7	15	#12	1
2	15A	15A	30	9	15	#12	1
3	20A	20A	30	15	20	#12	1
5	35A	30A	30	20	30	#10	1
7 1/2	50A	45A	60	30	40	#10	2
10	60A	60A	60	40	50	#10	3
15	90A	90A	100	60	70	#8	3
20	100A	110A	100	80	80	#6	3
25	125A	150A	100	90	100	#6	4
30	150A	175A	200	110	125	#6	4
40	200A	200A	200	150	175	#6	5
50	250A	300A	200	175	200	#4	5
60	300A	300A	400	200	225	#4	5
75	350A	400A	400	250	300	#2	6
100	450A	500A	400	350	400	#2	6
125	600A	600A	600	450	450	#1	6
150	700A	700A	600	500	600	#1/0	6

REFER TO WIRING SCHEDULE FOR BRANCH CIRCUIT REQUIREMENTS
SIZES BASED ON COPPER CONDUCTORS

120V, 1-PHASE COPPER WIRE

MAXIMUM LENGTH OF CONDUCTOR IN FT TO BE USED PER VA AND WIRE SIZE

kVA	CONDUCTOR SIZE						
	#12	#10	#8	#6	#4	#2	#1
0.4	280ft	446ft	694ft	1,100ft	1,753ft	2,784ft	3,506ft
0.8	140ft	223ft	347ft	550ft	877ft	1,392ft	1,753ft
1.2	93ft	149ft	231ft	367ft	584ft	928ft	1,169ft
1.6	70ft	112ft	174ft	275ft	438ft	696ft	877ft
2.0	56ft	89ft	139ft	220ft	351ft	557ft	701ft
2.4	47ft	74ft	116ft	183ft	292ft	464ft	584ft
2.8	-	64ft	99ft	157ft	250ft	398ft	501ft
3.2	-	56ft	87ft	137ft	219ft	348ft	438ft
3.6	-	50ft	77ft	122ft	195ft	309ft	390ft
4.0	-	-	69ft	110ft	175ft	278ft	351ft
4.4	-	-	63ft	100ft	159ft	253ft	319ft
4.8	-	-	58ft	92ft	146ft	232ft	292ft
5.2	-	-	-	85ft	135ft	214ft	270ft
5.6	-	-	-	79ft	125ft	199ft	250ft
6.0	-	-	-	73ft	117ft	186ft	234ft
6.4	-	-	-	69ft	110ft	174ft	219ft
6.8	-	-	-	-	103ft	164ft	206ft
7.2	-	-	-	-	97ft	155ft	195ft
7.6	-	-	-	-	92ft	147ft	185ft
8.0	-	-	-	-	88ft	139ft	175ft
8.4	-	-	-	-	83ft	133ft	167ft
8.8	-	-	-	-	-	127ft	159ft
9.2	-	-	-	-	-	121ft	152ft
9.6	-	-	-	-	-	116ft	146ft
10.0	-	-	-	-	-	111ft	140ft
10.4	-	-	-	-	-	107ft	135ft
10.8	-	-	-	-	-	103ft	130ft
11.2	-	-	-	-	-	99ft	125ft
11.6	-	-	-	-	-	-	121ft
12.0	-	-	-	-	-	-	117ft
12.4	-	-	-	-	-	-	113ft
12.8	-	-	-	-	-	-	110ft
13.2	-	-	-	-	-	-	106ft
13.6	-	-	-	-	-	-	-
14.0	-	-	-	-	-	-	-
14.4	-	-	-	-	-	-	-
14.8	-	-	-	-	-	-	-
15.2	-	-	-	-	-	-	-
15.6	-	-	-	-	-	-	-
16.0	-	-	-	-	-	-	-

BASED ON 3% VOLTAGE DROP ALLOWED FOR BRANCH CIRCUITS PER TITLE 24 2013.

VOLTAGE DROP = (CIRCUIT AMPS) X (TWICE THE LENGTH OF CONDUCTOR) X (WIRE RESISTANCE)

208V, 1-PHASE COPPER WIRE

MAXIMUM LENGTH OF CONDUCTOR IN FT TO BE USED PER VA AND WIRE SIZE

kVA	CONDUCTOR SIZE						
	#12	#10	#8	#6	#4	#2	#1
0.7	480ft	766ft	1,192ft	1,888ft	3,010ft	4,779ft	6,020ft
1.4	240ft	383ft	596ft	944ft	1,505ft	2,389ft	3,010ft
2.1	160ft	255ft	397ft	629ft	1,003ft	1,593ft	2,007ft
2.8	120ft	192ft	298ft	472ft	753ft	1,195ft	1,505ft
3.5	96ft	153ft	238ft	378ft	602ft	956ft	1,204ft
4.2	80ft	128ft	199ft	315ft	502ft	796ft	1,003ft
4.9	-	109ft	170ft	270ft	430ft	683ft	860ft
5.6	-	96ft	149ft	236ft	376ft	597ft	753ft
6.3	-	85ft	132ft	210ft	334ft	531ft	669ft
7.0	-	-	119ft	189ft	301ft	478ft	602ft
7.7	-	-	108ft	172ft	274ft	434ft	547ft
8.4	-	-	99ft	157ft	251ft	398ft	502ft
9.1	-	-	-	145ft	232ft	368ft	463ft
9.8	-	-	-	135ft	215ft	341ft	430ft
10.5	-	-	-	126ft	201ft	319ft	401ft
11.2	-	-	-	118ft	188ft	299ft	376ft
11.9	-	-	-	-	177ft	281ft	354ft
12.6	-	-	-	-	167ft	265ft	334ft
13.3	-	-	-	-	158ft	252ft	317ft
14.0	-	-	-	-	151ft	239ft	301ft
14.7	-	-	-	-	-	228ft	287ft
15.4	-	-	-	-	-	217ft	274ft
16.1	-	-	-	-	-	208ft	262ft
16.8	-	-	-	-	-	199ft	251ft
17.5	-	-	-	-	-	191ft	241ft
18.2	-	-	-	-	-	184ft	232ft
18.9	-	-	-	-	-	177ft	223ft
19.6	-	-	-	-	-	171ft	215ft
20.3	-	-	-	-	-	-	208ft
21.0	-	-	-	-	-	-	201ft
21.7	-	-	-	-	-	-	194ft
22.4	-	-	-	-	-	-	188ft
23.1	-	-	-	-	-	-	-
23.8	-	-	-	-	-	-	-
24.5	-	-	-	-	-	-	-
25.2	-	-	-	-	-	-	-
25.9	-	-	-	-	-	-	-
26.6	-	-	-	-	-	-	-
27.3	-	-	-	-	-	-	-
28.0	-	-	-	-	-	-	-

BASED ON 3% VOLTAGE DROP ALLOWED FOR BRANCH CIRCUITS PER TITLE 24 2013.

VOLTAGE DROP = (CIRCUIT AMPS) X (TWICE THE LENGTH OF CONDUCTOR) X (WIRE RESISTANCE)

LP-B6A

BUSSING: 100A, 10,000 AIC SYMMETRICAL
MAIN CB: 100A/3P
LOCATION:ELECTRICAL ROOM
MOUNTING: SURFACE

120/208V, 3 PHASE, 4 WIRE
100% RATED NEUTRAL + GROUND

TYPE	DESCRIPTION	LOAD	DEVICE	CKT	A	B	C	CKT	DEVICE	LOAD	DESCRIPTION	TYPE
R	EXTERIOR RECEPTS	540	20/1	1	●			2	20/1	240	STOR, CLASS, REST LTS	L
R	RESTROOM RECEPTS	360	20/1	3		●		4	20/1	865	CLASSROOM LTS	L
E	DRINKING FOUNTAIN	500	20/1	5			●	6	20/2	1560	6EWH-1-1	H
R	STORAGE REFCEPTS	720	20/1	7	●			8		1560		H
R	COVERED CLASSROOM RECEPTS	360	20/1	9		●		10	20/2	1560	6EWH-1-2	H
E	LCD SCREENS	600	20/1	11			●	12		1560		H
E	PROJECTOR	1000	20/1	13	●			14	30/2	2496	BUILDING 6 TELECOM	E
	SPARE	0	20/1	15		●		16		2496		E
E	FATC	500	20/1	17			●	18	20/1	180	EXTERIOR RECEPTACLE	R
	SPARE	0	20/1	19	●			20	20/1	0	SPARE	
	SPARE	0	20/1	21		●		22	20/1	0	SPARE	
	SPARE	0	20/1	23			●	24	20/1	0	SPARE	
	SPARE	0	20/1	25	●			26	20/1	0	SPARE	
	SPARE	0	20/1	27		●		28	20/1	0	SPARE	
	SPARE	0	20/1	29			●	30	20/1	0	SPARE	
	SPARE	0	20/1	31	●			32	20/1	0	SPARE	
	SPARE	0	20/1	33		●		34	20/1	0	SPARE	
	SPARE	0	20/1	35			●	36	20/1	0	SPARE	
	SPACE	0		37	●			38		0	SPACE	
	SPACE	0		39		●		40		0	SPACE	
	SPACE	0		41			●	42		0	SPACE	

TOTAL ALL PHASES (VA)	PHASE A (VA)	PHASE B (VA)	PHASE C (VA)	TOTAL ALL PHASES (AMPS)
17096.9	6556	5640.9	4900	47

LOAD SUMMARY BY TYPE	CONN. LOAD	DEMAND FACTOR	NEC LOAD
E = EQUIPMENT	7592 VA	1.00	7592 VA
H = ELECTRIC HEAT	6240 VA	1.00	6240 VA
K = KITCHEN EQUIPMENT	0 VA	1.00	0 VA
L = LIGHTING	1105 VA	1.25	1381 VA
M = MOTOR	0 VA	1.00	0 VA
M = LARGEST MOTOR		1.25	0 VA
R = RECEPTACLE	2160 VA	NEC DEMAND	2160 VA

CONNECTED LOAD SUMMARY
17097 VA
48 AMPS

NEC LOAD SUMMARY
17373 VA
48 AMPS

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DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY:	
KATHY GARCIA DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER
AMANDA J. BROWN
No. E17287
ELECTRICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

ELECTRICAL SCHEDULES

Drawn By: ELW
Checked By: AJB

Scale:
NTS

Date:
October 4, 2019

Project No. B17.07369

6-E0.02
Drawing No.

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LIGHTING FIXTURE SCHEDULE

PROJECT: HAYWARD FIRE TRAINING CENTER
ISSUE: PERMIT SUBMITTAL V2 - INCREMENT #1
DATE: 7/16/2019

FIXTURE TYPE	DESCRIPTION	LOCATION	LIGHT SOURCE	COLOR TEMPERATURE (K)	INPUT WATTS (W)	UNIT	BALLAST / TRANSFORMER / DRIVER	VOLTAGE	REFLECTOR	MOUNTING	SHIELDING	FINISH	MANUFACTURER / CATALOG #	REMARKS
FE8	WET LISTED SURFACE MOUNTED LENSED LINEAR LED LIGHT	OUTDOOR CLASSROOM	WHITE LED MODULE, 90CRI, 513 DELIVERED LUMENS PER LINEAR FT, L70 60,000 HOURS	3500K	5.1	PER LF	INTEGRAL, ELECTRONIC, 0-10V, DIMMABLE INTEGRAL BATTERY PACK, AS REQ'D	277V	ALUMINUM	CANOPY MOUNTED	SATINE LENS	TBD	SELUX L125-1B20-35-SD-F-(LENGTH PER DWG)-(FINISH)-277V-DIM(TYPE TBD)-EFR-(EM)	1. FINISH TO BE SELECTED BY ARCHITECT. 2. REFER TO ARCHITECTURAL DRAWINGS FOR FIXTURE LENGTHS AND LENGTHS OF CONTINUOUS RUNS. 3. PROVIDE INTEGRAL EMERGENCY BATTERY PACK IN LIGHT FIXTURES AS IDENTIFIED ON THE ELECTRICAL DRAWINGS. NOT ALL LIGHT FIXTURES REQUIRE THIS EM OPTION.

GENERAL NOTES:
1. REFER TO SPECIFICATION SECTION 26 51 00 ARCHITECTURAL LIGHTING FOR ADDITIONAL REQUIREMENTS.
2. REFER TO SPECIFICATION SECTION 26 09 26 FOR NETWORKED LIGHTING CONTROL.
3. FIXTURE SHALL BE ORDERED WITH NECESSARY POWER SUPPLIES, DRIVERS, LEADER CABLES, JUMPER CABLES, POWER FEEDS, TERMINATORS AND CONTROL INTERFACES FOR INSTALLATION OF A COMPLETE WORKING SYSTEM.

LIGHTING ZONE SUMMARY

PROJECT: HAYWARD FIRE TRAINING CENTER
ISSUE: PERMIT SUBMITTAL
DATE: 9/18/2018

GENERAL NOTES:
* CONTRACTOR TO COORDINATE DIRECTLY TO THE OWNER FOR REQUIRED ZONES AND SCENES. SCENE NAMES SHOWN IN THIS TABLE ARE ONLY PLACE HOLDER.
* LIGHTING CONTROL MANUFACTURE TO PROVIDE FOUR PRESET.
* OWNER TO VERIFY DURING SUBMITTAL PHASE.

LOCATION: BLDG.6 COVERED BREAK OUT
SCENE 1: GENERAL
SCENE 2: USE OF LCD SCREEN
SCENE 3: SECURITY ILLUMINATION (NON OPERATION HOURS)

LIGHTING ZONE	FIXTURE TYPE	ZONE NAME	LOAD (W)
a		FRONT ROW	REFER ELECTRICAL PANELS SCHEDULES.
b		GENERAL	REFER ELECTRICAL PANELS SCHEDULES.

BOH LIGHTING FIXTURE SCHEDULE

TYPE	DESCRIPTION	MANUFACTURER/CATALOG NO.	DESCRIPT	WATTS	VOLTS	REMARKS
W1	SURFACE OR PENDANT MOUNTED INDUSTRIAL CORROSION-RESISTANT 4 FOOT LONG FIXTURE. POLYURETHANE GASKET. UV STABILIZED PATTERN ACRYLIC HIGH IMPACT DIFFUSER. ELECTRONIC DRIVER. RUN UNSWITCHED CONDUCTOR TO FIXTURE FOR BATTERY CHARGER	WILLIAMS 17-4-L55-835-AF-EM/10W-DIM-UNV PARAMOUNT STARDUSTER CS-2-L-4-3-EMD1-D3-120-277V DAYBRITE: DWAE43L-835-4-UNV-EMLED	LED	40	120	BACK OF HOUSE SPACES

LIGHTING CONTROL INTENT MATRIX AND SEQUENCE OF OPERATIONS

SPACE TYPE	AUTOMATIC CONTROL: LED DIMMING				AUTOMATIC CONTROL: OCCUPANCY SENSOR				AUTOMATIC CONTROL: PHOTOCELL		CONTROL DEVICE LOCATION		NORMAL BUSINESS HOURS		AFTER HOURS		OVERRIDE			EMERGENCY LTG STRATEGY	AUTOMATIC DEMAND RESPONSE
	MINIMUM AS REQUIRED BY TITLE-24 (2016)	MINIMUM AS REQUIRED BY LEED BD+C V4	DIMMING PERCENTAGE DOWN TO	WSP RECOMMENDATION	MINIMUM AS REQUIRED BY TITLE-24 (2016)	SENSOR DELAY SETPOINT	WSP RECOMMENDATION	AS REQUIRED BY T-24	PHOTOCELL SETPOINT	REMARKS	MINIMUM AS REQUIRED BY LEED BD+C V4	WSP RECOMMENDATION	LIGHTING	RECEPTACLES	LIGHTING	RECEPTACLES	LIGHTING	RECEPTACLES	DURATION	LIGHTING	
BLDG.6 - COVERED BREAK AREA																					
COVERED BREAK AREA	CONTINUOUS DIMMING 10-100 PERCENT	N/A	1%	CONTINUOUS DIMMING TO 1%	MANUAL ON AUTO OFF	5 MINUTES	MANUAL ON MANUAL OFF	REQUIRED IN DAYLIGHT ZONES	TBD	DAYLIGHT DIMMING RESPONSE	N/A	N/A		N/A		N/A		N/A	N/A	UL 924 DEVICE REQUIRED TO BRING EGRESS LIGHTING UP TO FULL BRIGHTNESS UPON LOSS OF NORMAL POWER OR FIRE ALARM SIGNAL	NOT REQUIRED
RESTROOMS	CONTINUOUS DIMMING 10-100 PERCENT	N/A	10%	CONTINUOUS DIMMING TO 10%	AUTO ON AUTO OFF	15 MINUTES	AUTO ON AUTO OFF	NO	--	--	N/A	N/A		N/A		N/A		N/A	N/A	UL 924 DEVICE REQUIRED TO BRING EGRESS LIGHTING UP TO FULL BRIGHTNESS UPON LOSS OF NORMAL POWER OR FIRE ALARM SIGNAL	NOT REQUIRED
STORAGE	NOT REQUIRED IF UNDER 0.5 W/SF NOT REQUIRED IF UNDER 100 SQ. FT.	N/A	--	SUGGEST NO DIMMING IF NOT REQUIRED BY CODE	MANUAL ON AUTO OFF	5 MINUTES	MANUAL ON MANUAL OFF	NO	--	--	N/A	N/A		N/A		N/A		N/A	N/A	UL 924 DEVICE REQUIRED TO BRING EGRESS LIGHTING UP TO FULL BRIGHTNESS UPON LOSS OF NORMAL POWER OR FIRE ALARM SIGNAL	NOT REQUIRED

NOTES:
1. THE INTENT OF THIS SCHEDULE IS TO CLARIFY THE PROGRAMMING AND FUNCTION OF CONTROLS THAT MAY BE LOCATED IN EACH SPACE TYPE.
2. THIS SCHEDULE IS NOT INTENDED TO DEFINE WHICH CONTROLS ARE TO BE INSTALLED IN EACH SPACE TYPE.
3. FOR ACTUAL CONTROL DEVICES TO BE INSTALLED IN EACH SPACE, REFER TO PLANS.
4. ALL SETPOINTS AND TIME SCHEDULES TO BE VERIFIED WITH OWNER PRIOR TO PROGRAMMING.
5. FOOTCANDLE LEVELS ARE BASED ON THE IESNA LIGHTING STANDARDS AND ARE TO BE USED AS A BASELINE DEFAULT FOR PROGRAMMING. LEVELS SUBJECT TO CHANGE PER ENERGY CODE COMPLIANCE AND OWNER REQUEST.
6. PER TITLE 24, BUILDING LIGHTING CONTROL SYSTEM TO BE DEMAND RESPONSE CAPABLE AND ABLE TO REDUCE TOTAL LIGHTING POWER BY AT LEAST 15%.
7. NA = NOT APPLICABLE WITH CONTROL DESIGN.

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY:	
KATHY GARCIA DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER
AMANDA J. BROWNLEE
No. E17287
ELECTRICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

ELECTRICAL LIGHT FIXTURE SCHEDULE

Drawn By: ELW Checked By: AJB

Scale: **12" = 1'-0"**

Date: **October 4, 2019**

Project No. B17.07369

6-E0.10
Drawing No.

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STATE OF CALIFORNIA
INDOOR LIGHTING
CEC-NRCC-LTI-01-E (Revised 04/16) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-01-E
Indoor Lighting	(Page 1 of 6)

Project Name: Hayward Fire Training Center - Building 6 — Date Prepared: 7/16/2019

A. General Information

Climate Zone: 3	Conditioned Floor Area: 462						
	Unconditioned Floor Area: 0						
Building Type:	☑	Nonresidential	☐	High-Rise Residential	☐	Hotel/Motel
☐ Schools	☐	Relocatable Public Schools	☑	Conditioned Spaces	☐	Unconditioned Spaces
Phase of Construction:	☑	New Construction	☐	Addition	☐	Alteration
Method of Compliance:	☐	Complete Building	☑	Area Category	☐	Tailored

Project Address: 1401 W. Winton Ave.

B. Lighting Compliance Documents (select yes for each document included)

For detailed instructions on the use of this and all Energy Efficiency Standards compliance documents, refer to the Nonresidential Manual published by the California Energy Commission.

YES	NO	COMP. DOC.	TITLE
☑	☐	NRCC-LTI-01-E	Certificate of Compliance. All Pages required on plans for all submittals.
☑	☐	NRCC-LTI-02-E	Lighting Controls, Certificate of Compliance, and PAF Calculation. All Pages required on plans for all submittals.
☑	☐	NRCC-LTI-03-E	Indoor Lighting Power Allowance
☐	☑	NRCC-LTI-04-E	Tailored Method Worksheets
☐	☑	NRCC-LTI-05-E	Line Voltage Track Lighting Worksheets
☐	☑	NRCC-LTI-06-E	Indoor Lighting Existing Conditions

STATE OF CALIFORNIA
Electrical Power Distribution
CEC-NRCC-ELC-01-E (Revised 04/16) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-ELC-01-E
Electrical Power Distribution	(Page 4 of 6)

Project Name: Hayward Fire Training Center - Building 6 — Date Prepared: 7/16/2019

B. Separation of Electrical Circuits for Electrical Energy Monitoring

Check all boxes below if the electrical power distribution system is in compliance with Section 130.5(b).

☒ The electrical power distribution system meets the separation of electrical circuits for electrical energy monitoring requirement of Section 130.5(b). The electrical power distribution systems is designed so that measurement devices can monitor the electrical energy usage at load types listed in Table 130.5-A.

☒ Describe the electrical power distribution system installed and the compliance method chosen in meeting the requirement of Section 130.5(b). Use the space below to include the information. Examples of compliance methods are detailed in Nonresidential Compliance Manual Chapter 8.

Fill out Column 1 thru 3 with the compliance information.

General information	Electrical Power Distribution System information and Method of compliance	Electrical Service Rating	Enforcement Agency
01	02	03	04
Electrical Service Designation/Location/Description	Describe the electrical power distribution system installed and the compliance method used.	kVA	Check that the system complies
LP-86A	PANELBOARD DISAGGREGATION	18	☐

Field Inspector Notes:

STATE OF CALIFORNIA
Electrical Power Distribution
CEC-NRCC-ELC-01-E (Revised 04/16) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-ELC-01-E
Electrical Power Distribution	(Page 1 of 6)

Project Name: Hayward Fire Training Center - Building 6 — Date Prepared: 7/16/2019

General Information

Project Address: 1401 W. Winton Ave.		Climate Zone: 3	Conditioned Floor Area: 462		
			Unconditioned Floor Area: 0		
Building Type:	☑ Nonresidential	☐ High-Rise Residential	☐ Hotel/Motel		
	☐ Schools	☐ Relocatable Public Schools	☐ Alteration		
Phase of Construction:	☑ New Construction	☐ Addition			

In the table below identify all applicable construction documents that specify the requirements for the scope of responsibility reported by this certificate. Use additional pages as needed to list all construction documents related to compliance of Section 130.5.

Document Number	Document Title / Descriptions (include description information for Table or Schedule if it contains compliance information)	Document Sheet # or Page #	Indicate which subsection of Section 130.5 is related to the document (e.g. 130.5(a) for service electrical metering)
6-ED.:10	ELECTRICAL SCHEDULES		c
6-E6-01	ELECTRICAL RISER DIAGRAM		a,b

STATE OF CALIFORNIA
INDOOR LIGHTING
CEC-NRCC-LTI-01-E (Revised 04/16) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-01-E
Indoor Lighting	(Page 2 of 6)

Project Name: Hayward Fire Training Center - Building 6 — Date Prepared: 7/16/2019

C. Summary of Allowed Lighting Power

Conditioned and Unconditioned space Lighting must not be combined for compliance

	Indoor Lighting Power for Conditioned Spaces		Watts	Indoor Lighting Power for Unconditioned Spaces		Watts
01	**Installed** Lighting NRCC-LTI-01-E, Table H, page 5	+	160	**Installed** Lighting NRCC-LTI-01-E, Table H, page 5	+	0
02	Portable Only for Offices NRCC-LTI-01-E, Table G, page 4	+				
03	Minus Lighting Control Credits NRCC-LTI-02-E, page 2	-	0	Minus Lighting Control Credits NRCC-LTI-02-E, page 2	-	0
04	Adjusted **Installed** Lighting Power (row 1 plus row 2 minus row 3)	=	160	Adjusted **Installed** Lighting Power (row 1 minus row 3)	=	0
	Complies ONLY if **Installed** ≤ **Allowed** (Box 04 < Box 05)			Complies ONLY if **Installed** ≤ **Allowed** (Box 04 < Box 05)		
05	**Allowed** Lighting Power Conditioned NRCC-LTI-03-E, page 1 Alterations with replacement luminaires that have at least 50/35% lower power compared to the original existing luminaires, may instead use the allowed wattage from NRCC-LTI-06, page 2		277	**Allowed** Lighting Power Unconditioned NRCC-LTI-03-E, page 1 Alterations with replacement luminaires that have at least 50/35% lower power compared to the original existing luminaires, may instead use the allowed wattage from NRCC-LTI-06, page 2		0

D. Declaration of Required Certificates of Installation

Declare by selecting yes for all of the Certificates that will be submitted. (Retain copies and verify forms are completed and signed.)

YES	NO	Compliance Document/Title	
☑	☐	NRCI-LTI-01-E - Must be submitted for all buildings	☐ Field Inspector
☑	☐	NRCI-LTI-02-E - Must be submitted for a lighting control system, or for an Energy Management Control System (EMCS), to be recognized for compliance.	☐ Field Inspector
☐	☑	NRCI-LTI-03-E - Must be submitted for a line-voltage track lighting integral current limiter, or for a supplementary overcurrent protection panel used to energize only line-voltage track lighting, to be recognized for compliance.	☐ Field Inspector
☐	☑	NRCI-LTI-04-E - Must be submitted for two interlocked systems serving an auditorium, a convention center, a conference room, a multipurpose room, or a theater to be recognized for compliance.	☐ Field Inspector
☐	☑	NRCI-LTI-05-E - Must be submitted for a Power Adjustment Factor (PAF) to be recognized for compliance.	☐ Field Inspector
☐	☑	NRCI-LTI-06-E - Must be submitted for additional wattage installed in a video conferencing studio to be recognized for compliance.	☐ Field Inspector

STATE OF CALIFORNIA
Electrical Power Distribution
CEC-NRCC-ELC-01-E (Revised 04/16) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-ELC-01-E
Electrical Power Distribution	(Page 5 of 6)

Project Name: Hayward Fire Training Center - Building 6 — Date Prepared: 7/16/2019

bution system is in compliance with Section 130.5(c).

ts the voltage drop requirement of Section 130.5(c). The maximum rs and branch circuit conductors to the farthest connected load or

☐

compliance to Section 130.5(c) are submitted as part of the

☐

cles and Controlled Receptacles

ng OFF for the controlled receptacles when the space is typically
ult level. For the automatic time switch control, it incorporates an
ntrol, it incorporates an occupant sensing device to turn OFF the
OFF' feature that turns OFF all loads for at least 24 hours and then
. Countdown timer switches are not be used to comply with the
s. The controls meet the requirement of Section 130.5(d)1.

☐

thin 6 ft from each uncontrolled receptacle. Where receptacles are
e area, at least one controlled receptacle is installed at each.
rement of Section 130.5(d)2.

☐

Field Inspector Check that the system complies

☐

☐

th at least one controlled and one uncontrolled receptacle. Where
uncontrolled receptacle is installed and the controlled receptacle is installed
the requirement of Section 130.5(d)2.

☐

ed receptacles or circuits to differentiate them from uncontrolled
lugs meet the requirement of Section 130.5(d)3.

☐

controlled receptacles for at least one half of the 120-volt
oors serving controlled receptacles in guestrooms are installed to
ng controls, or automatic controls so the power is switched off no
m has been vacated. The receptacles meet the requirement of

☐

purposes are excepted from Section 130.5(d):
ral water dispensers in kitchen areas.
ove the floor that are specifically for clocks.
ines, A/V and data equipment that is intended to be in continuous use, 24
) amperes.
ce power supply (UPS) that are intended to be in continuous use, 24
are marked to differentiate them from other uncontrolled

☐

STATE OF CALIFORNIA
Electrical Power Distribution
CEC-NRCC-ELC-01-E (Revised 04/16) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-ELC-01-E
Electrical Power Distribution	(Page 2 of 6)

Project Name: Hayward Fire Training Center - Building 6 — Date Prepared: 7/16/2019

C. Voltage Drop

Check all boxes below if the electrical power distribution system is in compliance with Section 130.5(c).

☒ The electrical power distribution system meets the voltage drop requirement of Section 130.5(c). The maximum combined voltage drop on feeder conductors and branch circuit conductors to the farthest connected load or outlet, do not exceed 5%.

☒ Voltage drop calculation documents showing compliance to Section 130.5(c) are submitted as part of the compliance document submittal.

D. Circuit Controls for 120-Volt Receptacles and Controlled Receptacles

Check one or more boxes below for applicable requirements of Section 130.5(d). If no boxes are checked, then this section does not apply to the system.

☒ The control is capable of automatically shutting OFF the controlled receptacles when the space is typically unoccupied, either at the receptacle or circuit level. For the automatic time switch control, it incorporates an occupant sensing device to turn OFF the controlled receptacles when occupancy has been detected and then is initiated and an automatic holiday "shut-OFF" feature that turns OFF all loads for at least 24 hours and then resumes the normally scheduled operation. Countdown timer switches are not be used to comply with the automatic time switch control requirements. The controls meet the requirement of Section 130.5(d)1.

☐ There is at least one controlled receptacle within 6 ft from each uncontrolled receptacle. Where receptacles are installed in modular furniture in open office area, at least one controlled receptacle is installed at each workstation. The receptacles meet the requirement of Section 130.5(d)2.

☐ There are installed split wired receptacles with at least one controlled receptacle and one uncontrolled receptacle. Where uncontrolled receptacle is installed and the controlled receptacle is installed at each workstation. The receptacles meet the requirement of Section 130.5(d)2.

☒ Permanent and durable marking for controlled receptacles or circuits to differentiate them from uncontrolled receptacles or circuits is provided. The markings meet the requirement of Section 130.5(d)3.

☐ For hotel and motel guest rooms, there are controlled receptacles for at least one half of the 120-volt receptacles in each guest room. Electric circuits serving controlled receptacles in guestrooms are installed to have captive key controls, occupancy sensing controls, or automatic controls so the power is switched off no longer than 30 minutes after the guest room has been vacated. The receptacles meet the requirement of Section 130.5(d)4.

☐ Receptacles that are only for the following purposes are excepted from Section 130.5(d):
-Receptacles specifically for refrigerators and water dispensers in kitchen areas.
-Receptacles located a minimum of six ft above the floor that are specifically for clocks.
-Receptacles for permanent experiments, fax machines, A/V and data equipment that is intended to be in continuous use, 24 hours per day.
-Receptacles connected to an uninterruptible power supply (UPS) that are intended to be in continuous use, 24 hours per day, and are marked to differentiate them from other uncontrolled receptacles.
-Receptacles on circuits rated more than 20 amperes.
-Receptacles for use by cord-and-plug connected vending machines.

STATE OF CALIFORNIA
Electrical Power Distribution
CEC-NRCC-ELC-01-E (Revised 04/16) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-ELC-01-E
Electrical Power Distribution	(Page 3 of 6)

Project Name: Hayward Fire Training Center - Building 6 — Date Prepared: 7/16/2019

A. Service Electrical Metering

Check one of the three boxes below if the electrical power distribution system is in compliance with Section 130.5(a). Fill out Column 1 thru 3 of table below.

☒ *For newly installed electrical service in newly constructed buildings,* Service Electrical Metering is required according to Section 130.5(a). *Fill out Column 1 thru 3 of table below.*

☐ *For tenant retrofit and additional service equipment in existing buildings,* Service Electrical Metering is required according to Section 141.0(b)2Pi. *Fill out Columns 1 thru 6 of table below.*

☐ EXCEPTION to Electrical Service Metering: Service or Feeder for which the utility company provides a metering system that indicates instantaneous kW demand and kWh for a utility defined period. *Fill out Column 1, 2 and 6 of table below with the compliance information.*

Fill out a separate line for each electrical service that is connected to the building. If additional table space is needed for electrical service information, submit additional page with the information.

Electrical Service Schedule	Electrical Service Rating	Metering Capabilities (check all that are present)				Exception to 130.5(a)	Field Inspector
		Instantaneous kW (at the time)	Instantaneous peak kW	Tracking kWh for user-definable period	kWh per rate period	Utility metering system	Check that the metering complies
01	02	03	04	05	06	07	08
Electrical Service Designation/Location/Description	kVA						
REFER TO PACKAGE 1 FOR ELECTRICAL SERVICE SCHEDULE		☐	☐	☐	☐	☐	☐
		☐	☐	☐	☐	☐	☐

STATE OF CALIFORNIA
INDOOR LIGHTING
CEC-NRCC-LTI-01-E (Revised 04/16) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-01-E
Indoor Lighting	(Page 3 of 6)

Project Name: Hayward Fire Training Center - Building 6 — Date Prepared: 7/16/2019

E. Declaration of Required Certificates of Acceptance

Declare by selecting yes for all of the Certificates that will be submitted. (Retain copies and verify forms are completed and signed.)

YES	NO	Compliance Document/Title	
☑	☐	NRCA-LTI-02-A - Must be submitted for occupancy sensors and automatic time switch controls.	☐ Field Inspector
☐	☑	NRCA-LTI-03-A - Must be submitted for automatic daylight controls.	☐ Field Inspector
☐	☑	NRCA-LTI-04-A - Must be submitted for demand responsive lighting controls.	☐ Field Inspector
☐	☑	NRCA-LTI-05-A – Must be submitted for institutional tuning power adjustment factor (PAF).	☐ Field Inspector

A Separate Lighting Schedule Must Be Filled Out for Conditioned and Unconditioned Spaces. Installed Lighting Power listed on this Lighting Schedule is only for:
☑ **CONDITIONED SPACE** ☐ **UNCONDITIONED SPACE**

F. Indoor Lighting Schedule and Field Inspection Energy Checklist

☑ The actual indoor lighting power listed on the next 2 pages includes all installed permanent and planned portable lighting systems.
☐ When Complete Building Method is used for compliance, list each different type of luminaire on separate lines.
☑ When Area Category Method or Tailored Method is used for compliance, list each different type of luminaire by each different function area on separate lines
☐ Also include track lighting in schedule, and submit the track lighting compliance document (NRCC-LTI-05-E) when line-voltage track lighting is installed.

STATE OF CALIFORNIA
Electrical Power Distribution
CEC-NRCC-ELC-01-E (Revised 04/16) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-ELC-01-E
Electrical Power Distribution	(Page 6 of 6)

Project Name: Hayward Fire Training Center - Building 6 — Date Prepared: 7/16/2019

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

1. I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: Hayley Vero	Documentation Author Signature: Hayley Vero
Company: WSP	Signature Date: 7/16/2019
Address: 425 Market Street, 17th floor	CEA/HERS certification identification (if applicable):
City/State/Zip: San Francisco, CA 94105	Phone: 415-243-4600

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.
2. I am the responsible person for the design of the building envelope, lighting systems, or mechanical systems I have indicated on this Certificate of Compliance (responsible designer).
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and any changes made during construction that are consistent with the change order procedures in the enforcement agency's regulations will be documented and submitted to the enforcement agency for approval. A completed signed Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name: Amanda Brownlee	Responsible Designer Signature: Amanda Brownlee
Company: WSP	Date Signed: 7/16/2019
Address: 425 Market Street, 17th Floor	License: E17287
City/State/Zip: San Francisco, CA 94118	Phone: 415-243-4600

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

Ross Drulis Cusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY:	
KATHY GARCIA DEP. DIR. PUBLIC WORKS	ALEX AMERI INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER
AMANDA J. BROWNLEE
No. E17287
ELECTRICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title
ELECTRICAL TITLE 24

Drawn By: ELW — Checked By: AJB

Scale:
NTS

Date:
October 4, 2019

Project No. B17.07369

6-E0.20
Drawing No.

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STATE OF CALIFORNIA
INDOOR LIGHTING POWER ALLOWANCE
CEC-NRCC-LTI-03-E (Revised 04/16) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-03-E
Certificate of Compliance - Indoor Lighting Power Allowance	(Page 1 of 4)
Project Name: Hayward Fire Training Center - Building 6	Date Prepared: 7/16/2019

A separate page must be filled out for Conditioned and Unconditioned Spaces. This page is only for:
☑ CONDITIONED spaces ☐ UNCONDITIONED spaces

A. SUMMARY TOTALS OF LIGHTING POWER ALLOWANCES

☐ If using Complete Building Method for compliance, use only the total in column (a) as total allowed building watts.
☐ If using Area Category Method, Tailored Method, or a combination of Area Category and Tailored Method for compliance, use only the total in column (b) as the total allowed building watts

	(a)		(b)
01 Complete Building Method Allowed Watts. Documented in section B of NRCC-LTI-03-E (below on this page)			
02 Area Category Method Allowed Watts. Documented in section C-1 of NRCC-LTI-03-E (below on this page)			277
03 Tailored Method Allowed Watts. Documented in section A of NRCC-LTI-04-E			0
TOTAL ALLOWED BUILDING WATTS. Enter number into correct cell on NRCC-LTI-01, Page 2, Row 1			277

☐ Check here if building contains both conditioned and unconditioned areas.

B. COMPLETE BUILDING METHOD LIGHTING POWER ALLOWANCE

01	02		03		04
TYPE OF BUILDING (From §140.6 Table 140.6-B)	WATTS PER ft²	X	COMPLETE BLDG. AREA	=	ALLOWED WATTS
Total Area:					
Total Watts. Enter Total Watts into section A, row 1 (Above on this page)					

C -1 AREA CATEGORY METHOD TOTAL LIGHTING POWER ALLOWANCES

	Watts
Total from section C-2	277
Total from section C-3	0
Total Watts. Enter Total Watts into section A, row 2 (Above on this page)	277
For Alterations Only – Reduced lighting power option (Total Allowed Watts x 0.85). Enter this value into section A, row 2 if using this option.	

STATE OF CALIFORNIA
INDOOR LIGHTING – LIGHTING CONTROLS
CEC-NRCC-LTI-02-E (Revised 01/16) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-02-E
Indoor Lighting - Lighting Controls	(Page 1 of 3)
Project Name: Hayward Fire Training Center - Building 6	Date Prepared: 7/16/2019

A. Mandatory Lighting Control Declaration Statements (Indicate if the measure applies by checking yes or no below.)

YES	NO	Control Requirements
☑	☐	Lighting shall be controlled by self-contained lighting control devices which are certified to the Energy Commission according to the Title 20 Appliance Efficiency Regulations in accordance with Section 110.9.
☑	☐	Lighting shall be controlled by a lighting control system or energy management control system in accordance with §110.9. An Installation Certificate shall be submitted in accordance with Section 130.4(b).
☐	☑	One or more Track Lighting Integral Current Limiters shall be installed which have been certified to the Energy Commission in accordance with §110.9 and §130.0. Additionally, an Installation Certificate shall be submitted in accordance with Section 130.4(b).
☐	☑	A Track Lighting Supplementary Overcurrent Protection Panel shall be installed in accordance with Section 110.9 and Section 130.0. Additionally, an Installation Certificate shall be installed in accordance with Section 130.4(b).
☑	☐	All lighting controls and equipment shall comply with the applicable requirements in §110.9 and shall be installed in accordance with the manufacturer's instructions in accordance with Section 130.1.
☑	☐	All luminaires shall be functionally controlled with manually switched ON and OFF lighting controls in accordance with Section 130.1(a).
☑	☐	General lighting shall be separately controlled from all other lighting systems in an area. Floor and wall display, window display, case display, ornamental, and special effects lighting shall each be separately controlled on circuits that are 20 amps or less. When track lighting is used, general, display, ornamental, and special effects lighting shall each be separately controlled; in accordance with Section 130.1(a)4.
☑	☐	The general lighting of any enclosed area 100 square feet or larger, with a connected lighting load that exceeds 0.5 watts per square foot shall meet the multi-level lighting control requirements in accordance with Section 130.1(b).
☑	☐	All installed indoor lighting shall be equipped with controls that meet the applicable Shut-OFF control requirements in Section 130.1(c).
☐	☑	Lighting in all Daylit Zones shall be controlled in accordance with the requirements in Section 130.1(d) and daylit zones are shown on the plans.
☐	☑	Lighting power in buildings larger than 10,000 square feet shall be capable of being automatically reduced in response to a Demand Responsive Signal in accordance with Section 130.1(e).
☑	☐	Before an occupancy permit is granted for a newly constructed building or area, or a new lighting system serving a building, area, or site is operated for normal use, indoor lighting controls serving the building, area, or site shall be certified as meeting the Acceptance Requirements for Code Compliance in accordance with Section 130.4.(a). The controls required to meet the Acceptance Requirements include automatic daylight controls, automatic shut-OFF controls, and demand responsive controls.

STATE OF CALIFORNIA
INDOOR LIGHTING
CEC-NRCC-LTI-01-E (Revised 04/16) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-01-E
Indoor Lighting	(Page 4 of 6)
Project Name: Hayward Fire Training Center - Building 6	Date Prepared: 7/16/2019

G. Installed Portable Luminaires in Offices – Exception to Section 140.6(a)

☐ This section shall be filled out ONLY for portable luminaires in offices (As defined in §100.1). All other planned portable luminaires shall be documented on next page of this compliance document.
☐ This section is used to determine if greater than 0.3 watts of portable lighting is planned for any office
☐ Fill out a separate line for each different office. Small offices that are typical (having the same general and portable lighting) may be grouped together. This allowance shall not be traded between offices having different lighting systems.

Office Portable Luminaire Schedule	Office Installed Portable Luminaire W/ft²							Office Location	Field Inspector	
1	2	3	4	5	6	7	8	9	10	
Complete Luminaire Description (i.e., LED, under cabinet, furniture mounted direct/indirect)	Watts per Luminaire	Number of Luminaires	Installed portable luminaire watts in this office (G02 x G03)		Square feet of this office	Watts per square foot (G04 / G05)	If G06 ≤ 0.3, enter zero; if G06 > 0.3, (G06-0.3)	(G05 x G07)	Identify Office area in which these portable luminaires are installed	Pass	Fail
										☐	☐
										☐	☐
										☐	☐
										☐	☐
										☐	☐
Total installed portable luminaire watts that are greater than 0.3 W/ft² per office:									Enter sum total of all pages into NRCC-LTI-01-E; Page 1		

STATE OF CALIFORNIA
INDOOR LIGHTING POWER ALLOWANCE
CEC-NRCC-LTI-03-E (Revised 04/16) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-03-E
Certificate of Compliance - Indoor Lighting Power Allowance	(Page 2 of 4)
Project Name: Hayward Fire Training Center - Building 6	Date Prepared: 7/16/2019

A separate page must be filled out for Conditioned and Unconditioned Spaces. This page is only for:
☑ CONDITIONED spaces ☐ UNCONDITIONED spaces

C -2 AREA CATEGORY METHOD GENERAL LIGHTING POWER ALLOWANCE

☐ Do not include portable lighting for offices. Portable lighting for offices shall be documented only in Section G of NRCC-LTI-01-E.
☐ Separately list lighting for each primary function area as defined in §100.1 of the Standards.

01		02		03		04
AREA CATEGORY (From §140.6 Table 140.6-C)		WATTS PER ft²	X	AREA (ft²)	=	ALLOWED WATTS
Location in Building	Primary Function Area per Table 140.6-C					
Storage	Corridor/Restroom/Support	0.60		462		277

STATE OF CALIFORNIA
OUTDOOR LIGHTING CONTROLS
CEC-NRCC-LTO-02-E (Revised 08/16) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTO-02-E
Outdoor Lighting Controls	(Page 2 of 3)
Project Name: Hayward Fire Training Center - Building 6	Date Prepared: 7/16/2019

B. Mandatory Outdoor Lighting Control Schedule and Field Inspection Checklist

Outdoor Lighting Control Schedule			Standards Complying With (✓ all that apply, or enter 'E' if Exempted)						✓ if Acceptance Test Required	Field Inspector	
01	02	03	04	05	06	07	08	09	10	11	
Location and Application of Luminaires Being Controlled	Type/ Description of Lighting Control (i.e. outdoor motion sensor, outdoor photocontrol, outdoor astronomical time-switch control, automatic scheduling control, part-night outdoor lighting control)	# of Units	§130.2(a)	§130.2(c)1	§130.2(c)2	§130.2(c)3	§130.2(c)4	§130.2(c)5		Pass	Fail
OUTDOOR BREAK AREA	PHOTOCONTROL, MOTION SENSOR	SEE PLAN	NA	✓	✓	✓	NA	NA	☐	☐	☐
									☐	☐	☐
									☐	☐	☐
									☐	☐	☐
									☐	☐	☐
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STATE OF CALIFORNIA
OUTDOOR LIGHTING
CEC-NRCC-LTO-01-E (Revised 02/16) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTO-01-E
Outdoor Lighting	(Page 3 of 4)
Project Name: Hayward Fire Training Center - Building 6	Date Prepared: 7/16/2019

I. Outdoor Lighting Schedule and Field Inspection Energy Checklist

Luminaire Schedule		Installed Watts					Location	Cutoff	Field Inspector	
01	02	03	04		05	06	07	08	09	
Name or Item Tag	Complete Luminaire Description	Watts per Luminaire	How wattage was determined: CEC Default from NA8	How wattage was determined: According to §130.0(c)	Number of Luminaires	Total Installed Watts in this area (3 x 5)	Primary Function area in which the luminaires are installed (Outdoor Lighting Zone)	BUG Rating	Pass	Fail
FE8 (1')	FE8 (1')	5.1	☐	☑	93	474	Pedestrian Hardscape	UH: n/a UL: n/a FVH: n/a BVH: n/a FH: n/a BH: n/a	☐	☐
			☐	☐				UH: UL: FVH: BVH: FH: BH:	☐	☐
			☐	☐				UH: UL: FVH: BVH: FH: BH:	☐	☐
					INSTALLED WATTS PAGE TOTAL:	474	Enter sum total of all pages (**Sum Total INSTALLED** Outdoor lighting wattage) into NRCC-LTO-01-E, page 1.		474	

STATE OF CALIFORNIA
INDOOR LIGHTING POWER ALLOWANCE
CEC-NRCC-LTI-03-E (Revised 04/16) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-03-E
Certificate of Compliance - Indoor Lighting Power Allowance	(Page 4 of 4)
Project Name: Hayward Fire Training Center - Building 6	Date Prepared: 7/16/2019

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT
1. I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name:	Hayley Vero	Documentation Author Signature:	Hayley Vero
Company:	WSP	Signature Date:	7/16/2019
Address:	425 Market Street, 17th floor	CEA Certification Identification (if applicable):	
City/State/Zip:	San Francisco, CA 94105	Phone:	415-243-4600

RESPONSIBLE PERSON'S DECLARATION STATEMENT
I certify the following under penalty of perjury, under the laws of the State of California:
1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer).
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name:	Amanda Brownlee	Responsible Designer Signature:	Amanda Brownlee
Company :	WSP	Date Signed:	7/16/2019
Address:	425 Market Street, 17th Floor	License:	E17287
City/State/Zip:	San Francisco, CA 94118	Phone:	415-243-4600

STATE OF CALIFORNIA
OUTDOOR LIGHTING CONTROLS
CEC-NRCC-LTO-02-E (Revised 08/16) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTO-02-E
Outdoor Lighting Controls	(Page 3 of 3)
Project Name: Hayward Fire Training Center - Building 6	Date Prepared: 7/16/2019

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT
1. I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name:	Hayley Vero	Documentation Author Signature:	Hayley Vero
Company:	WSP	Signature Date:	7/16/2019
Address:	425 Market Street, 17th floor	CEA Certification Identification (if applicable):	
City/State/Zip:	San Francisco, CA 94105	Phone:	415-243-4600

RESPONSIBLE PERSON'S DECLARATION STATEMENT
I certify the following under penalty of perjury, under the laws of the State of California:
1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer).
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name:	Amanda Brownlee	Responsible Designer Signature:	Amanda Brownlee
Company :	WSP	Date Signed:	7/16/2019
Address:	425 Market Street, 17th Floor	License:	E17287
City/State/Zip:	San Francisco, CA 94118	Phone:	415-243-4600

STATE OF CALIFORNIA
OUTDOOR LIGHTING
CEC-NRCC-LTO-01-E (Revised 02/16) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTO-01-E
Outdoor Lighting	(Page 4 of 4)
Project Name: Hayward Fire Training Center - Building 6	Date Prepared: 7/16/2019

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT
1. I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name:	Hayley Vero	Documentation Author Signature:	Hayley Vero
Company:	WSP	Signature Date:	7/16/2019
Address:	425 Market Street, 17th floor	CEA Certification Identification (if applicable):	
City/State/Zip:	San Francisco, CA 94105	Phone:	415-243-4600

RESPONSIBLE PERSON'S DECLARATION STATEMENT
I certify the following under penalty of perjury, under the laws of the State of California:
1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer).
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name:	Amanda Brownlee	Responsible Designer Signature:	Amanda Brownlee
Company :	WSP	Date Signed:	7/16/2019
Address:	425 Market Street, 17th Floor	License:	E17287
City/State/Zip:	San Francisco, CA 94118	Phone:	415-243-4600

STATE OF CALIFORNIA
OUTDOOR LIGHTING POWER ALLOWANCES
CEC-NRCC-LTO-03-E (Revised 07/16) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTO-03-E
Outdoor Lighting Power Allowances	(Page 1 of 4)
Project Name: Hayward Fire Training Center - Building 6	Date Prepared: 7/16/2019

A. OUTDOOR LIGHTING POWER ALLOWANCE SUMMARY

1. General Hardscape Lighting Power Allowance (Site Total from Section B of NRCC-LTO-03-E)									1.	615
2. Additional Specific "use it or lose it" Lighting Power Allowances listed in each of these cells shall be identical to total allowed watts determined in Section C-1 to C-4 of NRCC-LTO-03-E.										
PER APPLICATION from Section C-1		PER UNIT LENGTH (SALES FRONTAGE) from Section C-2		PER HARDSCAPE AREA (ORNAMENTAL LIGHTING) from Section C-3		PER SPECIFIC AREA from Section C-4.				
0	+	0	+	0	+	0	=	2.	0	
3. **Sum Total ALLOWED** Outdoor Lighting Wattage (add rows 1 and 2)									3.	615

B. GENERAL HARDSCAPE LIGHTING POWER ALLOWANCE FROM TABLE 140.7-A

Area Wattage Allowance (AWA)				Linear Wattage Allowance (LWA)			Initial Wattage Allowance (IWA)	Total General Hardscape Lighting Allowance
01	02	03	04	05	06	07	08	09
Name of Area	Illuminated Hardscape Area	AWA Per Square Foot	AWA (B02 x B03)	Perimeter Length of General Hardscape	LPA per Linear Foot	LWA (B05 x B06)	IWA (Watts)	B04 + B07 + B08
COVERED BREAK AREA	1,150	0.040	46	139	0.350	49	520	615
							TOTAL	615

STATE OF CALIFORNIA
OUTDOOR LIGHTING CONTROLS
CEC-NRCC-LTO-02-E (Revised 08/16) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTO-02-E
Outdoor Lighting Controls	(Page 1 of 3)
Project Name: Hayward Fire Training Center - Building 6	Date Prepared: 7/16/2019

A. Mandatory Outdoor Lighting Control Declaration Statements
Check all that apply:
- ☑ Lighting shall be controlled by self-contained lighting control devices which are certified to the Energy Commission according to the Title 20 Appliance Efficiency Regulations in accordance with §110.9(a).
- ☑ Lighting shall be controlled by a lighting control system or energy management control system in accordance with §110.9. An Installation Certificate shall be submitted in accordance with §130.4(b).
- ☑ All lighting controls and equipment shall comply with the applicable requirements in §110.9 and shall be installed in accordance with the manufacturer's instructions in accordance with §130.0(d).
- ☐ Part-Night Outdoor Lighting Controls, as defined in Section 100.1(b), shall meet the requirements in Section 110.9(b)5.
- ☐ All outdoor incandescent luminaires rated over 100 watts, determined in accordance with Section 130.0(c), shall be controlled by a motion sensor.
- ☑ All outdoor luminaires rated for use with lamps greater than 150 lamp watts, determined in accordance with Section 130.0(c), shall comply with Uplight and Glare requirements in accordance with Section 130.2(b).
- ☑ All installed outdoor lighting shall be controlled by a photocontrol or outdoor astronomical time-switch control, or other control capable of automatically switching OFF in accordance with Section 130.2(c)1.
- ☑ All installed outdoor lighting shall be independently controlled from other electrical loads by an automatic scheduling control in accordance with Section 130.2(c)2.
- ☑ All installed outdoor lighting, where the bottom of the luminaire is mounted 24 feet or less above the ground, shall be controlled with automatic lighting controls in accordance with Section 130.2(c)3.
- ☐ For Outdoor Sales Frontage, an automatic lighting control shall be installed in accordance with Section 130.2(c)4.
- ☐ For Building Facade, Ornamental Hardscape and Outdoor Dining lighting, an automatic lighting control shall be installed in accordance with Section 130.2(c)5.
- ☑ Before an occupancy permit is granted for the newly constructed building or for the addition, or for any altered outdoor lighting, the outdoor lighting controls shall be certified as meeting the Acceptance Requirements for Code Compliance in accordance with §130.4.(a). Outdoor lighting controls shall comply with the applicable requirements of Section 130.2(c) and Reference Nonresidential Appendix NA7.8.

STATE OF CALIFORNIA
OUTDOOR LIGHTING
CEC-NRCC-LTO-01-E (Revised 02/16) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTO-01-E
Outdoor Lighting	(Page 1 of 4)
Project Name: Hayward Fire Training Center - Building 6	Date Prepared:

A. General Information
Project Address: 1401 W. Winton Ave. Hayward, CA 94545

Total Illuminated Hardscape Area: 1,150

Phase of Construction: ☐ Addition ☐ Alteration ☑ New Construction ☐ 2-3 ☐ 4

Outdoor Lighting Zone (LZ) ☐ LZ-2 ☐ LZ-1 ☐ LZ-4

I have confirmed with the AHJ which LZ applies to this site. For default lighting zone designations, see Title 24 Part 6, §100.114

B. Lighting Compliance Documents (check box for each document included)
For detailed instructions on the use of this and all Energy Efficiency Standards compliance documents, refer to the Nonresidential Manual published by the California Energy Commission.
- ☐ NRCC-LTO-04-E Outdoor Lighting Controls Certificate of Compliance
- ☐ NRCC-LTO-02-E Outdoor Lighting Controls Certificate of Compliance
- ☐ NRCC-LTO-03-E Outdoor Lighting Power Allowance Certificate of Compliance
- ☐ NRCC-LTO-04-E Outdoor Lighting Existing Conditions Certificate of Compliance

C. Summary of Allowed Outdoor Lighting Power

		Watts
	Sum Total ALLOWED Outdoor Lighting Wattage From NRCC-LTO-03-E, page 1	615
01	Alterations with NO increase of connected lighting (load may instead use the allowed wattage from NRCC-LTO-04, page 2. Complies ONLY if **Installed** (Box 02) ≤ **Allowed** (Box 01)	
02	**Sum Total INSTALLED** Outdoor Lighting Wattage From NRCC-LTO-01-E, page 3	474

D. Declaration of Required Installation Certificates
Declare by checking all Installation Certificates that will be submitted. (Retain copies and verify compliance documents are completed and signed.)
☑ NRCC-LTO-01-E - Must be submitted for all buildings ☐ Field Inspector

☑ NRCC-LTO-02-E - Must be submitted for a lighting control system, or for an Energy Management Control System (EMCS), to be recognized for compliance. ☐ Field Inspector

E. Declaration of Required Certificates of Acceptance
Declare by checking all of the Certificates of Acceptance that will be submitted. (Retain copies and verify compliance documents are completed and signed.)
☑ NRCA-LTO-02-A - Must be submitted for outdoor lighting controls. ☐ Field Inspector

F. Schedule of Luminaires Exempt from the Outdoor Lighting Power Requirements in §140.7

01	02
Name or Symbol	Description of exempt luminaire in accordance with the exemptions

STATE OF CALIFORNIA
OUTDOOR LIGHTING
CEC-NRCC-LTO-01-E (Revised 02/16) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTO-01-E
Outdoor Lighting	(Page 2 of 4)
Project Name: Hayward Fire Training Center - Building 6	Date Prepared: 7/16/2019

G. Schedule of Luminaires Exempt from the Cutoff Requirements in §130.2(b)

01	02
Name or Symbol	Description of exempt luminaire in accordance with the exemptions

H. Schedule of Luminaires Exempt from the Outdoor Lighting Control Requirements in §130.2(c)

01	02
Name or Symbol	Description of exempt luminaire in accordance with the exemptions

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY:	
KATHY GARCIA DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER
AMANDA J. BROWNLEE
No. E17287
ELECTRICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

ELECTRICAL TITLE 24

Drawn By: ELW — Checked By: AJB

Scale: **NTS**

Date: **October 4, 2019**

Project No. B17.07369

6-E0.22
Drawing No.

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STATE OF CALIFORNIA
OUTDOOR LIGHTING POWER ALLOWANCES
CEC-NRCC-LTO-03-E (Revised 01/16) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTO-03-E
Outdoor Lighting Power Allowances	(Page 2 of 4)
Project Name: Hayward Fire Training Center - Building 6	Date Prepared: 7/16/2019

C. ADDITIONAL "USE IT OR LOSE IT" OUTDOOR LIGHTING POWER ALLOWANCES FOR SPECIFIC APPLICATIONS

☐ The additional specific outdoor lighting power allowance shall be the smaller of the allowed lighting power or the actual lighting power used.

☐ Use Outdoor Lighting Zone (OLZ) that is documented on page 1 of NRCC-LTO-01-E to calculate the specific wattage allowances.

C-1. WATTAGE ALLOWANCE PER APPLICATION – Table 140.7-B

☐ Available only for qualifying locations, which include Building Entrances or Exits; Primary Entrances to Senior Care Facilities, Police Stations, Hospitals, Fire Stations, and Emergency Vehicle Facilities; Drive Up Windows; Vehicle Service Station Uncovered Fuel Dispenser, ATM Machine Lighting

☐ If more than one luminaire type is used per location, use multiple rows for that location

01	02	03	04	05	06	07	08	09	10
	ALLOTTED WATTS			DESIGN WATTS					
Name of Location for Which Allowance is Claimed	Number of Qualifying Locations	Wattage Allowance per Qualifying Location	Allotted Watts (02 x 03)	Luminaire Code or Symbol	Luminaire Description	Luminaire Quantity	Watts per Luminaire	Design Watts (07 x 08)	Allowed Watts (smaller of 04 or 09)
							Sum total allowance per application on this site:		0

C-2. WATTAGE ALLOWANCE PER UNIT LENGTH (Sales Frontage) from Table 140.7-B

☐ If more than one luminaire type is used per location, use multiple rows for that location

01	02	03	04	05	06	07	08	09	10
	ALLOTTED WATTS			DESIGN WATTS					
Name of Location for Which Allowance is Claimed	Linear Feet of Sales Frontage	Wattage Allowance per Linear Foot	Allotted Watts (02 x 03)	Luminaire Code or Symbol	Luminaire Description	Luminaire Quantity	Watts per Luminaire	Design Watts (07 x 08)	Allowed Watts (smaller of 04 or 09)
							Sum total allowance for sales frontage on the site:		0

STATE OF CALIFORNIA
OUTDOOR LIGHTING POWER ALLOWANCES
CEC-NRCC-LTO-03-E (Revised 01/16) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTO-03-E
Outdoor Lighting Power Allowances	(Page 3 of 4)
Project Name: Hayward Fire Training Center - Building 6	Date Prepared: 7/16/2019

C-3. WATTAGE ALLOWANCE PER SQUARE FOOT OF HARDSCAPE AREA (Ornamental Lighting) – Table 140.7-B

☐ Allowance for the total site illuminated hardscape area. Luminaires qualifying for this allowance shall be rated for 100 watts or less as determined in accordance with Section 130.0(c), and shall be post-top luminaires, lanterns, pendant luminaires, or chandeliers.

☐ If more than one luminaire type is used per location, use multiple rows for that location

01	02	03	04	05	06	07	08	09	10
	ALLOTTED WATTS			DESIGN WATTS					
Name of area for which ornamental allowance is claimed	Square Feet of Hardscape	Wattage Allowance per Square Foot	Allotted Watts (02 x 03)	Luminaire Code or Symbol	Luminaire Description	Luminaire Quantity	Watts per Luminaire	Design Watts (07 x 08)	Allowed Watts (smaller of 04 or 09)
							Sum total allowance for ornamental lighting on the site:		0

C-4. WATTAGE ALLOWANCE PER SQUARE FOOT OF SPECIFIC AREA - Table 140.7-B

☐ Allowances for Building Facades; Outdoor Sales Lots; Vehicle Service Station Hardscape; Vehicle Service Station Canopies; Sales Canopies; Non-sales Canopies; Tunnels; Guard Stations; Student Pick-up/Drop-off zone: Outdoor Dining; Special Security Lighting for Retail Parking and Pedestrian Hardscape.

☐ If more than one luminaire type is used per location, use multiple rows for that location

01	02	03	04	05	06	07	08	09	10
	ALLOTTED WATTS			DESIGN WATTS					
Name of Location for Which Allowance is Claimed	Illuminated Area of Application	Wattage Allowance per square Foot	Allotted Watts (02 x 03)	Luminaire Code or Symbol	Luminaire Description	Luminaire Quantity	Watts per Luminaire	Design Watts (07 x 08)	Allowed Watts (smaller of 04 or 09)
							Sum total allowance for specific area on the site:		0

STATE OF CALIFORNIA
OUTDOOR LIGHTING POWER ALLOWANCES
CEC-NRCC-LTO-03-E (Revised 01/16) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTO-03-E
Outdoor Lighting Power Allowances	(Page 4 of 4)
Project Name: Hayward Fire Training Center - Building 6	Date Prepared: 7/16/2019

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

1. I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name:	Hayley Vero	Documentation Author Signature:	Hayley Vero
Company:	WSP	Signature Date:	7/16/2019
Address:	425 Market Street, 17th floor	CEA Certification Identification (if applicable):	
City/State/Zip:	San Francisco, CA 94105	Phone:	415-243-4600

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer).
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
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5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name:	Amanda Brownlee	Responsible Designer Signature:	Amanda Brownlee
Company:	WSP	Date Signed:	7/16/2019
Address:	425 Market Street, 17th Floor	License:	E17287
City/State/Zip:	San Francisco, CA 94118	Phone:	415-243-4600

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY:	
KATHY GARCIA DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

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425 Market St. 17th Floor
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HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER
AMANDA J. BROWNLEE
No. E17287
ELECTRICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

ELECTRICAL TITLE 24

Drawn By: ELW — Checked By: AJB

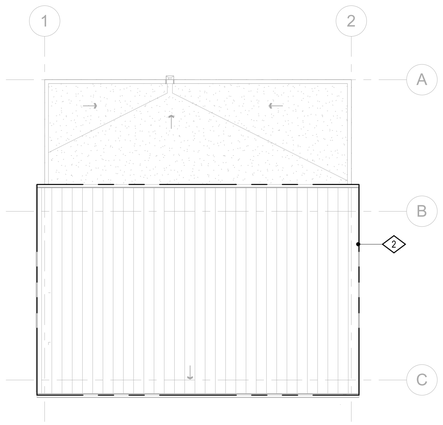
Scale:
NTS

Date:
October 4, 2019

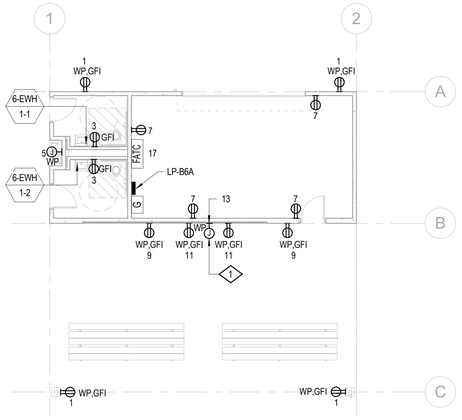
Project No. B17.07369

6-E0.23
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3 06-ELEC POWER COVERED BREAK AREA-HIGH ROOF RIDGE
1/8" = 1'-0"



1 06-ELEC POWER COVERED BREAK AREA-FIRST FLOOR
1/8" = 1'-0"

2 06-ELEC LIGHTING COVERED BREAK AREA-FIRST FLOOR
1/8" = 1'-0"

SHEET NOTES:

A. PROVIDE CONDUIT AND WIRE FOR CIRCUITING AND SWITCHING SHOWN.

B. VERIFY EXACT LOCATION AND MOUNTING HEIGHT OF ALL DEVICES, SWITCHES, AND LIGHT FIXTURES WITH ARCHITECT.

C. CONNECT ALL 120/208V POWER EQUIPMENT, DEVICES AND LIGHTING FIXTURES TO PANEL LP-B6A, UON.

D. FIXTURES DENOTED WITH SHADING FOR EMERGENCY ARE ON EMERGENCY POWER AND CONTAIN AN INTEGRAL BATTERY BACK-UP.

E. RUN IN-GROUND CONDUIT 24" BELOW GRADE, MINIMUM.

F. ALL DIMMERS ARE TO HAVE A MASTER RAISE/LOWER.

G. FOR ALL DATA CABLING, PATHWAY INFRASTRUCTURE AND DEVICES REFER TO T SERIES DRAWINGS.

NUMBERED NOTES:

1 PROVIDE NORMAL POWER CONNECTION TO PROJECTOR.

2 REFER TO BUILDING 3 PHOTOVOLTAIC SYSTEM DRAWINGS FOR PHOTOVOLTAIC PANEL LAYOUT AND DETAILS.

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ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: **KATHY GARCIA** DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

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HAYWARD, CA 94545

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER
AMANDA J. BROWN, P.E.
No. E17287
ELECTRICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

ELECTRICAL COVERED BREAK AREA FLOOR PLAN & ROOF PLAN

Drawn By: ELW Checked By: AJB

Scale:
1/8" = 1'-0"

Date:
October 4, 2019

Project No. B17.07369

6-E2.01
Drawing No.

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WIRING SCHEDULE - COPPER CONDUCTORS (0-600V)

CIRCUIT RATING	CONDUIT SIZE (INCHES)							CONDUCTOR SIZE	
	NONE	G	N	NG	NGI	NNG	NNGI	PHASE/ NEUTRAL	GND/* IG
15	0.5	0.5	0.5	0.5	0.5	0.5	0.5	12	12
20	0.5	0.5	0.5	0.5	0.5	0.5	0.5	12	12
30	0.5	0.5	0.5	0.5	0.75	0.75	0.75	10	10
40	0.75	0.75	0.75	1	1	1	1	8	10
50	1	1	1	1.25	1.25	1.25	1.25	6	10
60	1	1.25	1.25	1.25	1.5	1.5	1.5	4	10
70	1	1.25	1.25	1.25	1.5	1.5	1.5	4	8
80	1.25	1.25	1.25	1.5	2	2	2	2	8
90	1.25	1.25	1.25	1.5	2	2	2	2	8
100	1.25	1.5	1.5	2	2	2	2.5	1	8
110	1.25	1.5	1.5	2	2	2	2.5	1	6
125	1.25	1.5	1.5	2	2	2	2.5	1	6
150	1.5	2	2	2	2.5	2.5	2.5	1/0	6
175	1.5	2	2	2	2.5	2.5	2.5	2/0	6
200	2	2	2	2.5	2.5	2.5	3	3/0	6
225	2	2.5	2.5	2.5	3	3	3	4/0	4
250	2.5	2.5	2.5	3	3	3	3.5	250	4
300	2.5	3	3	3.5	3.5	3.5	4	350	4
350	3	3.5	3.5	4	4	4	5	500	2
400	2@2	2@2	2@2	2@2.5	2@2.5	2@2.5	2@3	3/0	2
450	2@2	2@2.5	2@2.5	2@2.5	2@3	2@3	2@3	4/0	2
500	2@2.5	2@2.5	2@2.5	2@3	2@3	2@3	2@3.5	250	1
600	2@2.5	2@3	2@3	2@3.5	2@3.5	2@3.5	2@4	350	1
700	2@3	2@3.5	2@3.5	2@4	2@4	2@4	2@5	500	1/0
800	3@2.5	3@3	3@3	3@3	3@3.5	3@3.5	3@3.5	300	1/0
1000	3@3	3@3	3@3	3@3.5	3@4	3@4	3@4	400	2/0
1200	4@2.5	4@3	4@3	4@3.5	4@3.5	4@3.5	4@4	350	3/0
1600	5@3	5@3	5@3	5@3.5	5@4	5@4	5@4	400	4/0
2000	6@3.5	6@3.5	6@3.5	6@4	6@4	6@4	6@5	500	250
2500	7@3.5	7@3.5	7@3.5	7@4	7@4	7@4	7@4	500	350
3000	8@3.5	8@3.5	8@3.5	8@4	8@4	8@4	8@4	500	400

SUBSCRIPT KEY

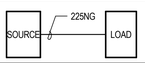
SUBSCRIPT	CONDUCTORS PER CONDUIT
NONE	3 PHASE CONDUCTORS, CONDUIT GROUND
G	3 PHASE CONDUCTORS, 1 GROUNDING CONDUCTOR
N	3 PHASE CONDUCTORS, 1 NEUTRAL CONDUCTOR, CONDUIT GROUND
NG	3 PHASE CONDUCTORS, 1 NEUTRAL CONDUCTOR, 1 GROUNDING CONDUCTOR
NGI	3 PHASE CONDUCTORS, 1 NEUTRAL CONDUCTOR, 1 GROUNDING CONDUCTOR, 1 ISOLATED GROUNDING CONDUCTOR
NNG	3 PHASE CONDUCTORS, 2 NEUTRAL CONDUCTORS*, 1 GROUNDING CONDUCTOR
NNGI	3 PHASE CONDUCTORS, 2 NEUTRAL CONDUCTORS*, 1 GROUNDING CONDUCTOR, 1 ISOLATED GROUNDING CONDUCTOR

* SINGLE NEUTRAL CONDUCTOR SIZES FOR CIRCUIT RATING 125 AND LESS

PARALLEL CONDUCTORS ARE NOT PERMITTED UNDER 1/0. WHERE DOUBLE NEUTRAL CONDUCTORS ARE INDICATED, PROVIDE AN OVERSIZED NEUTRAL CONDUCTOR IN ACCORDANCE WITH THE FOLLOWING TABLE:

CIRCUIT RATING	15	20	30	40	50	60
SINGLE NEUTRAL CONDUCOTR SIZE	10	8	4	2	1	1/0
CIRCUIT RATING	70	80	90	100	125	
SINGLE NEUTRAL CONDUCTOR SIZE	2/0	3/0	4/0	250	250	

EXAMPLES





NOTES

1. SCHEDULE IS BASED ON 3 CURRENT CARRYING CONDUCTORS IN RACEWAY, CABLE OR EARTH, AT AMBIENT AIR TEMPERATURE OF 30°C (86°F). CONDUIT SIZES BASED ON EMT.
2. MODIFY IF USE OF 600MCM CONDUCTORS ARE DESIRED CONFIRM LUG SIZES ARE AVAILABLE.

TRANSFORMER SCHEDULE

KVA	FEEDER AMPACITY			NEUTRAL GROUNDING ELECTRODE CONDUCTOR**
	PRIMARY 480V 3 PHASE-3 WIRE	SECONDARY 120/208V 3 PHASE-4 WIRE	SUPPLY SIDE BONDING JUMPER**	
3	15	15	#8	1/2"C-1#8
6	15	20	#8	1/2"C-1#8
9	15	30	#8	1/2"C-1#8
15	20	50	#8	1/2"C-1#8
30	50	100	#6	1/2"C-1#6
45	70	150	#6	1/2"C-1#6
75	110	250	#2	1/2"C-1#2
112 1/2	175	400	#1/0	3/4"C-1#3/0
150	225	500	#1/0	3/4"C-1#3/0
225	350	800	#2/0	3/4"C-1#3/0
300	450	1000	#2/0	3/4"C-1#3/0
500	800	1600	#4/0	3/4"C-1#3/0
750	1200	2500	#350	3/4"C-1#3/0

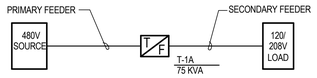
FEEDER KEY

TRANSFORMER IDENTIFICATION PREFIX	FEEDER CONFIGURATION	
	PRIMARY	SECONDARY
T	3 PHASE CONDUCTORS 1 GROUNDING CONDUCTOR (CIRCUIT SUBSCRIPT: G)	3 PHASE CONDUCTORS 1 NEUTRAL CONDUCTOR 1 GROUNDING CONDUCTOR (CIRCUIT SUBSCRIPT: NG***)
TK	3 PHASE CONDUCTORS 1 GROUNDING CONDUCTOR (CIRCUIT SUBSCRIPT: G)	3 PHASE CONDUCTORS 2 NEUTRAL CONDUCTORS 1 GROUNDING CONDUCTOR 1 ISOLATED GROUNDING CONDUCTOR (CIRCUIT SUBSCRIPT: NNGI***)

** = CONDUCTOR SIZES ARE BASED ON COPPER CONDUCTORS
*** = SUBSTITUTE GND/G CONDUCTOR FROM FEEDER SCHEDULE WITH SUPPLY SIDE BONDING JUMPER NOTED ABOVE

EXAMPLES





UNDERGROUND FEEDER CONDUIT SCHEDULE

TAG DESIGNATION	TO	FROM	QUANTITY	SIZE	SPARE	DESIGN FEEDER	ESTIMATED LENGTH	VOLT DROP (%)	BUILDING PACKAGE	REMARKS
F00	PG&E P/B	STREET	2	5"		PER PG&E	66'	N/A	1	
F01	PG&E TRANSF	PG&E P/B	2	5"		PER PG&E	208'	N/A	1	
F02	MS-B1A	PG&E TRANSF	7	5"		PER PG&E	40'	0.60	1	
F03	DPH-B1A	MS-B1A	1	2.5"		225NG	57'	0.12	1	
F04	FP-B1	MS-B1A	1	2.5"		70G	54'	0.29	1	LRA = 302.8A, VD_{dip}=1.7%
F05	ATS-E1B	MS-B1A	1	2"		100NG	31'	0.39	1	
F06	FP-B1	EDSH-B1A	1	2.5"		70G	138'	1.24	1	INCLUDE 1"C TO GENERATOR FOR GEN START LRA = 302.8A, VD_{dip}=6.4%
F07	ATS-E1A	MS-B1A	1	2"		150NG	33'	0.52	1	
F08	ATS-E1C	MS-B1A	2	3"		500NG	34'	0.47	1	
F09	HBI-B1	MS-B1A	1	4"	2"	300G	60'	0.35	1	
F10	CH-1	EDPH-B1A	1	2.5"		ECS	67'	0.26	1	
F11	ELEV-1	EDPH-B1A	1	1"		ECS	101'	0.18	1	
F12	FUEL	ELP-B1A	1	2"		100NG	102'	0.56	1	
F13	DPH-PV	HBI-B1	1	4"	2"	300G	77'	0.44	1	
F14	PULLBOX	MS-B1A			(2) 4"	37'	37'	N/A	1	SPARE FOR FUTURE USE
F15										NOT USED
F16										NOT USED
F17										NOT USED
F18										NOT USED
F19										NOT USED
F20	LPH-B2A	MS-B1A	2	2.5"	(2) 2.5"	400G	358'	0.86	1 / 2	
F30										NOT USED
F40	LP-B4A	DPL-B2A	1	3"	(1) 2"	250NG	150'	1.85	4	FEEDER OVERSIZED FOR VOLTAGE DROP
F50										NOT USED
F60	LP-B6A	DPL-B9A	1	2.5"		200NG	413'	1.54	6	
F70	LP-B7A	DPL-B9A	2	2.5"	(1) 2.5"	400NG	318'	0.77	7	
F80	LP-B8A	DPL-B9A	2	2.5"	(1) 2.5"	400NG	362'	1.06	8	
F81	LP-B8B	DPL-B9A	2	2.5"	(1) 2.5"	400NG	449'	0.84	8	
F90	LPH-B9A	MS-B1A	2	3.5"	(2) 2.5"	600G	515'	0.66	1 / 9	
F91	T-B9A	LPH-B9A	2	2.5"		450G	22'	0.04	9	
F92	DPL-B9A	T-B9A	3	3.5"		1000NG	10'	0.04	9	
F93	LP-B9A	DPL-B9A	1	2.5"		225NG	17'	0.02	9	
F94	LP-B9B	DPL-B9A	1	2.5"	(1) 2.5"	175NG	19'	0.07	9	
FE1	EDSH-B1A	GEN-B1	2	4"		700NG	20'	0.05	1	
FE2	ATS-E1A	EDSH-B1A	1	2"		150NG	100'	0.61	1	INCLUDE 1"C TO GENERATOR FOR GEN START
FE3	ATS-E1C	EDSH-B1A	2	3"		500NG	102'	0.18	1	INCLUDE 1"C TO GENERATOR FOR GEN START
FE4	ELPH-B1A	ATS-E1A	1	2"		150NG	40'	0.24	1	
FE5	EDPH-B1A	ATS-E1C	2	4"		600NG	29'	0.04	1	
FE6	UPS-B1A	ELPH-B1A	1	1.5"		70NG	70'	0.14	1	
FE7	ELP-B1A	ET-B1A	2	2.5"		400NG	69'	1.15	1	
FE8	ULP-B1A	UPS-B1A	1	1.5"		50NNGI	97'	0.25	1	
FE9	ATS-E1B	EDSH-B1A	1	2"		100NG	90'	0.04	1	INCLUDE 1"C TO GENERATOR FOR GEN START
FE10	ELPH-B1B	ATS-E1B	1	2"		100NG	56'	0.02	1	
FE11	PULLBOX	EDSH-B1A			(1) 4"			N/A	1	SPARE FOR FUTURE USE
FE12	ELPH-B2A	ELPH-B1B	1	2"		100NG	350'	0.08	2	

SHEET NOTES

A. CONFIRM AND COORDINATE ALL PG&E UTILITY ROUTING WITH PG&E PER PG&E STANDARDS AND REQUIREMENTS.

B. REFER TO "0" SERIES OF DRAWINGS FOR SITE UTILITY AND INFRASTRUCTURE INFORMATION.

C. ALL OUTDOOR EQUIPMENT SHALL BE RATED NEMA 4X, UON.

D. ALL OVERCURRENT PROTECTIVE DEVICES ASSOCIATED WITH COPS SHALL BE SELECTIVELY COORDINATED.

E. RUN IN-GROUND CONDUIT 24" BELOW GRADE, MINIMUM .

F. WIRING FROM AN EMERGENCY SOURCE OR EMERGENCY SOURCE DISTRIBUTION OVERCURRENT PROTECTION TO EMERGENCY LOADS SHALL BE KEPT ENTIRELY INDEPENDENT OF ALL OTHER WIRING AND EQUIPMENT PER CEC ARTICLE 700.10.

G. ARC ENERGY REDUCTION PER CEC ARTICLE 240.87 WITH RESPECT TO DOCUMENTATION & METHOD TO REDUCE CLEARING TIES IS APPLICABLE.

NUMBERED NOTES

1. EQUIPMENT TO SERVE ELECTRIC VEHICLE CHARGERS. PROVIDE PROGRAMMABLE ELECTRONIC CIRCUIT BREAKER LEVEL SUB-METERS FOR OWNER THIRD PARTY MEASUREMENT/METERING IN THIS PANEL. CONNECT WITH 3/4"C TO NEAREST TELECOM ROOM.
2. PROVIDE 2-HR FIRE RATED ASSEMBLY FOR FEEDERS.
3. PROVIDE 2-SOCKET PG&E UTILITY METER, WITH NET METER CAPABILITY PER PG&E REQUIREMENTS.
4. REFER TO HYBRID POWER SYSTEM DRAWINGS FOR MORE INFORMATION.
5. REFER TO PHOTOVOLTAIC SYSTEM DRAWINGS FOR MORE INFORMATION.
6. PROVIDE SURGE PROTECTION DEVICE PER NEC ARTICLE 708.
7. FLOOR MOUNTED UPS WITH INTEGRAL TRANSFORMER. APC OR APPROVED EQUAL.
   INPUT VOLTAGE: 480V, 3Ø, 3W
   OUTPUT VOLTAGE: 120/208V, 3Ø, 4W
   BATTERY RUN TIME (MINIMUM): 20 MINUTES
8. PROTECT FEEDER SERVING DESIGNATED CRITICAL OPERATIONS AREA (DCOA) EQUIPMENT AS REQUIRED BY NEC ARTICLE 708.
9. PROVIDE GROUND FAULT PROTECTION FOR ALL NEXT LEVEL FEEDER DISCONNECTING MEANS IN COMPLIANCE WITH NEC ARTICLE 708.
10. GROUND FAULT INDICATION ONLY.
11. FEEDER OVERSIZED FOR VOLTAGE DROP.
12. SERVICE ENTRANCE SECTION FOR FIRE PUMP CONNECTION.
13. PROVIDE SURGE PROTECTION DEVICE PER NEC 700.
14. PROVIDE WEATHERPROOF SOUND ATTENUATING ENCLOSURE.
15. EQUIP SWITCHBOARD WITH CAM LOCK TYPE CONNECTORS FOR CONNECTION TO PORTABLE GENERATOR. 700A, 277/480V, 3Ø, 4W.
16. PROVIDE SEPARATE SECTIONS FOR BREAKERS SERVING DIFFERENT BRANCHES OF EMERGENCY POWER PER NEC.
17. PROVIDE THE FOLLOWING PROTECTIVE RELAYS:
    UNDER VOLTAGE
    PHASE ROTATION
18. PROVIDE FULLY RATED LSI BREAKER.
19. PROVIDE THE FOLLOWING RELAYS:
    SYNC CHECK
    UNDER VOLTAGE
    OVER VOLTAGE
    LOSS-OF-PHASE
20. PANEL PROVIDED UNDER BUILDING 2 SCOPE OF WORK.

RossDrulisCusenbery
ARCHITECTURE
18294 Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	INC 01_ADD_01_V1	12/06/2019

REGISTERED PROFESSIONAL ENGINEER AMANDA J. BROWNLEE No. E17287 ELECTRICAL STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

ELECTRICAL RISER DIAGRAM

Drawn By: ELW
Checked By: AJB

Scale: NTS

Date: October 4, 2019

Project No. B17.07369

6-E5.01
Drawing No.

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SHEET NOTES

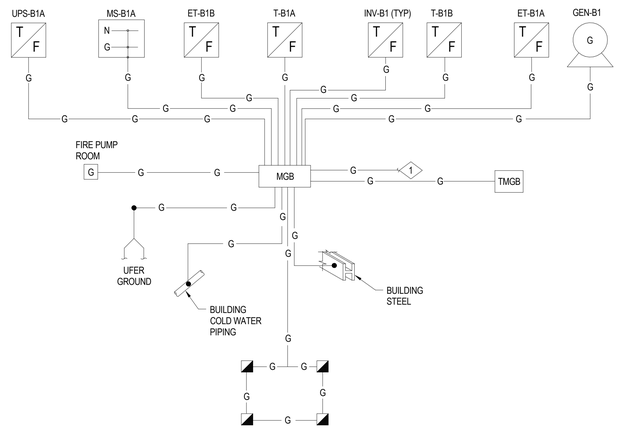
A. REFER SHEET E5.01 FOR TRANSFORMER SCHEDULE AND GROUNDING REQUIREMENTS.

B. CONTRACTOR TO COORDINATE EXACT LOCATION OF CONNECTIONS BETWEEN DIFFERENT CONSTRUCTION PACKAGES AND DIVISION OF WORK BETWEEN SUBCONTRACTORS.

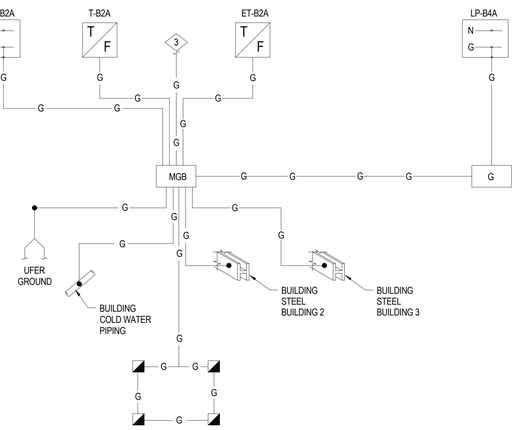
NUMBERED NOTES

1. PROVIDE CONNECTION TO HYBRID POWER SYSTEM. REFER TO SHEET 1-H5.01.
2. DIAGRAM IS FOR ILLUSTRATION OF OVERALL GROUNDING ELECTRODE SYSTEM. SEE RISER DIAGRAMS, GROUND BUS DETAILS AND SPECIFICATIONS FOR ADDITIONAL GROUNDING CONNECTIONS AND REQUIREMENTS.
3. PROVIDE CONNECTION TO PV SYSTEM. REFER TO SHEETS 2-PV5.01 AND 3-PV5.01.
4. PROVIDE CONNECTION TO PV SYSTEM. REFER TO SHEETS 6-PV5.01 AND 9-PV5.01.
5. DO NOT BOND NEUTRAL.

BUILDING 1

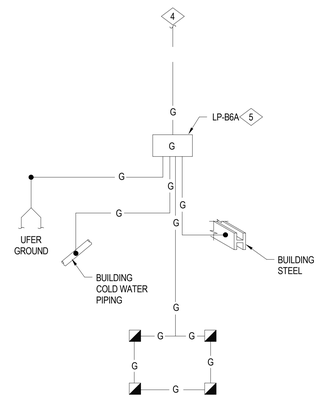


BUILDING 2

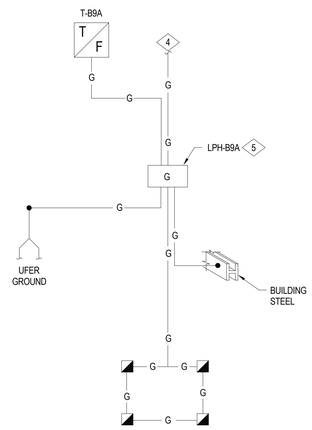


BUILDING 4

BUILDING 6



BUILDING 9



1 GROUNDING RISER DIAGRAM 2
NTS

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC: 01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION	
DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY:	
KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER
AMANDA J. BROWN LEE
No. E17287
ELECTRICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

ELECTRICAL GROUNDING DIAGRAM

Drawn By: ELW
Checked By: AJB

Scale:
NTS

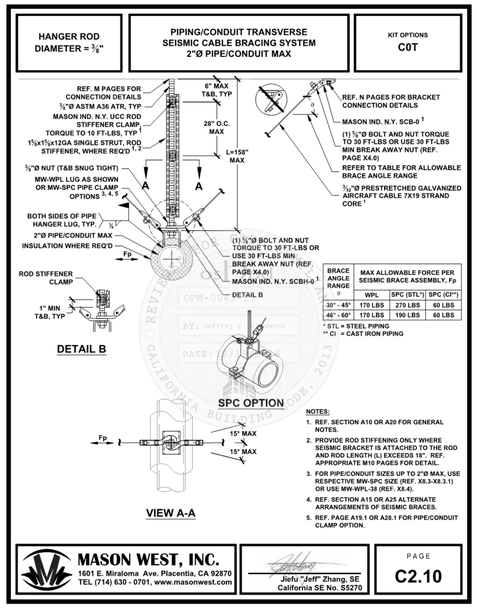
Date:
October 4, 2019

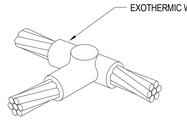
Project No. B17.07369

6-E5.02

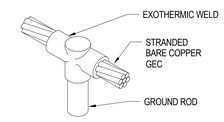
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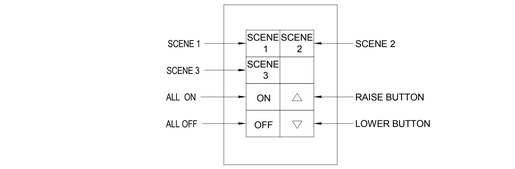




3 GROUNDING ELECTRODE CONDUCTOR TAP DETAIL (TYP) NO SCALE



4 GROUNDING ELECTRODE CONDUCTOR TAP DETAIL (TYP) NO SCALE



SYMBOL 3S ON PLANS

LOW VOLTAGE SCENE CONTROL DETAILS

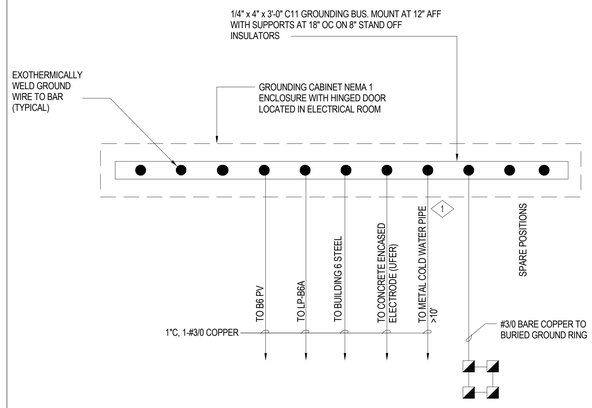
NTS

DETAIL NOTES

A. WHERE DEVICES ARE LOCATED NEXT TO EACH OTHER ON PLANS, COMBINE UNDER COMMON COVER PLATE.

B. REFER TO SHEET E0.10 FOR ADDITIONAL INFORMATION.

1 LIGHTING KEYPAD ELEVATIONS NO SCALE



1 MAKE CONNECTION WITHIN 5' OF EXTERIOR FOUNDATION WALL (ON INTERIOR C.W. LINE)

2 MAIN GROUND BUS BAR MGB NO SCALE

NOTE: REFER TO MASON OPM'S PER THE FOLLOWING:
M-ATR VERTICAL HANGARS
- **CONCRETE FILLED DECK - M2.10, M2.11, M2.12, M2.20, M2.21.1, M2.23, M2.70 - DO NOT SPACE CLOSER THAN 5' OC EW**
- **WIDE FLANGED STEEL - M3.10 - MAX 1 CON PER BEAM UNLESS SPACED 13' OC**
- **COLD FORMED STEEL – M6.10, 3/1-S4.31 - DO NOT SPACE CLOSER THAN 9'6" OC EW**
- **BARE METAL DECK - M7.10, M7.11, M7.12 - DO NOT SPACE CLOSER THAN 2' OC EW**

N-SEISMIC BRACKET
- **CONCRETE FILLED DECK - N2.10, N2.11, N2.12, N2.20, N2.21 - DO NOT SPACE CLOSER THAN 3' OC EW**
- **WIDE FLANGED STEEL - N3.11, N3.15 - MAX 1 CON PER BEAM UNLESS SPACED 12' OC**
- **COLD FORMED STEEL – 4/1-S4.31 - DO NOT SPACE CLOSER THAN 10' OC EW**
- **BARE METAL DECK - N7.10 - DO NOT SPACE CLOSER THAN 1'6" OC EW**

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY:	
KATHY GARCIA DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

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HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER MARCIA J. BRONNLEE No. E17287 ELECTRICAL STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

ELECTRICAL DETAILS

Drawn By: ELW Checked By: AJB

Scale: **NTS**

Date: **October 4, 2019**

Project No. B17.07369

6-E6.01
Drawing No.

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Fire Alarm System

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER
BUILDING #6
1401 W. WINTON AVE.
HAYWARD, CA 94545
INCREMENT 2

SHEET SCHEDULE

SHEET NO.	TITLE
1-FA0.01	FIRE ALARM COVER SHEET
1-FA1.00	FIRE ALARM SITE PLAN
1-FA1.01	BUILDING 1 FIRST LEVEL FIRE ALARM PLAN
1-FA1.02	BUILDING 1 SECOND LEVEL FIRE ALARM PLANS
1-FA1.03	BUILDINGS 2 AND 6 FIRE ALARM PLAN
FA-2.01	FIRE ALARM RISER DIAGRAM
FA-3.01	FIRE ALARM CALCULATIONS
FA-4.01	FIRE ALARM FACU AND ANNUNCIATOR DETAILS
FA-4.02	FIRE ALARM FIELD DEVICE WIRING DETAILS
FA-4.03	FIRE ALARM FIELD DEVICE WIRING DETAILS

PROJECT INFORMATION

BUILDING OWNER:
CITY OF HAYWARD
PUBLIC WORK DEPARTMENT
777 B STREET
HAYWARD, CA 94541
510-583-4752

BUILDING 6

PROJECT TYPE:
STORAGE, RESTROOMS.

OCCUPANCY:
U

CONSTRUCTION TYPE:
II-B, NON SPRINKLERED

GROSS FLOOR AREA:
1,512 G.S.F.

CENTRAL STATION
MONITORING INFORMATION
RAPID RESPONSE MONITORING SERVICES
400 E RINCON
CORONA, CA 92879
(800) 544-5746
UUFX.S3282-3

ALARM SERVICE COMPANY
CONVERGINT TECHNOLOGIES
5960 W LAS POSITAS BLVD. SUITE #7
PLEASANTON, CA 94588
(510) 300-2800

CODE COMPLIANCE

PARTIAL LIST OF APPLICABLE CODES AS OF January 1, 2017*
2016 California Administrative Code (CAC), Part 1, Title 24 CCR*
2016 California Building Code (CBC), Part 2, Title 24 CCR
(2015 International Building Code, Vol. 1 & 2, and 2016 California amendments)
2016 California Electrical Code (CEC), Part 3, Title 24 CCR
(2014 National Electrical Code and 2016 California Amendments)
2016 California Mechanical Code (CMC), Part 4, Title 24 CCR
(2015 IAPMO Uniform Mechanical Code and 2016 California amendments)
2016 California Plumbing Code (CPC), Part 5, Title 24 CCR
(2015 IAPMO Uniform Plumbing Code and 2016 California amendments)
2016 California Energy Code (CEC), Part 6, Title 24 CCR
2016 California Fire Code (CFC), Part 9, Title 24 CCR
(2015 International Fire Code and 2016 California Amendments)
2016 California Existing Building Code (CEBC), Part 10, Title 24 CCR
(2015 International Existing Building Code and 2016 California Amendments)
2016 California Green Building Standards Code (CALGreen), Part 11, Title 24 CCR
2016 California Referenced Standards Code, Part 12, Title 24 CCR
Title 19 CCR, Public Safety, State Fire Marshal Regulations
2013 ASME A17.1/CSA B44-13 Safety Code for Elevators and Escalators
PARTIAL LIST OF APPLICABLE STANDARDSNFPA 1

3 Standard for the Installation of Sprinkler Systems (CA amended)	2016 EditionNFPA 14
Standard for the Installation of Standpipe and Hose Systems	2013 EditionNFPA 17
Standard for Dry Chemical Extinguishing Systems	2013 EditionNFPA
17AStandard for Wet Chemical Extinguishing Systems	2013 EditionNFPA 20
Standard for the Installation of Stationary Pumps for Fire Protection	2016 EditionNFPA 22
Standard for Water Tanks for Private Fire Protection	2013 EditionNFPA 24
Standard for the Installation of Private Fire Service Mains and Their Appurtenances2016 Edition	
NFPA 72National Fire Alarm and Signaling Code (CA amended);	2016 Edition
NFPA 80 Standard for Fire Doors and Other Opening Protectives	2016 Edition
NFPA 2001 Standard on Clean Agent Fire Extinguishing Systems	2015 Edition
UL 300 Standard for Fire Testing of Fire Extinguishing Systems for Protection of Commercial Cooking Equipment	2005 (R2010)

SCOPE OF WORK

THE SCOPE OF WORK IS TO PROVIDE A NEW FIRE ALARM SYSTEM FOR THREE NEW BUILDINGS AT 1401 W. WINTON AVE. HAYWARD, CA 94545

THIS SYSTEM WILL INCLUDE:

1. TIE DEVICES TO FIRE ALARM CONTROL UNIT AT BUILDING 1.
2. AREA SMOKE DETECTORS.
3. A MANUAL PULL STATION.
4. AUDIBLE / VISUAL NOTIFICATION APPLIANCES ACTIVATED VIA NEW BOOSTER POWER SUPPLIES.

SEE FIRE ALARM OPERATIONAL MATRIX THIS SHEET FOR ADDITIONAL INFORMATION.

GENERAL NOTES

1. ALL DEVICE LOCATIONS, WIRING, CONDUITS SHOWN ON DRAWINGS ARE SUBJECT TO FIELD VERIFICATION. ANY DEVIATION MUST BE APPROVED BY THE FIRE ALARM CONTRACTOR AND MUST COMPLY WITH THE NATIONAL AND LOCAL CODES LISTED ON THIS SHEET.
2. 120VAC PRIMARY POWER SOURCE TO FIRE ALARM PANELS AND POWER SUPPLIES MUST BE ON A MECHANICALLY PROTECTED DEDICATED BRANCH CIRCUIT WITH DISCONNECTING MEANS PERMANENTLY IDENTIFIED AT THE CONTROL UNIT. DISCONNECTING MEANS TO BE IDENTIFIED AS "FIRE ALARM CIRCUIT" IN RED MARKING AND ACCESSIBLE ONLY TO AN AUTHORIZED PERSONNEL.
3. 120VAC AND FIRE ALARM CIRCUITS MUST MAINTAIN A 1/4" SEPARATION. NEVER RUN IN SAME CONDUIT.
4. AFTER COMPLETION OF WORK, ELECTRICAL CONTRACTOR MUST PROVIDE TO THE FIRE ALARM CONTRACTOR A COMPLETE SET OF "RECORD DRAWINGS" SHOWING ALL DEVICE LOCATIONS, DEVICE ADDRESSES, CIRCUIT NUMBERS AND WIRING (IF APPLICABLE).
5. SEE DETAIL SHEETS FOR DEVICE MOUNTING HEIGHTS AND INSTALLATION INFORMATION. ANY DEVIATION MUST BE APPROVED BY THE FIRE ALARM CONTRACTOR AND MUST COMPLY WITH THE NATIONAL AND LOCAL CODES LISTED ON THIS SHEET.
6. BACKBOXES, JUNCTION BOXES AND TERMINAL CABINETS TO BE PROVIDED BY THE ELECTRICAL CONTRACTOR. TERMINAL CABINETS FOR FIRE ALARM USE MUST BE LABELED "FATC" AND JUNCTION BOXES TO HAVE RED COVERS.
7. AUDIBLE DEVICES TO BE AT LEAST 15 DBA ABOVE THE AVERAGE AMBIENT SOUND LEVEL BUT NOT LESS THAN 75 DBA AT 10 FEET OR MORE THAN 110 DBA AT THE MIN. HEARING DISTANCE. SOUND LEVEL SHALL BE MAINTAINED FOR DURATION OF AT LEAST 60 SECONDS AND 15 DBA MUST BE MAINTAINED.
8. VISUAL DEVICES SHOULD NOT EXCEED 2 FLASHES PER SECOND AND SHOULD NOT BE SLOWER THAN 1 FLASH EVERY SECOND. THE DEVICE SHALL HAVE A PULSING LIGHT SOURCE NOT LESS THAN 15 CANDELA. ALL VISUAL DEVICES SHALL BE SYNCHRONIZED PER FLOOR.
9. AUDIBLE DEVICES SHALL BE SYNCHRONIZED TEMPORAL CODE 3 PATTERN.
10. ALL EQUIPMENT AND COMPONENTS HAVE BEEN TESTED AS A SYSTEM AND MEET ALL REQUIREMENTS IN THE SPECIFICATION AND IN NFPA 72.
11. EACH CONDUCTOR SHALL BE NUMBERED AT EVERY JUNCTION POINT WITH IDENTIFICATION OF ORIGINATION AND TERMINATION POINTS.

FIRESTOPPING

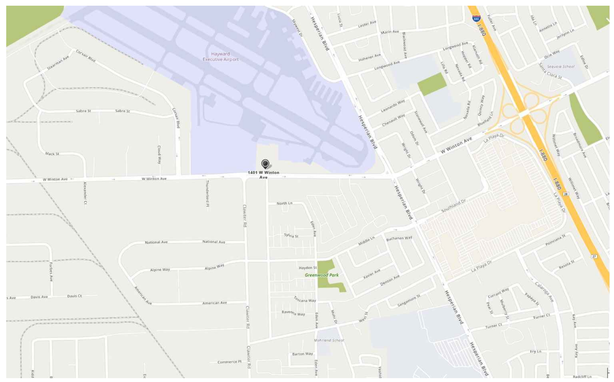
PENETRATIONS THRU WALLS REQUIRING PROTECTED OPENINGS SHALL BE FIRE STOPPED. FIRE STOP MATERIAL SHALL BE A UL LISTED ASSEMBLY INSTALLED ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS. SEE DRAWING FAA 10 AND "THROUGH PENETRATIONS FIRESTOP" BINDER FOR INFORMATION AND DETAILS

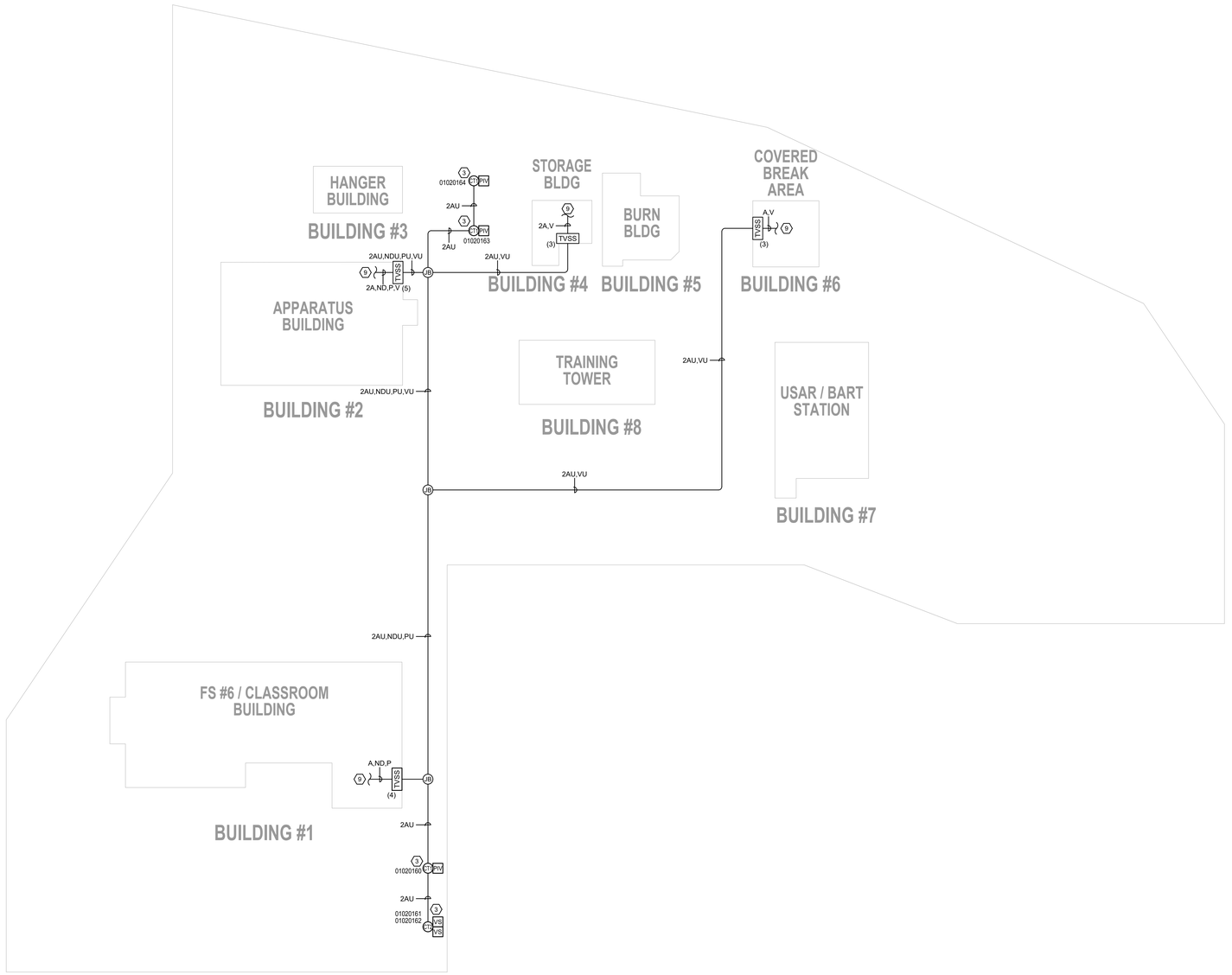
EQUIPMENT LIST

SYMBOL LEGEND

SYM.	MFG.	MODEL #	TOTAL QTY.	BLDG. #1	BLDG. #2	BLDG. #6	DESCRIPTION	BACKBOX	CSFM
FACU	EST	EST-3	-	-			FIRE ALARM CONTROL PANEL		
		3-CPU3	1	1			CENTRAL PROCESSING UNIT MODULE	3-CAB7B	7165-1657:0186
		3-RS485A	1	1			NETWORK COMMUNICATIONS CARD	3-CAB7B	7165-1657:0186
		3-PPS/M	1	1			PRIMARY POWER SUPPLY WITH LOCAL RAIL MODULE	3-CAB7B	7165-1657:0186
		3-MODCOM	1	1			MODEM/DIALER (DACT)	3-CAB7B	7165-1657:0186
		3-SSDC1	1	1			SINGLE SIGNATURE DRIVER CONTROLLER	3-CAB7B	7165-1657:0186
		3-LCD	1	1			LIQUID CRYSTAL DISPLAY MODULE	3-CAB7B	7165-1657:0186
		3-FP	5	5			FILLER PLATE	3-CAB7B	7165-1657:0186
		3-CHAS7	1	1			CHASSIS ASSEMBLY - 7 LOCAL RAIL MODULE SPACES	3-CAB7B	7165-1657:0186
		3-CAB7B	1	1			WALLBOX	INCLUDED	7165-1657:0186
		3-CAB7D	1	1			INNER & OUTER DOORS FOR WALLBOX	3-CAB7B	7165-1657:0186
BATT	EST	BC-1	1	1			BATTERY CABINET	INCLUDED	-
	POWER SONIC	PS-12260	2	2			26AH BATTERY	BC-1	-
	BY OTHERS	RJ31X	1	1			ALARM SYSTEM JACK	BC-1	-
	BUSSMAN	5775	1	1			AEC 7.5 AMP TIME FUSE	BC-1	-
	COLE HERSEE	5415M	1	1			FUSE BLOCK HOLDER	BC-1	-
FAA	EST	3-LCDANN	2	2			REMOTE LCD ANNUNCIATOR	RLCM/B	7120-1657:0193
		RLCM/B	2	2			FLUSH MOUNT LCD WALLBOX	-	7120-1657:0193
P	EST	SIGA-278	11	10	1		DUAL ACTION MANUAL PULL STATION	4" SQ. DEEP BOX WITH 1 GANG RING	7150-1657:0129
P WP	EST	MPSR1-D45W-GE	1			1	WEATHERPROOF DOUBLE ACTION MANUAL PULL STATION	INCLUDED	7150-1657:0236
CC	EST	SIGA-CC1	4	2	2		SIGNAL MODULE	4" SQ. DEEP BOX WITH 2 GANG RING	7300-1657:0121
CR	EST	SIGA-CR	11	9	2		CONTROL RELAY	4" SQ. DEEP BOX WITH 1 GANG RING	7300-1657:0121
CT1	EST	SIGA-CT1	4	1	2	1	SINGLE INPUT MODULE	4" SQ. DEEP BOX WITH 1 GANG RING	7300-1657:0121
CT2	EST	SIGA-CT2	7	6	1		DUAL INPUT MODULE	4" SQ. DEEP BOX WITH 1 GANG RING	7300-1657:0121
IM	EST	SIGA-IM	4	2	1	1	ISOLATOR MODULE	4" SQ. DEEP BOX WITH 2 GANG RING	7300-1657:0121
RM	EST	SIGA-RM1	1	1			RISER MODULE	4" SQ. DEEP BOX WITH 1 GANG RING	7300-1657:0210
R	SYSTEM SENSOR	PR-1	3	2	1		MULTI-VOLTAGE RELAY	4" SQ. DEEP BOX WITH 1 GANG RING	7300-1653:0172
Z	EST	SIGA-SD	2	2			DUCT SMOKE DETECTOR	INCLUDED	3242-1657:0223
		SD-T42	2	2			SAMPLING TUBE	-	-
TD	EST	SIGA-TCDR	1	1			TEMPORAL CODE GENERATOR	4" SQ. DEEP BOX WITH 1 GANG RING	7300-1657:0308
S	EST	SIGA-PD	8	4	1	3	PHOTO SMOKE DETECTOR	SIGA-SB4	7272-1657:0331
		SIGA-SB4	8	4	1	3	4" DETECTOR MOUNTING BASE	4" OCTAGON BOX	7300-1657:0120
S CO	EST	SIGA-PD	8	8			PHOTO SMOKE DETECTOR	SIGA-AB4GT	7272-1657:0331
		SIGA-AB4GT-LF	8	8			LOW FREQUENCY AUDIBLE BASE	4" SQ. DEEP BOX	7300-1657:0322
S DMP	EST	SIGA-PD	4	4			PHOTO SMOKE DETECTOR	SIGA-SB4	7272-1657:0331
		SIGA-DMP	4	4			DETECTOR MOUNTING PLATE	INCLUDED	-
		SIGA-SB	4	4			DETECTOR MOUNTING BASE	SIGA-DMP	7300-1657:0120
BPS6A	EST	BPS6A	3	2	1		6.5 AMP BOOSTER POWER SUPPLY	INCLUDED	7300-1657:0229
	POWER SONIC	PS-1270	6	4	2		7AH BATTERY		
XXCD LF	WHEELOCK	LFHSHW3	4	4			LOW FREQUENCY SOUNDER STROBE	SINGLE GANG	7125-0785:0500
XXCD	WHEELOCK	LHTW3	11	6	5		WALL MOUNT HORN-STROBE (15, 30, 75, 110 SELECTABLE CANDELA OUTPUT)	SINGLE GANG	7125-0785:0501
XXCD	WHEELOCK	LHTWC3	25	18	5	2	CEILING MOUNT HORN-STROBE (15, 30, 75, 95 SELECTABLE CANDELA OUTPUT)	SINGLE GANG	7125-0785:0501
110CD WP	WHEELOCK	ASWP-2475W-FR	6	4	1	1	WEATHERPROOF WALL MOUNT HORN-STROBE 30CD (180 ON AXIS)	WPBB	7125-0785:0131
		WPBB	6	4	1	1	WEATHERPROOF BOX	-	-
XXCD	WHEELOCK	LSTW3	1	1	0	0	WALL MOUNT STROBE (15, 30, 75, 110 SELECTABLE CANDELA OUTPUT)	SINGLE GANG	7125-0785:0501
XXCD	WHEELOCK	LSTWC3	19	18	1	0	CEILING MOUNT STROBE (15, 30, 75, 95 SELECTABLE CANDELA OUTPUT)	SINGLE GANG	7125-0785:0501
15CD WP	WHEELOCK	RSSWP-2475C-FW	3	1	2	0	WEATHERPROOF CEILING MOUNT STROBE 30CD (180 ON AXIS)	WPSBB	7300-0785:0154
		WPSBB	3	1	2	0	WEATHERPROOF BOX	-	-
DSM	WHEELOCK	DSM	5	3	2		DUAL SYNCHRONIZATION MODULE	4-11/16" DEEP BOX W/ EXT. RING	7300-0785:0132
DOC	SPACE AGE	FAD ACE-11	1	1			SSU00685 FIRE ALARM DOCUMENTS CABINET	INCLUDED	7300-0553:0110
TVSS	BY OTHERS	-	12	4	5	3	TRANSIT VOLTAGE SURGE SUPPRESSOR (BY OTHERS)	-	-
FATC	BY OTHERS	-	3	1	1	1	FIRE ALARM TERMINAL CABINET	-	-
FD	BY OTHERS	-	4	4			FIRE/SMOKE DAMPER	-	-
MF	BY OTHERS	-	3	2	1		WATERFLOW SWITCH	-	-
VS	BY OTHERS	-	5	4	1		VALVE TAMPER SWITCH	-	-
PIV	BY OTHERS	-	3	1	2		POST INDICATOR VALVE	-	-

VICINITY MAP


1401 W Winton Ave
Hayward Executive Airport
Hayward Shoreline
Grassland Park
Winton Middle School
W Winton Ave
Sabre St
Depot Rd
Skywest Dr
Hesperian Blvd
Mission Blvd
Jackson St
Tennyson Rd
Whitman St
Harder Rd
Industrial Blvd
Arden Rd
Alquire Pkwy
National Ave
Amador St
Bartlett St
Cypress Rd
Soto Rd
Huntwood Ave
Dunn Rd
Depot Rd
Ruus Rd
Sandalwood Dr
Cabot Blvd
Santa Clara St
Kaiser Way
Kathryn Way
Barton Way
Cameron Ct
Hopkins St
Grand Canal
Ralph Ave
Ralph Ct
Ralph Way
Ralph Ln
Ralph Cir
Ralph Pl
Ralph Ter
Ralph Wy



KEYED SHEET NOTES

1. RELAY MODULE FOR CEILING FAN SHUTDOWN (@ CONTROL PANEL)
2. *RELAY FOR FAN SHUTDOWN.
3. IF DEVICES ARE EXPOSED TO THE ENVIRONMENT, MOUNT DEVICES IN A NEMA 250, TYPE 4X ENCLOSURE (PROVIDED BY OTHERS)
4. *MODULES FOR ELEVATOR CONTROL.
   -RECALL
   -ALTERNATE FLOOR RECALL
   - FIREFIGHTER'S HAT SIGNAL
5. SEE SITE PLAN ON SHEET 1-FA1.00 FOR CONTINUATION OF CIRCUIT
6. MODULES FOR FIRE PUMP SUPERVISION.
   - RUNNING - PHASE REVERSAL
   - TROUBLE - ALTERNATE POWER
7. CONTROL RELAY FOR SECURITY INTERFACE.
8. *CONTROL RELAYS FOR FIRE/SMOKE DAMPER CONTROL. ELECTRICAL CIRCUIT # ELP-B18.9
9. SEE FLOOR PLANS ON SHEET 1-FA1.01 AND 1-FA1.03 FOR CONTINUATION OF CIRCUIT.
10. CONTROL RELAY FOR A/V SHUTDOWN.
11. SIGNAL MODULE FOR POWER SUPPLY ACTIVATION AND SUPERVISION.
12. SIGNAL MODULE AND TEMPORAL PATTERN GENERATOR FOR SOUNDER BASES LOCATED ON SECOND FLOOR. BASES SHALL ACTIVATE IN TANDEM. A FIRE ALARM SHALL OVERRIDE A CO ALARM.
13. NOT USED.
14. MOUNT REMOTE LED INDICATOR AT AN ACCESSIBLE AND VISIBLE LOCATION.
15. RISER MONITOR MODULE FOR AUDIBLE BASE CIRCUIT. (CIRCUIT FOR AUDIBLE BASES MAY NOT BE T-TAPPED)

* FIRE ALARM RELAY MODULE USED TO INITIATE CONTROL FUNCTIONS SHALL BE LOCATED WITHIN 3 FEET OF THE CONTROLLED CIRCUIT OR APPLIANCE.

CABLE LEGEND

(NON-PLENUM) CABLE PROVIDED BY OTHERS
CLASS B WIRING

SYM.	AWG/CONDUCTOR/ STYLE/TYPE	T-TAPS	WIRING CLASS
A	DATA CABLE (NON-PLENUM) #16 AWG TWISTED PAIR FPL 3,900 FEET MAXIMUM DISTANCE .33µF MAXIMUM CAPACITANCE 79 OHMS MAXIMUM RESISTANCE MAXIMUM 124 T-TAPS.	YES	CLASS B
AU	UNDERGROUND RATED DATA CABLE	YES	CLASS B
ND	NETWORK DATA RISER CABLE #16 AWG FPL TWISTED PAIR SOLID NO T-TAPS ALLOWED	NO	CLASS B
NDU	UNDERGROUND RATED NETWORK DATA RISER CABLE	NO	CLASS B
P	24V AC/DC POWER CABLE #12 AWG FPL TWISTED PAIR SOLID T-TAPS ALLOWED	YES	CLASS B
PU	UNDERGROUND RATED POWER CABLE	YES	CLASS B
V	STROBE CIRCUIT CABLE #12 AWG FPL TWISTED PAIR SOLID NO T-TAPS ALLOWED	NO	CLASS B
VU	UNDERGROUND RATED STROBE CIRCUIT CABLE	NO	CLASS B

GENERAL SHEET NOTES

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2. ANY DEVICE EXPOSED TO OUTSIDE ENVIRONMENT MUST BE IN A WEATHERPROOF ENCLOSURE PROVIDED BY OTHERS.
3. UNDERGROUND CONDUIT SHALL BE 1" PVC.
4. RUN ALL UNDERGROUND CONDUIT 24" BELOW GRADE, MINIMUM.

SYMBOL LEGEND

SYMBOL	DESCRIPTION
FACU	FIRE ALARM CONTROL UNIT
FAA	FIRE ALARM LED ANNUNCIATOR
P	PULL STATION
P WP	WEATHERPROOF PULL STATION
SC	SIGNAL MODULE
CR	CONTROL RELAY
ST	SINGLE INPUT MODULE
ST2	DUAL INPUT MODULE
IM	ISOLATION MODULE
RM	RISER MONITOR MODULE
R	MULTI VOLT RELAY
TG	TEMPORAL PATTERN GENERATOR
S	SMOKE DETECTOR (CEILING / WALL MOUNT)
S	DUCT SMOKE DETECTOR
S DMP	SMOKE DETECTOR WITH DUCT MOUNTING PLATE
LED	REMOTE LED INDICATOR
AB S CO	COMBINATION SMOKE / CO DETECTOR WITH AUDIBLE BASE
BPS6A	6.5 AMP BOOSTER POWER SUPPLY
DSM	DUAL SYNCHRONIZATION MODULE
LF XXCD	LOW FREQUENCY SOUNDER STROBE XXCD = CANDELA
XXCD	HORN-STROBE XXCD = CANDELA
XXCD	CEILING MOUNT HORN-STROBE XXCD = CANDELA
WP XXCD	WEATHERPROOF WALL HORN-STROBE XXCD = CANDELA
XXCD	WALL MOUNT STROBE XXCD = CANDELA
XXCD	CEILING MOUNT STROBE XXCD = CANDELA
WP 75CD	WEATHERPROOF CEILING MOUNT STROBE XXCD = CANDELA
TVSS	TRANSIT VOLTAGE SURGE SUPPRESSOR (BY OTHERS)
FATC	FIRE ALARM TERMINAL CABINET (BY OTHERS)
DOC	FIRE ALARM DOCUMENTS CABINET
WF	WATER FLOW SWITCH (BY OTHERS)
VS	VALVE TAMPER SWITCH (BY OTHERS)
PIV	POST INDICATOR VALVE (BY OTHERS)
FD	FIRE/SMOKE DAMPER (BY OTHERS)
JB	JUNCTION BOX (BY OTHERS)

ADDRESS CIRCUIT LEGEND

LRM CARD# / PANEL# — DEVICE ADDRESS#
PPCCDDDD

STROBE CIRCUIT LEGEND

STROBE — POWER SUPPLY # / CIRCUIT # / DEVICE #
VX.X-#

N

0 16' 32' 64'
SCALE: 1/32" = 1'-0"

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542
ARCHITECTURE

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY: RA	CHECKED BY:
DRAWN BY: RA	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, DIR. OF PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3 - INCREMENT #1

Sheet Title

FIRE ALARM SITE PLAN

Drawn By: RA Checked By: BK

Scale:
AS NOTED

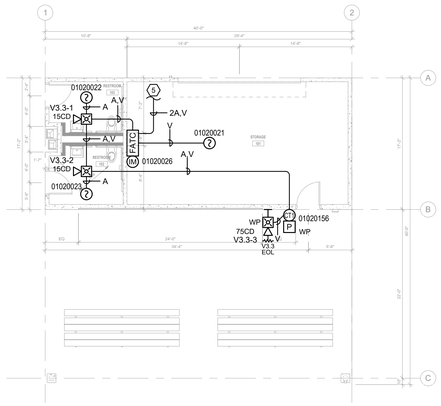
Date:
October 4, 2019

Project No. 2016039

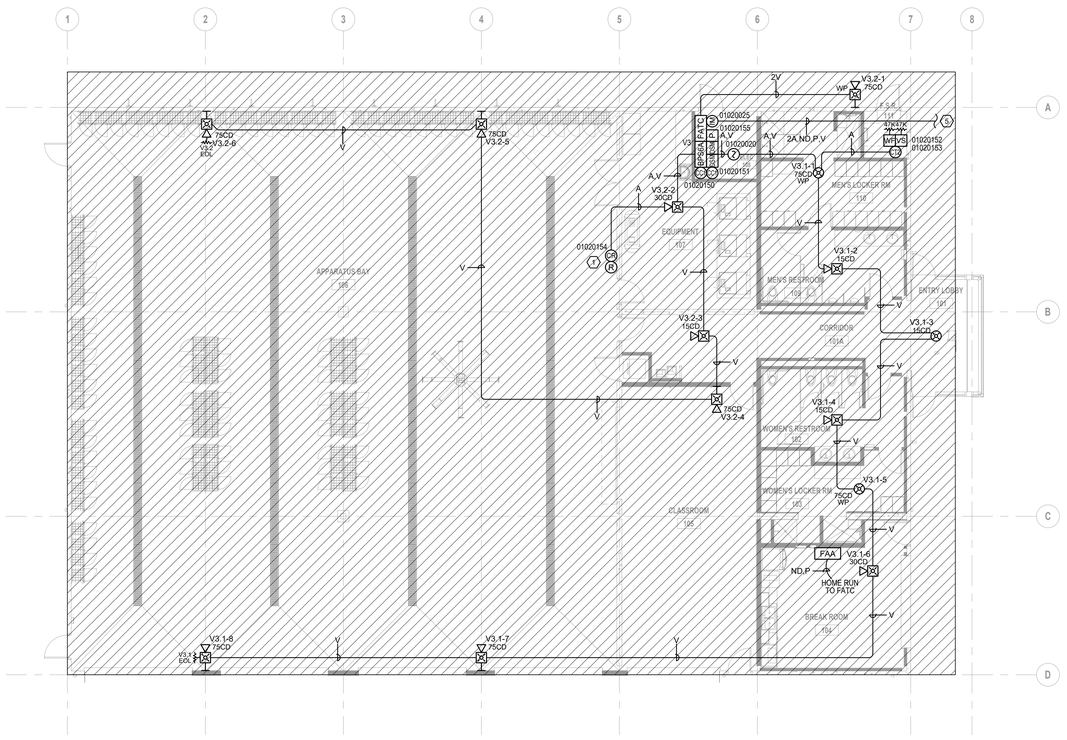
6-FA1.00

Drawing No.

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BUILDING 6



BUILDING 2

KEYED SHEET NOTES

1. RELAY MODULE FOR CEILING FAN SHUTDOWN (@ CONTROL PANEL)
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6. MODULES FOR FIRE PUMP SUPERVISION.
   - RUNNING - PHASE REVERSAL
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7. CONTROL RELAY FOR SECURITY INTERFACE.
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VU	UNDERGROUND RATED STROBE CIRCUIT CABLE	NO	CLASS B

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R	MULTI VOLT RELAY
TG	TEMPORAL PATTERN GENERATOR
?	SMOKE DETECTOR (CEILING / WALL MOUNT)
?	DUCT SMOKE DETECTOR
? DMP	SMOKE DETECTOR WITH DUCT MOUNTING PLATE
LED	REMOTE LED INDICATOR
AB ? CO	COMBINATION SMOKE / CO DETECTOR WITH AUDIBLE BASE
BP6A	6.5 AMP BOOSTER POWER SUPPLY
DSM	DUAL SYNCHRONIZATION MODULE
LF XXCD	LOW FREQUENCY SOUNDER STROBE XXCD = CANDELA
XXCD	HORN-STROBE XXCD = CANDELA
XXCD	CEILING MOUNT HORN-STROBE XXCD = CANDELA
WP XXCD	WEATHERPROOF WALL HORN-STROBE XXCD = CANDELA
XXCD	WALL MOUNT STROBE XXCD = CANDELA
XXCD	CEILING MOUNT STROBE XXCD = CANDELA
WP 75CD	WEATHERPROOF CEILING MOUNT STROBE XXCD = CANDELA
TVSS	TRANSIT VOLTAGE SURGE SUPPRESSOR (BY OTHERS)
FATC	FIRE ALARM TERMINAL CABINET (BY OTHERS)
DOC	FIRE ALARM DOCUMENTS CABINET
WF	WATER FLOW SWITCH (BY OTHERS)
VS	VALVE TAMPER SWITCH (BY OTHERS)
PIV	POST INDICATOR VALVE (BY OTHERS)
FD	FIRE/SMOKE DAMPER (BY OTHERS)
JB	JUNCTION BOX (BY OTHERS)

ADDRESS CIRCUIT LEGEND

LRM CARD# — PANEL# 1 — DEVICE ADDRESS#
PPCCDDDD

STROBE CIRCUIT LEGEND

STROBE — POWER SUPPLY # — CIRCUIT # — DEVICE #
VX.X-#

N

0 4' 8' 16'
SCALE: 1/8" = 1'-0"

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542
ARCHITECTURE

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY: RA	CHECKED BY:
DRAWN BY: RA	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, DIR. OF PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3 - INCREMENT #1

Sheet Title

BUILDINGS 2 AND 6 FIRE ALARM PLAN

Drawn By: RA Checked By: BK

Scale:
AS NOTED

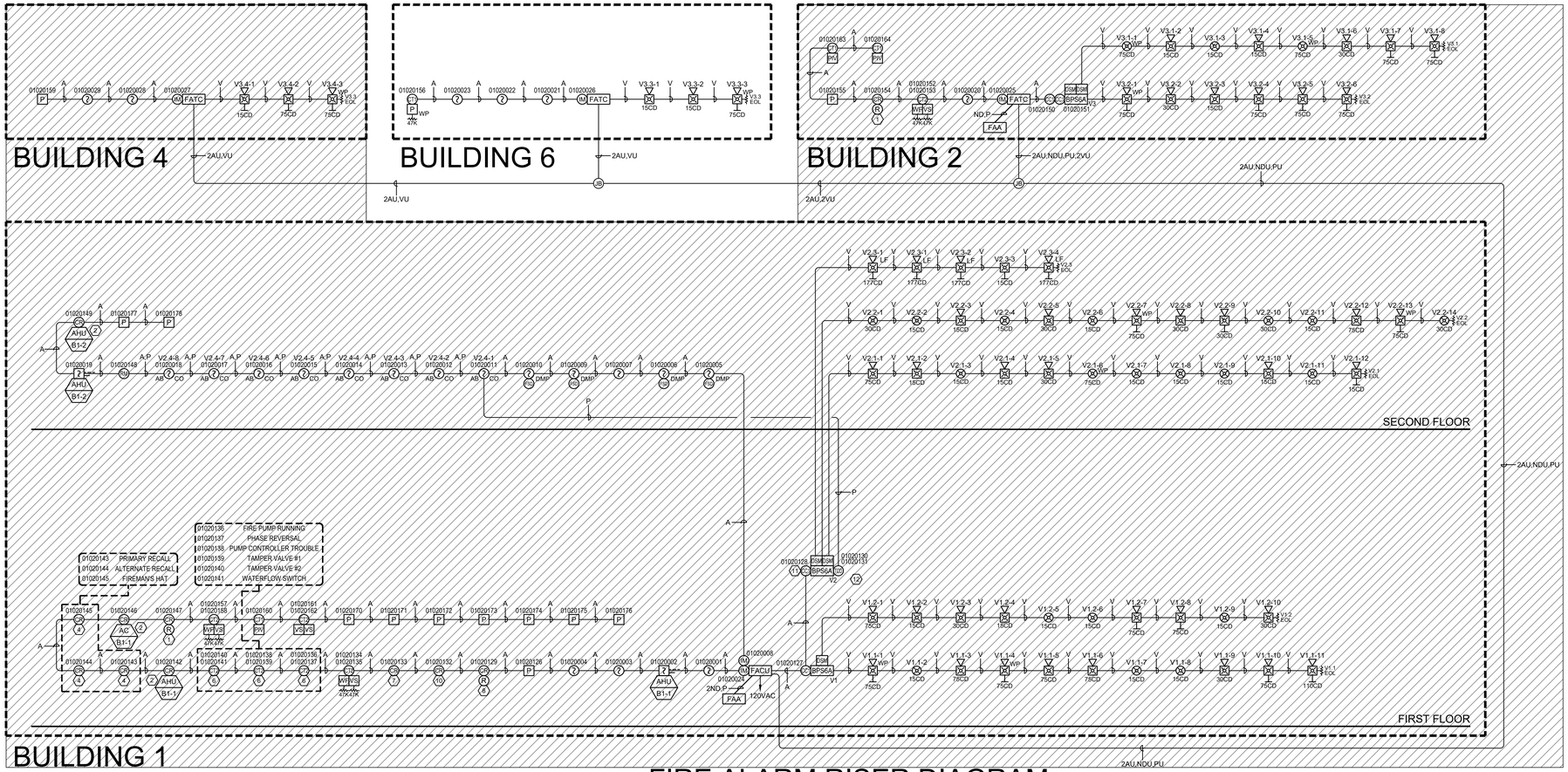
Date:
October 4, 2019

Project No. 2016039

6-FA1.03

Drawing No.

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FIRE ALARM RISER DIAGRAM

KEYED SHEET NOTES

1. RELAY MODULE FOR CEILING FAN SHUTDOWN (@ CONTROL PANEL)
2. *RELAY FOR FAN SHUTDOWN.
3. IF DEVICES ARE EXPOSED TO THE ENVIRONMENT MOUNT DEVICES IN A NEMA 250, TYPE 4X ENCLOSURE (PROVIDED BY OTHERS)
4. *MODULES FOR ELEVATOR CONTROL.
   -RECALL
   -ALTERNATE FLOOR RECALL
   - FIREFIGHTER'S HAT SIGNAL
5. SEE SITE PLAN ON SHEET 1-FA1.00 FOR CONTINUATION OF CIRCUIT
6. MODULES FOR FIRE PUMP SUPERVISION.
   - RUNNING - PHASE REVERSAL
   - TROUBLE - ALTERNATE POWER
7. CONTROL RELAY FOR SECURITY INTERFACE.
8. *CONTROL RELAYS FOR FIRE/SMOKE DAMPER CONTROL. ELECTRICAL CIRCUIT # ELP-B18.9
9. SEE FLOOR PLANS ON SHEET 1-FA1.01 AND 1-FA1.03 FOR CONTINUATION OF CIRCUIT.
10. CONTROL RELAY FOR A/V SHUTDOWN.
11. SIGNAL MODULE FOR POWER SUPPLY ACTIVATION AND SUPERVISION.
12. SIGNAL MODULE AND TEMPORAL PATTERN GENERATOR FOR SOUNDER BASES LOCATED ON SECOND FLOOR. BASES SHALL ACTIVATE IN TANDEM. A FIRE ALARM SHALL OVERRIDE A CO ALARM.
13. NOT USED.
14. MOUNT REMOTE LED INDICATOR AT AN ACCESSIBLE AND VISIBLE LOCATION.
15. RISER MONITOR MODULE FOR AUDIBLE BASE CIRCUIT. (CIRCUIT FOR AUDIBLE BASES MAY NOT BE T-TAPPED)

* FIRE ALARM RELAY MODULE USED TO INITIATE CONTROL FUNCTIONS SHALL BE LOCATED WITHIN 3 FEET OF THE CONTROLLED CIRCUIT OR APPLIANCE.

CABLE LEGEND

(NON-PLENUM) CABLE PROVIDED BY OTHERS
CLASS B WIRING

SYM.	AWG/CONDUCTOR/ STYLE/ETYPE	T-TAPS	WIRING CLASS
A	DATA CABLE (NON-PLENUM) #16 AWG TWISTED PAIR FPL 3,900 FEET MAXIMUM DISTANCE .33uF MAXIMUM CAPACITANCE 79 OHMS MAXIMUM RESISTANCE MAXIMUM 124 T-TAPS.	YES	CLASS B
AU	UNDERGROUND RATED DATA CABLE	YES	CLASS B
ND	NETWORK DATA RISER CABLE #16 AWG FPL TWISTED PAIR SOLID NO T-TAPS ALLOWED	NO	CLASS B
NDU	UNDERGROUND RATED NETWORK DATA RISER CABLE	NO	CLASS B
P	24V AC/DC POWER CABLE #12 AWG FPL TWISTED PAIR SOLID T-TAPS ALLOWED	YES	CLASS B
PU	UNDERGROUND RATED POWER CABLE	YES	CLASS B
V	STROBE CIRCUIT CABLE #12 AWG FPL TWISTED PAIR SOLID NO T-TAPS ALLOWED	NO	CLASS B
VU	UNDERGROUND RATED STROBE CIRCUIT CABLE	NO	CLASS B

GENERAL SHEET NOTES

1. WIRING ON FLOOR PLANS SHOWN FOR REFERENCE ONLY. ACTUAL WIRE PATHS TO BE DETERMINED UPON FIELD VERIFICATION AND ANY DEVIATION(S) MUST BE DISCUSSED PRIOR TO INSTALLATION AND NOTED ON "AS-BUILT" DRAWINGS.
2. ANY DEVICE EXPOSED TO OUTSIDE ENVIRONMENT MUST BE IN A WEATHERPROOF ENCLOSURE PROVIDED BY OTHERS.
3. UNDERGROUND CONDUIT SHALL BE 1" PVC.
4. RUN ALL UNDERGROUND CONDUIT 24" BELOW GRADE, MINIMUM.

SYMBOL LEGEND

SYMBOL	DESCRIPTION
FACU	FIRE ALARM CONTROL UNIT
FAA	FIRE ALARM LED ANNUNCIATOR
P	PULL STATION
P WP	WEATHERPROOF PULL STATION
(C)	SIGNAL MODULE
(CR)	CONTROL RELAY
(IT)	SINGLE INPUT MODULE
(2IT)	DUAL INPUT MODULE
(M)	ISOLATION MODULE
(RM)	RISER MONITOR MODULE
(R)	MULTI VOLT RELAY
(TG)	TEMPORAL PATTERN GENERATOR
(S)	SMOKE DETECTOR (CEILING / WALL MOUNT)
(S)-	DUCT SMOKE DETECTOR
(S) DMP	SMOKE DETECTOR WITH DUCT MOUNTING PLATE
LED	REMOTE LED INDICATOR
AD CO	COMBINATION SMOKE / CO DETECTOR WITH AUDIBLE BASE
BPS6A	6.5 AMP BOOSTER POWER SUPPLY
2SM	DUAL SYNCHRONIZATION MODULE
LF XXCD	LOW FREQUENCY SOUNDER STROBE XXCD = CANDELA
XXCD	HORN-STROBE XXCD = CANDELA
XXCD	CEILING MOUNT HORN-STROBE XXCD = CANDELA
WP XXCD	WEATHERPROOF WALL HORN-STROBE XXCD = CANDELA
XXCD	WALL MOUNT STROBE XXCD = CANDELA
XXCD	CEILING MOUNT STROBE XXCD = CANDELA
WP 75CD	WEATHERPROOF CEILING MOUNT STROBE XXCD = CANDELA
TVSS	TRANSIT VOLTAGE SURGE SUPPRESSOR (BY OTHERS)
FATC	FIRE ALARM TERMINAL CABINET (BY OTHERS)
DOC	FIRE ALARM DOCUMENTS CABINET
WF	WATER FLOW SWITCH (BY OTHERS)
VS	VALVE TAMPER SWITCH (BY OTHERS)
PIV	POST INDICATOR VALVE (BY OTHERS)
FD	FIRE/SMOKE DAMPER (BY OTHERS)
JB	JUNCTION BOX (BY OTHERS)

ADDRESS CIRCUIT LEGEND

LRM CARD# / PANEL# — DEVICE ADDRESS#
PPCCDDDD

STROBE CIRCUIT LEGEND

STROBE — POWER SUPPLY # / CIRCUIT # / DEVICE #
VX.X-#

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No.	Description	Date

PERMIT SUBMITTAL V3 - INCREMENT #1

Sheet Title

FIRE ALARM RISER DIAGRAM

Drawn By: RA
Checked By: BK

Scale: **AS NOTED**

Date: **October 4, 2019**

Project No. 2016039

6-FA2.01
Drawing No.

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QTY	MODEL #	DESCRIPTION	ALARM CURRENT		STANDBY CURRENT	
1	3-CPU3 / 3-PPS/M	CPU and Power Supply	0.1650	0.165	0.1550	0.155
1	3-RS485B	Network Communicator Card	0.0980	0.098	0.0980	0.098
1	3-MODCOM	Modem Communicator	0.0950	0.095	0.0600	0.06
1	3-SSDC1	Single Data Card - Maximum Device Load	0.2040	0.204	0.1440	0.144
1	3-LCD	Liquid Crystal Display Module	0.0420	0.042	0.0400	0.04
1	3-ANNCPU3	Annunciator Cpu	0.1440	0.144	0.1440	0.144
1	3-LCD	Annunciator LCD	0.0420	0.042	0.0400	0.04
			TOTAL	0.79	TOTAL	0.681

BUILDING 1 1ST FLOOR

EST3

FIRE ALARM CONTROL PANEL BATTERY CALCULATIONS

Total Alarm Current (A)	0.79
Hours of Alarm - 5 Minutes (B)	0.084
Total for Alarm (A) X (B)	0.06636
Total Standby Current (A)	0.681
Standby Hours (B)	24
Total for Standby (A) X (B)	16.344
Alarm Current + Standby Current (C)	16.410
20% Safety Margin (D)	1.200
Battery Total (C) X (D)	19.692
Battery Size	**28AH**

A FACU BATTERY CALCULATIONS

QTY	MODEL #	DESCRIPTION	ALARM CURRENT		STANDBY CURRENT	
1	FCPS-24FS6	Auxiliary Power Supply	0.1450	0.145	0.0650	0.065
0	LSTW3	Wall Strobe 15CD	0.0300		0.0000	
6	LSTWC3	Ceiling Strobe 15CD	0.0530	0.318	0.0000	
0	LSTWC3	Ceiling Strobe 30CD	0.1550		0.0000	
0	LHTW3	Wall Horn-Strobe 15CD	0.0340		0.0000	
0	LHTW3	Wall Horn-Strobe 30CD	0.0460		0.0000	
3	LHTW3	Wall Horn-Strobe 75CD	0.1050	0.315	0.0000	
1	LHTW3	Wall Horn-Strobe 110CD	0.1970	0.197	0.0000	
2	LHTWC3	Ceiling Horn-Strobe 15CD	0.0440	0.088	0.0000	
3	LHTWC3	Ceiling Horn-Strobe 30CD	0.0610	0.183	0.0000	
4	LHTWC3	Ceiling Horn-Strobe 75CD	0.1690	0.676	0.0000	
0	LFHSHW3	Wall LF Horn-Strobe 177CD	0.3440		0.0000	
2	ASWP-2475W	Wall WP Horn-Strobe 75CD	0.1680	0.336	0.0000	
0	RSSWP-2475C	Ceiling WP Strobe 75CD	0.1380		0.0000	
0	SIGA-AB4G-LF	Ceiling Sounder Base N/A	0.1500		0.0000	
1	DSM	- Dual Synchronization module (hs only)	0.0430	0.043	0.0000	
			TOTAL	2.301	TOTAL	0.065

BLDG 1 - LEVEL1

BPS6A #V1

BATTERY CALCULATIONS

Total Alarm Current (A)	2.301
Hours of Alarm - 5 Minutes (B)	0.084
Total for Alarm (A) X (B)	0.193284
Total Standby Current (A)	0.065
Standby Hours (B)	24
Total for Standby (A) X (B)	1.56
Alarm Current + Standby Current (C)	1.753
20% Safety Margin (D)	1.200
Battery Total (C) X (D)	2.104
Battery Size	**7AH**

CIRCUITS:

V1.1, V1.2, V1.3, V1.4

QTY	MODEL #	DESCRIPTION	ALARM CURRENT		STANDBY CURRENT	
1	FCPS-24FS6	Auxiliary Power Supply	0.1450	0.145	0.0650	0.065
1	LSTW3	Wall Strobe 15CD	0.0300	0.03	0.0000	
9	LSTWC3	Ceiling Strobe 15CD	0.0530	0.477	0.0000	
3	LSTWC3	Ceiling Strobe 30CD	0.1550	0.465	0.0000	
1	LHTW3	Wall Horn-Strobe 15CD	0.0340	0.034	0.0000	
1	LHTW3	Wall Horn-Strobe 30CD	0.0460	0.046	0.0000	
0	LHTW3	Wall Horn-Strobe 75CD	0.1050		0.0000	
0	LHTW3	Wall Horn-Strobe 110CD	0.1970		0.0000	
4	LHTWC3	Ceiling Horn-Strobe 15CD	0.0440	0.176	0.0000	
3	LHTWC3	Ceiling Horn-Strobe 30CD	0.0610	0.183	0.0000	
2	LHTWC3	Ceiling Horn-Strobe 75CD	0.1690	0.338	0.0000	
4	LFHSHW3	Wall LF Horn-Strobe 177CD	0.3440	1.376	0.0000	
2	ASWP-2475W	Wall WP Horn-Strobe 75CD	0.1690	0.338	0.0000	
1	RSSWP-2475C	Ceiling WP Strobe 75CD	0.1390	0.138	0.0000	
8	SIGA-AB4G-LF	Ceiling Sounder Base N/A	0.1500	1.2	0.0000	
2	DSM	- Dual Synchronization module (hs only)	0.0430	0.086	0.0000	
			TOTAL	5.03	TOTAL	0.065

BLDG 1 - LEVEL 1

BPS6A #V2

BATTERY CALCULATIONS

Total Alarm Current (A)	5.03
Hours of Alarm - 5 Minutes (B)	0.084
Total for Alarm (A) X (B)	0.42252
Total Standby Current (A)	0.065
Standby Hours (B)	24
Total for Standby (A) X (B)	1.56
Alarm Current + Standby Current (C)	1.983
20% Safety Margin (D)	1.200
Battery Total (C) X (D)	2.379
Battery Size	**7AH**

CIRCUITS:

V2.1, V2.2, V2.3, V2.4

QTY	MODEL #	DESCRIPTION	ALARM CURRENT		STANDBY CURRENT	
1	FCPS-24FS6	Auxiliary Power Supply	0.1450	0.145	0.0650	0.065
0	LSTW3	Wall Strobe 15CD	0.0300		0.0000	
1	LSTWC3	Ceiling Strobe 15CD	0.0530	0.053	0.0000	
0	LSTWC3	Ceiling Strobe 30CD	0.1550		0.0000	
0	LHTW3	Wall Horn-Strobe 15CD	0.0340		0.0000	
0	LHTW3	Wall Horn-Strobe 30CD	0.0460		0.0000	
5	LHTW3	Wall Horn-Strobe 75CD	0.1050	0.525	0.0000	
0	LHTW3	Wall Horn-Strobe 110CD	0.1970		0.0000	
5	LHTWC3	Ceiling Horn-Strobe 15CD	0.0440	0.22	0.0000	
2	LHTWC3	Ceiling Horn-Strobe 30CD	0.0610	0.122	0.0000	
0	LHTWC3	Ceiling Horn-Strobe 75CD	0.1690		0.0000	
0	LFHSHW3	Wall LF Horn-Strobe 177CD	0.3440		0.0000	
2	ASWP-2475W	Wall WP Horn-Strobe 75CD	0.1680	0.336	0.0000	
2	RSSWP-2475C	Ceiling WP Strobe 75CD	0.1380	0.276	0.0000	
0	SIGA-AB4G-LF	Ceiling Sounder Base N/A	0.1500		0.0000	
2	DSM	- Dual Synchronization module (hs only)	0.0430	0.086	0.0000	
			TOTAL	1.763	TOTAL	0.065

BLDG 2

BPS6A #V3

BATTERY CALCULATIONS

Total Alarm Current (A)	1.763
Hours of Alarm - 5 Minutes (B)	0.084
Total for Alarm (A) X (B)	0.148092
Total Standby Current (A)	0.065
Standby Hours (B)	24
Total for Standby (A) X (B)	1.56
Alarm Current + Standby Current (C)	1.708
20% Safety Margin (D)	1.200
Battery Total (C) X (D)	2.050
Battery Size	**7AH**

CIRCUITS:

V3.1, V3.2, V3.3, V3.4

B BPS BATTERY CALCULATIONS

VOLTAGE DROP CALCULATIONS

POWER SOURCE	POWER SOURCE LOCATION	CIRCUIT ID	FLOOR SERVED	MODEL	LSTW3	LSTW3	LSTW3	LSTW3	LSTWC3	LSTWC3	LSTWC3	LSTWC3	LHTW3	LHTW3	LHTW3	LHTW3	LHTWC3	LHTWC3	LHTWC3	LHTWC3	LFHSHW3	ASWP-2475W	RSSWP-2475C	SIGA-AB4G-LF	DSM	TOTAL DEVICES	(A) TOTAL CKT. LOAD	(B) CIRCUIT DISTANCE (FEET)	(C) WIRE RESISTANCE 12AWG	(A) X (B) X (C) VOLTS DROPPED (VD)	(D) SUPPLY VOLTAGE	((VD) / (D)) X 100 VOLTAGE DROP %
					FA-STB-15	FA-STB-30	FA-STB-75	FA-STB-110	FA-STBC-15	FA-STBC-30	FA-STBC-75	FA-STBC-95	FA-HS-15	FA-HS-30	FA-HS-75	FA-HS-110	FA-HSC-15	FA-HSC-30	FA-HSC-75	FA-HSC-95	LFFA-HS-177	FA-HSWP-75	FA-STBCWP-75	FA-SB	-							
				TYPE	STB	STB	STB	STB	STB	STB	STB	STB	HS	HS	HS	HS	HS	HS	HS	HS	HSLF	HS-WP	STB-WP	SB	DSM							
					Wall	Wall	Wall	Wall	Ceiling	Ceiling	Ceiling	Ceiling	Wall	Wall	Wall	Wall	Ceiling	Ceiling	Ceiling	Ceiling	Wall	Wall	Ceiling	Ceiling	-							
				CANDELA	15CD	30CD	75CD	110CD	15CD	30CD	75CD	95CD	15CD	30CD	75CD	110CD	15CD	30CD	75CD	95CD	177CD	75CD	75CD	N/A	0							
				CURRENT DRAW	0.0300	0.0400	0.1000	0.0400	0.0530	0.1550	0.2480	0.1940	0.0340	0.0460	0.1050	0.1970	0.0440	0.0610	0.1690	0.2670	0.3440	0.1680	0.1380	0.1500	0.0430							
BPS6A #V1	BLDG 1 - LEVEL1	V1.1	B1 LEVEL 1						3						1	1		1	3			2			1	11	1.408	325	0.0032	1.46432	20.4	7.1780
		V1.2	B1 LEVEL 1						3						2		2	2	1						1	10	0.791	300	0.0032	0.75936	20.4	3.7224
		V1.3	SPARE																										0.0032		20.4	
		V1.4	SPARE																										0.0032		20.4	
BPS6A #V2	BLDG 1 - LEVEL 1	V2.1	B1 LEVEL 2						5				1				3	1	1				1		1	12	0.842	270	0.0032	0.727488	20.4	3.5661
		V2.2	B1 LEVEL 2						4	3				1			1	2	1			2			1	14	1.437	310	0.0032	1.425504	20.4	6.9878
		V2.3	B1 LEVEL 2	1																	4				1	5	1.449	325	0.0032	1.50696	20.4	7.3871
		V2.4	B1 LEVEL 2																					8	1	8	1.200	350	0.0032	1.344	20.4	6.5882
BPS6A #V3	BLDG 2	V3.1	B2												3		1	1				1			1	6	0.631	150	0.0032	0.30288	20.4	1.4847
		V3.2	B2						1						2		2	1					2		1	8	0.731	200	0.0032	0.46784	20.4	2.2933
		V3.3	B6														2					1			1	3	0.299	600	0.0032	0.57408	20.4	2.8141
		V3.4	SPARE																										0.0032		20.4	

C BPS VOLTAGE VOLTAGE DROPS

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PROJ. NO. 07481 & 07482	FILE NO. E-2157

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1401 W. WINTON AVE. HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3 - INCREMENT #1

Sheet Title

FIRE ALARM CALCULATIONS

Drawn By: RA Checked By: BK

Scale: **AS NOTED**

Date: **October 4, 2019**

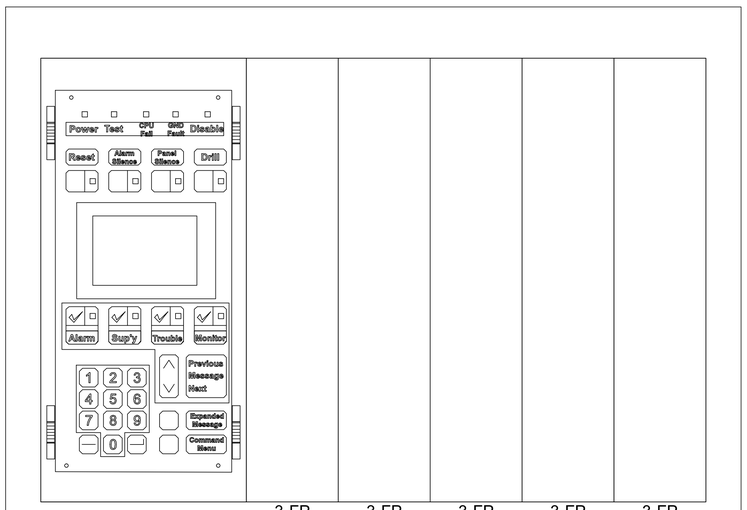
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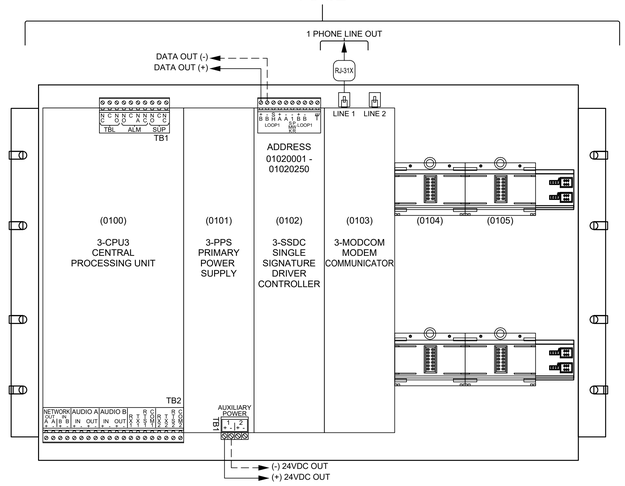
Drawing No.

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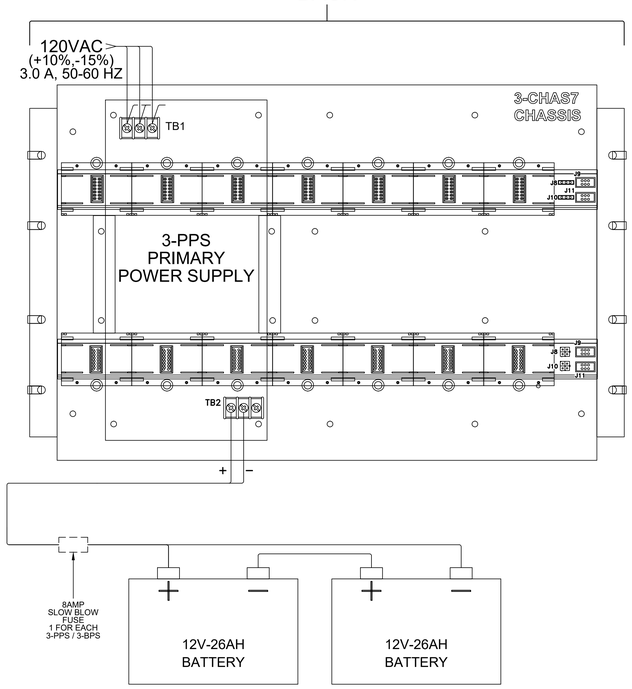
FACE PLATE



RAIL



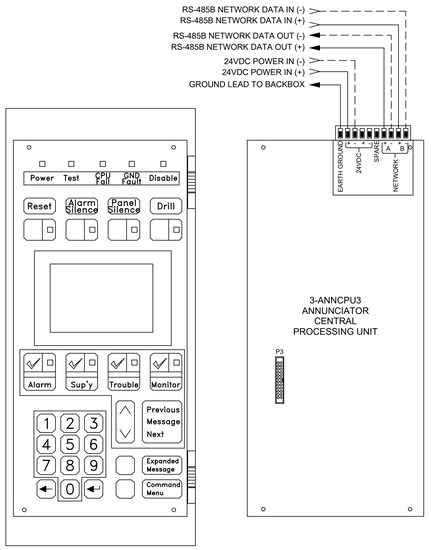
BACK



CAB SERIES CABINET DIMENSIONS
FOR ROUGH-IN: ADD 1/4" TO HEIGHT AND WIDTH TO ALLOW FOR KNOCKOUTS WHEN FRAMING IN BACKBOX FOR SEMI-FLUSH MOUNTING 3-CAB7B ROUGH-IN: 23.25"H X 24.12"W X 3.86"D FINISHED SURFACE MOUNT: 25.25"H X 27.34"W X 5.51"D

MOUNTING
72" FROM FINISHED FLOOR TO TOP OF FACP.

A EST-3 FIRE ALARM CONTROL PANEL DETAILS



FRONT REAR

WALLBOX DIMENSION
RLCM/B - FLUSH MOUNTING ROUGH-IN: 12.07"H X 6.12"W X 2.75"D OVERALL: 12.95"H X 7.6"W X 2.75"D

MOUNTING
60" FROM FINISHED FLOOR TO TOP OF ANNUNCIATOR.

B 3-LCDANN REMOTE LCD ANNUNCIATOR

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DRAWN BY: RA	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, DIR. OF PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3 - INCREMENT #1

Sheet Title

FIRE ALARM FACU AND ANNUNCIATOR DETAILS

Drawn By: RA Checked By: BK

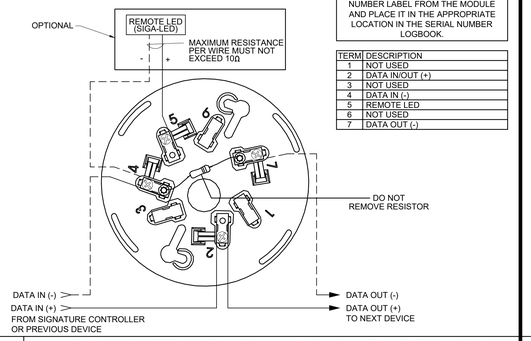
Scale:
AS NOTED

Date:
October 4, 2019

Project No. 2016039

6-FA4.01
Drawing No.

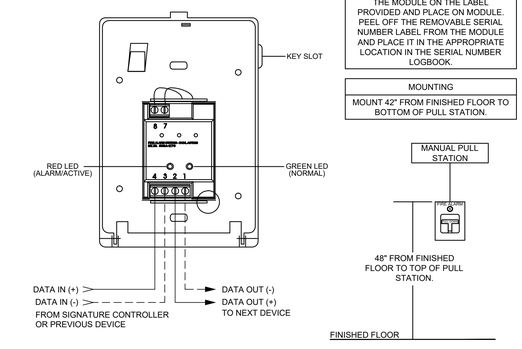
If this drawing is not 30" x 42", it is a reduced print - scale accordingly. All rights reserved. Material may not be reproduced in any form without permission from RossDrulisCusenbery Architecture, Inc.



BARCODE LABELS
WRITE THE ADDRESS ASSIGNED TO THE MODULE ON THE LABEL PROVIDED AND PLACE ON MODULE. PEEL OFF THE REMOVABLE SERIAL NUMBER LABEL FROM THE MODULE AND PLACE IT IN THE APPROPRIATE LOCATION IN THE SERIAL NUMBER LOGBOOK.

TERM	DESCRIPTION
1	NOT USED
2	DATA IN/OUT (+)
3	NOT USED
4	DATA IN (-)
5	REMOTE LED
6	NOT USED
7	DATA OUT (-)

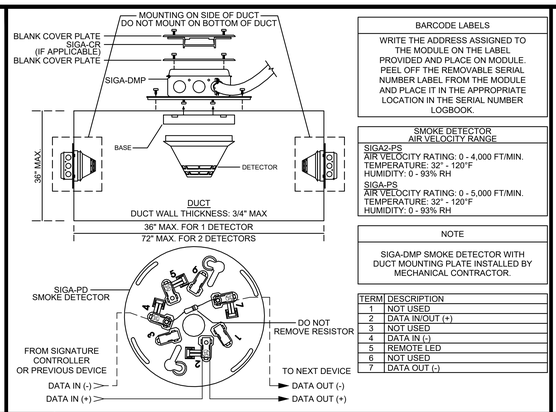
A SMOKE / HEAT DETECTOR WITH SIGA-SB4 BASE AND REMOTE LED WIRING DETAIL



BARCODE LABELS
WRITE THE ADDRESS ASSIGNED TO THE MODULE ON THE LABEL PROVIDED AND PLACE ON MODULE. PEEL OFF THE REMOVABLE SERIAL NUMBER LABEL FROM THE MODULE AND PLACE IT IN THE APPROPRIATE LOCATION IN THE SERIAL NUMBER LOGBOOK.

MOUNTING
MOUNT 42" FROM FINISHED FLOOR TO BOTTOM OF PULL STATION.

B SIGA-278 DUAL ACTION MANUAL PULL STATION WIRING DETAIL



BARCODE LABELS
WRITE THE ADDRESS ASSIGNED TO THE MODULE ON THE LABEL PROVIDED AND PLACE ON MODULE. PEEL OFF THE REMOVABLE SERIAL NUMBER LABEL FROM THE MODULE AND PLACE IT IN THE APPROPRIATE LOCATION IN THE SERIAL NUMBER LOGBOOK.

SMOKE DETECTOR AIR VELOCITY RANGE
SIGA2-PS AIR VELOCITY RATING: 0 - 4,000 FT/MIN. TEMPERATURE: 32° - 120°F HUMIDITY: 0 - 93% RH SIGA-PS AIR VELOCITY RATING: 0 - 5,000 FT/MIN. TEMPERATURE: 32° - 120°F HUMIDITY: 0 - 93% RH

NOTE
SIGA-DMP SMOKE DETECTOR WITH DUCT MOUNTING PLATE INSTALLED BY MECHANICAL CONTRACTOR.

TERM	DESCRIPTION
1	NOT USED
2	DATA IN/OUT (+)
3	NOT USED
4	DATA IN (-)
5	REMOTE LED
6	NOT USED
7	DATA OUT (-)

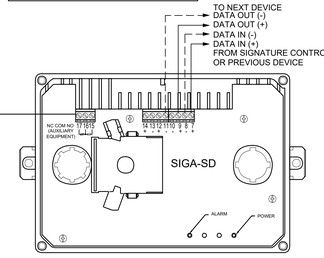
C SIGA-DMP SMOKE DETECTOR WITH DUCT MOUNTING PLATE WIRING DETAIL

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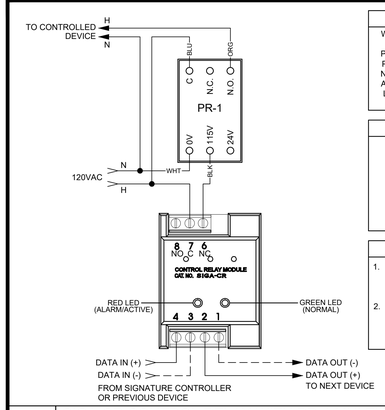
SIGA-SD SPECIFICATIONS
DIMENSION: 8.7W X 5.45H X *1.9D PRESSURE: 0.005 TO 1.0 INCHES OF WATER AIR VELOCITY RATING: 100 TO 4,000 FT/MIN TEMPERATURE: -20 TO 158°F HUMIDITY: 93% RH, NON-CONDENSING

NOTE
DUCT DETECTOR INSTALLED BY MECHANICAL CONTRACTOR.

CONTACT RATINGS
FORM "C" 2.0 AMPS AT 30VDC RESISTIVE



D SIGA-SD DUCT SMOKE DETECTOR WIRING DETAIL

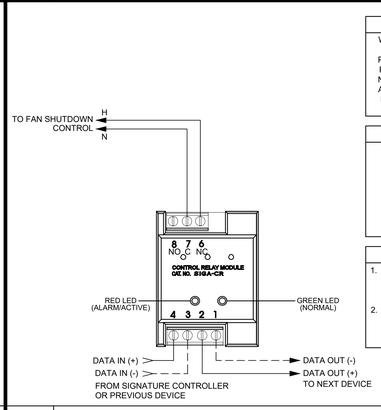


BARCODE LABELS
WRITE THE ADDRESS ASSIGNED TO THE MODULE ON THE LABEL PROVIDED AND PLACE ON MODULE. PEEL OFF THE REMOVABLE SERIAL NUMBER LABEL FROM THE MODULE AND PLACE IT IN THE APPROPRIATE LOCATION IN THE SERIAL NUMBER LOGBOOK.

CONTACT RATINGS
SIGA-CR FORM "C" 24 VDC: 2 amps (pilot duty) 120 VAC: 0.5 amps PR-1 FORM "C" 24 VDC: 7 amps with L/R = 5 mS 120 Vac = 7 amps max. (0.35 pf)

NOTES
1. SIGA-CR TO BE MOUNTED WITHIN 3 FEET OF CONTROLLED CIRCUIT OR APPLIANCE. 2. 120VAC AND FIRE ALARM CIRCUITS MUST MAINTAIN A 1/4" SEPARATION. NEVER RUN IN SAME RACEWAY.

E SIGA-CR CONTROL RELAY WITH PR-1 MULTI-VOLTAGE RELAY FOR FSD CONTROL WIRING DETAIL

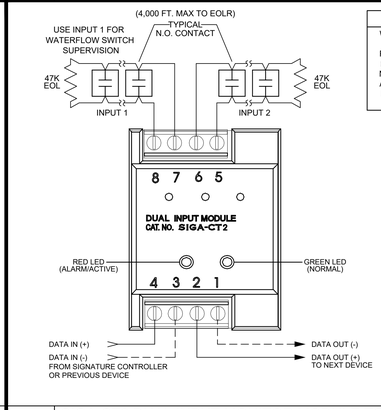


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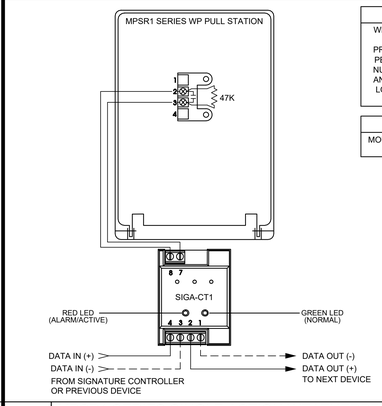
NOTES
1. SIGA-CR TO BE MOUNTED WITHIN 3 FEET OF CONTROLLED CIRCUIT OR APPLIANCE. 2. 120VAC AND FIRE ALARM CIRCUITS MUST MAINTAIN A 1/4" SEPARATION. NEVER RUN IN SAME RACEWAY.

F SIGA-CR CONTROL RELAY FOR FAN SHUTDOWN WIRING DETAIL



BARCODE LABELS
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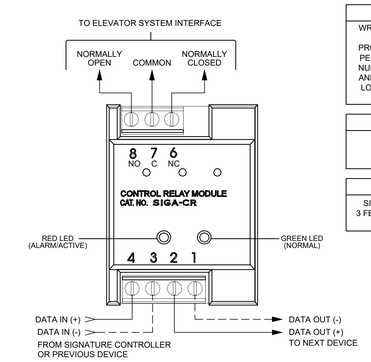
G SIGA-CT2 DUAL INPUT MONITOR MODULE TO WATERFLOW AND TAMPER SWITCH WIRING DETAIL



BARCODE LABELS
WRITE THE ADDRESS ASSIGNED TO THE MODULE ON THE LABEL PROVIDED AND PLACE ON MODULE. PEEL OFF THE REMOVABLE SERIAL NUMBER LABEL FROM THE MODULE AND PLACE IT IN THE APPROPRIATE LOCATION IN THE SERIAL NUMBER LOGBOOK.

MOUNTING
MOUNT 42" FROM FINISHED FLOOR TO BOTTOM OF PULL STATION.

H MPSR1 SERIES SINGLE ACTION WEATHERPROOF MANUAL PULL STATION WITH SIGA-CT1 WIRING DETAIL

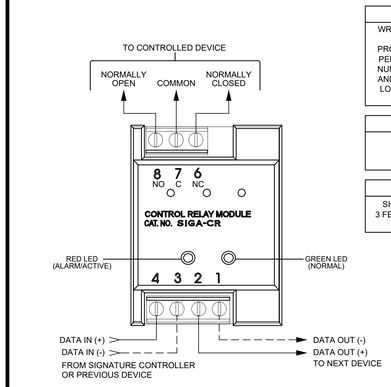


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CONTACT RATINGS
FORM "C" 24 VDC: 2 amps (pilot duty) 120 VAC: 0.5 amps

NOTE
SIGA-CR TO BE MOUNTED WITHIN 3 FEET OF CONTROLLED CIRCUIT OR APPLIANCE.

I SIGA-CR CONTROL RELAY WIRING DETAIL FOR ELEVATOR RECALL, ALTERNATE RECALL AND ECR/HOISTWAY SIGNAL

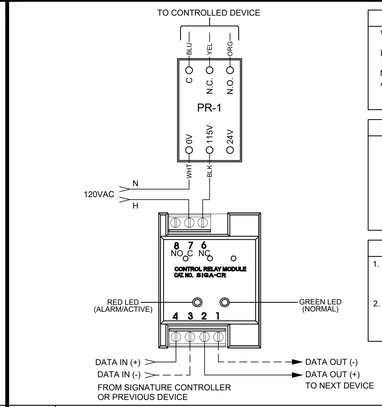


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CONTACT RATINGS
FORM "C" 24 VDC: 2 amps (pilot duty) 120 VAC: 0.5 amps

NOTE
SIGA-CR TO BE MOUNTED WITHIN 3 FEET OF CONTROLLED CIRCUIT OR APPLIANCE.

J SIGA-CR CONTROL RELAY WIRING DETAIL

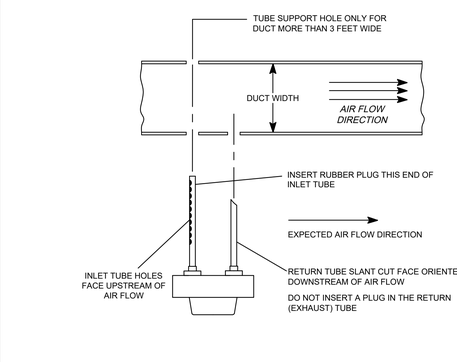


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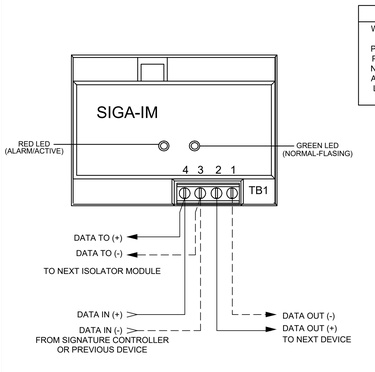
CONTACT RATINGS
SIGA-CR FORM "C" 24 VDC: 2 amps (pilot duty) 120 VAC: 0.5 amps PR-1 FORM "C" 24 VDC: 7 amps with L/R = 5 mS 120 Vac = 7 amps max. (0.35 pf)

NOTES
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K SIGA-CR CONTROL RELAY WITH PR-1 MULTI-VOLTAGE RELAY FOR MISCELLANEOUS CONTROL WIRING DETAIL

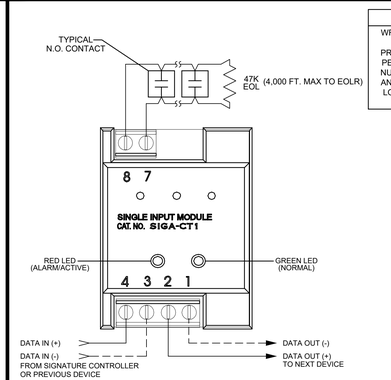


L DUCT SMOKE DETECTOR INSTALLATION DETAIL



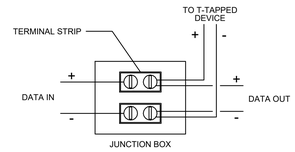
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M SIGA-IM ISOLATOR MODULE WIRING DETAIL

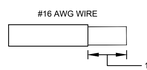


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N SIGA-CT1 SINGLE INPUT MONITOR MODULE WIRING DETAIL



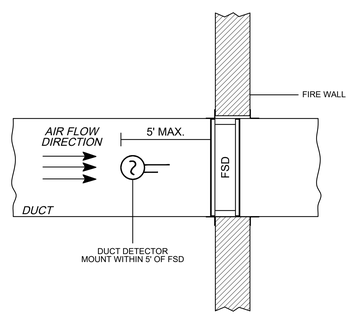
O PROPER METHOD FOR T-TAPS



STRIP 1/4" FROM THE ENDS OF ALL WIRES THAT CONNECT TO THE TERMINAL BLOCK OF THE MODULE.

CAUTION
EXPOSING MORE THAN ¼" OF WIRE MAY CAUSE A GROUND FAULT.
EXPOSING LESS THAN ¼" OF WIRE MAY RESULT IN A FAULTY CONNECTION.

P WIRE STRIPPING GUIDE



Q DUCT SMOKE DETECTOR AT FSD INSTALLATION DETAIL

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY: RA	CHECKED BY:
DRAWN BY: RA	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, DIR. OF PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3 - INCREMENT #1

Sheet Title

FIRE ALARM FIELD DEVICE WIRING DETAILS

Drawn By: RA Checked By: BK

Scale: **AS NOTED**

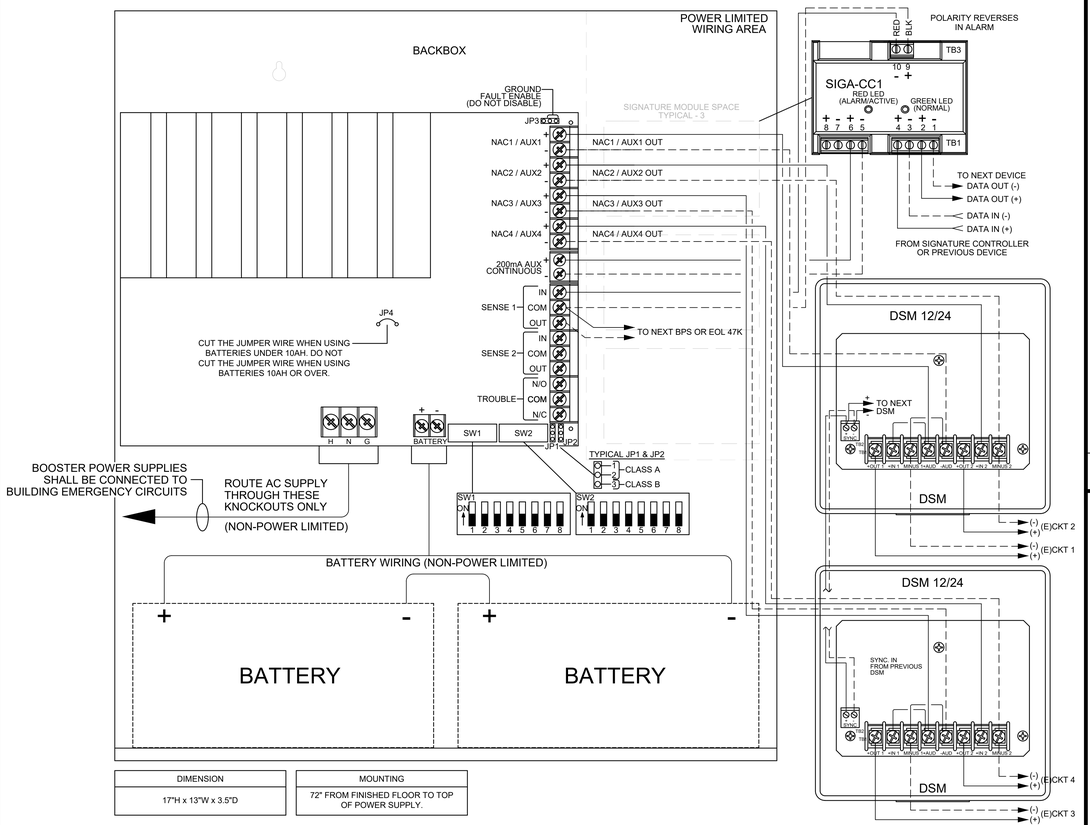
Date: **October 4, 2019**

Project No. 2016039

6-FA4.02

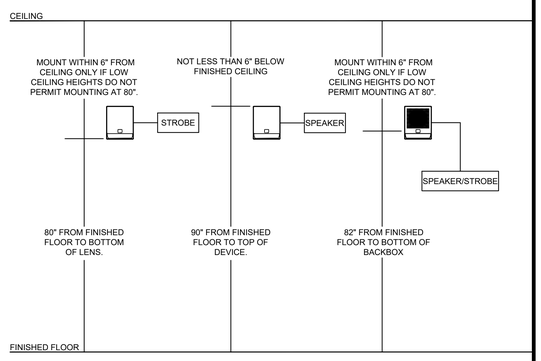
Drawing No.

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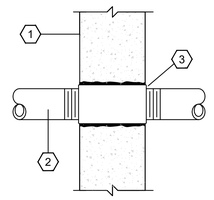


DIMENSION	MOUNTING
17"H x 13"W x 3.5"D	72" FROM FINISHED FLOOR TO TOP OF POWER SUPPLY.

A BPS6A / BPS10A BOOSTER POWER SUPPLY WITH SIGA-CC1S SYNCHRONIZATION MODULE WIRING DETAIL



B ELEVATIONS

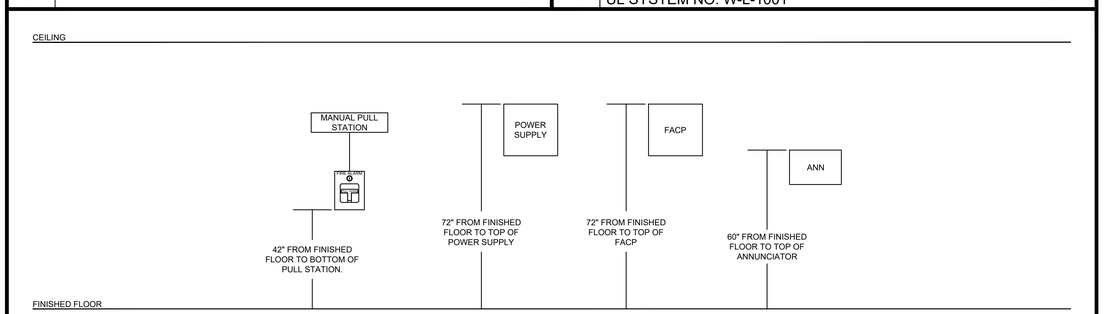


1. WALL ASSEMBLY - THE 1 OR 2 HR FIRE RATED GYPSUM BOARD/STUD WALL ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER DESCRIBED IN THE INDIVIDUAL U300, U400 OR V400 SERIES WALL AND PARTITION DESIGN IN THE UL FIRE RESISTANCE DIRECTORY.
2. THROUGH PENETRANTS - ONE METALLIC PIPE, CONDUIT, TUBING OR FLEXIBLE METAL PIPE INSTALLED CONCENTRICALLY OR ECCENTRICALLY WITHIN THE FIRESTOP SYSTEM. ANNULAR SPACE BETWEEN PENETRANT AND PERIPHERY OF OPENING TO BE MIN 0 IN. (0 MM POINT CONTACT) TO MAX 2 IN. (51 MM). PENETRANT TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF WALL ASSEMBLY.
3. FILL, VOID OR CAVITY MATERIAL (BEARING THE UL CLASSIFICATION MARK) - CAULK OR SEALANT (3M COMPANY - CP 25WB+ CAULK OR FB-3000 WT SEALANT) - MIN 5/8 IN. (16 MM) THICKNESS OF CAULK APPLIED WITHIN ANNULUS, FLUSH WITH BOTH SURFACES OF WALL. MIN 1/4 IN. (6 MM) DIAM BEAD OF CAULK APPLIED TO GYPSUM BOARD/PENETRANT INTERFACE AT POINT CONTACT LOCATION ON BOTH SIDES OF WALL. THE HOURLY F RATING OF THE FIRESTOP SYSTEM IS EQUAL TO THE HOURLY FIRE RATING OF THE WALL ASSEMBLY IN WHICH IT IS INSTALLED.

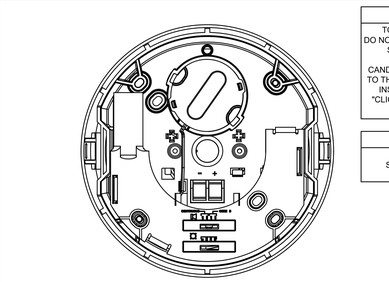
MAX PIPE OR CONDUIT DIAMETER (IN)	F RATING (HR)	T RATING (HR)	ANNULAR SPACE (IN)
1	1 OR 2	0+, 1 OR 2	0 TO 3/16
1	3 OR 4	3 OR 4	1/4 TO 1/2
4	1 OR 2	0	0 TO 1-1/2
6	3 OR 4	0	1/4 TO 1/2
12	1 OR 2	0	3/16 TO 3/8

NOTE:
PENETRATIONS THRU WALLS REQUIRING PROTECTED OPENINGS SHALL BE FIRE STOPPED. FIRE STOP MATERIAL SHALL BE A UL LISTED ASSEMBLY INSTALLED ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS. SEE DRAWING A9.0.01 AND "THROUGH PENETRATIONS FIRESTOP" BINDER FOR INFORMATION AND DETAILS

C THROUGH PENETRATION FIRESTOP DETAIL
UL SYSTEM NO. W-L-1001



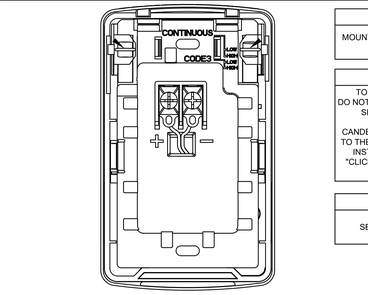
D ELEVATIONS



WARNING
TO PREVENT ELECTRIC SHOCK, DO NOT REMOVE THIS COVER. NO USER SERVICEABLE PARTS INSIDE. CANDELA SWITCH MUST BE FIELD SET TO THE REQUIRED CANDELA PRIOR TO INSTALLATION. MAKE CERTAIN IT "CLICKS" IN PLACE WHEN CHANGING THE SETTING.

Db SETTING
SET DEVICE AT 95Db SETTING

E EXCEDER LED SERIES CEILING MOUNT HORN/STROBES AND STROBES WIRING DETAIL

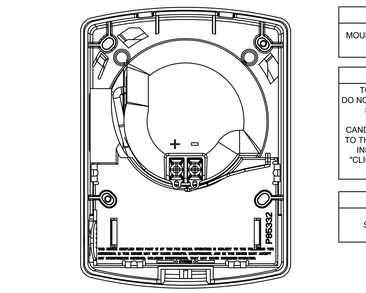


MOUNTING
MOUNT 80" FROM FINISHED FLOOR TO BOTTOM OF LENS.

WARNING
TO PREVENT ELECTRIC SHOCK, DO NOT REMOVE THIS COVER. NO USER SERVICEABLE PARTS INSIDE. CANDELA SWITCH MUST BE FIELD SET TO THE REQUIRED CANDELA PRIOR TO INSTALLATION. MAKE CERTAIN IT "CLICKS" IN PLACE WHEN CHANGING THE SETTING.

Db SETTING
SET DEVICE AT 95Db SETTING

F EXCEDER LED SERIES WALL MOUNT HORN/STROBES AND STROBES WIRING DETAIL

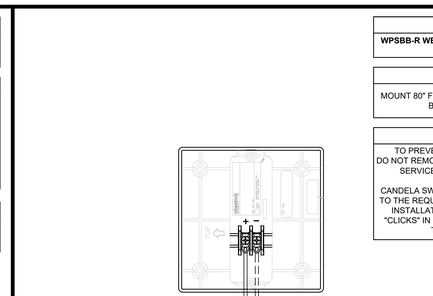


MOUNTING
MOUNT 80" FROM FINISHED FLOOR TO BOTTOM OF LENS.

WARNING
TO PREVENT ELECTRIC SHOCK, DO NOT REMOVE THIS COVER. NO USER SERVICEABLE PARTS INSIDE. CANDELA SWITCH MUST BE FIELD SET TO THE REQUIRED CANDELA PRIOR TO INSTALLATION. MAKE CERTAIN IT "CLICKS" IN PLACE WHEN CHANGING THE SETTING.

Db SETTING
SET DEVICE AT 95Db SETTING

G EXCEDER LOW FREQUENCY LED SERIES WALL MOUNT SOUNDER STROBES AND STROBES WIRING DETAIL



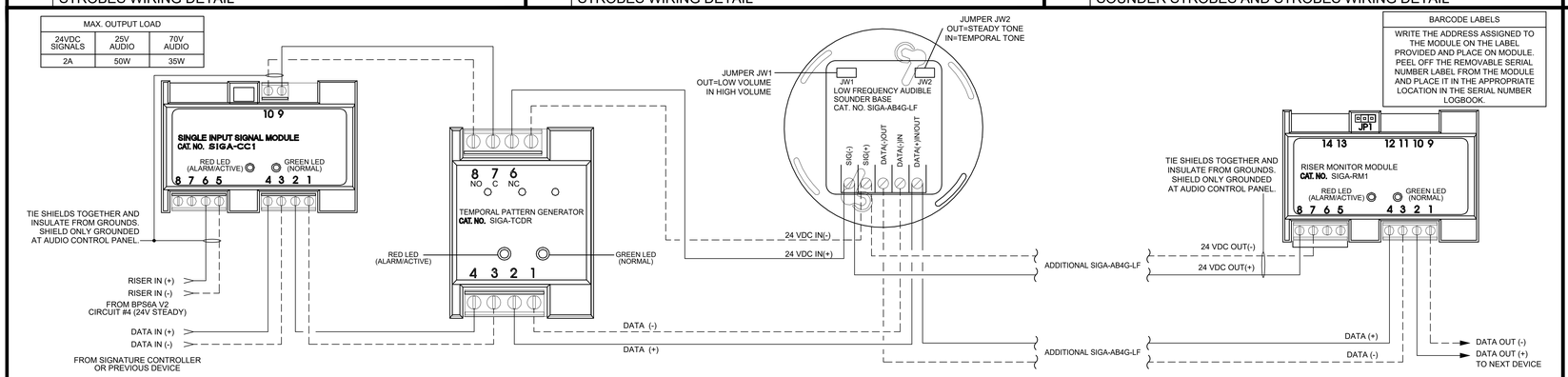
BACKBOX
WPSBB-R WEATHERPROOF BACKBOX ONLY

MOUNTING
MOUNT 80" FROM FINISHED FLOOR TO BOTTOM LENS.

WARNING
TO PREVENT ELECTRIC SHOCK, DO NOT REMOVE THIS COVER. NO USER SERVICEABLE PARTS INSIDE. CANDELA SWITCH MUST BE FIELD SET TO THE REQUIRED CANDELA PRIOR TO INSTALLATION. MAKE CERTAIN IT "CLICKS" IN PLACE WHEN CHANGING THE SETTING.

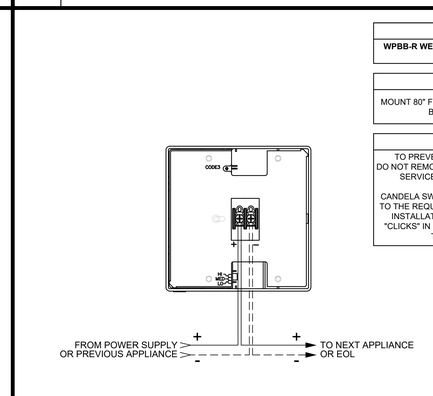
H RSSWP SERIES WEATHERPROOF STROBE WIRING DETAIL

MAX. OUTPUT LOAD		
24VDC SIGNALS	25V AUDIO	70V AUDIO
2A	50W	35W



BARCODE LABELS
WRITE THE ADDRESS ASSIGNED TO THE MODULE ON THE LABEL PROVIDED AND PLACE ON MODULE. PEEL OFF THE REMOVABLE SERIAL NUMBER LABEL FROM THE MODULE AND PLACE IT IN THE APPROPRIATE LOCATION IN THE SERIAL NUMBER LOGBOOK.

I SIGA-CC1, SIGA-TCDR, SIGA-AB4G-LF, SIG-RM1
WIRING DETAIL FOR SLEEPING AREA NOTIFICATION



BACKBOX
WPBB-R WEATHERPROOF BACKBOX ONLY

MOUNTING
MOUNT 80" FROM FINISHED FLOOR TO BOTTOM LENS.

WARNING
TO PREVENT ELECTRIC SHOCK, DO NOT REMOVE THIS COVER. NO USER SERVICEABLE PARTS INSIDE. CANDELA SWITCH MUST BE FIELD SET TO THE REQUIRED CANDELA PRIOR TO INSTALLATION. MAKE CERTAIN IT "CLICKS" IN PLACE WHEN CHANGING THE SETTING.

J ASWP SERIES WEATHERPROOF HORN/STROBE WIRING DETAIL

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REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION	
DESIGNED BY: RA	CHECKED BY:
DRAWN BY: RA	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA DEP. DIR. PUBLIC WORKS	ALEX AMERI DIR. OF PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

PERMIT SUBMITTAL V3 - INCREMENT #1

Sheet Title

FIRE ALARM FIELD DEVICE WIRING DETAILS

Drawn By: RA Checked By: BK

Scale:
AS NOTED

Date:
October 4, 2019

Project No. 2016039

6-FA4.03

Drawing No.

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TECHNOLOGY LEGEND, ABBREVIATIONS AND DRAWING LIST

ABBREVIATIONS

AC	ABOVE COUNTER
ADA	AMERICANS WITH DISABILITIES ACT
AFC	ABOVE FINISHED CEILING
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
ALT	ALTERNATE
AMP, A	AMPERE
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
ATR	ALL THREADED ROD
AV	AUDIOVISUAL
AWG	AMERICAN WIRE GAUGE
BDA	BI-DIRECTIONAL ANTENNA
BFC	BELOW FINISHED CEILING
BFG	BELOW FINISHED GRADE
BICSI	BUILDING INDUSTRY CONSULTING SERVICES INTERNATIONAL
BMS	BUILDING MANAGEMENT SYSTEM
C	CONDUIT
CAT	CATEGORY
CATV	COMMUNITY ANTENNA TV (CABLE TV)
CLEC	COMPETITIVE LOCAL EXCHANGE CARRIER
CL	CLOSET
CLG	CEILING
CMP	COMMUNICATIONS PLENUM CABLE
CMR	COMMUNICATIONS RISER CABLE
CO	CENTRAL OFFICE
COAX	COAXIAL
CT	CABLE TRAY
DAS	DISTRIBUTED ANTENNA SYSTEM
DB	DECIBEL
DEMARC	DEMARCATION
DIA	DIAMETER
DWG	DRAWING
(E)	EXISTING TO REMAIN
E.G.	FOR EXAMPLE
EIA	ELECTRONICS INDUSTRY ALLIANCE
ELEC	ELECTRIC OR ELECTRICAL
ELEV	ELEVATOR
EMI	ELECTROMAGNETIC INTERFERENCE
EMT	ELECTRICAL METALLIC TUBING
EP	EXPLOSION PROOF
ERRCS	EMERGENCY RESPONDER RADIO COVERAGE SYSTEM
FACP	FIRE ALARM CONTROL PANEL
FBO	FURNISHED BY OTHERS
FCC	FEDERAL COMMUNICATIONS COMMISSION
FO	FIBER OPTIC
FR	FIRE RATED
FT	FOOT/FEET
GB	GIGABYTE
GBPS	GIGABITS PER SECOND
GC	GENERAL CONTRACTOR
GE	GROUNDING EQUALIZER
GMP	GUARANTEED MAXIMUM PRICE
GND	GROUND
GUI	GRAPHICAL USER INTERFACE
HC	HORIZONTAL CROSS-CONNECT
HVAC	HEATING, VENTILATING, AND AIR-CONDITIONING
ID	INSIDE DIAMETER
IDF	INTERMEDIATE DISTRIBUTION FRAME
IEC	INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEEE	INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC.
IG	ISOLATED GROUND
IMC	INTERMEDIATE METAL CONDUIT - SEE NEC ARTICLE 342
INT	INTERCOM
IP	INTERNET PROTOCOL
ISO	INTERNATIONAL ORGANIZATION OF STANDARDS
J-BOX, JB	JUNCTION BOX
KCMIL	THOUSANDS OF CIRCULAR MILLS
KM	KILOMETER
KVA	KILOVOLT AMPERES
KW	KILOWATT
LAN	LOCAL AREA NETWORK
LEC	LOCAL EXCHANGE CARRIER (OR SP)
LED	LIGHT-EMITTING DIODE
M	METER
MAG	MAGNETIC
MAN	METROPOLITAN AREA NETWORK
MAX	MAXIMUM
MB	MEGABYTE
MBPS	MEGABITS PER SECOND
MC	MAIN CROSS-CONNECT
MDF	MAIN DISTRIBUTION FRAME
MECH	MECHANICAL
MFR	MANUFACTURER
MH	MANHOLE
MI	MILE
MIN	MINIMUM
MM	MILLIMETER
MMFO	MULTIMODE FIBER OPTIC
MPOE	MAIN POINT OF ENTRY
NEC	NATIONAL ELECTRIC CODE - NFPA 70
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NIC	NETWORK INTERFACE CARD
NID	NETWORK INTERFACE DEVICE
NM	NANOMETER
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER

ABBREVIATIONS

OEM	ORIGINAL EQUIPMENT MANUFACTURER
OS	OPERATING SYSTEM
OSP	OUTSIDE PLANT
PA	PUBLIC ADDRESS
PABX	PRIVATE AUTOMATIC BRANCH EXCHANGE
PBX	PRIVATE BRANCH EXCHANGE
PB	PULL-BOX (SIZED PER BICSI TDMM)
PC	PERSONAL COMPUTER
PCN	PERSONAL COMMUNICATIONS NETWORK
PCS	PERSONAL COMMUNICATIONS SYSTEMS
PIR	PASSIVE INFRARED
POTS	PLAIN OLD TELEPHONE SERVICE
PR	PAIRS (NUMBER OF PAIRS IN COPPER CABLE)
PROX	PROXIMITY
PVC	POLYVINYL CHLORIDE
PWR	POWER
RCDD	REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER
RFI	RADIO FREQUENCY INTERFACE
RM	ROOM
RMC	RIGID METALLIC CONDUIT
RU	RACK UNIT; UNIT OF PATCH PANEL HEIGHT EQUAL TO 1.75 INCH
SCTP	SCREENED TWISTED PAIR
SMFO	SINGLEMODE FIBER OPTIC
SPOE	SECONDARY POINT OF ENTRY
SP	SERVICE PROVIDER
STD	STANDARD
STP	SHIELDED TWISTED PAIR
SW	SWITCH
TBB	TELECOMMUNICATIONS BONDING BACKBONE
TBD	TO BE DETERMINED
TCP/IP	TRANSMISSION CONTROL PROTOCOL W/ INTERNET PROTOCOL
TDMM	TELECOMMUNICATIONS DISTRIBUTION METHODS MANUAL
TEL	TELEPHONE
TELCO	TELEPHONE COMPANY (SP)
TELECOM	TELECOMMUNICATIONS
TEMP	TEMPERATURE
TGB	TELECOMMUNICATIONS GROUND BUS BAR
TIA	TELECOMMUNICATIONS INDUSTRY ASSOCIATION
TMGB	TELECOMMUNICATIONS MAIN GROUND BUS BAR
TR	TELECOMMUNICATIONS ROOM
TV	TELEVISION
TYP	TYPICAL
UC	UNDER COUNTER
UG	UNDERGROUND
UL	UNDERWRITER LABORATORIES
UON	UNLESS OTHERWISE NOTED
UPS	UNINTERRUPTIBLE POWER SUPPLY
UTP	UNSHIELDED TWISTED PAIR
V	VOLT
W	WATT
WAN	WIDE AREA NETWORK
WLAN	WIRELESS LOCAL AREA NETWORK
WP	WEATHERPROOF
(X)	EXISTING - TO BE DEMOLISHED

GENERAL SYMBOLS LEGEND

SYMBOL	DESCRIPTION
TC	TELECOMMUNICATIONS CONDUIT CONCEALED
TC	TELECOMMUNICATIONS CONDUIT SURFACE MOUNTED
TC	CONDUITS BELOW GRADE/SLAB OR EMBEDDED IN SLAB
J	J-HOOK PATHWAY
I	INNERDUCT PATHWAY
CAT	COPPER CATEGORY CABLE
FO	FIBER OPTIC CABLE
	CONDUIT UP
	CONDUIT DOWN
	CONDUIT CAPPED
	CONDUIT STUBBED OUT WITH BUSHING
	CONDUIT CROSS-SECTION
	TELECOMMUNICATIONS CABLE TRAY
a b	VERTICAL WALL MOUNTED CABLE LADDER
	TELECOMMUNICATIONS RACEWAY
	PULL-BOX
TGB	TELECOMMUNICATIONS GROUNDING BUSBAR
TMGB	TELECOMMUNICATIONS MAIN GROUNDING BUSBAR
	TELECOMMUNICATIONS GROUNDING BUSBAR (PLAN VIEW)
	CABLE SERVICE LOOP # DENOTES LENGTH
	COPPER CABLE SPLICE
	FIBER OPTIC CABLE SPLICE
	COPPER CABLE TERMINATION
	FIBER OPTIC CABLE TERMINATION
X Y	DETAIL REFERENCE "X" DENOTES DETAIL NUMBER "Y" DENOTES DRAWING NUMBER
X Y	SECTION REFERENCE "X" DENOTES DETAIL NUMBER "Y" DENOTES DRAWING NUMBER
#	NUMBERED NOTE IDENTIFIER

TELECOMMUNICATIONS DEVICE LEGEND

SYMBOL	DESCRIPTION
	WALL MOUNTED DATA DEVICE WITH (2) CAT.6 U.O.N
TV	TELEVISION LOCATION, (1) SERIES-6 COAX & (2) CAT.6
	RECESSED MOUNTED MULTIMEDIA PANEL (MMP)
W	WALLPHONE OUTLET, (1) CAT.6 CABLE
# E	TELECOMMUNICATIONS OUTLET/ CONNECTIVITY TO ELEVATOR CONTROL PANEL, U.O.N # DENOTES QUANTITY OF CAT.6 CABLES
AP	WALL-MOUNTED WI-FI ACCESS POINT LOCATION , (2) CAT.6 CABLES
#	WALL-MOUNTED TELECOMMUNICATIONS OUTLET, # DENOTES NUMBER OF CAT.6 CABLES
#	RECESSED FLOOR BOX TELECOMMUNICATIONS OUTLET, # DENOTES NUMBER OF CAT.6 CABLES
#	CEILING-MOUNTED TELECOMMUNICATIONS OUTLET MOUNTED WITHIN CEILING SPACE , U.O.N. # DENOTES NUMBER OF CAT.6 CABLES
AP	CEILING-MOUNTED DATA OUTLET AT WI-FI ACCESS POINT LOCATION, (2) CAT.6 CABLES
#	FLOOR POKE-TRU TELECOM DATA OUTLET, # DENOTES NUMBER OF CAT.6 CABLES
P	CEILING-MOUNTED TELECOMMUNICATIONS CONSOLIDATION POINT PATCH PANEL
P	CABINET-MOUNTED TELECOMMUNICATIONS CONSOLIDATION POINT PATCH PANEL
P	WALL-MOUNTED TELECOMMUNICATIONS CONSOLIDATION POINT PATCH PANEL
P	FLOOR-MOUNTED TELECOMMUNICATIONS CONSOLIDATION POINT PATCH PANEL TO BE PLACED WITHIN RAISED ACCESS FLOOR U.O.N.
#	TELECOMMUNICATIONS EQUIPMENT CONNECTION
	RECESSED WALL-MOUNTED SYSTEMS FURNITURE FEEDPOINT
	RECESSED FLOOR BOX SYSTEMS FURNITURE FEEDPOINT
	CEILING-MOUNTED SYSTEMS FURNITURE FEEDPOINT
	POKE-THRU SYSTEMS FURNITURE FEEDPOINT
MH #	UNDERGROUND MANHOLE, (#) DENOTES IDENTIFIER
HH #	UNDERGROUND HANDHOLE, (#) DENOTES IDENTIFIER
P #	PEDESTAL, (#) DENOTES IDENTIFIER
U #	UNDERGROUND PULL BOX, (#) DENOTES IDENTIFIER
	THIS SYMBOL DENOTES A TELECOMMUNICATIONS OUTLET WITH (1) COPPER TWISTED PAIR CABLE.

ELECTRONIC SECURITY DEVICE LEGEND

SYMBOL	DESCRIPTION
	FIXED SECURITY CAMERA
	PTZ SECURITY CAMERA
ACX	ACCESS CONTROL PANEL
CB	GUEST ENTRY PHONE
CR	CARD READER
DC	DOOR CONTACT
EL	ELECTRIFIED LOCK
IC	INTERCOM
ICM	INTERCOM MASTER
KP	KEY PAD
MON	LCD DISPLAY MONITOR
MS	MOTION SENSOR, ARROW INDICATES DIRECTION OF SENSOR
NVR	NETWORK VIDEO RECORDER
PB	PANIC BUTTON
PLC	PROGRAMMABLE LOGIC CONTROLLER
REX	REQUEST TO EXIT
RF	RADIO FREQUENCY VEHICLE GATE CONTROLLER
SS	SECURITY SERVER
WR	WIRELESS DURESS REPEATER SECURITY
WS	WORKSTATION

TELECOMMUNICATIONS OUTLET CABLING LEGEND

DENOTES QUANTITY OF UTP COPPER CATEGORY 6 CABLES
DENOTES QUANTITY OF COAXIAL CABLES
DENOTES QUANTITY OF FIBER OPTIC CABLES
X. X. X
WALL MOUNTED

DENOTES QUANTITY OF UTP COPPER CATEGORY 6 CABLES
DENOTES QUANTITY OF COAXIAL CABLES
DENOTES QUANTITY OF FIBER OPTIC CABLES
X. X. X
FLOOR MOUNTED

DENOTES QUANTITY OF UTP COPPER CATEGORY 6 CABLES
DENOTES QUANTITY OF COAXIAL CABLES
DENOTES QUANTITY OF FIBER OPTIC CABLES
X. X. X
CEILING MOUNTED

TECHNOLOGY GENERAL NOTES

1. THE LOCATIONS AND ELEVATIONS OF TECHNOLOGY DEVICES SHOWN ON THESE DRAWINGS ARE SCHEMATIC UNLESS ACTUAL DIMENSIONS ARE SHOWN ON THE DRAWINGS. REFER TO THE ARCHITECTURAL PLANS AND OBTAIN THE APPROVAL OF THE ARCHITECT FOR THE ACTUAL LOCATIONS AND ELEVATIONS OF ALL DEVICES.
2. CONTRACTOR SHALL ENSURE THAT ALL MOUNTING HEIGHTS COMPLY WITH CURRENT ADA REQUIREMENTS.
3. ABOVE CONTER DEVICES SHALL BE MOUNTED 8" ABOVE COUNTER OR A MAXIMUM OF 44" AFF (TO TOP OF DEVICE).
4. PROVIDE SUPPORTS AND ANCHORING FOR PIPING, CONDUIT, DUCTS, EQUIPMENT, AND OTHER NON-STRUCTURAL ELEMENTS. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
5. PROVIDE SOUND PUTTY PADS IN ALL BACK BOXES.
6. FIRESTOPPING: ALL PENETRATIONS THROUGH RATED WALLS AND FLOORS AND CONDUIT/SLEEVE OPENINGS SHALL BE SEALED WITH MATERIAL CAPABLE OF PREVENTING THE PASSAGE OF FLAMES, HOT GASSES AND SMOKE WHEN SUBJECTED TO THE REQUIREMENTS OF THE TEST STANDARD SPECIFIC FOR ALL APPLICABLE CODES.
7. ALL COMMUNICATIONS CONDUIT, CABLE TRAYS, LADDER RACKS AND EQUIPMENT RACKS SHALL BE BONDED TO BUILDING GROUND SYSTEM PER NEC 250 AND ANSI/TIA-607-B.
8. LABEL ALL CLOSETS, RACKS, FRAMES, CABINETS, TERMINATION BLOCKS, CABLES, TERMINATIONS, RACEWAYS, ETC. IN ACCORDANCE WITH ANSI/TIA-606-B.
9. ALL COMMUNICATIONS RACEWAYS AND PATHWAYS SHALL BE INSTALLED TO MINIMIZE UNNECESSARY CABLE LENGTHS AND MAINTAIN INDUSTRY STANDARD LENGTH LIMITATIONS FOR HORIZONTAL CABLE DISTRIBUTION (E.G. CAT.6). BASIC LINK CABLE LENGTH SHALL NOT EXCEED 295-FT (90M) FOR UTP CABLE, 200-FT (60M) FOR SERIES-6 COAXIAL CABLE.
10. ALL COMMUNICATIONS CABLE SHALL BE PLENUM RATED (CMP), RISER RATED (CMR) AND UNDERGROUND RATED (WATERBLOCK) ACCORDING TO USE AND ENVIRONMENTAL CONDITIONS.
11. PROVIDE PROTECTIVE BUSHINGS ON ALL COMMUNICATIONS CONDUITS AND WHERE CABLING ROUTES THROUGH METAL STUDS.
12. ALL NON-ARMORED FIBER OPTIC CABLE SHALL BE INSTALLED IN APPROVED INNERDUCT.
13. ALWAYS INSTALL LOW-VOLTAGE CABLES IN CONDUITS, CABLE TRAYS, WIREWAYS OR OTHER APPROVED CABLE MANAGEMENT DEVICES OR SYSTEMS. NEVER INSTALL CABLES IN SUCH A MANNER THAT THEY ARE SUPPORTED BY CEILING SYSTEMS (CEILING TILE OR GRID, GYPSUM BOARD, LATH & PLASTER), HVAC DUCTS OR PIPES, LIGHTING FIXTURES, ELECTRICAL CONDUITS OR CABLES, PLUMBING/FIRE PROTECTION PIPES, OR ANY OTHER DEVICES NOT INTENDED FOR THE SUPPORT OF LOW-VOLTAGE CABLING.
14. PROVIDE WEATHERPROOF, IN-USE COVER FOR EXTERIOR DATA DEVICES.
15. ALL CABLE TRAY MOUNTING HEIGHTS INDICATED ON FLOOR PLANS ARE TO THE BOTTOM OF CABLE TRAY SUPPORTS.
16. SEISMIC BRACING FOR ALL CABLE TRAYS SHALL BE PROVIDED AS REQUIRED BY CODE, LOCAL GOVERNING JURISDICTION AND CABLE TRAY MANUFACTURER SPECIFICATIONS.
17. ALL CABLE TRAY ROUTING THROUGH ELECTRICAL ROOMS SHALL BE FULLY ENCLOSED. REFER TO CABLE TRAY DETAILS AND SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
18. REUSABLE VELCRO TIES SHALL BE USED TO BUNDLE OR MANAGE CABLES. PLASTIC ZIP TIES ARE NOT APPROVED FOR USE.
19. SIZE AND ORIENTATION OF ALL TELECOM PULL-BOXES SHALL MEET OR EXCEED THE PER BICSI TDMM REQUIREMENTS.
20. PROVIDE PROTECTIVE BUSHINGS WHERE CABLING ROUTES THROUGH METAL STUDS.
21. ALL LOW-VOLTAGE CONDUIT LARGER THAN 2" SHALL HAVE A MINIMUM BEND RADIUS OF 10:1 OF THE INSIDE DIAMETER FOR ALL ELBOWS. ALL LOW-VOLTAGE CONDUIT 2" AND SMALLER SHALL HAVE A MINIMUM BEND RADIUS OF 6:1 OF THE INSIDE DIAMETER FOR ALL ELBOWS.
22. ALL CONDUITS SHALL BE INSTALLED WITH PULL-STRINGS.

TECHNOLOGY BUILDING 6 DRAWING LIST

SHEET NUMBER	SHEET NAME	50% DD - 07/05/2017	100% DD - 08/25/2017
6-T0.01	TECHNOLOGY LEGEND, ABBREVIATIONS AND DRAWING LIST	X	X
6-T2.01	TECHNOLOGY COVERED BREAK AREA FLOOR PLAN	X	X
6-T7.01	TECHNOLOGY DETAILS		
6-T7.02	TECHNOLOGY DETAILS		
6-T7.03	TECHNOLOGY DETAILS		
6-T7.04	TECHNOLOGY DETAILS		
6-T7.05	SECURITY DETAILS		
6-T7.06	SECURITY DETAILS		

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RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY:	
KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

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REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER
AMANDA J. BROWNLEE
No. E17287
ELECTRICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

TECHNOLOGY LEGEND, ABBREVIATIONS AND DRAWING LIST

Drawn By: Author
Checked By: Checker

Scale: **NTS**

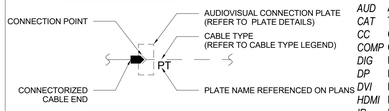
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Project No. B17.07369

6-T0.01
Drawing No.

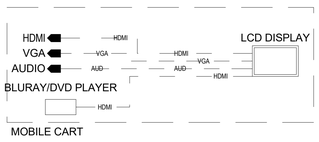
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CABLE, CONNECTOR, AND PLATE TERMINATION LEGEND:

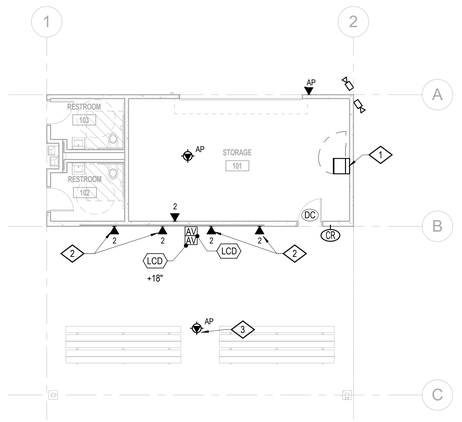


CABLE TYPE LEGEND:

232	SERIAL CONTROL (RS232, RS422, RS485)
AUD	AUDIO (LINE & MIC LEVELS)
CAT	TWISTED-PAIR
CC	CONTACT CLOSURE OR RELAY
COMP	COMPONENT VIDEO
DIG	DIGITAL AUDIO
DP	DISPLAY PORT
DVI	DVI-D OR DVI-I
HDMI	HDMI
IR	INFRARED
MMF	MULTI-MODE FIBER
RF	RADIO FREQUENCY
SDI	SDI, HD-SDI, 4G-SDI
SMF	SINGLE-MODE FIBER
SPK	LOUDSPEAKER AUDIO
SYNC	VIDEO SYNC SIGNAL
USB	USB
VGA	RGBHV / VGA
VID	COMPOSITE VIDEO



2 AUDIOVISUAL FUNCTIONAL DIAGRAM - OUTDOOR CLASSROOM
NONE



1 06- TECHNOLOGY - COVERED BREAK AREA - FIRST FLOOR
1/8" = 1'-0"

NUMBERED NOTES:

1. PROVIDE DOUBLE HINGED WALL MOUNTED CABINET
2. PROVIDE WATERPROOF ENCLOSURE FOR DATA OUTLETS ON OUTSIDE WALL
3. PROVIDE CONDUIT FROM THE AP TO THE STORAGE ROOM WALL CABINET

SHEET NOTES:

A. FOR THE PURPOSES OF STRUCTURAL CALCULATIONS, ASSUME A STATIC LOAD OF 100LBS FOR EACH EQUIPMENT CABINET IN THE TECHONOLOGY ROOM

B. MOUNT ALL ENCLOSURES, EQUIPMENT, TERMINATION BOARDS AND SPLITTERS ON WALLS WITH DETAIL 1 ON SHEET 6-T7.04

C. FOR SEISMIC MOUNTING DETAILS OF AV EQUIPMENT SEE 1-T7.04

RossDruliCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
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(415) 243-4600
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1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date
1	INC 01_ADD_01_V1	12/06/2019

REGISTERED PROFESSIONAL ENGINEER
AMANDA J. BROWNLEE
No. E17287
ELECTRICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

TECHNOLOGY COVERED BREAK AREA FLOOR PLAN

Drawn By: Author
Checked By: Checker

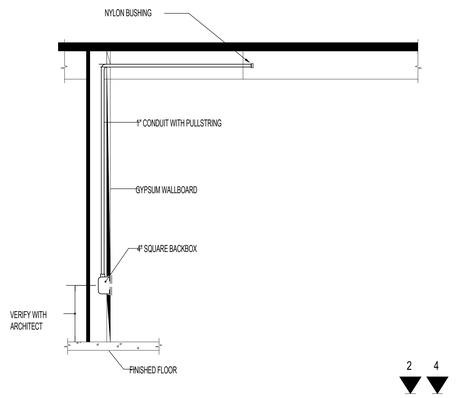
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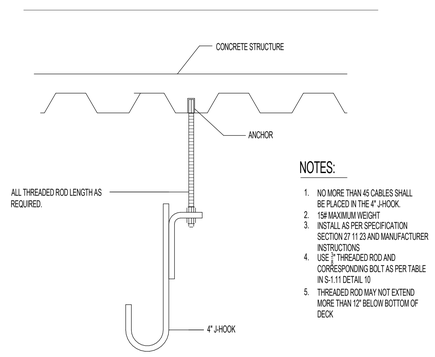
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2 4

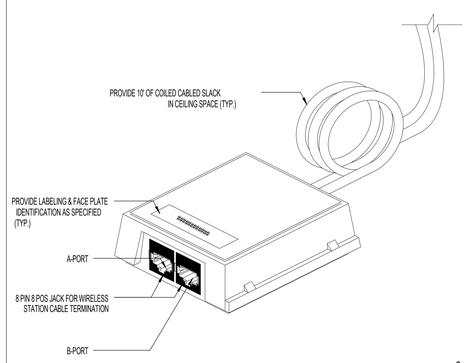
9 WALL MOUNTED SYSTEMS OUTLET — NO SCALE



NOTES:

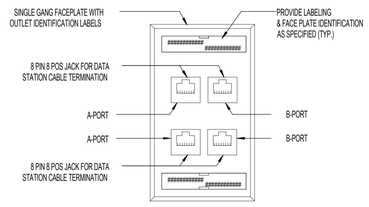
1. NO MORE THAN 45 CABLES SHALL BE PLACED IN THE 4" J-HOOK.
2. 15# MAXIMUM WEIGHT
3. INSTALL AS PER SPECIFICATION SECTION 27 11 23 AND MANUFACTURER INSTRUCTIONS
4. USE ¼" THREADED ROD AND CORRESPONDING BOLT AS PER TABLE IN S-1.11 DETAIL 10
5. THREADED ROD MAY NOT EXTEND MORE THAN 12" BELOW BOTTOM OF DECK

7 J-HOOK MOUNTED CEILING DETAIL — NO SCALE



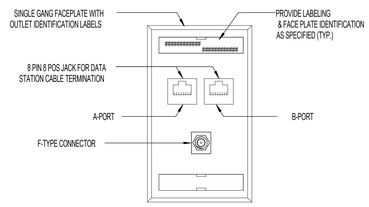
2

4 2-PORT CEILING OUTLET
(2) DATA — NO SCALE



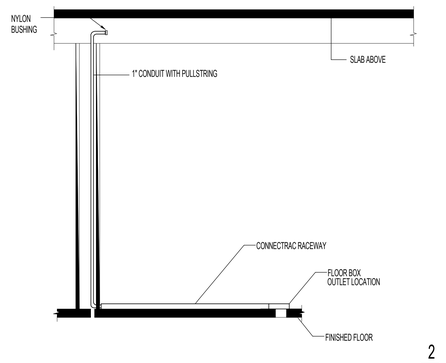
4

1 WALL MOUNTED OUTLET
(4) DATA — NO SCALE



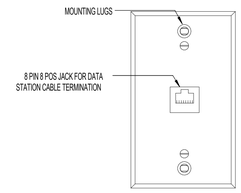
2.1

10 WALL MOUNTED OUTLET
(2) DATA (1) CO-AXIAL — NO SCALE



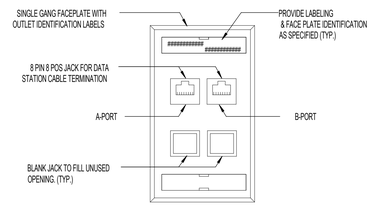
2

8 TELECOMMUNICATIONS SYSTEM OUTLET
CONNECTRAC — NO SCALE



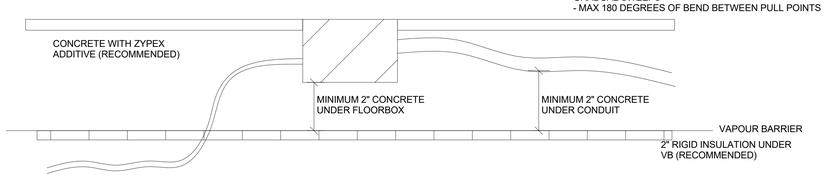
W

5 UTILITY ROOM WALLPHONE
(1) VOICE — NO SCALE



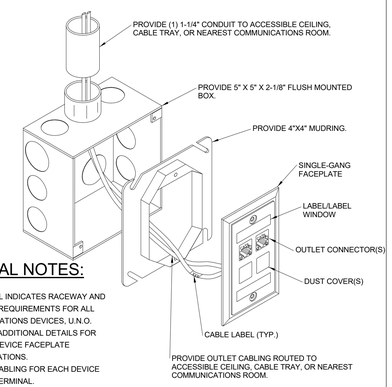
2

2 WALL MOUNTED OUTLET
(2) DATA — NO SCALE



- ELECTRICAL CONDUITS MAY PENETRATE WATER BARRIER TO ROUTE IN DIRT
- IF ELECTRICAL CONDUITS ARE ROUTED IN SLAB PARALLEL TO DATA CONDUITS, MAINTAIN 3" SEPARATION OF CONCRETE
- WHEN PVC CONDUITS STUB UP TO WALL SPACE MAINTAIN 12" SEPARATION BETWEEN ELECTRICAL AND TELECOM/AV CONDUITS IN WALLS. 12" SEPARATION NOT REQUIRED ONCE CONDUITS ARE TRANSITIONED TO EMT, IMC OR RIGID

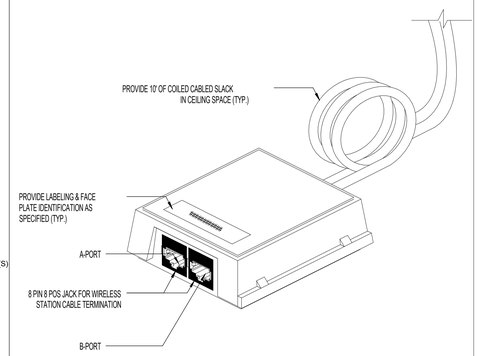
11 FLOORBOX DETAIL — NO SCALE



GENERAL NOTES:

1. THIS DETAIL INDICATES RACEWAY AND BACK-BOX REQUIREMENTS FOR ALL COMMUNICATIONS DEVICES, U.N.O.
2. REFER TO ADDITIONAL DETAILS FOR SPECIFIC DEVICE FACEPLATE CONFIGURATIONS.
3. PROVIDE CABLING FOR EACH DEVICE PORT OR TERMINAL.

6 TYPICAL COMMUNICATIONS OUTLET ROUGH-IN DETAIL — NO SCALE



3 2-PORT SURFACE MOUNTED CAMERA OUTLET
(2) DATA — NO SCALE

DETAILS ON THIS SHEET ARE GENERIC. PLEASE REFER TO OPM DETAILS FOR HANGAR AND ANCHOR INFORMATION FOR ALL SUPPORTS AND CONNECTION INFORMATION NOT INDICATED

RossDrulisCusenbery
ARCHITECTURE
18294 Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION	
DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

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HAYWARD, CA 94545**

REVISIONS

No.	Description	Date
1	INC 01_ADD_01_V1	12/06/2019

REGISTERED PROFESSIONAL ENGINEER — JAMES W. BROWNEE — No. E19226 — ELECTRICAL — STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

TECHNOLOGY DETAILS

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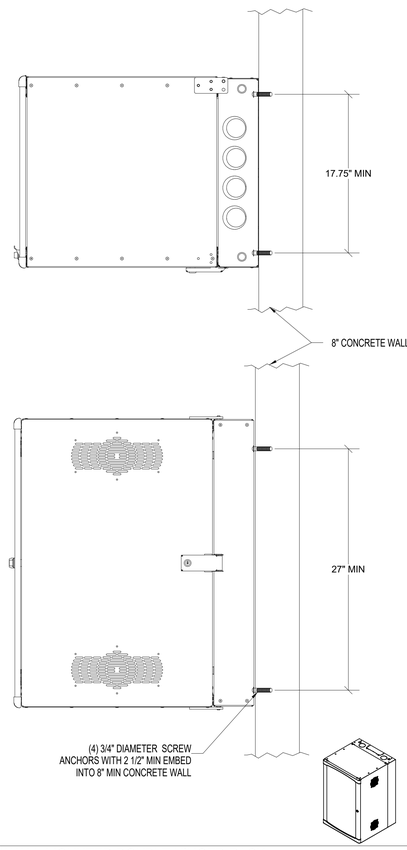
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Project No. B17.07369

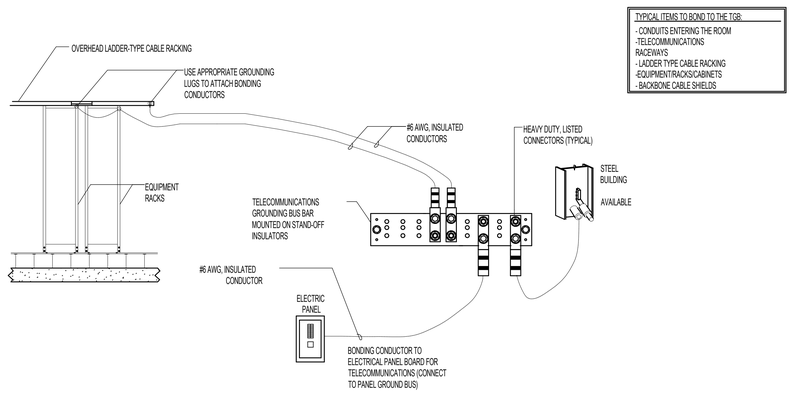
6-T7.01

Drawing No.

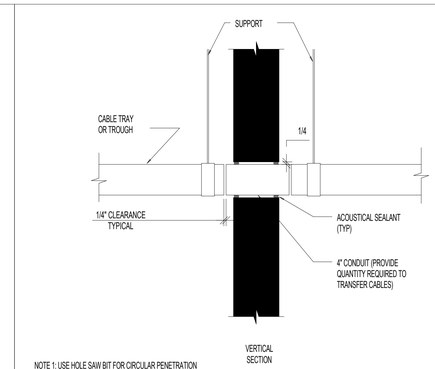
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6 WALL-MOUNTED DOUBLE HINGED RACK
24" W x 30"D x 24"H CUBE-iT — NO SCALE



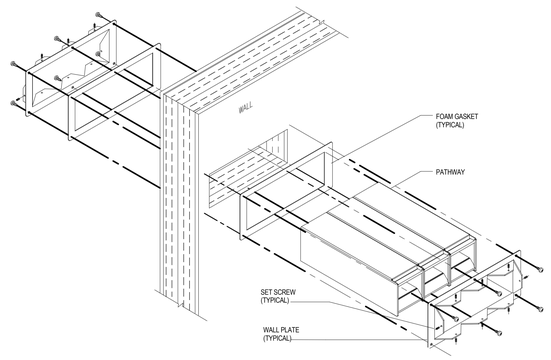
3 TELECOMMUNICATIONS GROUNDING DETAIL — NO SCALE



NOTE 1: USE HOLE SAW BIT FOR CIRCULAR PENETRATION

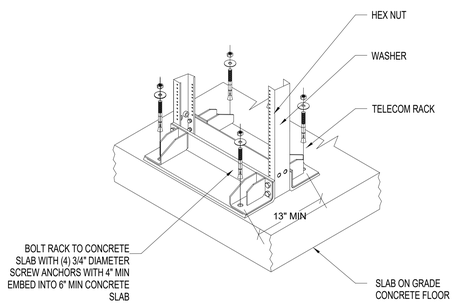
NOTE 2: AFTER CAPABLE PULL IS COMPLETE, FILL CONDUIT WITH SAFING INSULATION AND SEAL BOTH ENDS OF CONDUIT WITH FIRE-STOP FOAM SEALANT OR J.M. CLIPPER DUXSEAL

1 TYPICAL CABLE TRAY AND CONDUIT SLEEVES PENETRATION AT SOUND-RATED CONSTRUCTION — NO SCALE

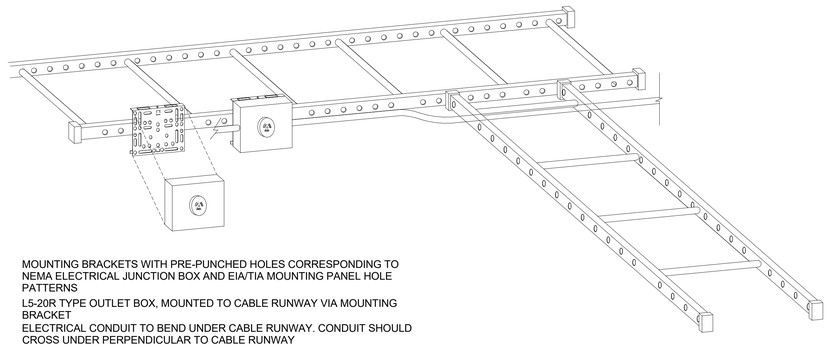


4 RACEWAY WALL PENTRATION DETAIL — NO SCALE

2 WIRELESS ACCESS POINT MOUNTING DETAIL
(2) DATA — NO SCALE



7 CONCRETE RACK MOUNTED — NO SCALE



MOUNTING BRACKETS WITH PRE-PUNCHED HOLES CORRESPONDING TO NEMA ELECTRICAL JUNCTION BOX AND EIA/TIA MOUNTING PANEL HOLE PATTERNS

L5-20R TYPE OUTLET BOX, MOUNTED TO CABLE RUNWAY VIA MOUNTING BRACKET

ELECTRICAL CONDUIT TO BEND UNDER CABLE RUNWAY. CONDUIT SHOULD CROSS UNDER PERPENDICULAR TO CABLE RUNWAY

5 ELECTRICAL BACKBOX MOUNTING TO CABLE RUNWAY DETAIL — NO SCALE

DETAILS ON THIS SHEET ARE GENERIC. PLEASE REFER TO OPM DETAILS FOR HANGER AND ANCHOR INFORMATION FOR ALL SUPPORTS AND CONNECTION INFORMATION NOT INDICATED

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DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY:	
KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

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**1401 W. WINTON AVE.
HAYWARD, CA 94545**

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER
AMANDA J. BROWN, CE
No. E17287
ELECTRICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

TECHNOLOGY DETAILS

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6-T7.02

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RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

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ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
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REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER
AMANDA J. BROWNLEE
No. E17787
ELECTRICAL
STATE OF CALIFORNIA

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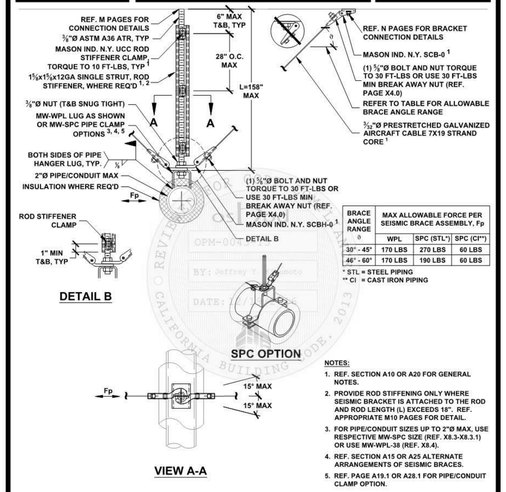
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6-T7.03
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HANGER ROD DIAMETER = ⅜" | **PIPING/CONDUIT TRANSVERSE SEISMIC CABLE BRACING SYSTEM 2"Ø PIPE/CONDUIT MAX** | **KIT OPTIONS C0T**



BRACE ANGLE RANGE θ	MAX ALLOWABLE FORCE PER SEISMIC BRACE ASSEMBLY, Fp		
	WPL	SPC (STL*)	SPC (CI**)
30° - 45°	170 LBS	270 LBS	60 LBS
46° - 60°	170 LBS	190 LBS	60 LBS

* STL = STEEL PIPING
** CI = CAST IRON PIPING

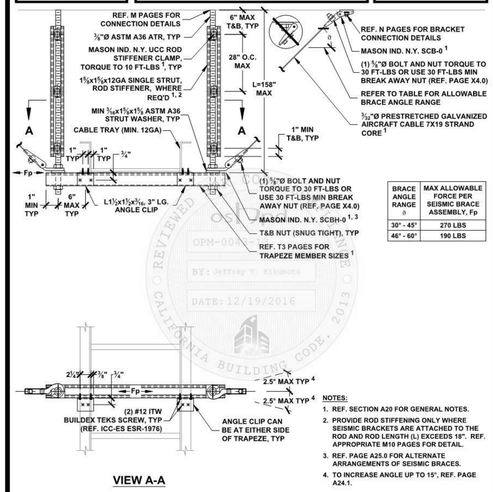
NOTES:
1. REF. SECTION A10 OR A20 FOR GENERAL NOTES.
2. PROVIDE ROD STIFFENING ONLY WHERE SEISMIC BRACKET IS ATTACHED TO THE ROD AND ROD LENGTH (L) EXCEEDS 18". REF. APPROPRIATE M10 PAGES FOR DETAIL.
3. FOR PIPE/CONDUIT SIZES UP TO 2"Ø MAX, USE RESPECTIVE MW-SPC SIZE (REF. X8.3-X8.3.1) OR USE MW-WPL-38 (REF. X8.4).
4. REF. SECTION A15 OR A25 ALTERNATE ARRANGEMENTS OF SEISMIC BRACES.
5. REF. PAGE A19.1 OR A28.1 FOR PIPE/CONDUIT CLAMP OPTION.

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California SE No. S5270

PAGE **C2.10**

HANGER ROD DIAMETER = ⅜" | **CABLE TRAY TRANSVERSE TRAPEZE SEISMIC CABLE BRACING SYSTEM 20 PLF MAX** | **KIT OPTIONS TC0T**



BRACE ANGLE RANGE θ	MAX ALLOWABLE FORCE PER SEISMIC BRACE ASSEMBLY, Fp
30° - 45°	270 LBS
46° - 60°	190 LBS

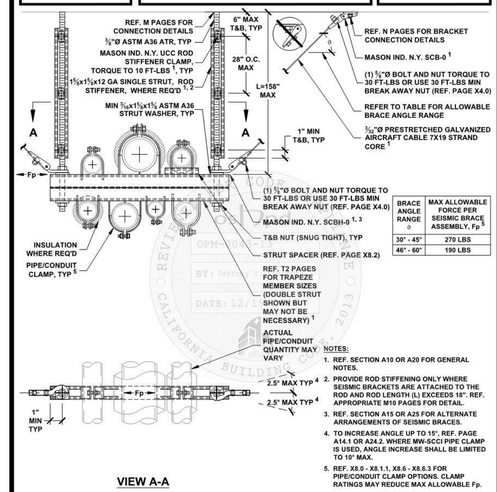
NOTES:
1. REF. SECTION A20 FOR GENERAL NOTES.
2. PROVIDE ROD STIFFENING ONLY WHERE SEISMIC BRACKETS ARE ATTACHED TO THE ROD AND ROD LENGTH (L) EXCEEDS 18". REF. APPROPRIATE M10 PAGES FOR DETAIL.
3. REF. PAGE A25.0 FOR ALTERNATE ARRANGEMENTS OF SEISMIC BRACES.
4. TO INCREASE ANGLE UP TO 15°, REF. PAGE A24.1.

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PAGE **E2.10**

HANGER ROD DIAMETER = ⅜" | **PIPING/CONDUIT TRANSVERSE TRAPEZE SEISMIC CABLE BRACING SYSTEM 30 PLF MAX** | **KIT OPTIONS TC0T**



BRACE ANGLE RANGE θ	MAX ALLOWABLE FORCE PER SEISMIC BRACE ASSEMBLY, Fp [5]
30° - 45°	270 LBS
46° - 60°	190 LBS

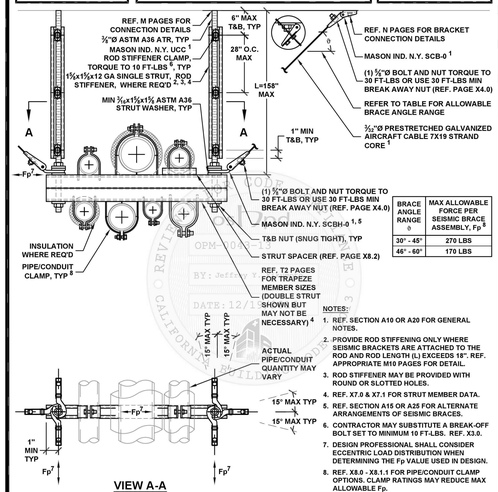
NOTES:
1. REF. SECTION A10 OR A20 FOR GENERAL NOTES.
2. PROVIDE ROD STIFFENING ONLY WHERE SEISMIC BRACKETS ARE ATTACHED TO THE ROD AND ROD LENGTH (L) EXCEEDS 18". REF. APPROPRIATE M10 PAGES FOR DETAIL.
3. REF. SECTION A15 OR A25 FOR ALTERNATE ARRANGEMENTS OF SEISMIC BRACES.
4. TO INCREASE ANGLE UP TO 15°, REF. PAGE A14.1 OR A24.2. WHERE MW-SCCI PIPE CLAMP IS USED, ANGLE INCREASE SHALL BE LIMITED TO 10° MAX.
5. REF. X8.0 - X8.1.1, X8.6 - X8.6.3 FOR PIPE/CONDUIT CLAMP OPTIONS. CLAMP RATINGS MAY REDUCE MAX ALLOWABLE Fp.

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TEL (714) 630 - 0701, www.masonwest.com

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PAGE **F2.10**

HANGER ROD DIAMETER = ⅜" | **PIPING/CONDUIT ALL-DIRECTIONAL TRAPEZE SEISMIC CABLE BRACING SYSTEM 30 PLF MAX** | **KIT OPTIONS TC0A**



BRACE ANGLE RANGE θ	MAX ALLOWABLE FORCE PER SEISMIC BRACE ASSEMBLY, Fp [6]
30° - 45°	270 LBS
46° - 60°	170 LBS

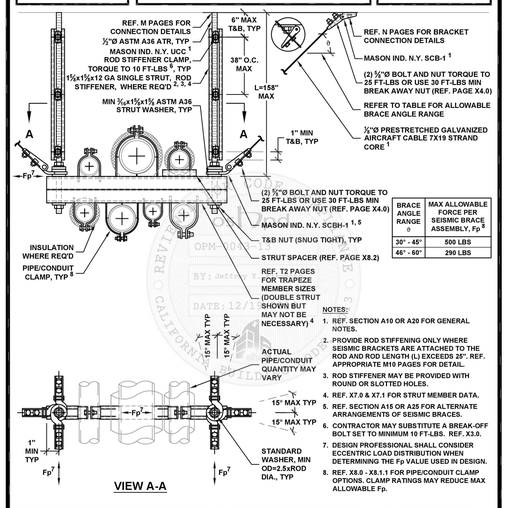
NOTES:
1. REF. SECTION A10 OR A20 FOR GENERAL NOTES.
2. PROVIDE ROD STIFFENING ONLY WHERE SEISMIC BRACKETS ARE ATTACHED TO THE ROD AND ROD LENGTH (L) EXCEEDS 18". REF. APPROPRIATE M10 PAGES FOR DETAIL.
3. ROD STIFFENER MAY BE PROVIDED WITH ROUND OR SLOTTED HOLES.
4. REF. X7.0 & X7.1 FOR STRUT MEMBER DATA.
5. REF. SECTION A15 OR A25 FOR ALTERNATE ARRANGEMENTS OF SEISMIC BRACES.
6. CONTRACTOR MAY SUBSTITUTE A BREAK-OFF BOLT SET TO MINIMUM 10 FT-LBS. REF. X3.0.
7. DESIGN PROFESSIONAL SHALL CONSIDER ECCENTRIC LOAD DISTRIBUTION WHEN DETERMINING THE Fp VALUE USED IN DESIGN.
8. REF. X8.0 - X8.1.1 FOR PIPE/CONDUIT CLAMP OPTIONS. CLAMP RATINGS MAY REDUCE MAX ALLOWABLE Fp.

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PAGE **F2.12**

HANGER ROD DIAMETER = ½" | **PIPING/CONDUIT ALL-DIRECTIONAL TRAPEZE SEISMIC CABLE BRACING SYSTEM 60 PLF MAX** | **KIT OPTIONS TC1A**



BRACE ANGLE RANGE θ	MAX ALLOWABLE FORCE PER SEISMIC BRACE ASSEMBLY, Fp [6]
30° - 45°	500 LBS
46° - 60°	290 LBS

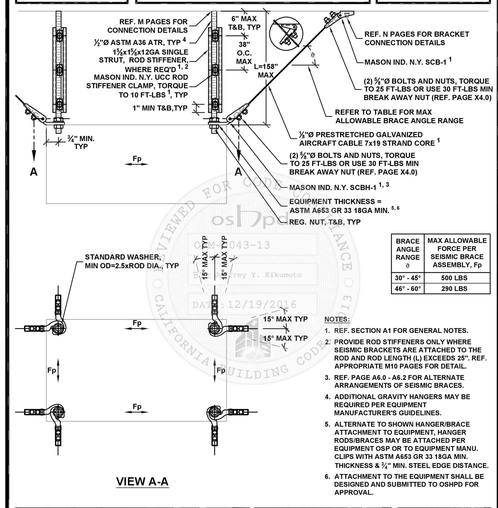
NOTES:
1. REF. SECTION A10 OR A20 FOR GENERAL NOTES.
2. PROVIDE ROD STIFFENING ONLY WHERE SEISMIC BRACKETS ARE ATTACHED TO THE ROD AND ROD LENGTH (L) EXCEEDS 25". REF. APPROPRIATE M10 PAGES FOR DETAIL.
3. ROD STIFFENER MAY BE PROVIDED WITH ROUND OR SLOTTED HOLES.
4. REF. X7.0 & X7.1 FOR STRUT MEMBER DATA.
5. REF. SECTION A15 OR A25 FOR ALTERNATE ARRANGEMENTS OF SEISMIC BRACES.
6. CONTRACTOR MAY SUBSTITUTE A BREAK-OFF BOLT SET TO MINIMUM 10 FT-LBS. REF. X3.0.
7. DESIGN PROFESSIONAL SHALL CONSIDER ECCENTRIC LOAD DISTRIBUTION WHEN DETERMINING THE Fp VALUE USED IN DESIGN.
8. REF. X8.0 - X8.1.1 FOR PIPE/CONDUIT CLAMP OPTIONS. CLAMP RATINGS MAY REDUCE MAX ALLOWABLE Fp.

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PAGE **F2.22**

HANGER ROD DIAMETER = ½" | **SUSPENDED EQUIPMENT SEISMIC CABLE BRACING SYSTEM 375 LB MAX VERTICAL LOAD PER HANGER** | **KIT OPTIONS C1SE**



BRACE ANGLE RANGE θ	MAX ALLOWABLE FORCE PER SEISMIC BRACE ASSEMBLY, Fp
30° - 45°	500 LBS
46° - 60°	290 LBS

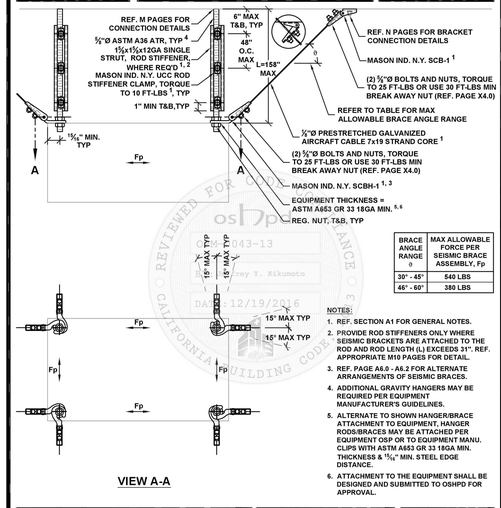
NOTES:
1. REF. SECTION A1 FOR GENERAL NOTES.
2. PROVIDE ROD STIFFENERS ONLY WHERE SEISMIC BRACKETS ARE ATTACHED TO THE ROD AND ROD LENGTH (L) EXCEEDS 25". REF. APPROPRIATE M10 PAGES FOR DETAIL.
3. REF. PAGE A6.0 - A6.2 FOR ALTERNATE ARRANGEMENTS OF SEISMIC BRACES.
4. ADDITIONAL GRAVITY HANGERS MAY BE REQUIRED PER EQUIPMENT MANUFACTURER'S GUIDELINES.
5. ALTERNATE TO SHOWN HANGER/BRACE ATTACHMENT TO EQUIPMENT, HANGER RODS/BRACES MAY BE ATTACHED PER EQUIPMENT OSP OR TO EQUIPMENT MANU. CLIPS WITH ASTM A653 GR 33 18GA MIN. THICKNESS & ½" MIN. STEEL EDGE DISTANCE.
6. ATTACHMENT TO THE EQUIPMENT SHALL BE DESIGNED AND SUBMITTED TO OSHPD FOR APPROVAL.

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1601 E. Miraloma Ave. Placentia, CA 92870
TEL (714) 630 - 0701, www.masonwest.com

Jiefu "Jeff" Zhang, SE
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PAGE **D12.11**

HANGER ROD DIAMETER = ⅝" | **SUSPENDED EQUIPMENT SEISMIC CABLE BRACING SYSTEM 750 LB MAX VERTICAL LOAD PER HANGER** | **KIT OPTIONS C1SE**



BRACE ANGLE RANGE θ	MAX ALLOWABLE FORCE PER SEISMIC BRACE ASSEMBLY, Fp
30° - 45°	540 LBS
46° - 60°	380 LBS

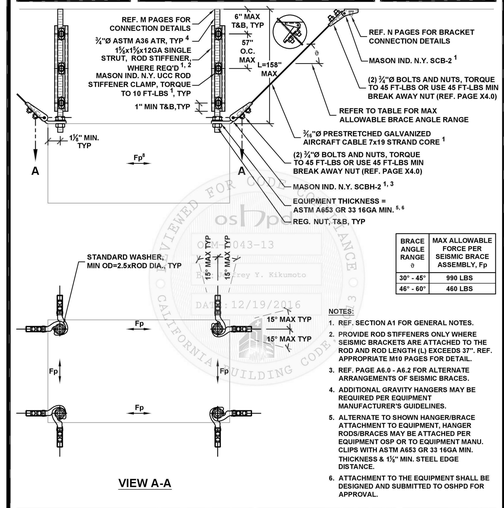
NOTES:
1. REF. SECTION A1 FOR GENERAL NOTES.
2. PROVIDE ROD STIFFENERS ONLY WHERE SEISMIC BRACKETS ARE ATTACHED TO THE ROD AND ROD LENGTH (L) EXCEEDS 31". REF. APPROPRIATE M10 PAGES FOR DETAIL.
3. REF. PAGE A6.0 - A6.2 FOR ALTERNATE ARRANGEMENTS OF SEISMIC BRACES.
4. ADDITIONAL GRAVITY HANGERS MAY BE REQUIRED PER EQUIPMENT MANUFACTURER'S GUIDELINES.
5. ALTERNATE TO SHOWN HANGER/BRACE ATTACHMENT TO EQUIPMENT, HANGER RODS/BRACES MAY BE ATTACHED PER EQUIPMENT OSP OR TO EQUIPMENT MANU. CLIPS WITH ASTM A653 GR 33 18GA MIN. THICKNESS & ⅝" MIN. STEEL EDGE DISTANCE.
6. ATTACHMENT TO THE EQUIPMENT SHALL BE DESIGNED AND SUBMITTED TO OSHPD FOR APPROVAL.

MASON WEST, INC.
1601 E. Miraloma Ave. Placentia, CA 92870
TEL (714) 630 - 0701, www.masonwest.com

Jiefu "Jeff" Zhang, SE
California SE No. S5270

PAGE **D12.12**

HANGER ROD DIAMETER = ¾" | **SUSPENDED EQUIPMENT SEISMIC CABLE BRACING SYSTEM 1250 LB MAX VERTICAL LOAD PER HANGER** | **KIT OPTIONS C2SE**



BRACE ANGLE RANGE θ	MAX ALLOWABLE FORCE PER SEISMIC BRACE ASSEMBLY, Fp
30° - 45°	990 LBS
46° - 60°	460 LBS

NOTES:
1. REF. SECTION A1 FOR GENERAL NOTES.
2. PROVIDE ROD STIFFENERS ONLY WHERE SEISMIC BRACKETS ARE ATTACHED TO THE ROD AND ROD LENGTH (L) EXCEEDS 37". REF. APPROPRIATE M10 PAGES FOR DETAIL.
3. REF. PAGE A6.0 - A6.2 FOR ALTERNATE ARRANGEMENTS OF SEISMIC BRACES.
4. ADDITIONAL GRAVITY HANGERS MAY BE REQUIRED PER EQUIPMENT MANUFACTURER'S GUIDELINES.
5. ALTERNATE TO SHOWN HANGER/BRACE ATTACHMENT TO EQUIPMENT, HANGER RODS/BRACES MAY BE ATTACHED PER EQUIPMENT OSP OR TO EQUIPMENT MANU. CLIPS WITH ASTM A653 GR 33 16GA MIN. THICKNESS & 1½" MIN. STEEL EDGE DISTANCE.
6. ATTACHMENT TO THE EQUIPMENT SHALL BE DESIGNED AND SUBMITTED TO OSHPD FOR APPROVAL.

MASON WEST, INC.
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Jiefu "Jeff" Zhang, SE
California SE No. S5270

PAGE **D12.13**

SHEET NOTES:

A. REFER TO MASON OPM'S PER THE FOLLOWING:
M-ATR VERTICAL HANGARS
CONCRETE FILLED DECK- M2.10, M2.11, M2.12, M2.20, M2.21.1, M2.23, M2.70- DO NOT SPACE CLOSER THAN 5' OC EW
WIDE FLANGED STEEL- M3.10-MAX.1 CON PER BEAM UNLESS SPACED 13' OC
COLD FORMED STEEL- M6.10, 3/1-S4.31-DO NOT SPACE CLOSER THAN 9'6" OC EW
BARE METAL DECK- M7.10 M7.11, M7.12 - DO NOT SPACE CLOSER THAN 2' OC EW
N-SEISMIC BRACKET
CONCRETE FILLED DECK- N2.10, N2.11, N2.12, N2.20, N2.21 - DO NOT SPACE CLOSER THAN 3' OC EW
WID EFLANGED STEEL- N3.11, N3.15 - MAX.1 CON PER BEAM UNLESS SPACED 12' OC
COLD FORMED STEEL- 4/1-S4.31 - DO NOT SPACE CLOSER THAN 10' OC EW
BARE METAL DECK- N7.10 DO NOT SPACE CLOSER THAN 1'6" OC EW

EXTRON ELECTRONICS
WMK 160 & PVM 220

Extron Electronics
INTERFACING, SWITCHING AND CONTROL

GENERAL NOTES:

1. THIS OSHPD PRE–APPROVAL OF MANUFACTURER'S CERTIFICATION (OPM) IS BASED ON THE CBC 2013. THE DEMAND (DESIGN FORCES) FOR USE WITH THIS OPM SHALL BE BASED ON THE CBC 2013.
2. IT IS THE RESPONSIBILITY OF THE STRUCTURAL ENGINEER OF RECORD FOR A SITE SPECIFIC PROJECT TO VERIFY:
   - A. THE ADEQUACY OF THE NEW OR EXISTING STRUCTURE TO RESIST THE FORCES AND WEIGHT SPECIFIED FOR EACH EQUIPMENT IN ADDITION TO ALL OTHER LOADS. PROVIDE AND DESIGN SUPPLEMENTARY MEMBERS AS REQUIRED.
   - B. THAT THE FLOOR AND WALL ANCHORS ARE LOCATED AT AN ADEQUATE DISTANCE FROM ANY SLAB OR WALL EDGES OR OPENINGS.
   - C. THAT THE FLOOR AND WALL ANCHORS ARE LOCATED AT AN ADEQUATE DISTANCE FROM ANY NEW OR EXISTING ANCHORS. THE SPACING SHOWN WITHIN THIS DOCUMENT IS THE REQUIRED MINIMUM SPACING OF THE INDICATED DIAMETER ANCHOR BOLTS. THE REQUIRED SPACING FROM ANCHORS OF OTHER DIAMETERS AND EMBEDMENTS MAY VARY AND SHALL BE EVALUATED BY THE SEOR.
   - D. THAT THE INSTALLATION IS IN CONFORMANCE WITH THE CBC 2013 AND WITH THE DETAILS SHOWN IN THIS PRE–APPROVAL.
   - E. THAT THE ACTUAL EQUIPMENT'S WEIGHT, CENTER OF GRAVITY (CG) LOCATION, ANCHOR LOCATIONS, ANCHOR DETAILS, AND THE MATERIAL AND GAUGE OF THE EQUIPMENT WHERE ATTACHMENTS ARE MADE, AGREE WITH THE INFORMATION SHOWN ON THE PRE–APPROVAL DOCUMENTS.

3A. EXPANSION ANCHORS INSTALLED IN NORMAL WEIGHT OR SAND–LIGHTWEIGHT CONCRETE SHALL BE CARBON STEEL HILTI KB–TZ EXPANSION ANCHORS COMPLYING WITH ESR–1917 REISSUED MAY 1, 2013.

- B. INSTALLATION: INSTALL THE EXPANSION ANCHORS IN ACCORDANCE WITH THE REQUIREMENTS GIVEN IN THE ICC EVALUATION REPORT FOR THE SPECIFIC ANCHOR AND THE PARAMETERS GIVEN IN THE TABLE ON PAGE 3.
- C. JOB TESTING: FOR VERIFYING SATISFACTORY INSTALLATION WORKMANSHIP, PERFORM JOB SITE TESTING IN ACCORDANCE WITH THE TORQUE LOAD TABLE PROVIDED IN THIS DOCUMENT. TEST 50% OF THE INSTALLED ANCHORS. THE TEST LOAD MAY BE APPLIED BY ANY METHOD THAT WILL EFFECTIVELY MEASURE THE TENSION IN THE ANCHOR SUCH AS CALIBRATED TORQUE WRENCH METHOD. ALL TESTS SHALL BE CONDUCTED IN THE PRESENCE OF THE INSPECTOR OF RECORD. REPORT OF TEST RESULTS SHALL BE SUBMITTED TO OSHPD. IF ANY ANCHOR FAILS THE TEST, TEST ALL ANCHORS. THE TEST SHALL BE PERFORMED 24 HOURS OR MORE AFTER INSTALLATION. TESTING MAY BE DONE PRIOR TO EQUIPMENT INSTALLATION. ALSO REFER TO CBC 1913A.7 "FIELD TESTS FOR POST–INSTALLED ANCHORS IN CONCRETE".
- D. FAILURE/ACCEPTANCE CRITERIA: THE FOLLOWING CRITERIA APPLY FOR THE ACCEPTANCE OF INSTALLED ANCHORS:
  - TORQUE WRENCH METHOD: THE APPLICABLE TEST TORQUE MUST BE REACHED WITHIN THE FOLLOWING LIMITS: WEDGE TYPE: ONE–HALF (½) TURN OF THE NUT.

REGISTERED PROFESSIONAL ENGINEER PETER T. SYKES No. S4346 STRUCTURAL STATE OF CALIFORNIA

SHEET TITLE: GENERAL NOTES

CYS STRUCTURAL ENGINEERS, INC.
2495 NATOMAS PARK DRIVE, SUITE 650 TEL (916) 920-2020
SACRAMENTO, CA 95833 www.cyseng.com

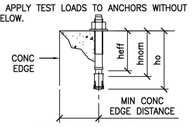
Job No:	13127
Date:	06-30-2014
Page:	2 of 13

EXTRON ELECTRONICS
WMK 160 & PVM 220

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GENERAL NOTES CONTINUED:

3E. TEST VALUES: APPLY TEST LOADS TO ANCHORS WITHOUT REMOVING THE NUT IF POSSIBLE, SEE TABLE BELOW.

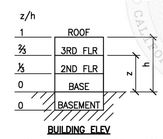


MECHANICAL ANCHOR

ANCHOR DIA (INCH) da	INSTALLATION EMBED (INCH) hnom	EFFECTIVE EMBED (INCH) heff	HOLE DEPTH (INCH) ho	MIN CONC THICKNESS (INCH) h	MIN CONC EDGE DISTANCE (INCH)	MIN AB SPACING (INCH)	TEST LOAD TORQUE (FT–LBS)	CONDITION OF ANCHORAGE
⅜	2⁹⁄₁₆	2	2⅝	4*	6	6¾	25	CASE 1

* SEE PAGE 11 FOR UNDERSIDE OF METAL DECK DETAIL.

4. A SINGLE CASE OF ANCHORAGE IS SPECIFIED AND PRESENTED IN THIS PRE–APPROVAL:



BUILDING ELEV

CASE 1: ANCHORAGE DETAILS LOCATED AT ANY LEVEL OF A BUILDING (z/h<=1.0), IT IS ASSUMED THAT THE FLOORS ARE BUILT OF A MINIMUM 3¼" SAND–LIGHT WEIGHT CONCRETE OR NORMAL WEIGHT CONCRETE TOPPING OVER METAL DECK OR 4" NORMAL WEIGHT CONCRETE SLAB (f'c = 3000 PSI, MINIMUM).

5. THIS PRE–APPROVAL MAY BE USED AT ANY GEOGRAPHICAL LOCATION IN THE STATE OF CALIFORNIA. WHERE S_{DS} IS LESS THAN OR EQ TO 2.50.

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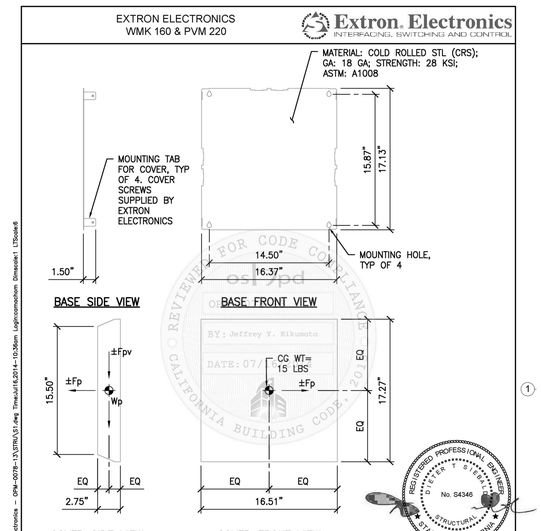
SHEET TITLE: GENERAL NOTES (CONTINUED)

CYS STRUCTURAL ENGINEERS, INC.
2495 NATOMAS PARK DRIVE, SUITE 650 TEL (916) 920-2020
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Job No:	13127
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EXTRON ELECTRONICS
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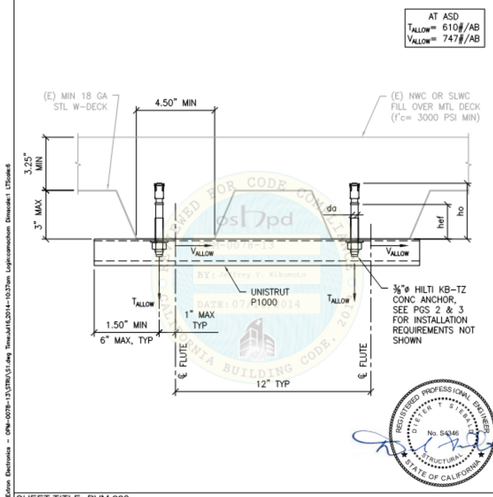
SHEET TITLE: WMK 160
ELEVATIONS

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EXTRON ELECTRONICS
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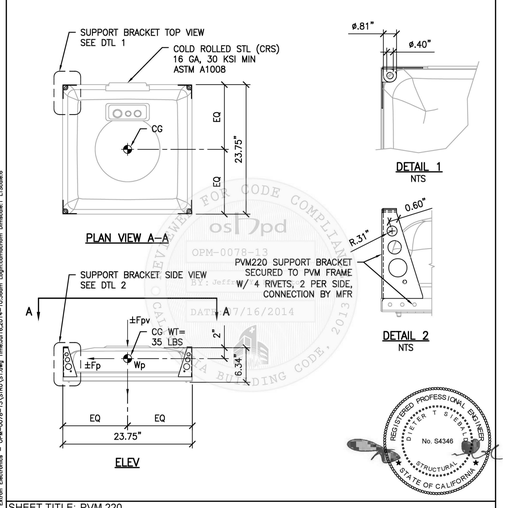
SHEET TITLE: PVM 220
UNDERSIDE OF METAL DECK

CYS STRUCTURAL ENGINEERS, INC.
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Job No:	13127
Date:	06-30-2014
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WMK 160 & PVM 220

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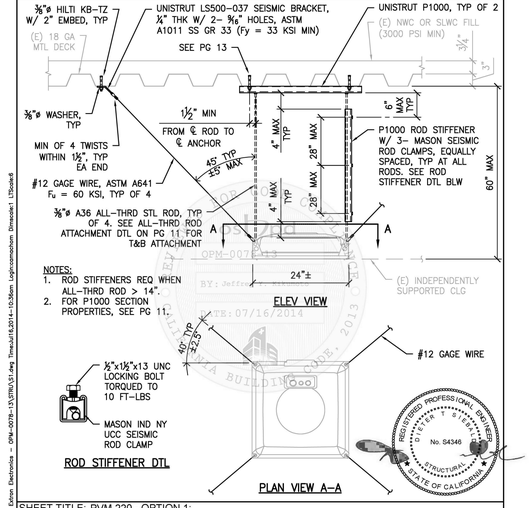
SHEET TITLE: PVM 220
PLAN & ELEVATIONS

CYS STRUCTURAL ENGINEERS, INC.
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Date:	06-30-2014
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EXTRON ELECTRONICS
WMK 160 & PVM 220

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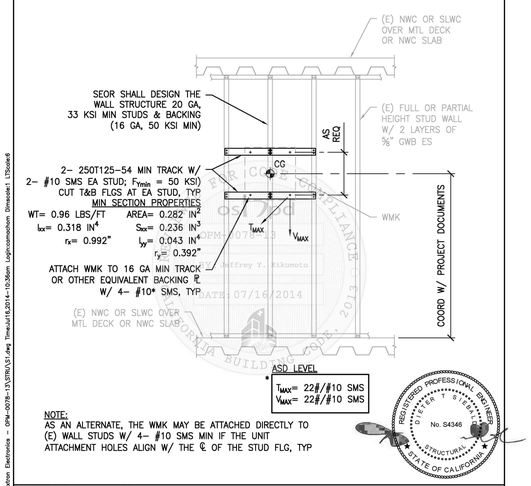
SHEET TITLE: PVM 220 - OPTION 1:
UNDERSIDE OF METAL DECK SUPPORT & ATTACHMENT

CYS STRUCTURAL ENGINEERS, INC.
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Date:	06-30-2014
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EXTRON ELECTRONICS
WMK 160 & PVM 220

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INTERFACING, SWITCHING AND CONTROL



REGISTERED PROFESSIONAL ENGINEER PETER T. SYKES No. S4346 STRUCTURAL STATE OF CALIFORNIA

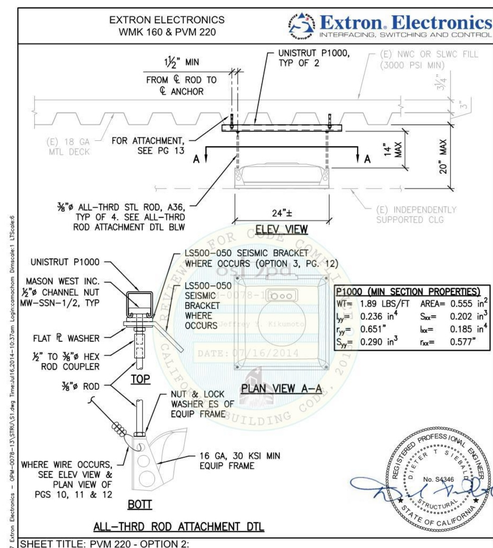
SHEET TITLE: WMK 160
STUD WALL ATTACHMENT

CYS STRUCTURAL ENGINEERS, INC.
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Date:	06-30-2014
Page:	7 of 13

EXTRON ELECTRONICS
WMK 160 & PVM 220

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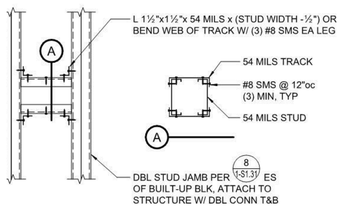


REGISTERED PROFESSIONAL ENGINEER PETER T. SYKES No. S4346 STRUCTURAL STATE OF CALIFORNIA

SHEET TITLE: PVM 220 - OPTION 2:
UNDERSIDE OF METAL DECK SUPPORT & ATTACHMENT

CYS STRUCTURAL ENGINEERS, INC.
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Job No:	13127
Date:	06-30-2014
Page:	11 of 13



1 HEAVY DUTY WALL BACKING PLATING
NTS

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL RECD:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER AMANDA J. BROWNLEE No. E17387 ELECTRICAL STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

TECHNOLOGY DETAILS

Drawn By: Author Checked By: Checker

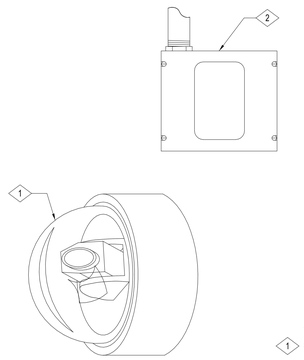
Scale: NTS

Date: October 4, 2019

Project No. B17.07369

6-T7.04
Drawing No.

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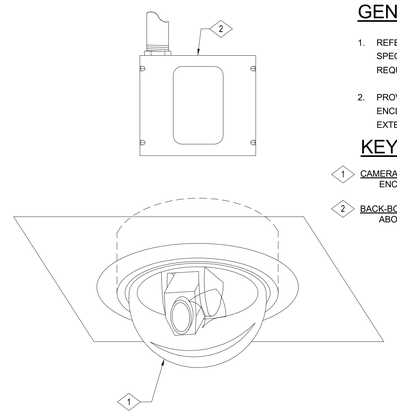
GENERAL NOTES:

1. REFER TO SECURITY SCHEDULES AND WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
2. PROVIDE WEATHER PROOF/WATER RESISTANT ENCLOSURE WITH HEATER/BLOWER FOR ALL EXTERIOR CAMERAS.

KEYNOTES:

1. CAMERA: PROVIDE MINI-DOME TYPE CAMERA WITH ENCLOSURE.
2. BACK-BOX: CAMERA CABLE BACK-BOX MOUNTED FLUSH IN WALL.

4 FIXED WALL SURFACE MOUNT CCTV CAMERA — NO SCALE



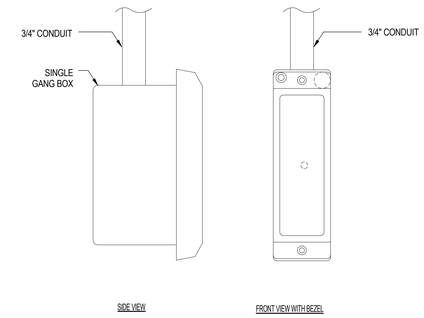
GENERAL NOTES:

1. REFER TO SECURITY SCHEDULES AND WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
2. PROVIDE WEATHER PROOF/WATER RESISTANT ENCLOSURE WITH HEATER/BLOWER FOR ALL EXTERIOR CAMERAS.

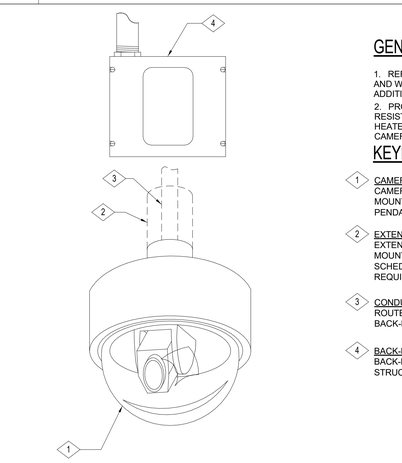
KEYNOTES:

1. CAMERA: PROVIDE MINI-DOME TYPE CAMERA WITH ENCLOSURE.
2. BACK-BOX: CAMERA CABLE BACK-BOX MOUNTED ABOVE CEILING.

1 FIXED CEILING MOUNT CCTV CAMERA — NO SCALE



5 CARD READER DETAIL - MULLION — NO SCALE



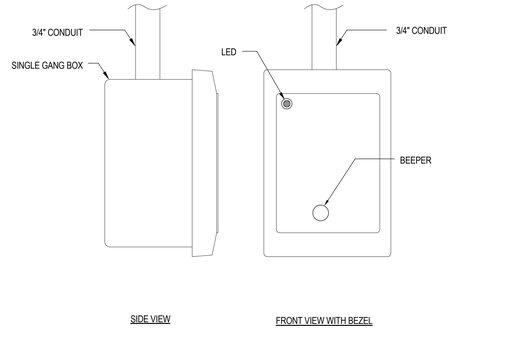
GENERAL NOTES:

1. REFER TO SECURITY SCHEDULES AND WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
2. PROVIDE WEATHER PROOF/WATER RESISTANT ENCLOSURE WITH HEATER/BLOWER FOR ALL EXTERIOR CAMERAS.

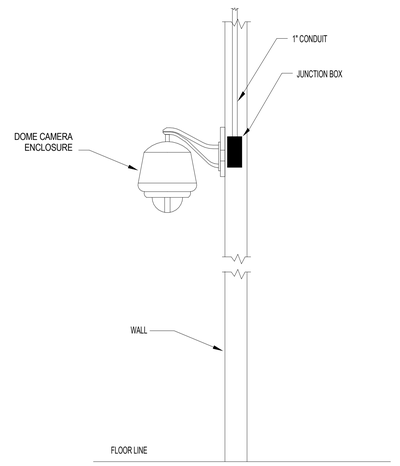
KEYNOTES:

1. CAMERA: PROVIDE MINI-DOME TYPE CAMERA WITH ENCLOSURE SURFACE MOUNTED DIRECTLY TO BACK-BOX OR PENDANT MOUNTED FROM BACK-BOX.
2. EXTENSION: PROVIDE PENDANT MOUNT EXTENSION AS REQUIRED BASED ON CAMERA MOUNTING HEIGHT. REFER TO CAMERA SCHEDULES FOR MOUNTING HEIGHT REQUIREMENTS.
3. CONDUIT: PROVIDE (1) 1-INCH CONDUIT ROUTED FROM CAMERA TO DATA DEVICE BACK-BOX.
4. BACK-BOX: CAMERA CABLE BACK-BOX SURFACE MOUNTED TO STRUCTURE.

2 FIXED OVERHEAD MOUNT CCTV CAMERA — NO SCALE



6 CARD READER DETAIL — NO SCALE



3 WALL MOUNTED DOME CAMERA ENCLOSURE — NO SCALE

DETAILS ON THIS SHEET ARE GENERIC. PLEASE REFER TO OPM DETAILS FOR HANGER AND ANCHOR INFORMATION FOR ALL SUPPORTS AND CONNECTION INFORMATION NOT INDICATED

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION	
DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY: KATHY GARCIA, DEP. DIR. PUBLIC WORKS	ALEX AMERI, INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	FILE NO. E-2157

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425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER
JAMACA J. BROWNLEE
No. E17287
ELECTRICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

SECURITY DETAILS

Drawn By: Author
Checked By: Checker

Scale: **NTS**

Date: **October 4, 2019**

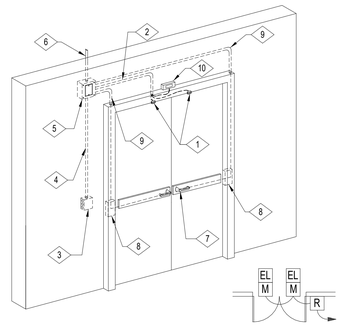
Project No. B17.07369

6-T7.05
Drawing No.

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GENERAL NOTES:

1. DOOR DETAIL INDICATES DOOR HANDLE OR CRASHBAR ON SECURED SIDE OF DOOR FOR REFERENCE ONLY. REFER TO DOOR HARDWARE DIVISION SPECIFICATIONS FOR ACTUAL HARDWARE INFORMATION.
2. LOCK POWER WILL VARY DEPENDING ON LOCK TYPE AND DOOR HARDWARE. REFER TO SECURITY SCHEDULES FOR COORDINATED POWER REQUIREMENTS. CONTRACTOR SHALL CROSS REFERENCE WITH OFFICIAL DOOR HARDWARE SCHEDULE/SPECIFICATIONS TO CONFIRM FINAL REQUIREMENTS.



CARD-IN WITH CONTACT, FREE EXIT, ELECTRIC LOCKS, PIR MOTION REX

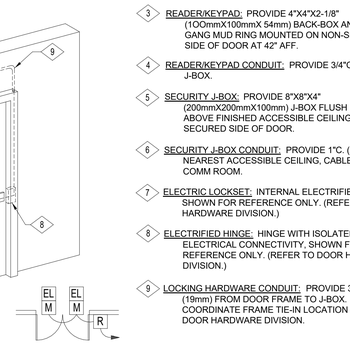
KEYNOTES:

1. DOOR MONITOR: PROVIDE FLUSH MOUNTED DOOR STATUS MONITOR.
2. DOOR MONITOR CONDUIT: PROVIDE 3/4"C. (19mm) FROM DOOR FRAME TO J-BOX.
3. READER/KEYPAD: PROVIDE 4"X4"X2-1/8" (1OOmmX100mmX 54mm) BACK-BOX AND SINGLE GANG MUD RING MOUNTED ON NON-SECURED SIDE OF DOOR AT 42" AFF.
4. READER/KEYPAD CONDUIT: PROVIDE 3/4"C. (19mm) TO J-BOX.
5. SECURITY J-BOX: PROVIDE 8"X8"X4" (200mmX200mmX100mm) J-BOX FLUSH MOUNTED ABOVE FINISHED ACCESSIBLE CEILING ON SECURED SIDE OF DOOR.
6. SECURITY J-BOX CONDUIT: PROVIDE 1"C. (25mm) TO NEAREST ACCESSIBLE CEILING, CABLE TRAY, OR COMM ROOM.
7. ELECTRIC LOCKSET: INTERNAL ELECTRIFIED LOCK, SHOWN FOR REFERENCE ONLY. (REFER TO DOOR HARDWARE DIVISION.)
8. ELECTRIFIED HINGE: HINGE WITH ISOLATED ELECTRICAL CONNECTIVITY, SHOWN FOR REFERENCE ONLY. (REFER TO DOOR HARDWARE DIVISION.)
9. LOCKING HARDWARE CONDUIT: PROVIDE 3/4"C. (19mm) FROM DOOR FRAME TO J-BOX. COORDINATE FRAME TIE-IN LOCATION WITH DOOR HARDWARE DIVISION.
10. PIR MOTION REX: PROVIDE MOTION REX DEVICE CENTERED AND MOUNTED TO TOP OF DOOR FRAME. ROUTE CABLING INTO DOOR FRAME AND UP TO J-BOX.

4 CARD ACCESS - DOUBLE DOOR TYPE 8 — NO SCALE

GENERAL NOTES:

1. DOOR DETAIL INDICATES DOOR HANDLE OR CRASHBAR ON SECURED SIDE OF DOOR FOR REFERENCE ONLY. REFER TO DOOR HARDWARE DIVISION SPECIFICATIONS FOR ACTUAL HARDWARE INFORMATION.
2. LOCK POWER WILL VARY DEPENDING ON LOCK TYPE AND DOOR HARDWARE. REFER TO SECURITY SCHEDULES FOR COORDINATED POWER REQUIREMENTS. CONTRACTOR SHALL CROSS REFERENCE WITH OFFICIAL DOOR HARDWARE SCHEDULE/SPECIFICATIONS TO CONFIRM FINAL REQUIREMENTS.



CARD-IN WITH CONTACTS, FREE EXIT, ELECTRIC LOCKS, INTEGRATED REX

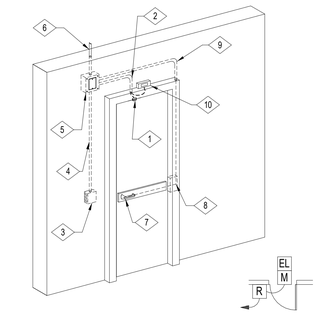
KEYNOTES:

1. DOOR MONITOR: PROVIDE FLUSH MOUNTED DOOR STATUS MONITOR.
2. DOOR MONITOR CONDUIT: PROVIDE 3/4"C. (19mm) FROM DOOR FRAME TO J-BOX.
3. READER/KEYPAD: PROVIDE 4"X4"X2-1/8" (1OOmmX100mmX 54mm) BACK-BOX AND SINGLE GANG MUD RING MOUNTED ON NON-SECURED SIDE OF DOOR AT 42" AFF.
4. READER/KEYPAD CONDUIT: PROVIDE 3/4"C. (19mm) TO J-BOX.
5. SECURITY J-BOX: PROVIDE 8"X8"X4" (200mmX200mmX100mm) J-BOX FLUSH MOUNTED ABOVE FINISHED ACCESSIBLE CEILING ON SECURED SIDE OF DOOR.
6. SECURITY J-BOX CONDUIT: PROVIDE 1"C. (25mm) TO NEAREST ACCESSIBLE CEILING, CABLE TRAY, OR COMM ROOM.
7. ELECTRIC LOCKSET: INTERNAL ELECTRIFIED LOCK, SHOWN FOR REFERENCE ONLY. (REFER TO DOOR HARDWARE DIVISION.)
8. ELECTRIFIED HINGE: HINGE WITH ISOLATED ELECTRICAL CONNECTIVITY, SHOWN FOR REFERENCE ONLY. (REFER TO DOOR HARDWARE DIVISION.)
9. LOCKING HARDWARE CONDUIT: PROVIDE 3/4"C. (19mm) FROM DOOR FRAME TO J-BOX. COORDINATE FRAME TIE-IN LOCATION WITH DOOR HARDWARE DIVISION.

1 CARD ACCESS - DOUBLE DOOR TYPE 5 — NO SCALE

GENERAL NOTES:

1. DOOR DETAIL INDICATES DOOR HANDLE OR CRASHBAR ON SECURED SIDE OF DOOR FOR REFERENCE ONLY. REFER TO DOOR HARDWARE DIVISION SPECIFICATIONS FOR ACTUAL HARDWARE INFORMATION.
2. LOCK POWER WILL VARY DEPENDING ON LOCK TYPE AND DOOR HARDWARE. REFER TO SECURITY SCHEDULES FOR COORDINATED POWER REQUIREMENTS. CONTRACTOR SHALL CROSS REFERENCE WITH OFFICIAL DOOR HARDWARE SCHEDULE/SPECIFICATIONS TO CONFIRM FINAL REQUIREMENTS.



CARD-IN WITH CONTACTS, FREE EXIT, ELECTRIC LOCK, PIR MOTION REX

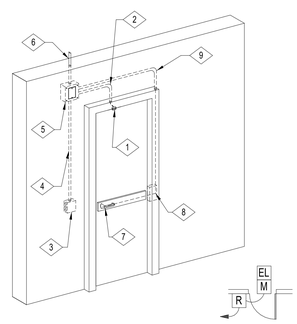
KEYNOTES:

1. DOOR MONITOR: PROVIDE FLUSH MOUNTED DOOR STATUS MONITOR.
2. DOOR MONITOR CONDUIT: PROVIDE 3/4"C. (19mm) FROM DOOR FRAME TO J-BOX.
3. READER/KEYPAD: PROVIDE 4"X4"X2-1/8" (1OOmmX100mmX 54mm) BACK-BOX AND SINGLE GANG MUD RING MOUNTED ON NON-SECURED SIDE OF DOOR AT 42" AFF.
4. READER/KEYPAD CONDUIT: PROVIDE 3/4"C. (19mm) TO J-BOX.
5. SECURITY J-BOX: PROVIDE 8"X8"X4" (200mmX200mmX100mm) J-BOX FLUSH MOUNTED ABOVE FINISHED ACCESSIBLE CEILING ON SECURED SIDE OF DOOR.
6. SECURITY J-BOX CONDUIT: PROVIDE 1"C. (25mm) TO NEAREST ACCESSIBLE CEILING, CABLE TRAY, OR COMM ROOM.
7. ELECTRIC LOCKSET: INTERNAL ELECTRIFIED LOCK, SHOWN FOR REFERENCE ONLY. (REFER TO DOOR HARDWARE DIVISION.)
8. ELECTRIFIED HINGE: HINGE WITH ISOLATED ELECTRICAL CONNECTIVITY, SHOWN FOR REFERENCE ONLY. (REFER TO DOOR HARDWARE DIVISION.)
9. LOCKING HARDWARE CONDUIT: PROVIDE 3/4"C. (19mm) FROM DOOR FRAME TO J-BOX. COORDINATE FRAME TIE-IN LOCATION WITH DOOR HARDWARE DIVISION.
10. PIR MOTION REX: PROVIDE MOTION REX DEVICE CENTERED AND MOUNTED TO TOP OF DOOR FRAME. ROUTE CABLING INTO DOOR FRAME AND UP TO J-BOX.

5 CARD ACCESS - SINGLE DOOR TYPE 6 — NO SCALE

GENERAL NOTES:

1. DOOR DETAIL INDICATES DOOR HANDLE OR CRASHBAR ON SECURED SIDE OF DOOR FOR REFERENCE ONLY. REFER TO DOOR HARDWARE DIVISION SPECIFICATIONS FOR ACTUAL HARDWARE INFORMATION.
2. LOCK POWER WILL VARY DEPENDING ON LOCK TYPE AND DOOR HARDWARE. REFER TO SECURITY SCHEDULES FOR COORDINATED POWER REQUIREMENTS. CONTRACTOR SHALL CROSS REFERENCE WITH OFFICIAL DOOR HARDWARE SCHEDULE/SPECIFICATIONS TO CONFIRM FINAL REQUIREMENTS.



CARD-IN WITH CONTACT, FREE EXIT, ELECTRIC LOCKSET, INTEGRATED REX

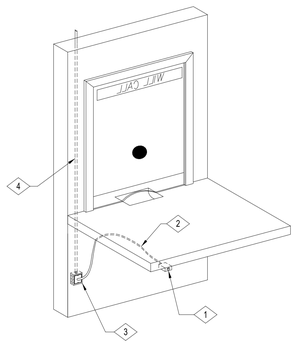
KEYNOTES:

1. DOOR MONITOR: PROVIDE FLUSH MOUNTED DOOR STATUS MONITOR.
2. DOOR MONITOR CONDUIT: PROVIDE 3/4"C. (19mm) FROM DOOR FRAME TO J-BOX.
3. READER/KEYPAD: PROVIDE 4"X4"X2-1/8" (1OOmmX100mmX 54mm) BACK-BOX AND SINGLE GANG MUD RING MOUNTED ON NON-SECURED SIDE OF DOOR AT 42" AFF.
4. READER/KEYPAD CONDUIT: PROVIDE 3/4"C. (19mm) TO J-BOX.
5. SECURITY J-BOX: PROVIDE 8"X8"X4" (200mmX200mmX100mm) J-BOX FLUSH MOUNTED ABOVE FINISHED ACCESSIBLE CEILING ON SECURED SIDE OF DOOR.
6. SECURITY J-BOX CONDUIT: PROVIDE 1"C. (25mm) TO NEAREST ACCESSIBLE CEILING, CABLE TRAY, OR COMM ROOM.
7. ELECTRIC LOCKSET: INTERNAL ELECTRIFIED LOCK WITH INTEGRATED REX SWITCH, SHOWN FOR REFERENCE ONLY. (REFER TO DOOR HARDWARE DIVISION.)
8. ELECTRIFIED HINGE: HINGE WITH ISOLATED ELECTRICAL CONNECTIVITY, SHOWN FOR REFERENCE ONLY. (REFER TO DOOR HARDWARE DIVISION.)
9. LOCKING HARDWARE CONDUIT: PROVIDE 3/4"C. (19mm) FROM DOOR FRAME TO J-BOX. COORDINATE FRAME TIE-IN LOCATION WITH DOOR HARDWARE DIVISION.

2 CARD ACCESS - SINGLE DOOR TYPE 3 — NO SCALE

GENERAL NOTES:

1. MILLWORK IS SHOWN HERE FOR REFERENCE ONLY. CONTRACTOR SHALL REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION AND TO COORDINATE FINAL DEVICE PLACEMENT PRIOR TO INSTALLATION.



KEYNOTES:

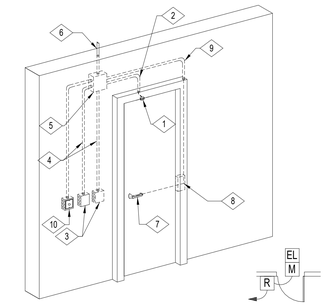
1. DURESS BUTTON: PROVIDE SURFACE MOUNTED DURESS BUTTON UNDER FRONT EDGE OF COUNTER.
2. FLEXIBLE CONDUIT WHIP: PROVIDE 3/4" FLEXIBLE WHIP FROM DURESS BUTTON TO J-BOX LOCATED BELOW COUNTER.
3. DURESS BUTTON J-BOX: PROVIDE 4"X4"X2-1/8" (1OOmmX100mmX 54mm) BACK-BOX AND SINGLE GANG FACE PLATE FLUSH MOUNTED IN WALL BELOW COUNTER AT 24" AFF.
4. DURESS BUTTON CONDUIT: PROVIDE 3/4"C. (19mm) FROM J-BOX TO NEAREST ACCESSIBLE CEILING, CABLE TRAY, OR COMM ROOM.

DETAILS ON THIS SHEET ARE GENERIC. PLEASE REFER TO OPM DETAILS FOR HANGER AND ANCHOR INFORMATION FOR ALL SUPPORTS AND CONNECTION INFORMATION NOT INDICATED

6 DURESS BUTTON - UNDER COUNTER — NO SCALE

GENERAL NOTES:

1. DOOR DETAIL INDICATES DOOR HANDLE OR CRASHBAR ON SECURED SIDE OF DOOR FOR REFERENCE ONLY. REFER TO DOOR HARDWARE DIVISION SPECIFICATIONS FOR ACTUAL HARDWARE INFORMATION.
2. LOCK POWER WILL VARY DEPENDING ON LOCK TYPE AND DOOR HARDWARE. REFER TO SECURITY SCHEDULES FOR COORDINATED POWER REQUIREMENTS. CONTRACTOR SHALL CROSS REFERENCE WITH OFFICIAL DOOR HARDWARE SCHEDULE/SPECIFICATIONS TO CONFIRM FINAL REQUIREMENTS.



CARD-IN WITH CONTACT, CARD-OUT, ELECTRIC LOCK, EMERGENCY EGRESS BUTTON

KEYNOTES:

1. DOOR MONITOR: PROVIDE FLUSH MOUNTED DOOR STATUS MONITOR.
2. DOOR MONITOR CONDUIT: PROVIDE 3/4"C. (19mm) FROM DOOR FRAME TO J-BOX.
3. READER/KEYPAD: PROVIDE 4"X4"X2-1/8" (1OOmmX100mmX 54mm) BACK-BOX AND SINGLE GANG MUD RING MOUNTED ON NON-SECURED SIDE OF DOOR AT 42" AFF.
4. READER/KEYPAD CONDUIT: PROVIDE 3/4"C. (19mm) TO J-BOX.
5. SECURITY J-BOX: PROVIDE 8"X8"X4" (200mmX200mmX100mm) J-BOX MOUNTED ABOVE FINISHED ACCESSIBLE CEILING ON SECURED SIDE OF DOOR.
6. SECURITY J-BOX CONDUIT: PROVIDE 1"C. (25mm) TO NEAREST ACCESSIBLE CEILING, CABLE TRAY, OR COMM ROOM.
7. ELECTRIC LOCKSET: INTERNAL ELECTRIFIED LOCK, SHOWN FOR REFERENCE ONLY. (REFER TO DOOR HARDWARE DIVISION.)
8. ELECTRIFIED HINGE: HINGE WITH ISOLATED ELECTRICAL CONNECTIVITY, SHOWN FOR REFERENCE ONLY. (REFER TO DOOR HARDWARE DIVISION.)
9. LOCKING HARDWARE CONDUIT: PROVIDE 3/4"C. (19mm) FROM DOOR FRAME TO J-BOX. COORDINATE FRAME TIE-IN LOCATION WITH DOOR HARDWARE DIVISION.
10. DOOR RELEASE BUTTON REX: PROVIDE 4"X4"X2-1/8" (1OOMMX100MMX 54MM) BACK-BOX, SINGLE GANG FACE PLATE, AND PUSH BUTTON, MOUNTED ON SECURED SIDE OF DOOR AT 42" AFF. ADDITIONALLY, PROVIDE 3/4"C. (19MM) TO SECURITY J-BOX.

3 CARD ACCESS - DOUBLE DOOR TYPE 20 — NO SCALE

APPROVED
DIV. OF THE STATE ARCHITECT
APP. 01-117774 INC:01
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 11/12/2019

RossDrulisCusenbery
ARCHITECTURE
18294
Sonoma Highway
Sonoma
CA 95476
TEL 707 996 8448
FAX 707 996 8542

CITY OF HAYWARD
HEART OF THE BAY

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

DESIGNED BY:	CHECKED BY:
DRAWN BY:	APPROVAL REC'D:
APPROVED BY:	
KATHY GARCIA DEP. DIR. PUBLIC WORKS	**ALEX AMERI** INTERIM DIR. PUBLIC WORKS
PROJ. NO. 07481 & 07482	**FILE NO. E-2157**

WSP USA Buildings Inc.
425 Market St. 17th Floor
San Francisco, CA 94105
(415) 243-4600
wsp.com

HAYWARD FIRE STATION #6 & FIRE TRAINING CENTER

1401 W. WINTON AVE.
HAYWARD, CA 94545

REVISIONS

No.	Description	Date

REGISTERED PROFESSIONAL ENGINEER
AMANDA J. BROWNLEE
No. E17287
ELECTRICAL
STATE OF CALIFORNIA

PERMIT SUBMITTAL V3

Sheet Title

SECURITY DETAILS

Drawn By: Author — Checked By: Checker

Scale: **NTS**

Date: **October 4, 2019**

Project No. B17.07369

6-T7.06
Drawing No.

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