



# SUSTAINABLE INFRASTRUCTURE

CITY OF HAYWARD

DOWNTOWN SPECIFIC PLAN

MARCH 2017



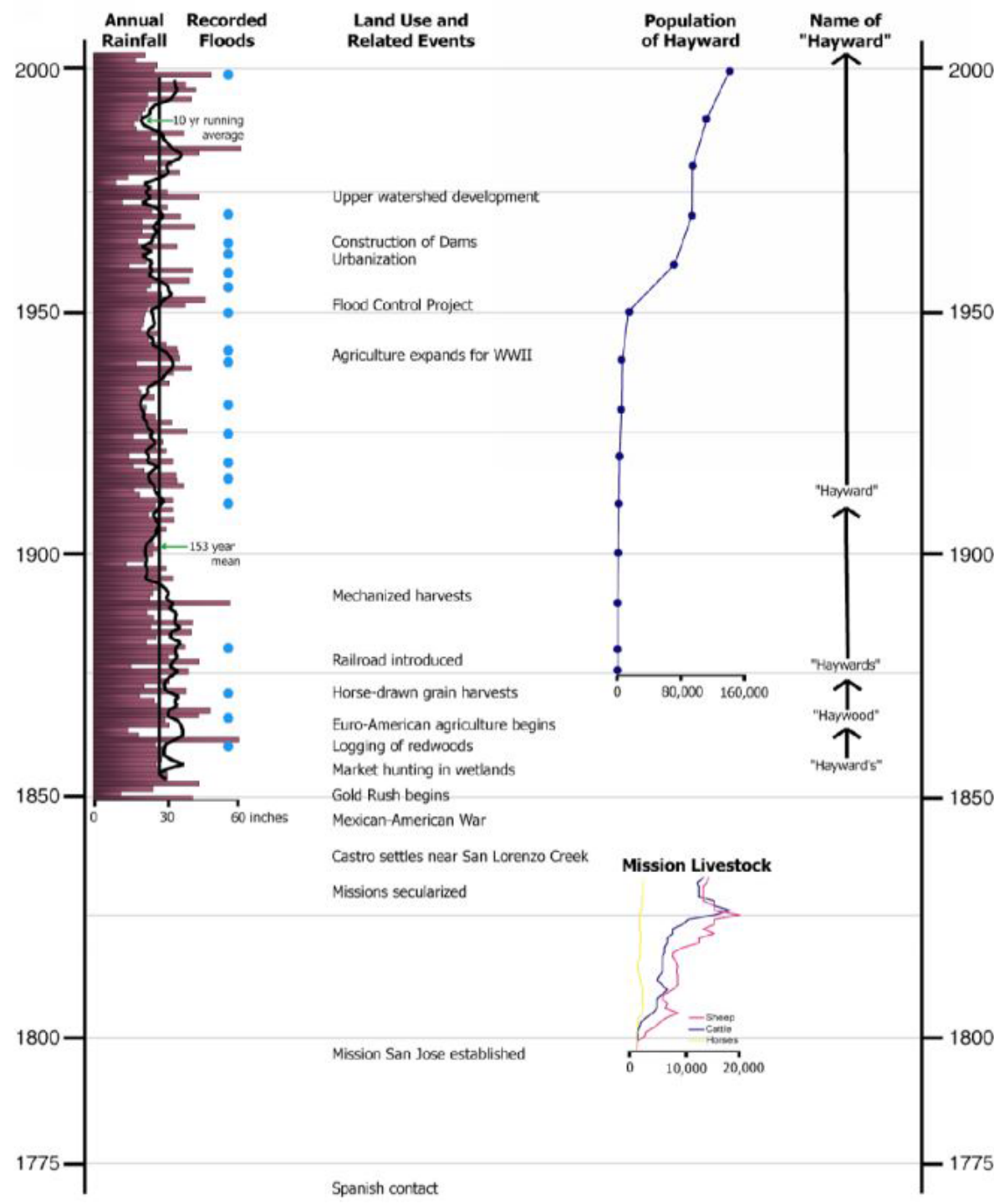


# ON-SITE OBSERVATIONS





# A GEOGRAPHIC HISTORY OF SAN LORENZO CREEK WATERSHED

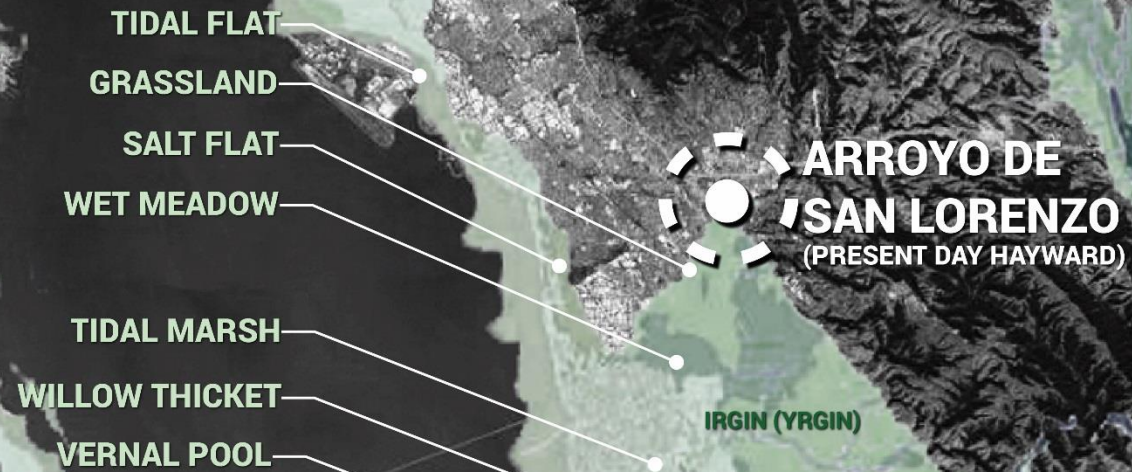


**ECOLOGICAL TRANSFORMATION**

**1**



# HISTORICAL ECOLOGY



\*NATIVE TRIBES OF THE EAST BAY  
PRE-EUROPEAN COLONIZATION

MAP SOURCES:  
- EASTBAYPARKS.ORG  
- ECOATLAS.ORG



# LANDSCAPES





# 19<sup>TH</sup> CENTURY AGRICULTURAL REVOLUTION

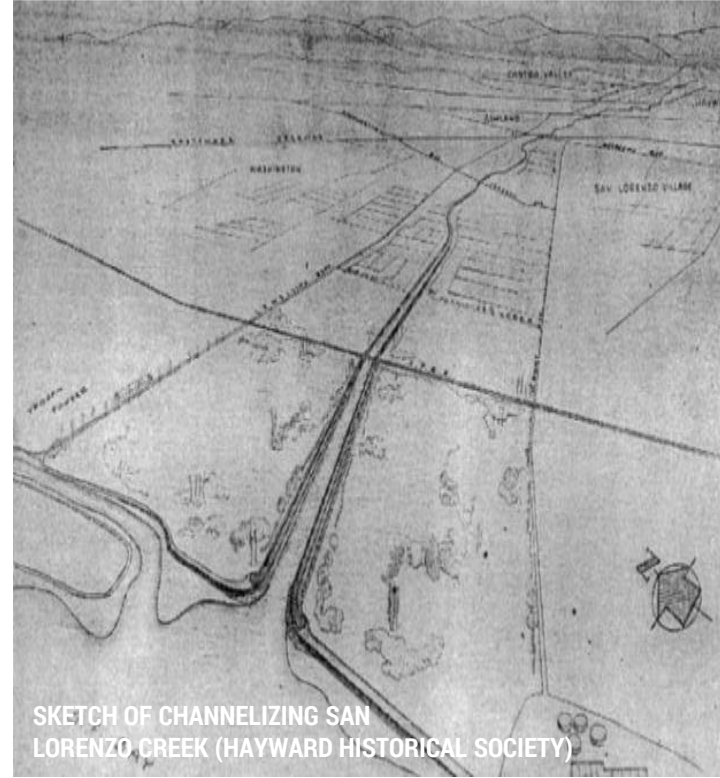




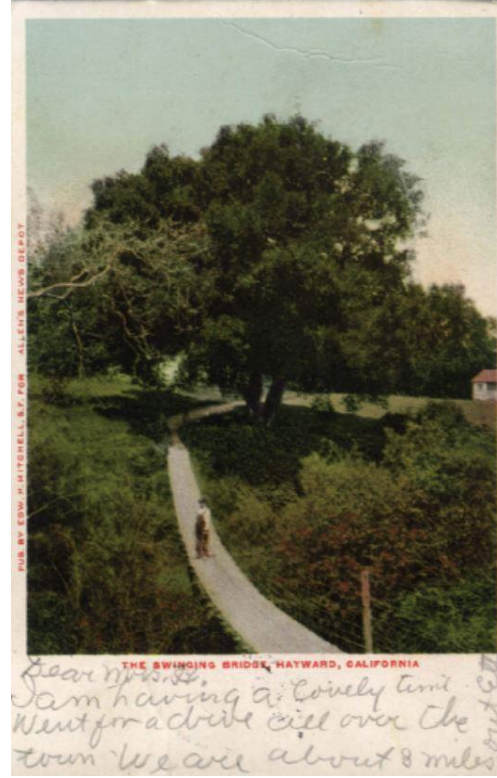
# REIMAGINING THE WATERFRONT



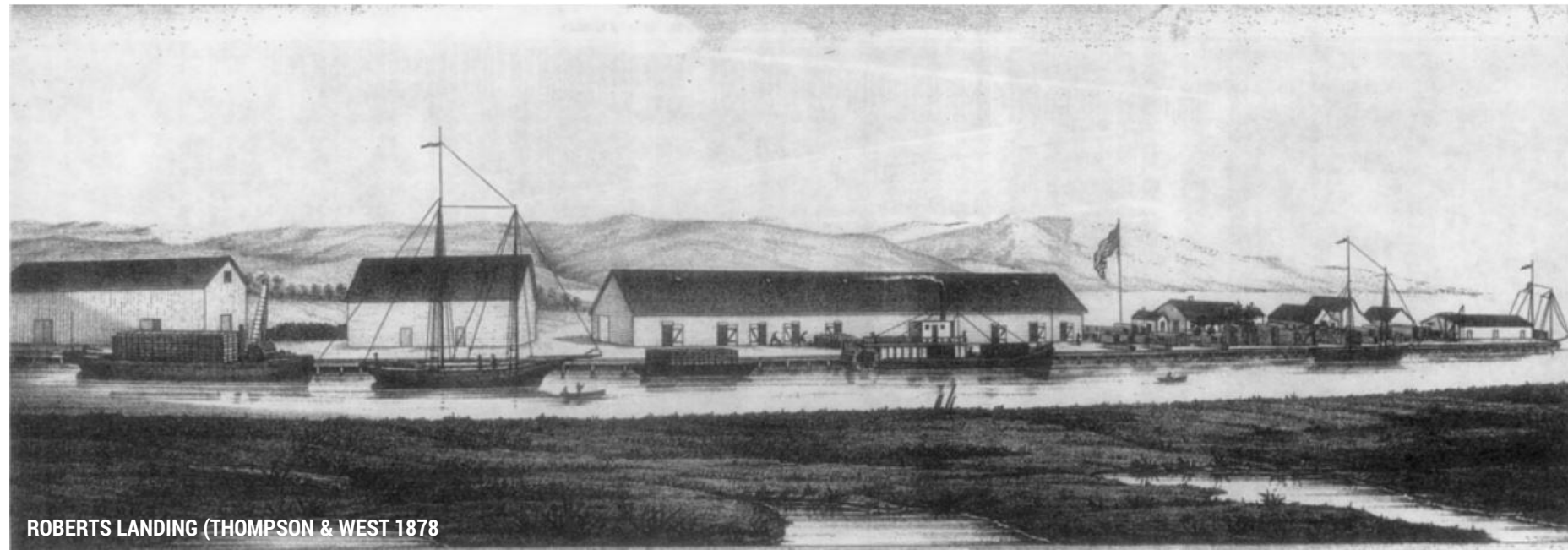
PLAN DE SAN LORENZO (CA. 1840)



SKETCH OF CHANNELIZING SAN LORENZO CREEK (HAYWARD HISTORICAL SOCIETY)



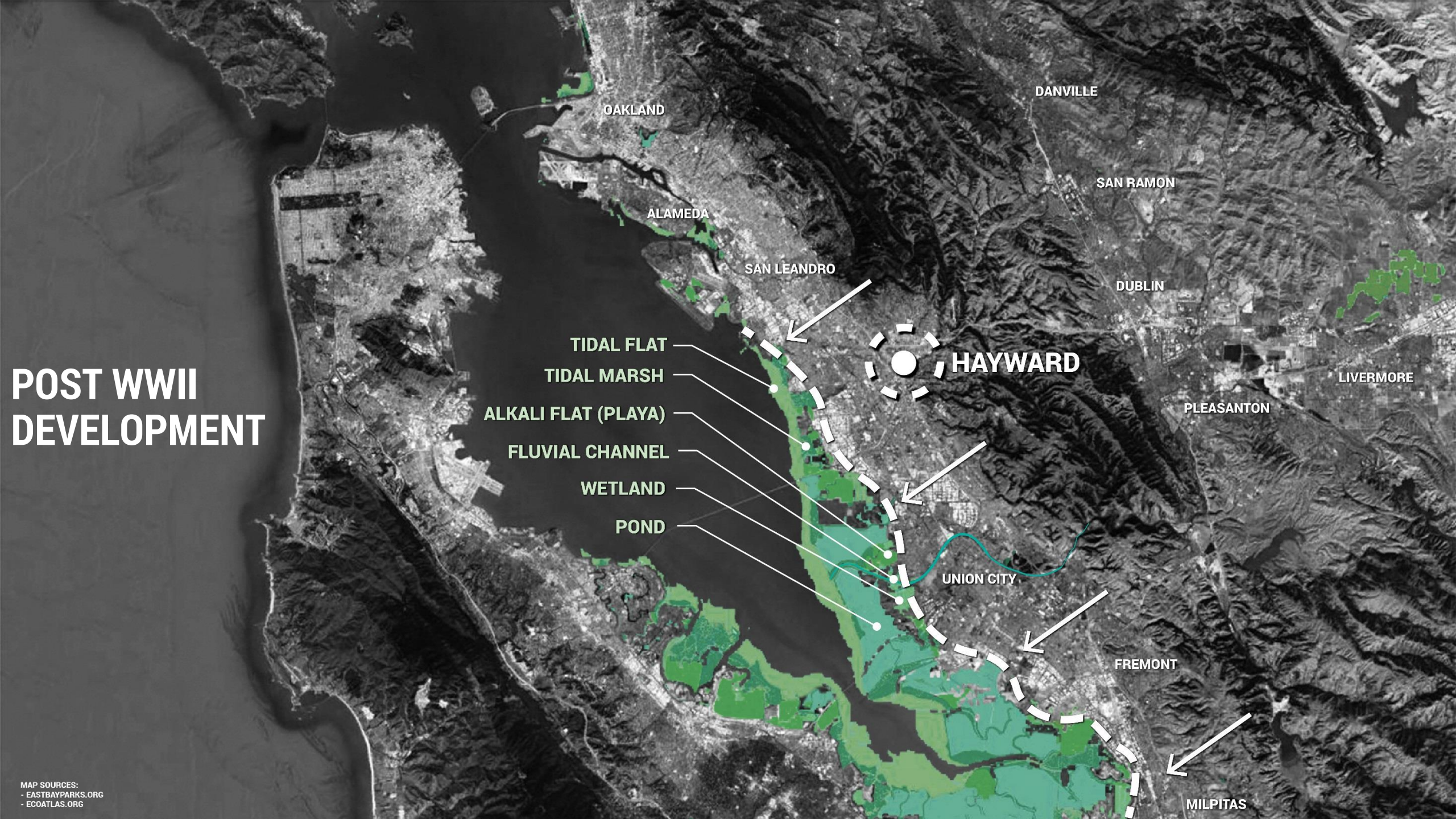
THE SWINGING BRIDGE, HAYWARD, CALIFORNIA  
*Dear friends,  
I am having a lovely time  
Went for a drive over the  
town we are about 8 miles  
out*



ROBERTS LANDING (THOMPSON & WEST 1878)



# POST WWII DEVELOPMENT





# PATTERNS OF CHANGE



HIGHWAY 880 CONSTRUCTION



URBAN SPRAWL UP THE EAST BAY HILLS



CALIFORNIA DROUGHT: IRRIGATION CHANNEL



STORMDRAIN POLLUTION

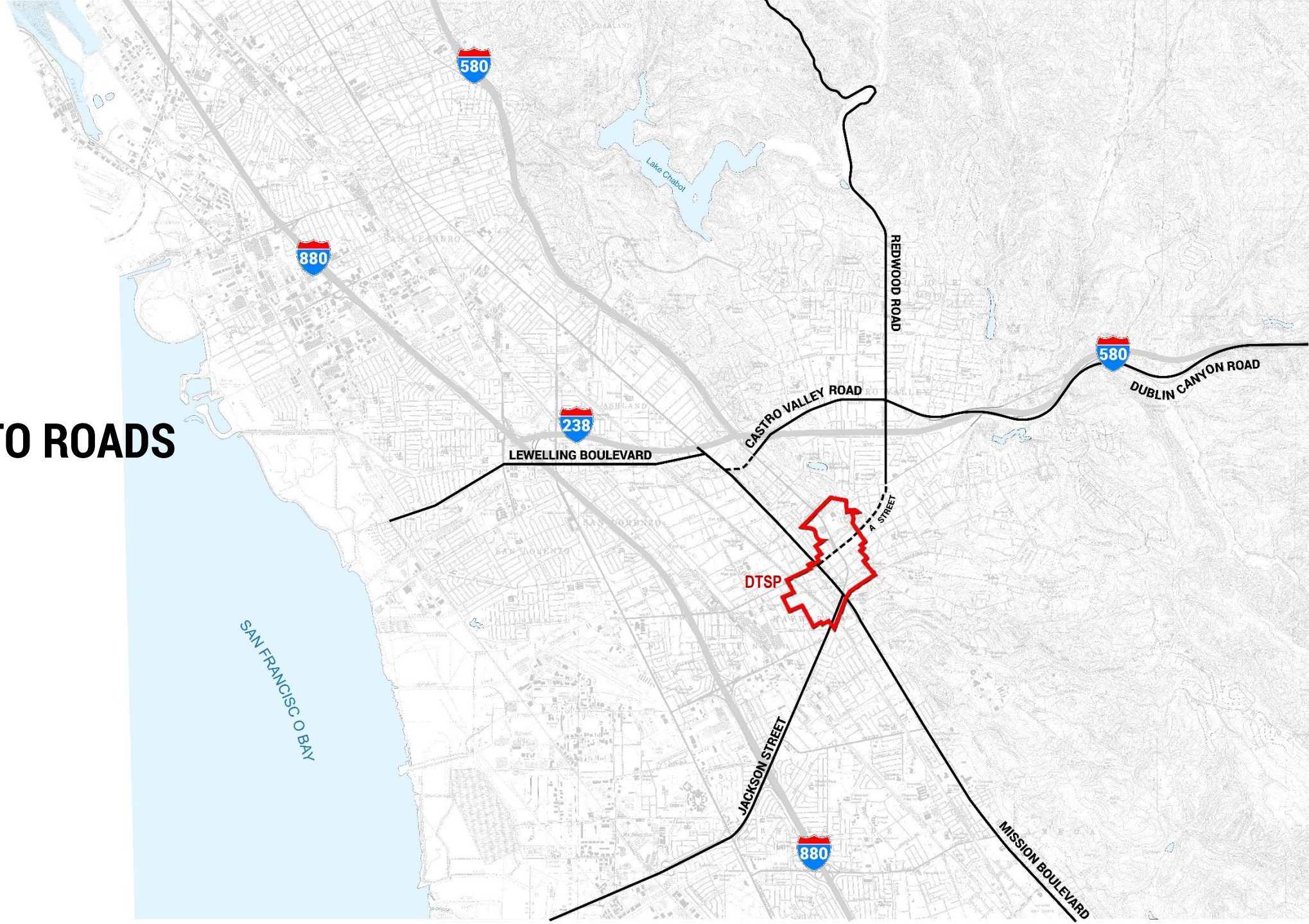


**20<sup>TH</sup> CENTURY DEVELOPMENT**

**2**

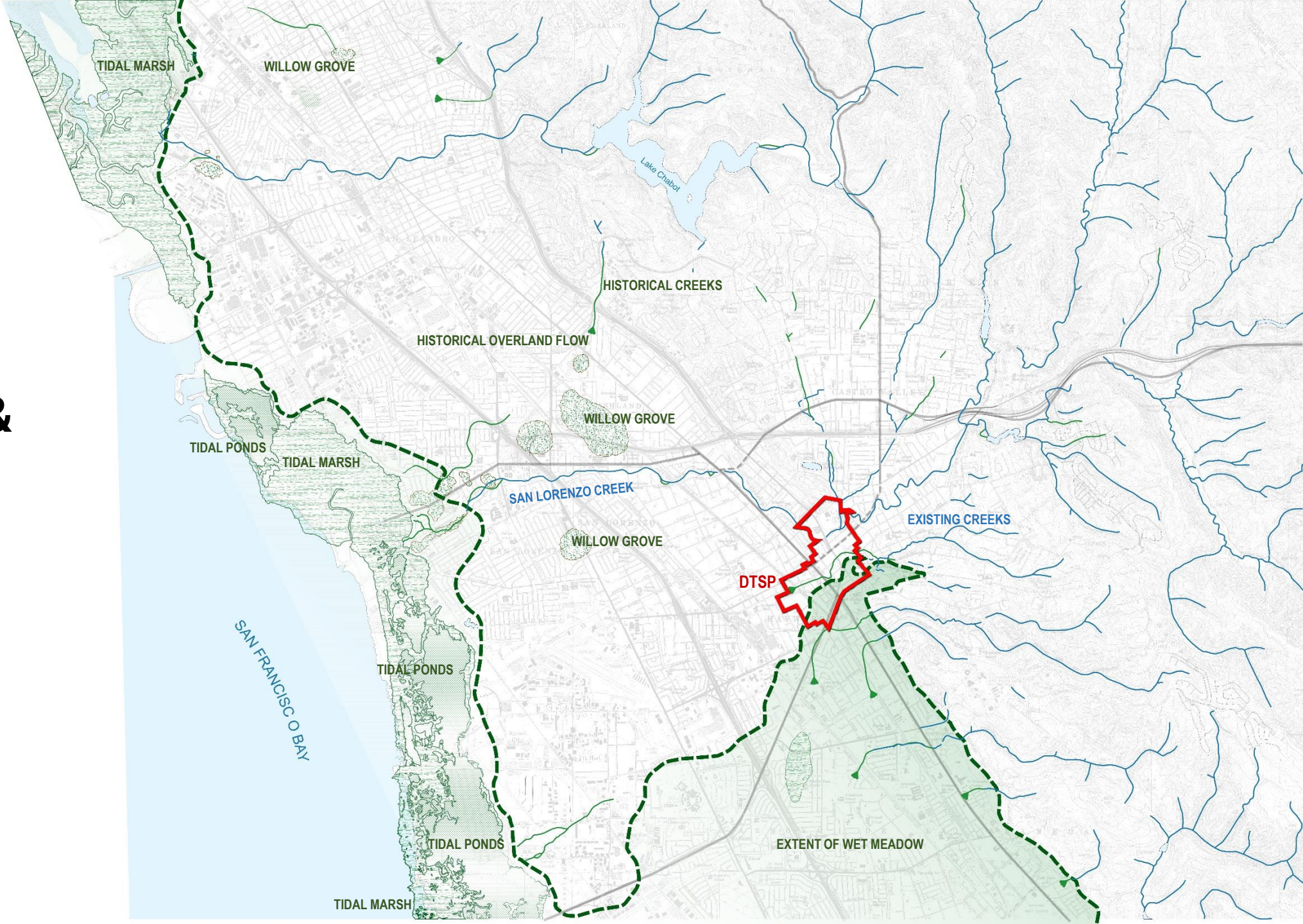


# TRADE ROUTES TO ROADS PRESENT



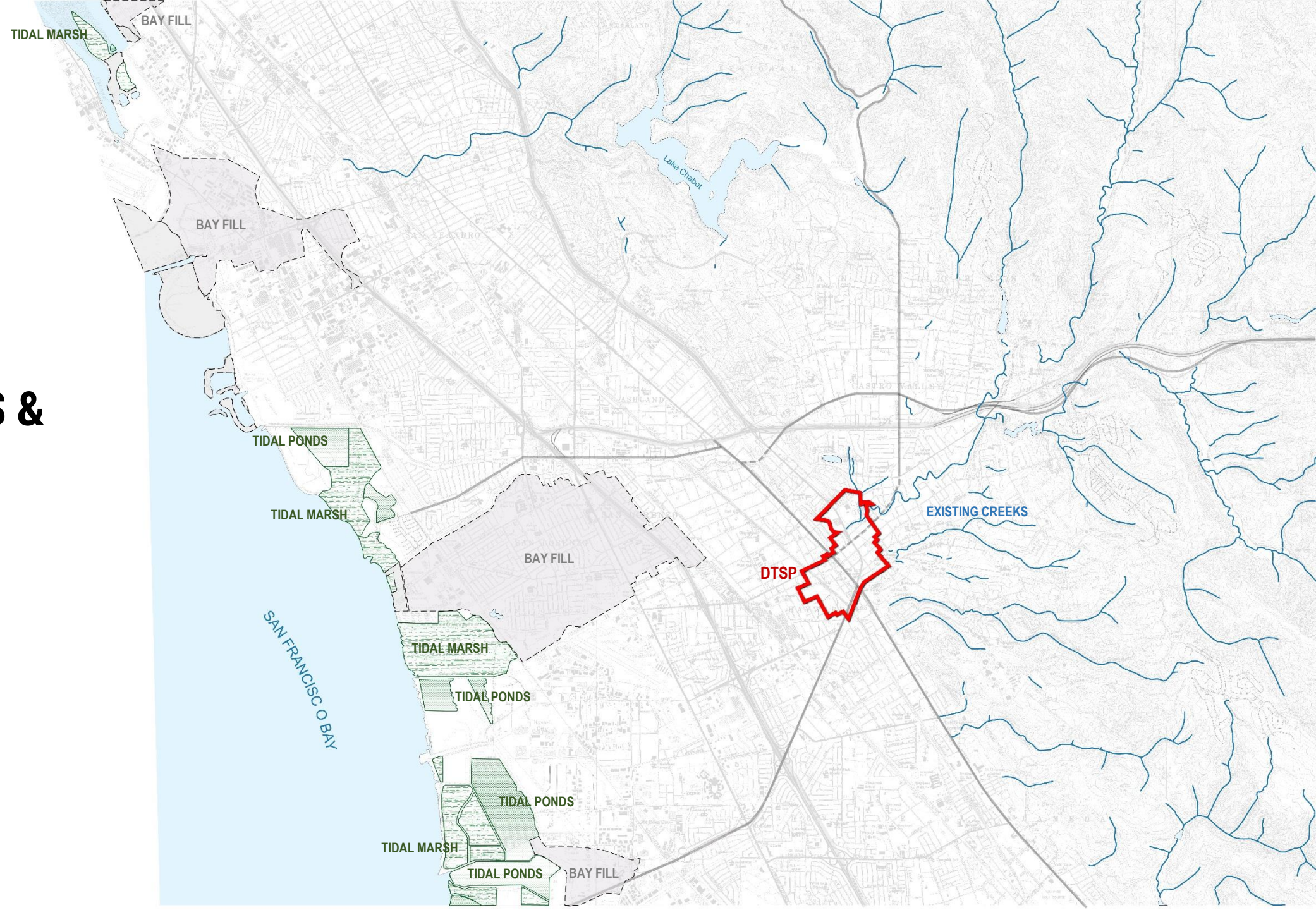


# MARSH, PONDS & WET MEADOWS HISTORICAL 1800-1900



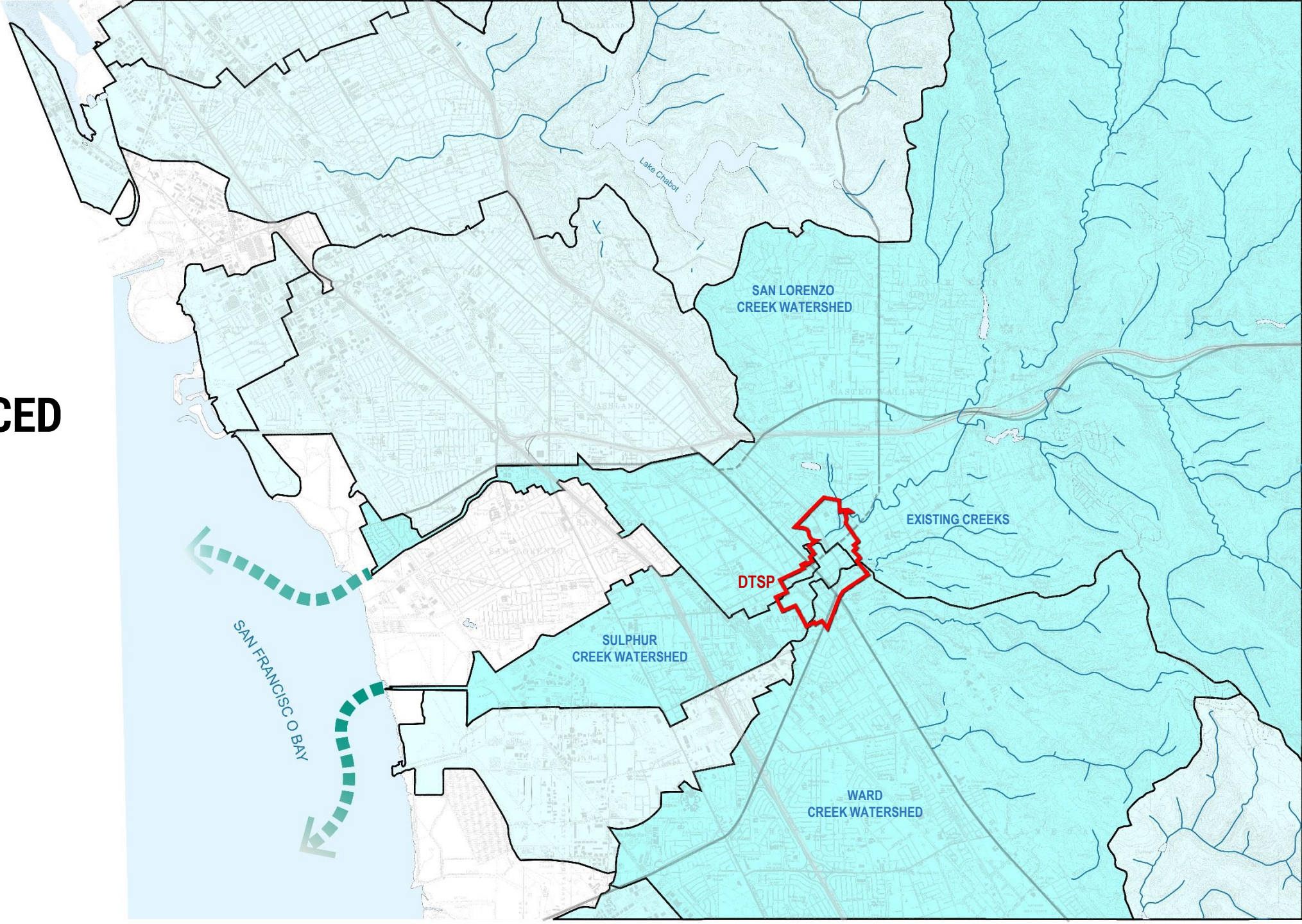


# MARSH, PONDS & WET MEADOWS PRESENT



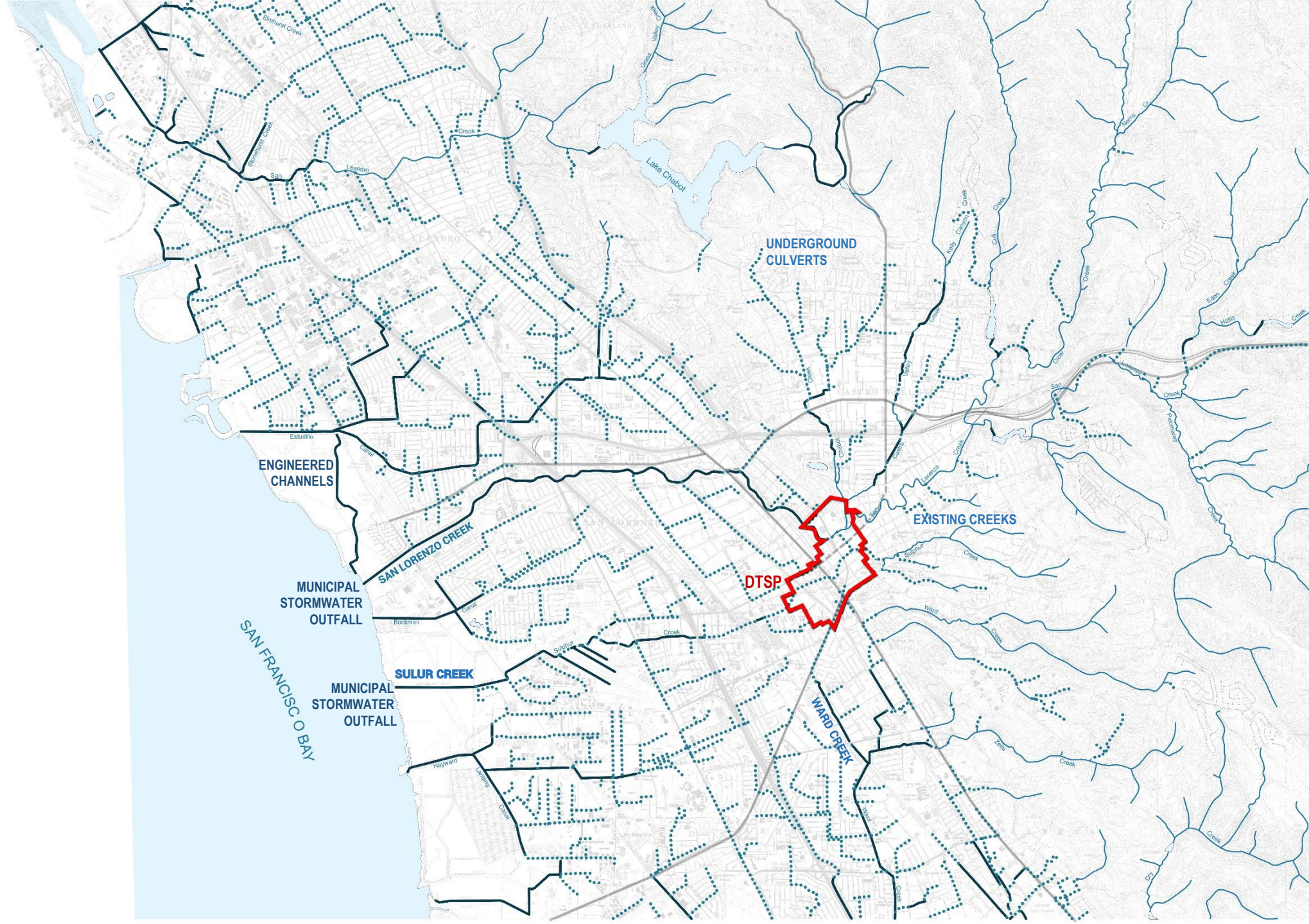


# URBAN INFLUENCED WATERSHEDS PRESENT





# ENGINEERED CHANNELS PRESENT





# **GREEN INFRASTRUCTURE INTEGRATION**

**3**



## CONSTRAINTS & OPPORTUNITIES

## DOWNTOWN HAYWARD SPECIFIC PLAN

## DAM BREACH INUNDATION

## 100-YEAR FLOOD

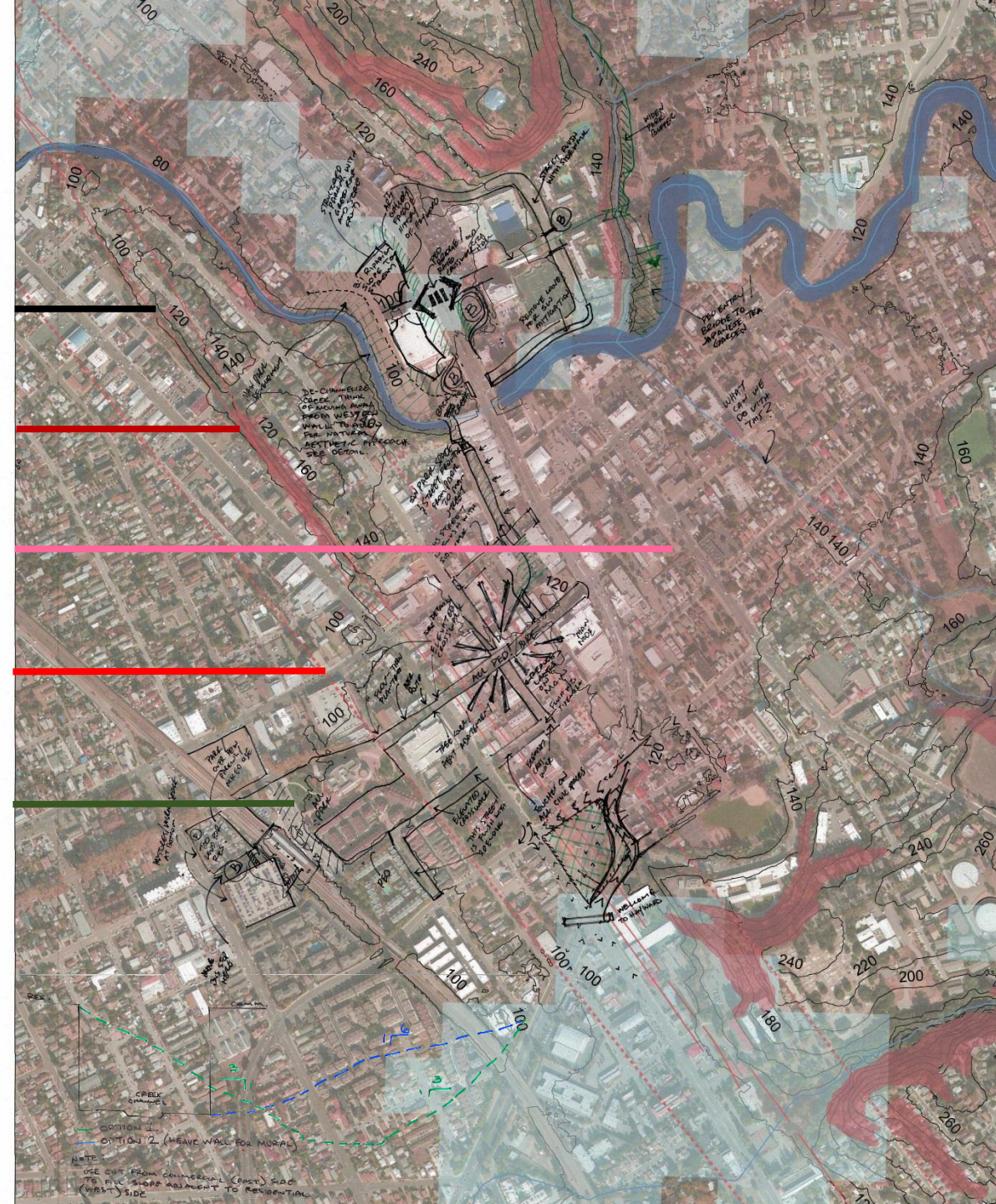
## 20' CONTOURS

## EROSION

## LIQUEFACTION

## HAYWARD FALUT

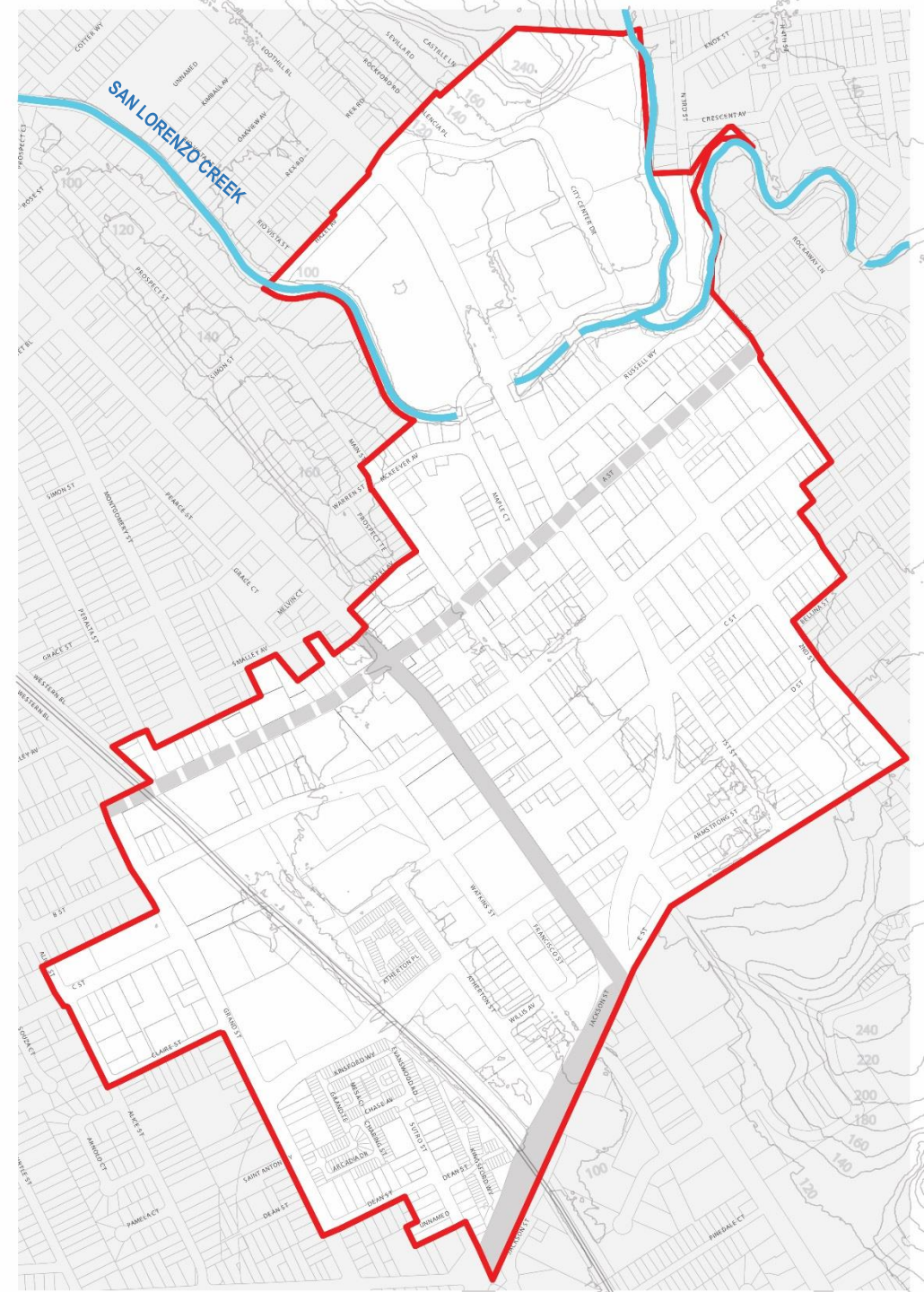
## GREENWAY / BLUEWAY





# DOWNTOWN HAYWARD SPECIFIC PLAN

- 20' CONTOURS
- MUNICIPAL PARCELS
- DHSP BOUNDARY
- CREEKS
- HISTORICAL TRAILS





# HISTORICAL HYDROLOGY

(1800-1900)

EXTENTS OF 18<sup>TH</sup> CENTURY GRASSLAND & WET MEADOW

CREEKS (BURRIED OR DRAINED AT PRESENT TIME)

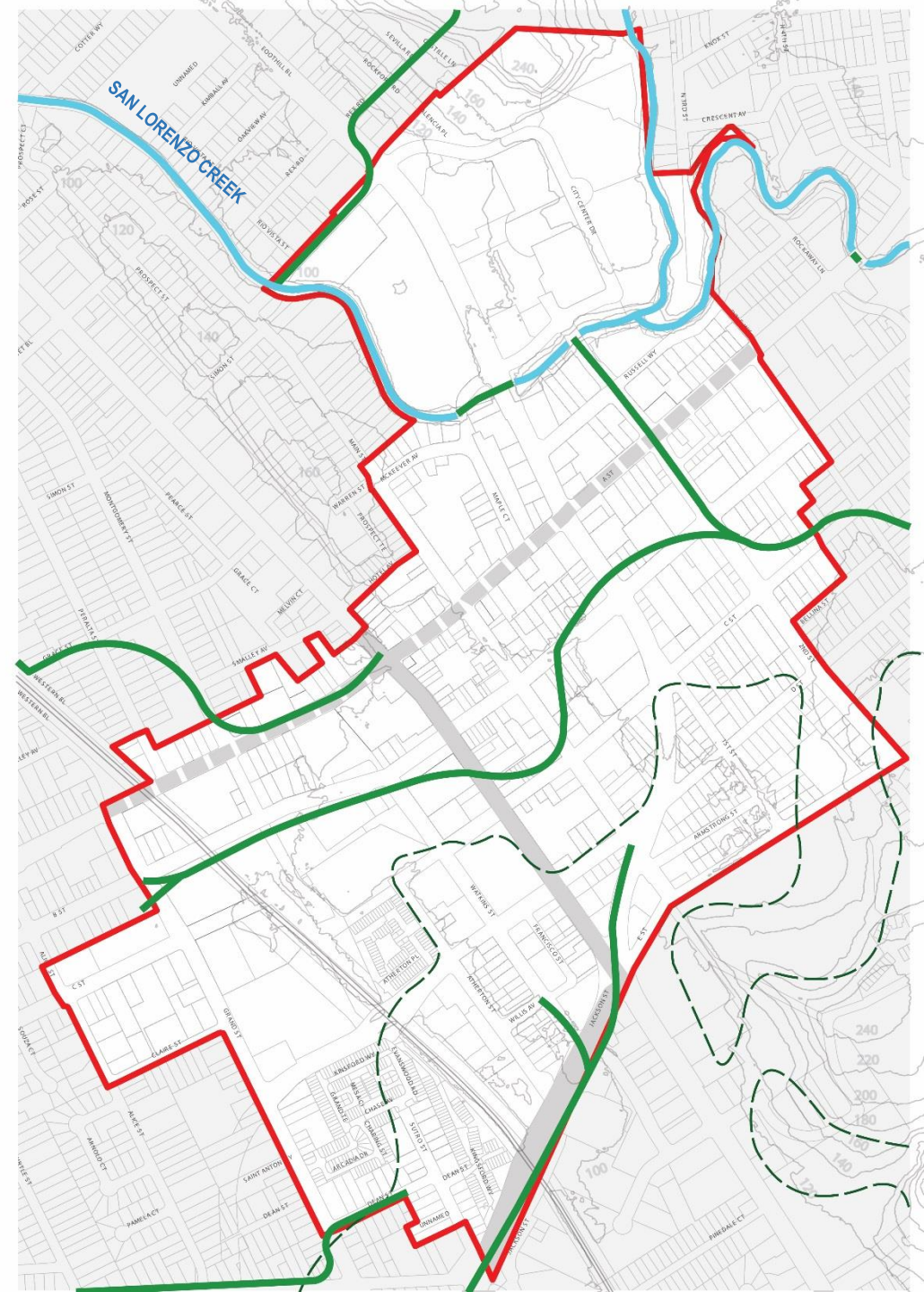
20' CONTOURS

MUNIPAL PARCELS

DHSP BOUNDARY

CREEKS

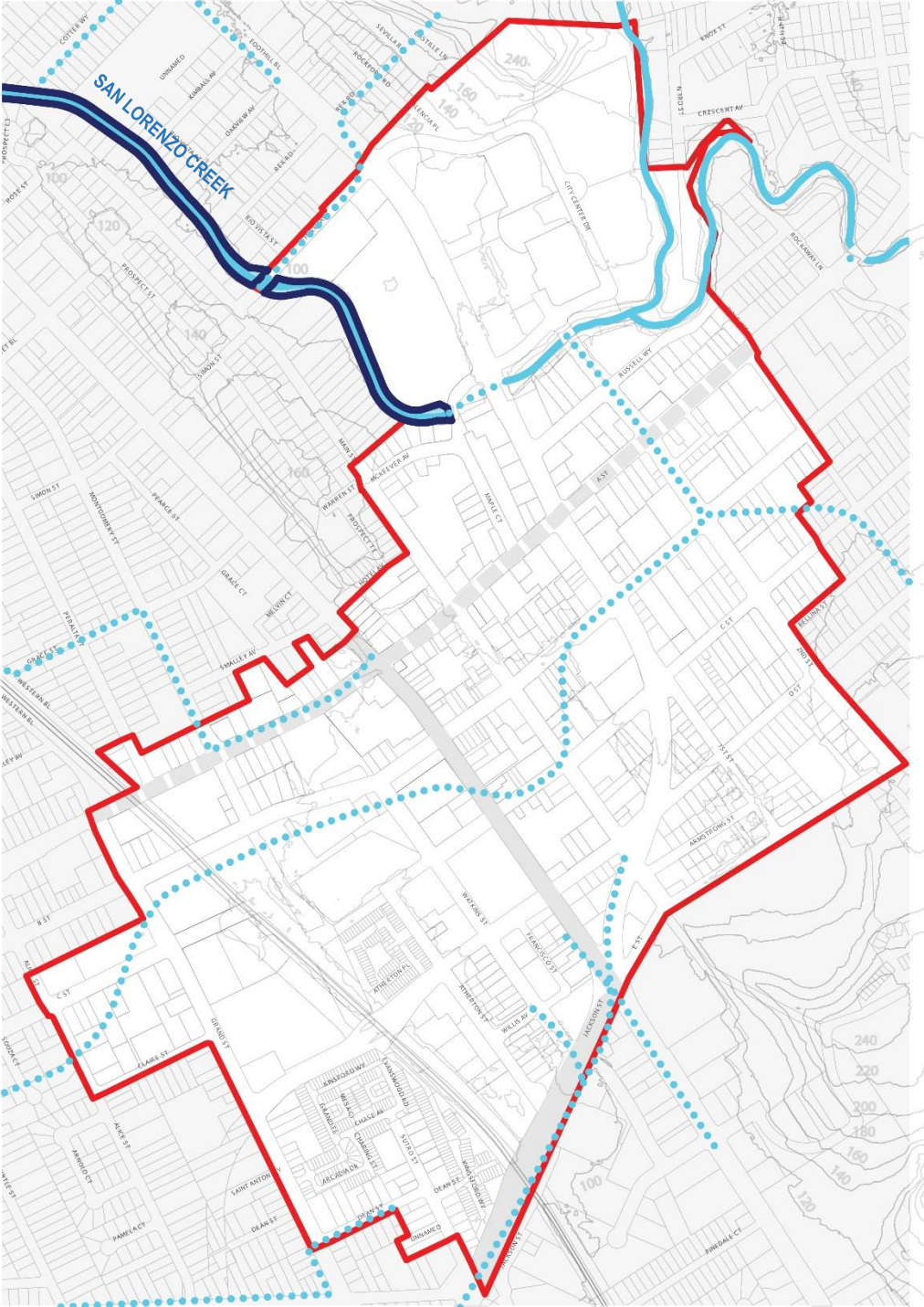
HISTORICAL TRAILS














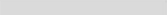
# EXISTING HYDROLOGY

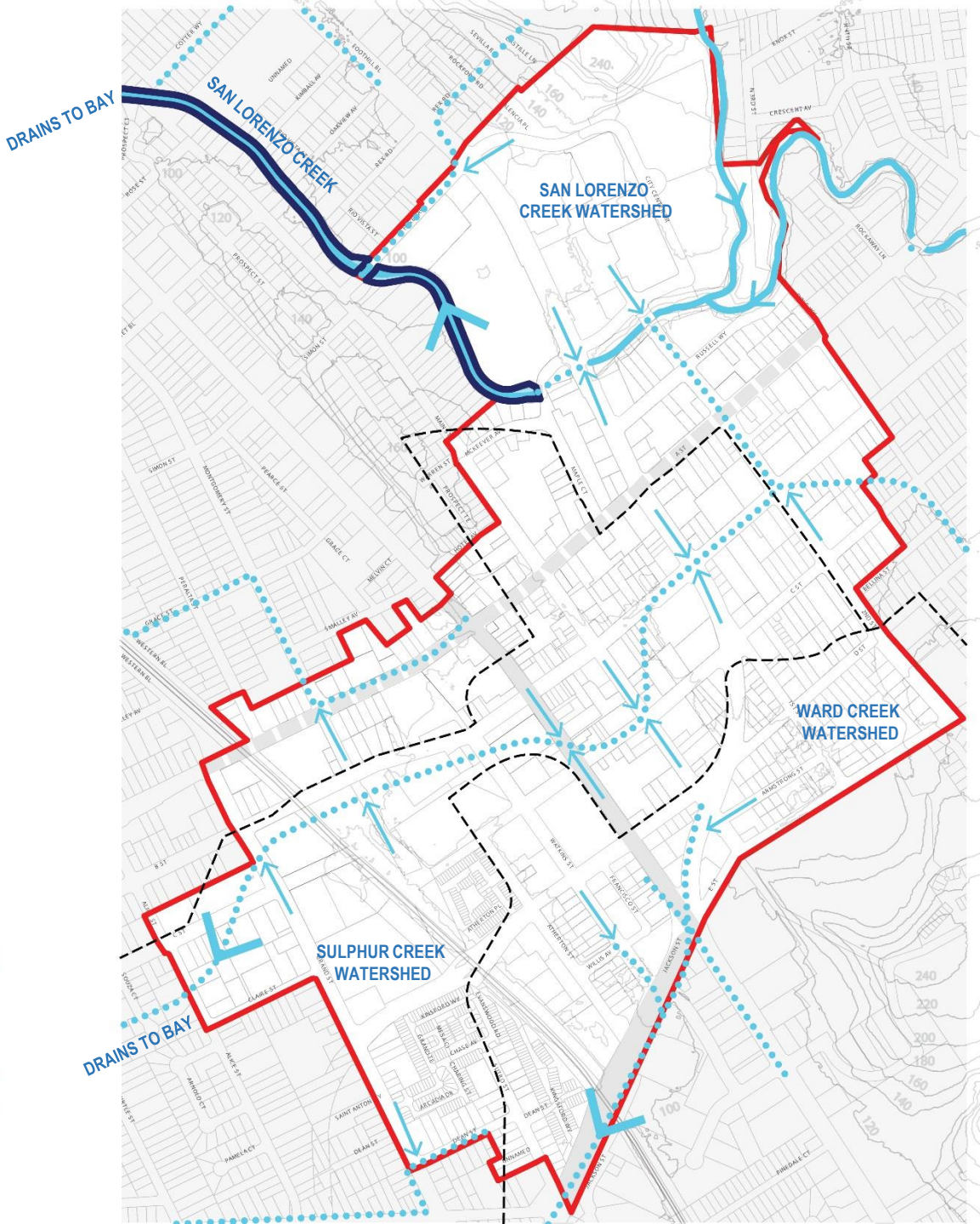
- UNDERGROUND CULVERTS & STORM DRAINS  $\geq 24"$  DIAMETER
- ENGINEERED CHANNELS
- 20' CONTOURS
- MUNIPAL PARCELS
- DHSP BOUNDARY
- CREEKS
- HISTORICAL TRAILS





# EXISTING DRAINAGE

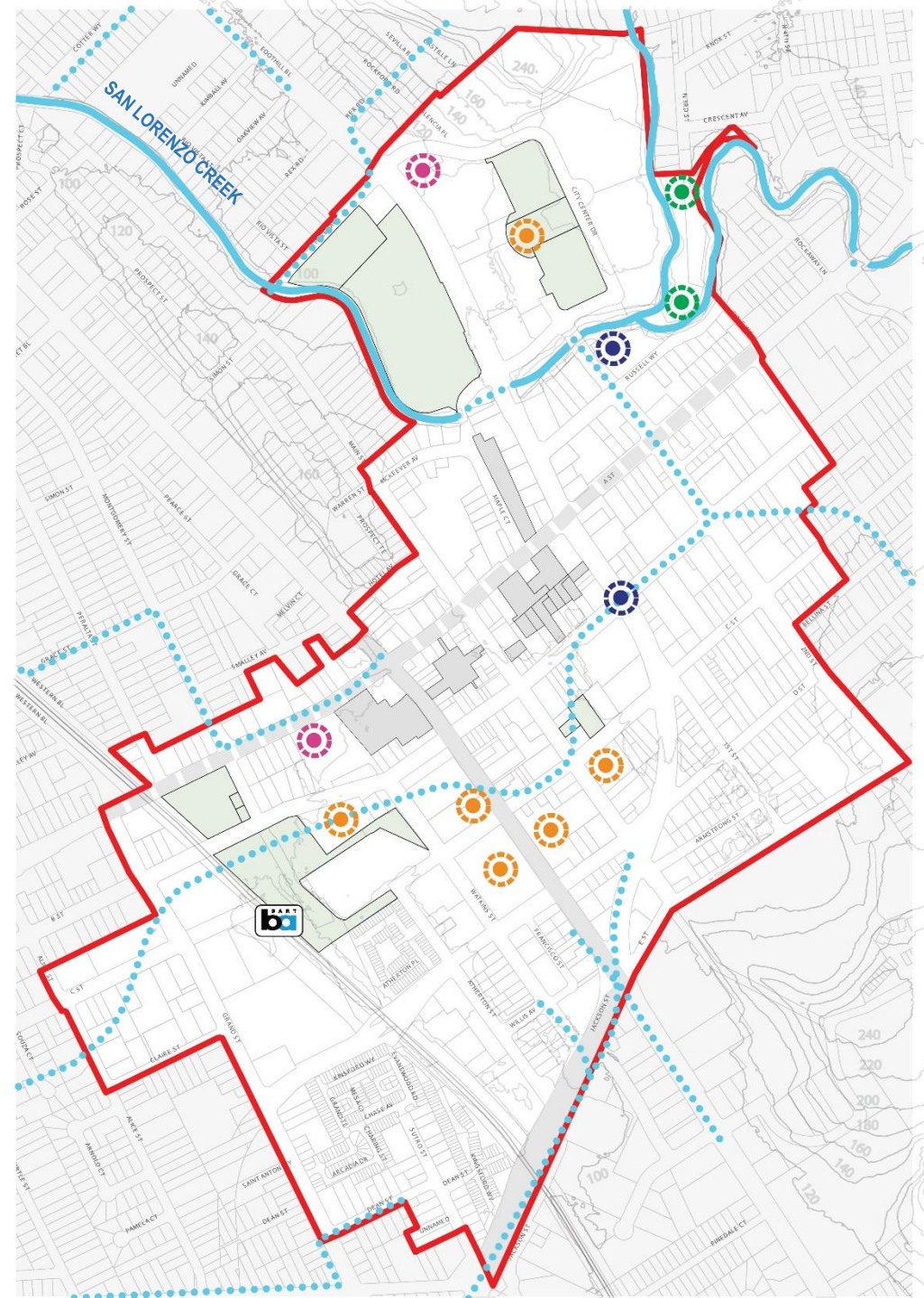
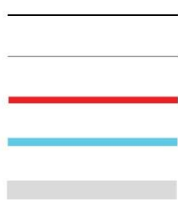
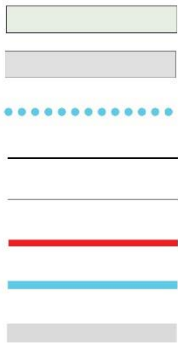
- WATERBODY FLOW 
- OVERLAND FLOW 
- WATERSHED BOUNDARY 
- UNDERGROUND CULVERTS & STORM DRAINS ≥ 24" DIAMETER 
- ENGINEERED CHANNELS 
- 20' CONTOURS 
- MUNIPAL PARCELS 
- DHSP BOUNDARY 
- CREEKS 
- HISTORICAL TRAILS 





# POINTS OF INTEREST

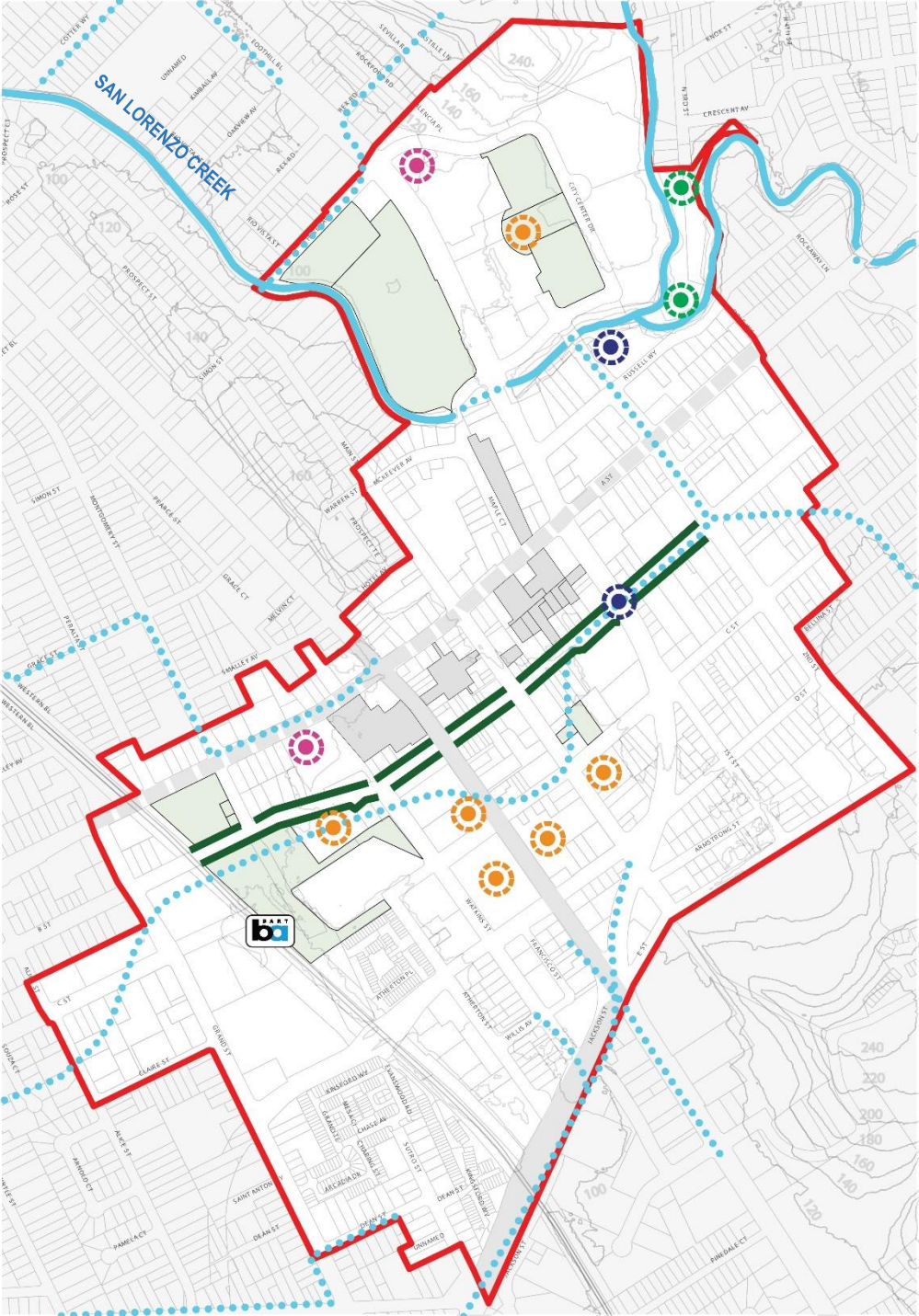
- GROCERY STORE / MARKET
- GOVERNMENT / MUNICIPAL BUILDING
- PARK / OPEN SPACE
- ART / EDUCATION
- VACANT / "SOFT" SITE – POTENTIAL OPPORTUNITY (VIA OPTICOS)
- SURFACE PARKING - POTENTIAL OPPORTUNITY (VIA OPTICOS)
- UNDERGROUND CULVERTS & STORM DRAINS ≥ 24" DIAMETER
- 20' CONTOURS
- MUNIPAL PARCELS
- DHSP BOUNDARY
- CREEKS
- HISTORICAL TRAILS












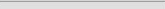






# PRIMARY GREENWAY + BLUEWAY CORRIDOR

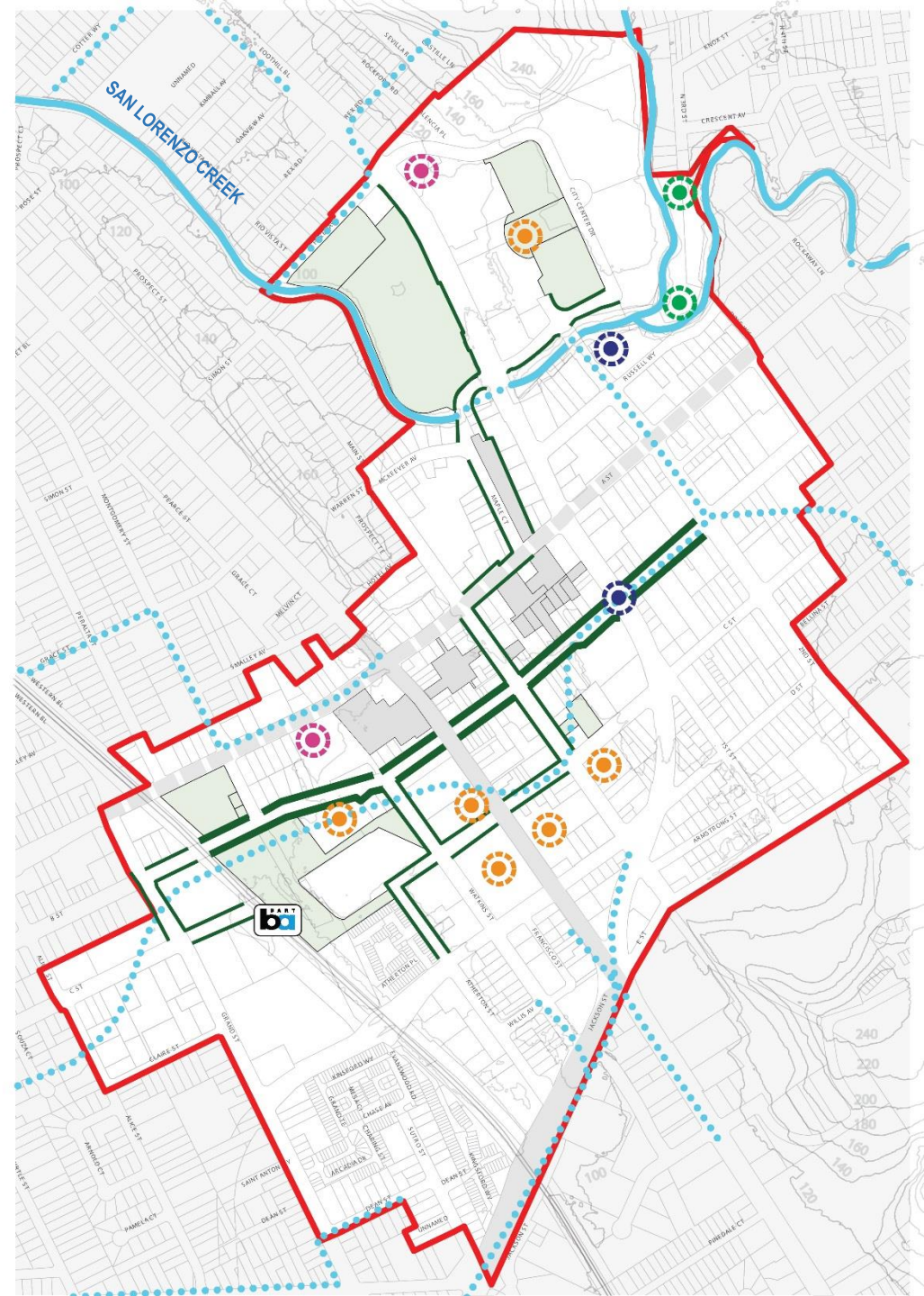
- GROCERY STORE / MARKET
- GOVERNMENT / MUNICIPAL BUILDING
- PARK / OPEN SPACE
- ART / EDUCATION
- PRIMARY STORMWATER MANAGEMENT CORRIDOR
- VACANT / "SOFT" SITE – POTENTIAL OPPORTUNITY (VIA OPTICOS)
- SURFACE PARKING - POTENTIAL OPPORTUNITY (VIA OPTICOS)
- UNDERGROUND CULVERTS & STORM DRAINS  $\geq 24"$  DIAMETER
- 20' CONTOURS
- MUNIPAL PARCELS
- DHSP BOUNDARY
- CREEKS
- HISTORICAL TRAILS





# SECONDARY GREENWAY + BLUEWAY CORRIDOR

	GROCERY STORE / MARKET	
	GOVERNMENT / MUNICIPAL BUILDING	
	PARK / OPEN SPACE	
	ART / EDUCATION	
SECONDARY STORMWATER MANAGEMENT CORRIDOR		
PRIMARY STORMWATER MANAGEMENT CORRIDOR		
VACANT / "SOFT" SITE – POTENTIAL OPPORTUNITY (VIA OPTICOS)		
SURFACE PARKING - POTENTIAL OPPORTUNITY (VIA OPTICOS)		
UNDERGROUND CULVERTS & STORM DRAINS $\geq 24"$ DIAMETER		
20' CONTOURS		
MUNICIPAL PARCELS		
DHSP BOUNDARY		
CREEKS		
HISTORICAL TRAILS		





# GREENWAY+ BLUEWAY MULTI-USE TRAIL

## GROCERY STORE / MARKET

## GOVERNMENT / MUNICIPAL BUILDING

## PARK / OPEN SPACE

## ART / EDUCATION

## SECONDARY STORMWATER MANAGEMENT CORRIDOR

## PRIMARY STORMWATER MANAGEMENT CORRIDOR

## VACANT / "SOFT" SITE – POTENTIAL OPPORTUNITY (VIA OPTICOS)

## SURFACE PARKING - POTENTIAL OPPORTUNITY (VIA OPTICOS)

## UNDERGROUND CULVERTS & STORM DRAINS $\geq 24"$ DIAMETER

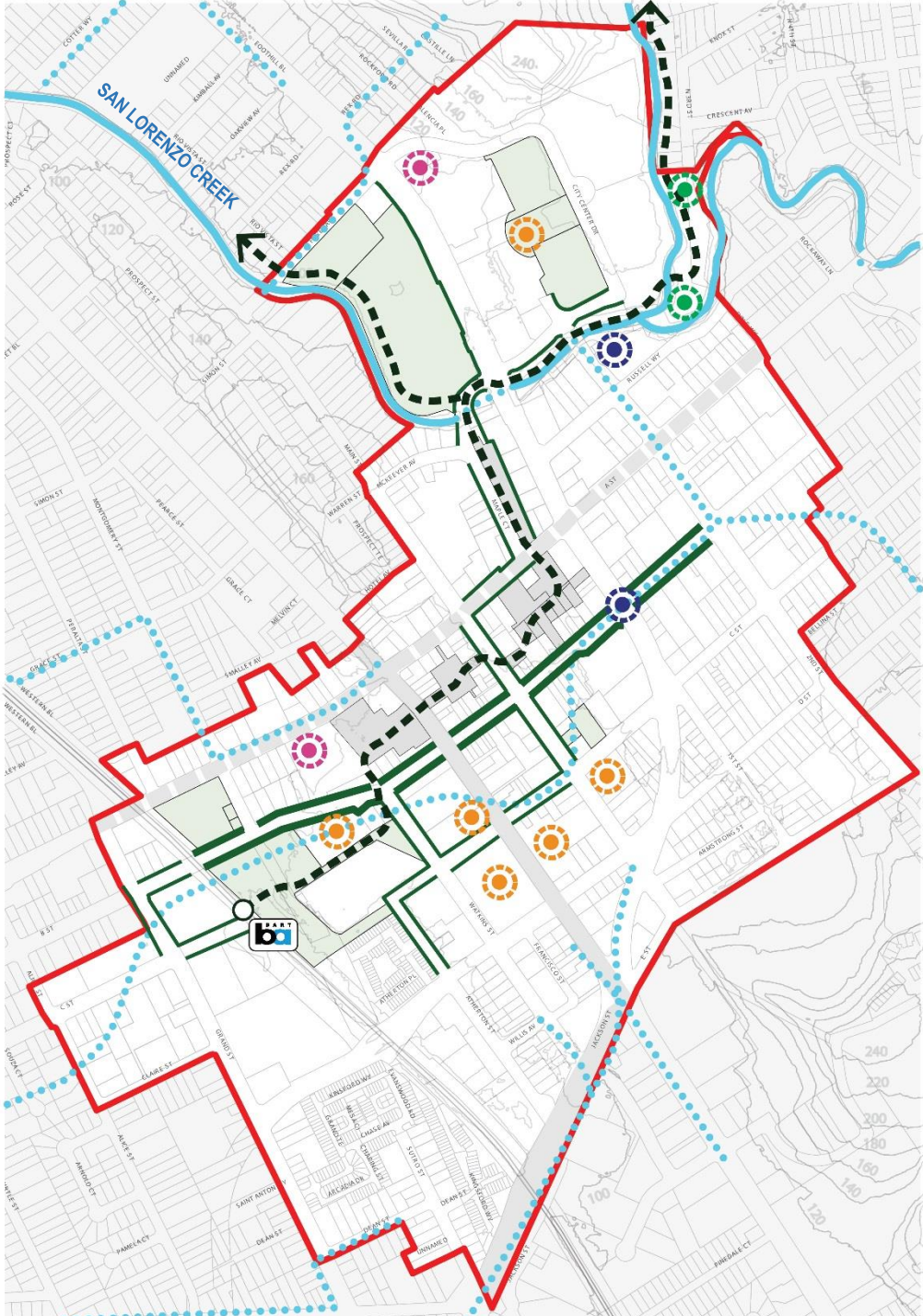
## 20' CONTOURS

## MUNIPAL PARCELS

## DHSP BOUNDARY

## CREEKS

## HISTORICAL TRAILS





# **GREEN INFRASTRUCTURE CONCEPTS**

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# STORMWATER TREATMENT NODE

POTENTIAL OPPORTUNITY ZONE

## LOCATION:

- HAYWARD BART STATION
- MAIN & C STREET
- 2<sup>ND</sup> & B STREETS PRIMARY CORRIDOR TERMINUS





# PRIMARY CORRIDORS

POTENTIAL OPPORTUNITY ZONE

## LOCATION:

- ALONG B STREET FROM HAYWARD BART STATION TO 2<sup>ND</sup> STREET



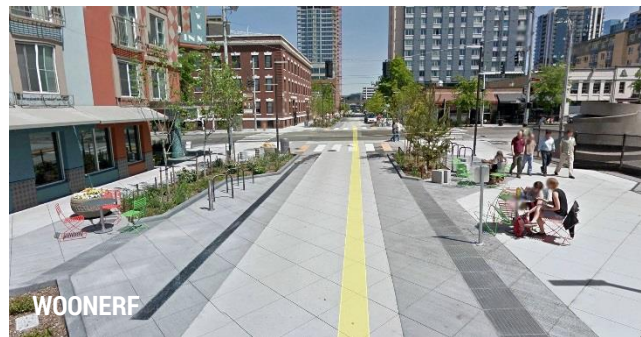


# SECONDARY CORRIDORS

POTENTIAL OPPORTUNITY ZONE

## LOCATION:

- WEST OF HAYWARD BART STATION ALONG C STREET NORTH ON MAIN AND MAPLE CIRCLE TOWARDS DEANZA PARK AND THE JAPANESE GARDENS





# MULTI-USE TRAIL

POTENTIAL OPPORTUNITY ZONE

## LOCATION:

- PERPENDICULAR TO PRIMARY AND SECONDARY CORRIDORS STRETCHING FROM HAYWARD BART STATION TOWARDS SAN LORENZO CREEK AND NORTH OF THE JAPANESE GARDENS



BRIDGING RAIN GARDENS



FLOW-THROUGH PLANTERS



LANDSCAPED RAISED CROSSWALK



CURB CUT



PERVIOUS PAVEMENT



# VISION

POTENTIAL OPPORTUNITY ZONE

## LOCATION:

- SAN LORENZO CREEK ON CITY CENTER DRIVE AND FOOTHILL BOULEVARD

BEFORE



AFTER

