

## **APPENDIX HYDRO**





May 10, 2016

Leigha Schmidt, AICP  
Senior Planner  
City of Hayward  
Development Services Department  
Planning Division  
777 B Street  
Hayward, CA 94541-3649

Re: Water Supply Assessment – Lincoln Landing Mixed-Use Development Project

Dear Ms. Schmidt:

This letter responds to the City of Hayward's (City's) request of March 1, 2016, for water agency consultation concerning the Lincoln Landing Mixed-Use Development Project (Project; Enclosure 1) located in the City, which is within the East Bay Municipal Utility District's (EBMUD's) Ultimate Service Boundary. EBMUD appreciates the opportunity to provide this response.

Pursuant to Sections 10910-10915 of the California Water Code, the proposed Project meets the threshold requirement for an assessment of water supply availability based on the amount of water this project would require, a project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500-dwelling-unit project.

Please note that this WSA addresses the issue of water supply only and is not a guarantee of service, and future water service is subject to rates and regulations in effect at the time.

### **Project Demand**

The water demand for the proposed Project is accounted for in EBMUD's water demand projections as published in EBMUD's 2010 Urban Water Management Plan (UWMP) (Enclosure 2). EBMUD's water demand projections account for anticipated future water demands within EBMUD's service boundaries and for variations in demand-attributed changes in development patterns. The Project site is the former Mervyn's Department Store headquarters, with a historical water use of approximately 36,000 gallons per day (gpd). The project water demand is estimated to be approximately 99,000 gpd at build out.

EBMUD's demand projections indicate both densification and land use changes in a few existing land use classifications, including commercial and residential land use areas, thus increasing EBMUD's overall demand. EBMUD's 2010 UWMP projects water demands over time, accounting for estimated variations in demand usage less conservation and recycled supply

sources as noted in Table 4-1, Water Demand Projections for Each Water Use Sector, of the 2010 UWMP. EBMUD's water demand projections are based on the 2040 Demand Study (Demand Study), which was completed in 2009. For planning purposes, the demands are estimated in five-year increments, but it is recognized that actual incremental amounts may occur stepwise in shorter time increments. An increase in usage by one customer in a particular customer class does not require a strict gallon-for-gallon increase in conservation by other customers in that class as, in actuality, the amount of potable demand, conservation and recycled water use EBMUD-wide will vary somewhat. Future versions of the UWMP, which is updated every five years, will include an updated assessment of customer demand and water supply. The 2015 UWMP, which is currently out for public review, is expected to be finalized in June 2016.

## **Project Area**

The proposed Project is located at 22301 Foothill Boulevard (State Route 238) in the City of Hayward, at the northwest corner of the intersection of Foothill Boulevard and City Center Drive, bounded to the north by Hazel Avenue, and to the south and west by San Lorenzo Creek. The Project area consists of approximately 11 acres. The proposed Project consists of 476 multi-family residential units and 81,000 square feet of commercial space.

## **EBMUD Water Demand Projections**

Since the 1970s, water demand within EBMUD's service area has ranged from 200 to 220 million gallons per day (mgd) in non-drought years. The 2040 water demand forecast of 312 mgd for EBMUD's service area can be reduced to 230 mgd with the successful implementation of water recycling and conservation programs, as outlined in the 2010 UWMP. Although current demand is lower than estimated in the Demand Study, as a result of the recent multi-year drought and the downturn in the economy, the Demand Study still reflects a reasonable expectation for growth over the long term for demand in year 2040. The proposed Project's future development and operations will not change EBMUD's 2040 demand projection.

## **EBMUD Water Supply and Water Rights**

EBMUD has water right permits and licenses that allow for delivery of up to a maximum of 325 mgd from the Mokelumne River, subject to the availability of Mokelumne River runoff and the senior water rights of other users. EBMUD's position in the hierarchy of Mokelumne River water users is determined by a variety of agreements between Mokelumne River water right holders and the terms of the appropriative water right permits and licenses, which have been issued by the State, pre-1914 rights, and riparian rights.

Conditions that could, depending on hydrology, restrict EBMUD's ability to receive its full entitlement include:

- Upstream water use by prior right holders.
- Downstream water use by riparian and senior appropriators and other downstream obligations, including protection of public trust resources.
- Variability in rainfall and runoff.

During prolonged droughts, the Mokelumne River supply cannot meet EBMUD's projected customer demands. To address this, EBMUD has completed construction of the Freeport Regional Water Facility and the Bayside Groundwater Facility, which are discussed below in the Supplemental Water Supply and Demand Management section of this assessment. EBMUD has obtained and continues to seek supplemental supplies.

### **EBMUD's UWMP**

The 2010 UWMP, adopted on June 28, 2011, by EBMUD's Board of Directors by Resolution No. 33832-11, is a long-range planning document used to assess current and projected water usage, water supply planning and conservation and recycling efforts. A summary of EBMUD's demand and supply projections, in five-year increments for a 25-year planning horizon is provided in Table 4-3, EBMUD Demand and Supply Projections, of the 2010 UWMP (Enclosure 3).

EBMUD's evaluation of water supply availability accounts for the diversions of both upstream and downstream water right holders and fishery releases on the Mokelumne River. Fishery releases are based on the requirements of a 1998 Joint Settlement Agreement (JSA) between EBMUD, United States (U.S.) Fish and Wildlife Service, and the California Department of Fish and Game. The JSA requires EBMUD to make minimum flow releases from its reservoirs to the lower Mokelumne River to protect and enhance the fishery resources and ecosystem of the river. As this water is released downriver, it is, therefore, not available for use by EBMUD's customers.

The available supply shown in the attached table (Enclosure 3) was derived from EBMUD's hydrologic model with the following assumptions:

- EBMUD Drought Planning Sequence is used for 1976, 1977 and 1978.
- Total system storage is depleted by the end of the third year of the drought.
- EBMUD will implement its Drought Management Program when necessary.
- The diversions by Amador and Calaveras Counties upstream of Pardee Reservoir will increase over time, eventually reaching the full extent of their senior rights.
- Releases are made to meet the requirements of senior downstream water right holders, and fishery releases are made according to the JSA.
- A dry-year supply of Central Valley Project (CVP) water, through the Freeport Regional Water Facility, is available.
- The Bayside Groundwater Project, Phase 1, is available.

As discussed under the Drought Management Program section in Chapter 3 of the 2010 UWMP, EBMUD's system storage generally allows it to continue serving its customers during dry-year events. EBMUD typically imposes water use restrictions based on the projected storage available at the end of September, and based on recent changes to its Drought Management Program (DMP) Guidelines (summarized below), may also implement water use restrictions in response to a California State mandate. By imposing water use restrictions in the first dry year of potential drought periods, EBMUD attempts to minimize water use restrictions in subsequent years if a

drought persists while continuing to meet its current and subsequent-year fishery flow release requirements and obligations to downstream agencies.

The 2010 UWMP concludes that EBMUD has, and will have, adequate water supplies to serve existing and projected demand within the Ultimate Service Boundary during normal and wet years but that deficits are projected for drought years. EBMUD's Drought Management Program, which is part of the UWMP, establishes guidelines that call for water use restrictions based on that year's storage forecast. In March 2016, EBMUD Board of Directors adopted revised DMP Guidelines that establish the level of water use restrictions EBMUD may implement under varying conditions. Under the new DMP Guidelines, water use restrictions may be determined based upon either projected end-of-September total system storage (TSS) or California State-mandated water use restrictions. When California State-mandated water use restrictions exceed the reductions that would otherwise be called for based upon end-of-September TSS, EBMUD's water use reduction requirements may be guided by applicable California State mandates and not end-of-September TSS. Under either scenario, while the District has a goal of maintaining mandatory water use reductions at or below 15 percent, if the drought is severe, mandatory water use reductions could exceed 15 percent. Despite water savings from EBMUD's aggressive conservation and recycling programs and water use restrictions called for in the Drought Management Program Guidelines, supplemental supplies are needed in significant, severe, and critical droughts while continuing to meet the requirements of senior downstream water right holders and the provisions of the 1998 JSA. The proposed Project will be subject to the same drought restrictions that apply to all EBMUD customers.

### **Supplemental Water Supply and Demand Management**

The goals of meeting projected water needs and increased water reliability rely on supplemental supplies, improving reliability of existing water supply facilities, water conservation and recycled water programs.

By 2011, EBMUD completed construction of the Freeport Regional Water Facility and the Bayside Groundwater Facility to augment its water supply during drought periods. However, additional supplemental supplies beyond those provided through these facilities will still be needed, as noted above. Chapter 2 of the 2010 UWMP describes potential supplemental water supply projects that could be implemented to meet projected long-term water demands during multi-year drought periods.

The Freeport Regional Water Facility became operational in February 2011. EBMUD's ability to take delivery of water through the Freeport facility is based on its Long Term Renewal Contract (LTRC) with the U.S. Bureau of Reclamation. The LTRC provides for up to 133,000 acre feet in a single dry year, not to exceed a total of 165,000 acre feet in three consecutive dry years. Under the LTRC, the CVP supply is available to EBMUD only in dry years when EBMUD's total stored water supply is forecast to be below 500,000 total acre feet on September 30 of each year.

Construction of the Bayside Groundwater Project, Phase 1, was completed in 2010. A permit from the Department of Public Health, which is pending, is required before the groundwater can be extracted and treated for municipal use. The Bayside Groundwater Project is designed to yield

2 mgd over a six-month period, resulting in an average annual production capacity of 1 mgd per year. Chapter 2 of the 2010 UWMP also lists other potential supplemental water projects, including northern California water transfers, Bayside Groundwater Project Expansion, Los Vaqueros Expansion and others that could be implemented as necessary to meet the projected long-term water supplemental need during multi-year drought periods. The 2010 UWMP identifies a broad mix of projects, with inherent scalability and the ability to adjust implementation schedules for a particular component, so that EBMUD will be able to continue to pursue the additional supplemental supplies that are projected to be necessary, while also minimizing the risks associated with future uncertainties such as project implementation challenges and global climate change. The Environmental Impact Report that EBMUD certified for the Water Supply Management Program 2040 examined the impacts of pursuing these supplemental supply projects at a program level. Separate project-level environmental documentation will be prepared, as appropriate, for specific components as they are developed in further detail and implemented in accordance with EBMUD's water supply needs.

In addition to pursuing supplemental water supply sources, EBMUD also maximizes resources through continuous improvements in the delivery and transmission of available water supplies and investments in ensuring the safety of its existing water supply facilities. These programs, along with emergency interties and planned water recycling and conservation efforts, would ensure a reliable water supply to meet projected demands for current and future EBMUD customers within the current service area.

The proposed Project presents opportunities to incorporate water conservation measures. Conditions of approval for the implementation of the proposed Project should require that the project comply with the California Model Water Efficient Landscape Ordinance (Division 2, Title 23, California Code of Regulations, Chapter 2.7, Sections 490 through 495). EBMUD staff would appreciate the opportunity to meet with the City. A key objective of this meeting will be to explore timely opportunities to expand water conservation via early consideration of EBMUD's conservation programs and best management practices applicable to the Project. On April 14, 2015, EBMUD declared a Stage 4 Drought and a mandatory District-wide water use reduction goal of 20 percent and adopted revised regulations regarding mandatory water use prohibitions and restrictions. This 20 percent conservation goal meets the requirements of both the California State Governor's drought emergency orders and the related February 2, 2016 California State Water Resources Control Board extended emergency water conservation regulation rulemaking, which specifically identified a 16 percent water reduction goal for EBMUD and extended restrictions on urban water use through October 2016. Conservation opportunities will need to be pursued to achieve water use reduction goals and restrictions, and EBMUD will assist the City in maximizing such opportunities.

The proposed Project is not currently a candidate for recycled water. The Project area is not located within the vicinity of any existing or future planned EBMUD recycled water supply pipeline. Based on the location of the Project boundaries, EBMUD currently does not anticipate providing recycled water to any of the Project's components; however, the feasibility of providing recycled water to this area may change in the future. EBMUD encourages the City and its developers to continue to coordinate closely with EBMUD during the planning of the Project to further explore the options relating to recycled water.

Leigha Schmidt, Senior Planner  
May 10, 2016  
Page 6

The project sponsor should contact Jennifer L. McGregor, Senior Civil Engineer, at (510) 287-1030 for further information.

Sincerely,



David J. Rehnstrom  
Manager of Water Distribution Planning Division

DJR:CW:dks  
sb16\_068 Letter to City of Hayward

- Enclosures:
1. Letter of Request for Water Supply Assessment dated March 1, 2016
  2. EBMUD 2010 Urban Water Management Plan
  3. EBMUD Demand and Supply Projections Table

cc: Board of Directors w/o Enclosure 2



March 1, 2016

Jennifer McGregor, PE  
East Bay Municipal Utility District  
Water Service Planning  
375 11<sup>th</sup> Street, MS 701  
Oakland, CA 94607

Subject: Request for Water Supply Assessment for Proposed Lincoln Landing Development, Hayward

Dear Ms. McGregor,

This letter shall serve as a formal request from the City of Hayward to the East Bay Municipal Utility District to prepare a water supply assessment pursuant to Section 10910 of the Water Code. The City is requesting that EBMUD determine whether the projected water demand associated with the Lincoln Landing mixed-use development was included in the Urban Water Management Plan (UWMP), and if it was not included, to prepare a water supply assessment as set forth in Water Code Section 10910 (c)(3). The assessment is required in order to determine whether an adequate water supply is available to meet the projected water demand for the project which is currently in planning stages. An initial study is being prepared by the City of Hayward as lead agency.

The proposed Lincoln Landing development project would consist of development of up to 476 residential units; 81,000 square feet of ground floor commercial uses and approximately 1.7 acres (73,000 square feet) of landscaping that would be divided into private and public open space and parking lot landscaping on an 11-acre site (Assessor Parcel Nos. 428-002-606-801 and 428-0026-067-03).

The proposed project would be accomplished in two phases; the first phase would consist of full development of the commercial portion (81,000 square feet) and up to 267 residential units and the second phase would consist of development of the remaining 209 residential units (for a total of 476 residential units). It is assumed that both phases would be constructed in approximately five years (by 2021).

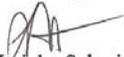
The proposed project includes demolition of two structures that are currently vacant. The approximately 334,488 square foot former Mervyns office building was vacated around 2008, and the other structure on the site measures approximately 5,310 square feet. There is not a record of when it was vacated however it likely around 2008 as well.

Development Services Department  
Planning Division  
777 B Street, Hayward, CA 94541-5007  
Tel: 510/583-4200 Fax: 510/583-3649

The City requests that EBMUD prepare a water supply assessment for the proposed project as described above. To assist with the assessment, projected water demand calculations for the proposed project are attached to this letter. The prepared assessment will be utilized as part of the environmental documentation for the project.

Please feel free to contact me at 510-583-4013 or by e-mail at [leigha.schmidt@hayward-ca.gov](mailto:leigha.schmidt@hayward-ca.gov) if you require additional information in regard to this request. We appreciate your prompt attention to this matter.

Sincerely,



Leigha Schmidt, AICP  
Senior Planner

Enclosures:

Project Site Plan

City of San Leandro Shoreline Development Project Water Supply Assessment request dated  
April 16, 2014

**Lincoln Landing Mixed Use Development – Water Demand Calculation**

Use	Quantity/Unit	Water Demand Factor (gal/unit/day)*	Water Demand (gpd)
<b>Proposed Project</b>			
Multi-Family Residential	476 units	165	78,540
Retail/Restaurant	81,000 sq. ft.	0.22	17,820
Parking (surface and structured)**	1,180 spaces	-	-
Irrigation***	See Maximum Applied Water Allowance (MAWA) Calculation below.		2,999
<b>Total New Construction and Water Demand</b>			<b>99,359</b>
<b>Existing Development</b>			
Office	339,798 sq. ft.	0.9	30,581
<b>Total Demolition and Decrease in Water Demand</b>			<b>30,581</b>
<b>Total Net Increase in Water Demand</b>			<b>68,778</b>

\*Water Demand Factors for multi-family residential, retail/restaurant and office uses based on the City of San Leandro Shoreline Development Project Water Supply Assessment request dated April 16, 2014.

\*\* Parking water demand is included in the Irrigation calculation. Landscaped areas in surface parking lots are included in the Landscaped Area/Irrigation and structured/covered parking does not include landscaping/irrigation needs.

\*\*\*Maximum Applied Water Allowance calculation for landscaped areas is as follows:

$$MAWA = (ET_o)(0.62)[(0.55 \times LA) + (0.45 \times SLA)]$$

$$MAWA = (44.2)(0.62)[(0.55 \times 72,614) + (0.45 \times 0)]$$

$$MAWA = (27.404)[(39,937.7 + 0)]$$

$$MAWA = 1,094,452 \text{ Gallons per Year}$$

$$MAWA/day = 1,094,452/365 = 2,999 \text{ Gallons per Day}$$

"ET<sub>o</sub>," is the Reference Evapotranspiration, in inches per year, for your climate zone and "0.6" is the adjustment factor to insure that your overall water use is moderate.

LA = Landscaped Area

SLA = Special Landscaped Area

**EAST BAY MUNICIPAL UTILITY DISTRICT DEMAND AND SUPPLY PROJECTIONS**  
**(Reference: Table 4-3, UWMP 2010 – EBMUD)**

	2010	2015	2020	2025	2030	2035 <sup>1</sup>	2040
<b>PROJECTED DEMAND (MGD)</b>							
CUSTOMER DEMAND <sup>2</sup>	251	266	280	291	304	308	312
ADJUSTED FOR CUMULATIVE CONSERVATION <sup>3</sup>	(26)	(32)	(43)	(49)	(56)	(59)	(62)
ADJUSTED FOR RECYCLED WATER <sup>4</sup>	(9)	(11)	(16)	(18)	(19)	(20)	(20)
PLANNING LEVEL OF DEMAND	216	223	221	224	229	229	230
<b>PROJECTED AVAILABLE SUPPLY AND NEED FOR SUPPLEMENTAL SUPPLY (MGD)<sup>5</sup></b>							
NORMAL YEAR	>216	>223	>221	>224	>229	>229	>230
SUPPLEMENTAL SUPPLY NEED	0	0	0	0	0	0	0
<b>SINGLE DRY YEAR (MULTIPLE DRY YEARS – YEAR 1)</b>							
AVAILABLE SUPPLY	211	217	215	218	223	222	222
CUSTOMER RATIONING <sup>6</sup>	2%	3%	3%	3%	3%	3%	4%
SUPPLEMENTAL SUPPLY NEED <sup>7</sup>	5	6	6	7	7	8	8
<b>MULTIPLE DRY YEARS – YEAR 2</b>							
AVAILABLE SUPPLY	183	189	188	190	194	194	195
CUSTOMER RATIONING <sup>6</sup>	15%	15%	15%	15%	15%	15%	15%
SUPPLEMENTAL SUPPLY NEED <sup>7</sup>	21	21	21	21	22	22	22
<b>MULTIPLE DRY YEARS – YEAR 3</b>							
AVAILABLE SUPPLY	183	189	188	190	183	164	144
CUSTOMER RATIONING <sup>6</sup>	15%	15%	15%	15%	15%	15%	15%
SUPPLEMENTAL SUPPLY NEED <sup>7</sup>	21	21	21	21	33	53	73
<b>THREE-YEAR DROUGHT</b>							
TOTAL SUPPLEMENTAL SUPPLY NEED (TAF) <sup>7</sup>	53	54	54	55	69	93	115

<sup>1</sup> Projected demand for 2035 is interpolated.

<sup>2</sup> Customer demand values are based on the demand projections from the “2040 Demand Study,” Feb 2009. These projected water demands are based on land use in EBMUD’s ultimate service area and is unadjusted for conservation and non-potable water. The values are also unadjusted for the current suppressed demand due to the 2007-2010 rationing period and the economic downturn.

<sup>3</sup> Existing conservation saving from the “1994 Water Conservation Master Plan” and planned conservation program savings based on the “2011 Water Conservation Master Plan”.

<sup>4</sup> Existing recycled water achieved per the “1993 Water Supply Management Program” and planned recycled water program savings as outlined in Chapter 5 of the UWMP 2010.

<sup>5</sup> Projected available supply data includes dry year supply deliveries from the Freeport Regional Water Project (FRWP) and Bayside Groundwater Project, Phase 1. Delivery rules for the FRWP follow the rules as developed in the Freeport EIR, 2003.

<sup>6</sup> Rationing reduction goals are determined according to projected system storage levels in the Long-Term Drought Management Program guidelines per Table 3-2 in Chapter 3 of the UWMP 2010.

<sup>7</sup> The supplemental supply need is based on EBMUDSIM modeling studies. It is the amount of water needed based on EBMUD’s updated demand projections, the provisions of the 1998 Joint Settlement Agreement and the rationing policy stated in Table 3-2, Chapter 3 of the UWMP 2010. The actual need will be dependent on antecedent conditions and the severity of actual drought conditions. Supplemental supply stored during the initial year of the drought could be later released, diminishing supplemental supply needs. During the drought that continued into 2010, the combined effects of water rationing and an economic downturn suppressed demand below the planning level of demand to maintain a sufficient water supply and deferred the need for supplemental water. However, if the drought had continued into its second year, most likely supplemental supplies would have been obtained from the Freeport Regional Water Facility as anticipated in the Interim Drought Management Program Guidelines discussed in Appendix G-2.



AGENDA NO. 8.  
 MEETING DATE May 10, 2016

**TITLE      WATER SUPPLY ASSESSMENT FOR THE LINCOLN LANDING MIXED-USE DEVELOPMENT PROJECT**

MOTION \_\_\_\_\_  RESOLUTION \_\_\_\_\_  ORDINANCE \_\_\_\_\_

**RECOMMENDED ACTION**

Approve the Water Supply Assessment (WSA) requested by the City of Hayward (City) for the Lincoln Landing Mixed-Use Development Project pursuant to California Water Code, Sections 10910-10915.

**SUMMARY**

The Lincoln Landing Mixed-Use Development Project is located at 22301 Foothill Boulevard (State Route 238) in the City, at the northwest corner of the intersection of Foothill Boulevard and City Center Drive, bounded to the north by Hazel Avenue, and to the south and west by San Lorenzo Creek (see Attachment A). The project area consists of approximately 11 acres. The project proposes to construct a maximum of 476 multi-family residential units and 81,000 square feet of commercial space.

The site is the former Mervyn's Department Store headquarters, with a historical water use of approximately 36,000 gallons per day (gpd). The project water demand is estimated to be approximately 99,000 gpd at build out. This demand is accounted for in the District's Urban Water Management Plan (UWMP). Approval of the WSA by the Board of Directors is required prior to its submittal to the City. The WSA is described in the attached letter (Attachment B) and, upon Board approval, will be sent to the City.

**DISCUSSION**

On March 1, 2016, the City submitted a formal request for consultation between the District and the City regarding water service to the Lincoln Landing Mixed-Use Development Project, pursuant to California Water Code, Sections 10910-10915. The project, for which environmental documentation is being completed by the City, meets the threshold requirement for an assessment of water supply availability based on the amount of water this project would require, i.e., an amount of water equivalent to, or greater than, the amount of water required by a 500-dwelling-unit project. The City is required to consult with the public water supplier to determine whether the water demand associated with the proposed project was included in its last UWMP and to assess whether its 20-year water supply (available during

Funds Available: FY		Budget Code:
DEPARTMENT SUBMITTING	DEPARTMENT MANAGER or DIRECTOR	APPROVED
Engineering and Construction	 Xavier J. Irias	 General Manager

Contact the Office of the District Secretary with questions about completing or submitting this form.

normal, single-dry and multiple-dry water years) will meet the water demand associated with the proposed project.

The 2010 UWMP concludes that the District has, and will have, adequate water supplies to serve existing and projected demand within the Ultimate Service Boundary during normal and wet years but that deficits are projected for drought years. In March 2016, the Board of Directors adopted revised Drought Management Program (DMP) Guidelines that establish the level of water use restrictions the District may implement under varying conditions. Under the new DMP Guidelines, water use restrictions may be determined based upon either projected end-of-September Total System Storage (TSS) or water use restriction mandates from the State Water Resources Control Board (SWRCB). When state-mandated water use restrictions exceed the reductions that would otherwise be called for based upon the end-of-September TSS, the District's water use reduction requirements may be guided by the applicable state mandates. Under either scenario, while the District has a goal of maintaining mandatory water use reductions at or below 15 percent, if the drought is severe, mandatory water use reductions could exceed 15 percent. The Lincoln Landing Mixed-Use Development Project will be subject to the same drought restrictions that apply to all District customers.

On April 14, 2015, the District declared a Stage 4 Drought and a mandatory District-wide conservation goal of 20 percent water use reduction and adopted mandatory water use prohibition and restriction regulations. This 20 percent conservation goal met the requirements of both state drought emergency orders and the SWRCB extension of its emergency water conservation regulations. The SWRCB action specified a 16 percent water reduction goal for the District and extended restrictions on urban water use through October 2016.

The WSA letter requests that the City comply with the California Code of Regulations concerning water-efficient landscapes and District water service regulations in force at the time the application is made.

The District also requests a meeting to discuss water conservation opportunities in the project area. This discussion will identify timely opportunities to maximize water conservation, identify District programs, as well as state and federal best management practices applicable to the project.

The Lincoln Landing Mixed-Use Development Project is not located within the vicinity of any existing or planned District recycled water supply pipelines. Based on the project's location, the District currently does not anticipate providing recycled water to any of the project's components; however, the feasibility of providing recycled water to this area may change in the future. The District encourages the City to coordinate closely with the District during the planning of the various project elements to further explore the options relating to recycled water.

## **ALTERNATIVE**

**Do not submit a response.** This alternative is not recommended. This assessment has been prepared pursuant to California Water Code, Sections 10910-10915. It is consistent with the law and the District's past WSAs.

Water Supply Assessment for the Lincoln Landing Mixed-Use Development Project  
May 10, 2016  
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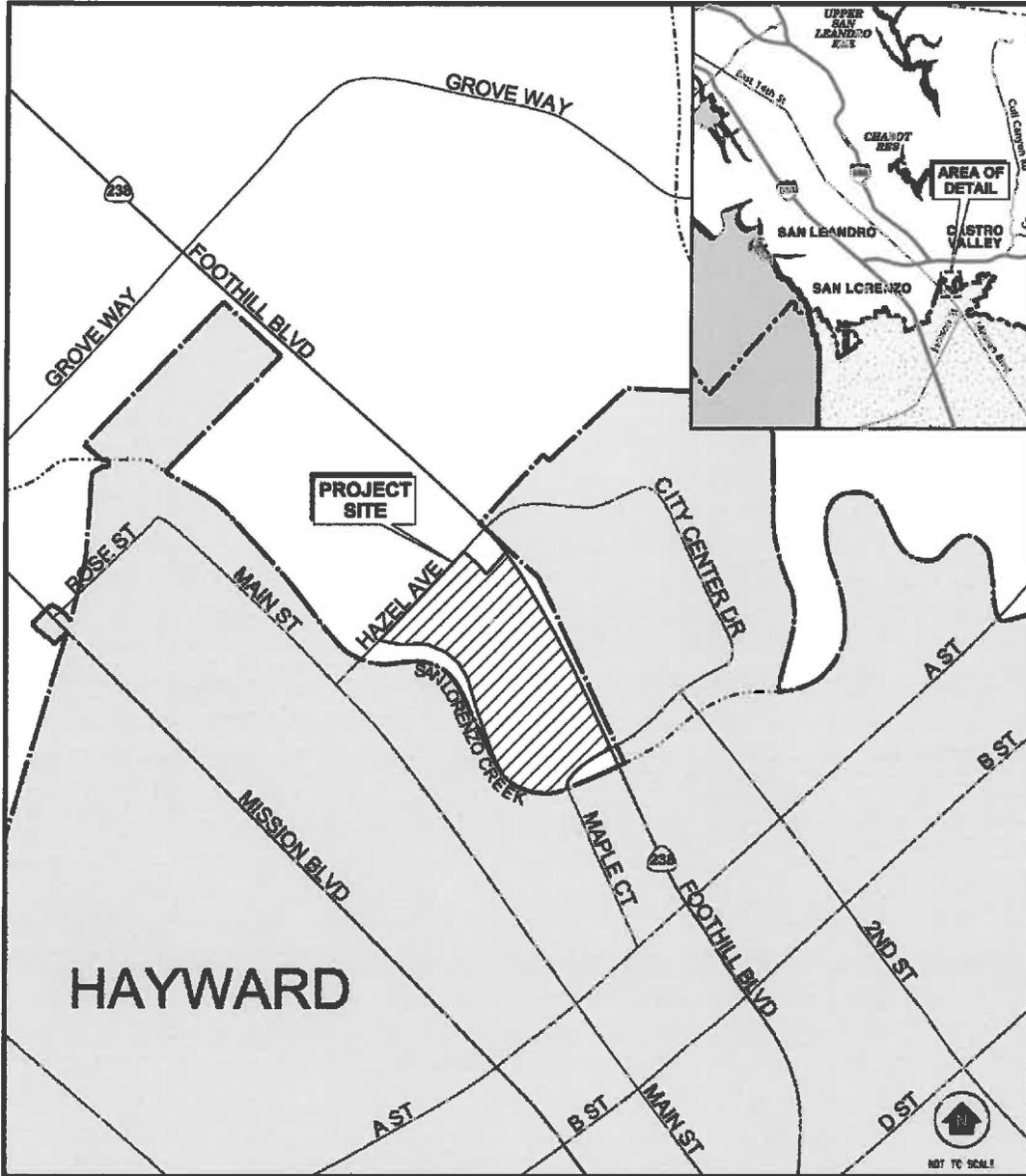
Attachments: A. Map – Lincoln Landing Mixed-Use Development Project  
B. District's Response to March 1, 2016 Water Supply Assessment Request

I:\SEC\2016 Board Related Items\Board Packets 2016\051016 Board Items\ENG-Water Supply Assessment for the Lincoln Landing Mixed-Use Development Project.docx



# LINCOLN LANDING MIXED-USE DEVELOPMENT PROJECT

## Attachment A



-  INSIDE EBMUD ULTIMATE SERVICE BOUNDARY
-  OUTSIDE EBMUD ULTIMATE SERVICE BOUNDARY



# Attachment B

DRAFT

May 10, 2016

Leigha Schmidt, AICP  
Senior Planner  
City of Hayward  
Development Services Department  
Planning Division  
777 B Street  
Hayward, CA 94541-3649

Re: Water Supply Assessment – Lincoln Landing Mixed-Use Development Project

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Pursuant to Sections 10910-10915 of the California Water Code, the proposed Project meets the threshold requirement for an assessment of water supply availability based on the amount of water this project would require, a project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500-dwelling-unit project.

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accounting for estimated variations in demand usage less conservation and recycled supply sources as noted in Table 4-1, Water Demand Projections for Each Water Use Sector, of the 2010 UWMP. EBMUD's water demand projections are based on the 2040 Demand Study (Demand Study), which was completed in 2009. For planning purposes, the demands are estimated in five-year increments, but it is recognized that actual incremental amounts may occur stepwise in shorter time increments. An increase in usage by one customer in a particular customer class does not require a strict gallon-for-gallon increase in conservation by other customers in that class as, in actuality, the amount of potable demand, conservation and recycled water use EBMUD-wide will vary somewhat. Future versions of the UWMP, which is updated every five years, will include an updated assessment of customer demand and water supply. The 2015 UWMP, which is currently out for public review, is expected to be finalized in June 2016.

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The proposed Project is located at 22301 Foothill Boulevard (State Route 238) in the City of Hayward, at the northwest corner of the intersection of Foothill Boulevard and City Center Drive, bounded to the north by Hazel Avenue, and to the south and west by San Lorenzo Creek. The Project area consists of approximately 11 acres. The proposed Project consists of 476 multi-family residential units and 81,000 square feet of commercial space.

### **EBMUD Water Demand Projections**

Since the 1970s, water demand within EBMUD's service area has ranged from 200 to 220 million gallons per day (mgd) in non-drought years. The 2040 water demand forecast of 312 mgd for EBMUD's service area can be reduced to 230 mgd with the successful implementation of water recycling and conservation programs, as outlined in the 2010 UWMP. Although current demand is lower than estimated in the Demand Study, as a result of the recent multi-year drought and the downturn in the economy, the Demand Study still reflects a reasonable expectation for growth over the long term for demand in year 2040. The proposed Project's future development and operations will not change EBMUD's 2040 demand projection.

### **EBMUD Water Supply and Water Rights**

EBMUD has water right permits and licenses that allow for delivery of up to a maximum of 325 mgd from the Mokelumne River, subject to the availability of Mokelumne River runoff and the senior water rights of other users. EBMUD's position in the hierarchy of Mokelumne River water users is determined by a variety of agreements between Mokelumne River water right holders and the terms of the appropriative water right permits and licenses, which have been issued by the State, pre-1914 rights, and riparian rights.

Conditions that could, depending on hydrology, restrict EBMUD's ability to receive its full entitlement include:

- Upstream water use by prior right holders.
- Downstream water use by riparian and senior appropriators and other downstream obligations, including protection of public trust resources.

- Variability in rainfall and runoff.

During prolonged droughts, the Mokelumne River supply cannot meet EBMUD's projected customer demands. To address this, EBMUD has completed construction of the Freeport Regional Water Facility and the Bayside Groundwater Facility, which are discussed below in the Supplemental Water Supply and Demand Management section of this assessment. EBMUD has obtained and continues to seek supplemental supplies.

### **EBMUD's UWMP**

The 2010 UWMP, adopted on June 28, 2011, by EBMUD's Board of Directors by Resolution No. 33832-11, is a long-range planning document used to assess current and projected water usage, water supply planning and conservation and recycling efforts. A summary of EBMUD's demand and supply projections, in five-year increments for a 25-year planning horizon is provided in Table 4-3, EBMUD Demand and Supply Projections, of the 2010 UWMP (Enclosure 3).

EBMUD's evaluation of water supply availability accounts for the diversions of both upstream and downstream water right holders and fishery releases on the Mokelumne River. Fishery releases are based on the requirements of a 1998 Joint Settlement Agreement (JSA) between EBMUD, United States (U.S.) Fish and Wildlife Service, and the California Department of Fish and Game. The JSA requires EBMUD to make minimum flow releases from its reservoirs to the lower Mokelumne River to protect and enhance the fishery resources and ecosystem of the river. As this water is released downriver, it is, therefore, not available for use by EBMUD's customers.

The available supply shown in the attached table (Enclosure 3) was derived from EBMUD's hydrologic model with the following assumptions:

- EBMUD Drought Planning Sequence is used for 1976, 1977 and 1978.
- Total system storage is depleted by the end of the third year of the drought.
- EBMUD will implement its Drought Management Program when necessary.
- The diversions by Amador and Calaveras Counties upstream of Pardee Reservoir will increase over time, eventually reaching the full extent of their senior rights.
- Releases are made to meet the requirements of senior downstream water right holders, and fishery releases are made according to the JSA.
- A dry-year supply of Central Valley Project (CVP) water, through the Freeport Regional Water Facility, is available.
- The Bayside Groundwater Project, Phase 1, is available.

As discussed under the Drought Management Program section in Chapter 3 of the 2010 UWMP, EBMUD's system storage generally allows it to continue serving its customers during dry-year events. EBMUD typically imposes water use restrictions based on the projected storage available at the end of September, and based on recent changes to its Drought Management Program (DMP) Guidelines (summarized below), may also implement water use restrictions in response to a California State mandate. By imposing water use restrictions in the first dry year of potential

drought periods, EBMUD attempts to minimize water use restrictions in subsequent years if a drought persists while continuing to meet its current and subsequent-year fishery flow release requirements and obligations to downstream agencies.

The 2010 UWMP concludes that EBMUD has, and will have, adequate water supplies to serve existing and projected demand within the Ultimate Service Boundary during normal and wet years but that deficits are projected for drought years. EBMUD's Drought Management Program, which is part of the UWMP, establishes guidelines that call for water use restrictions based on that year's storage forecast. In March 2016, EBMUD Board of Directors adopted revised DMP Guidelines that establish the level of water use restrictions EBMUD may implement under varying conditions. Under the new DMP Guidelines, water use restrictions may be determined based upon either projected end-of-September total system storage (TSS) or California State-mandated water use restrictions. When California State-mandated water use restrictions exceed the reductions that would otherwise be called for based upon end-of-September TSS, EBMUD's water use reduction requirements may be guided by applicable California State mandates and not end-of-September TSS. Under either scenario, while the District has a goal of maintaining mandatory water use reductions at or below 15 percent, if the drought is severe, mandatory water use reductions could exceed 15 percent. Despite water savings from EBMUD's aggressive conservation and recycling programs and water use restrictions called for in the Drought Management Program Guidelines, supplemental supplies are needed in significant, severe, and critical droughts while continuing to meet the requirements of senior downstream water right holders and the provisions of the 1998 JSA. The proposed Project will be subject to the same drought restrictions that apply to all EBMUD customers.

### **Supplemental Water Supply and Demand Management**

The goals of meeting projected water needs and increased water reliability rely on supplemental supplies, improving reliability of existing water supply facilities, water conservation and recycled water programs.

By 2011, EBMUD completed construction of the Freeport Regional Water Facility and the Bayside Groundwater Facility to augment its water supply during drought periods. However, additional supplemental supplies beyond those provided through these facilities will still be needed, as noted above. Chapter 2 of the 2010 UWMP describes potential supplemental water supply projects that could be implemented to meet projected long-term water demands during multi-year drought periods.

The Freeport Regional Water Facility became operational in February 2011. EBMUD's ability to take delivery of water through the Freeport facility is based on its Long Term Renewal Contract (LTRC) with the U.S. Bureau of Reclamation. The LTRC provides for up to 133,000 acre feet in a single dry year, not to exceed a total of 165,000 acre feet in three consecutive dry years. Under the LTRC, the CVP supply is available to EBMUD only in dry years when EBMUD's total stored water supply is forecast to be below 500,000 total acre feet on September 30 of each year.

Construction of the Bayside Groundwater Project, Phase 1, was completed in 2010. A permit from the Department of Public Health, which is pending, is required before the groundwater can

be extracted and treated for municipal use. The Bayside Groundwater Project is designed to yield 2 mgd over a six-month period, resulting in an average annual production capacity of 1 mgd per year. Chapter 2 of the 2010 UWMP also lists other potential supplemental water projects, including northern California water transfers, Bayside Groundwater Project Expansion, Los Vaqueros Expansion and others that could be implemented as necessary to meet the projected long-term water supplemental need during multi-year drought periods. The 2010 UWMP identifies a broad mix of projects, with inherent scalability and the ability to adjust implementation schedules for a particular component, so that EBMUD will be able to continue to pursue the additional supplemental supplies that are projected to be necessary, while also minimizing the risks associated with future uncertainties such as project implementation challenges and global climate change. The Environmental Impact Report that EBMUD certified for the Water Supply Management Program 2040 examined the impacts of pursuing these supplemental supply projects at a program level. Separate project-level environmental documentation will be prepared, as appropriate, for specific components as they are developed in further detail and implemented in accordance with EBMUD's water supply needs.

In addition to pursuing supplemental water supply sources, EBMUD also maximizes resources through continuous improvements in the delivery and transmission of available water supplies and investments in ensuring the safety of its existing water supply facilities. These programs, along with emergency interties and planned water recycling and conservation efforts, would ensure a reliable water supply to meet projected demands for current and future EBMUD customers within the current service area.

The proposed Project presents opportunities to incorporate water conservation measures. Conditions of approval for the implementation of the proposed Project should require that the project comply with the California Model Water Efficient Landscape Ordinance (Division 2, Title 23, California Code of Regulations, Chapter 2.7, Sections 490 through 495). EBMUD staff would appreciate the opportunity to meet with the City. A key objective of this meeting will be to explore timely opportunities to expand water conservation via early consideration of EBMUD's conservation programs and best management practices applicable to the Project. On April 14, 2015, EBMUD declared a Stage 4 Drought and a mandatory District-wide water use reduction goal of 20 percent and adopted revised regulations regarding mandatory water use prohibitions and restrictions. This 20 percent conservation goal meets the requirements of both the California State Governor's drought emergency orders and the related February 2, 2016 California State Water Resources Control Board extended emergency water conservation regulation rulemaking, which specifically identified a 16 percent water reduction goal for EBMUD and extended restrictions on urban water use through October 2016. Conservation opportunities will need to be pursued to achieve water use reduction goals and restrictions, and EBMUD will assist the City in maximizing such opportunities.

The proposed Project is not currently a candidate for recycled water. The Project area is not located within the vicinity of any existing or future planned EBMUD recycled water supply pipeline. Based on the location of the Project boundaries, EBMUD currently does not anticipate providing recycled water to any of the Project's components; however, the feasibility of providing recycled water to this area may change in the future. EBMUD encourages the City and

its developers to continue to coordinate closely with EBMUD during the planning of the Project to further explore the options relating to recycled water.

The project sponsor should contact Jennifer L. McGregor, Senior Civil Engineer, at (510) 287-1030 for further information.

Sincerely,

David J. Rehnstrom  
Manager of Water Distribution Planning Division

DJR:CW:dks  
sb16\_068a3 AttB District Letter

Enclosures: 1. Letter of Request for Water Supply Assessment dated March 1, 2016  
2. EBMUD 2010 Urban Water Management Plan  
3. EBMUD Demand and Supply Projections Table

cc: Board of Directors w/o Enclosure 2



March 1, 2016

Jennifer McGregor, PE  
East Bay Municipal Utility District  
Water Service Planning  
375 11<sup>th</sup> Street, MS 701  
Oakland, CA 94607

Subject: Request for Water Supply Assessment for Proposed Lincoln Landing Development, Hayward

Dear Ms. McGregor,

This letter shall serve as a formal request from the City of Hayward to the East Bay Municipal Utility District to prepare a water supply assessment pursuant to Section 10910 of the Water Code. The City is requesting that EBMUD determine whether the projected water demand associated with the Lincoln Landing mixed-use development was included in the Urban Water Management Plan (UWMP), and if it was not included, to prepare a water supply assessment as set forth in Water Code Section 10910 (c)(3). The assessment is required in order to determine whether an adequate water supply is available to meet the projected water demand for the project which is currently in planning stages. An initial study is being prepared by the City of Hayward as lead agency.

The proposed Lincoln Landing development project would consist of development of up to 476 residential units; 81,000 square feet of ground floor commercial uses and approximately 1.7 acres (73,000 square feet) of landscaping that would be divided into private and public open space and parking lot landscaping on an 11-acre site (Assessor Parcel Nos. 428-002-606-801 and 428-0026-067-03).

The proposed project would be accomplished in two phases; the first phase would consist of full development of the commercial portion (81,000 square feet) and up to 267 residential units and the second phase would consist of development of the remaining 209 residential units (for a total of 476 residential units). It is assumed that both phases would be constructed in approximately five years (by 2021).

The proposed project includes demolition of two structures that are currently vacant. The approximately 334,488 square foot former Mervyns office building was vacated around 2008, and the other structure on the site measures approximately 5,310 square feet. There is not a record of when it was vacated however it likely around 2008 as well.

Development Services Department  
Planning Division  
777 B Street, Hayward, CA 94541-5007  
Tel: 510/583-4200 Fax: 510/583-3649

The City requests that EBMUD prepare a water supply assessment for the proposed project as described above. To assist with the assessment, projected water demand calculations for the proposed project are attached to this letter. The prepared assessment will be utilized as part of the environmental documentation for the project.

Please feel free to contact me at 510-583-4013 or by e-mail at [leigha.schmidt@hayward-ca.gov](mailto:leigha.schmidt@hayward-ca.gov) if you require additional information in regard to this request. We appreciate your prompt attention to this matter.

Sincerely,



Leigha Schmidt, AICP  
Senior Planner

Enclosures:

Project Site Plan

City of San Leandro Shoreline Development Project Water Supply Assessment request dated April 16, 2014

**Lincoln Landing Mixed Use Development – Water Demand Calculation**

Use	Quantity/Unit	Water Demand Factor (gal/unit/day)*	Water Demand (gpd)
<b>Proposed Project</b>			
Multi-Family Residential	476 units	165	78,540
Retail/Restaurant	81,000 sq. ft.	0.22	17,820
Parking (surface and structured)**	1,180 spaces	-	-
Irrigation***	See Maximum Applied Water Allowance (MAWA) Calculation below.		2,999
<b>Total New Construction and Water Demand</b>			<b>99,359</b>
<b>Existing Development</b>			
Office	339,798 sq. ft.	0.9	30,581
<b>Total Demolition and Decrease in Water Demand</b>			<b>30,581</b>
<b>Total Net Increase in Water Demand</b>			<b>68,778</b>

\*Water Demand Factors for multi-family residential, retail/restaurant and office uses based on the City of San Leandro Shoreline Development Project Water Supply Assessment request dated April 16, 2014.

\*\* Parking water demand is included in the Irrigation calculation. Landscaped areas in surface parking lots are included in the Landscaped Area/Irrigation and structured/covered parking does not include landscaping/irrigation needs.

\*\*\*Maximum Applied Water Allowance calculation for landscaped areas is as follows:

$$\begin{aligned} \text{MAWA} &= (\text{ET}_0)(0.62)[(0.55 \times \text{LA}) + (0.45 \times \text{SLA})] \\ \text{MAWA} &= (44.2)(0.62)[(0.55 \times 72,614) + (0.45 \times 0)] \\ \text{MAWA} &= (27,404)(39,937.7 + 0) \\ \text{MAWA} &= 1,094,452 \text{ Gallons per Year} \\ \text{MAWA/day} &= 1,094,452/365 = 2,999 \text{ Gallons per Day} \end{aligned}$$

"ET<sub>0</sub>" is the Reference Evapotranspiration, in inches per year, for your climate zone and "0.6" is the adjustment factor to insure that your overall water use is moderate.

LA = Landscaped Area

SLA = Special Landscaped Area

Development Services Department  
Planning Division

777 B Street, Hayward, CA 94541-6007  
Tel: 510/583-4200 Fax: 510/583-3649

## EAST BAY MUNICIPAL UTILITY DISTRICT DEMAND AND SUPPLY PROJECTIONS

(Reference: Table 4-3, UWMP 2010 – EBMUD)

	2010	2015	2020	2025	2030	2035 <sup>1</sup>	2040
<b>PROJECTED DEMAND (MGD)</b>							
CUSTOMER DEMAND <sup>2</sup>	251	266	280	291	304	308	312
ADJUSTED FOR CUMULATIVE CONSERVATION <sup>3</sup>	(26)	(32)	(43)	(49)	(56)	(59)	(62)
ADJUSTED FOR RECYCLED WATER <sup>4</sup>	(9)	(11)	(16)	(18)	(19)	(20)	(20)
PLANNING LEVEL OF DEMAND	216	223	221	224	229	229	230
<b>PROJECTED AVAILABLE SUPPLY AND NEED FOR SUPPLEMENTAL SUPPLY (MGD)<sup>5</sup></b>							
NORMAL YEAR	>216	>223	>221	>224	>229	>229	>230
SUPPLEMENTAL SUPPLY NEED	0	0	0	0	0	0	0
<b>SINGLE DRY YEAR (MULTIPLE DRY YEARS – YEAR 1)</b>							
AVAILABLE SUPPLY	211	217	215	218	223	222	222
CUSTOMER RATIONING <sup>6</sup>	2%	3%	3%	3%	3%	3%	4%
SUPPLEMENTAL SUPPLY NEED <sup>7</sup>	5	6	6	7	7	8	8
<b>MULTIPLE DRY YEARS – YEAR 2</b>							
AVAILABLE SUPPLY	183	189	188	190	194	194	195
CUSTOMER RATIONING <sup>6</sup>	15%	15%	15%	15%	15%	15%	15%
SUPPLEMENTAL SUPPLY NEED <sup>7</sup>	21	21	21	21	22	22	22
<b>MULTIPLE DRY YEARS – YEAR 3</b>							
AVAILABLE SUPPLY	183	189	188	190	183	164	144
CUSTOMER RATIONING <sup>6</sup>	15%	15%	15%	15%	15%	15%	15%
SUPPLEMENTAL SUPPLY NEED <sup>7</sup>	21	21	21	21	33	53	73
<b>THREE-YEAR DROUGHT</b>							
TOTAL SUPPLEMENTAL SUPPLY NEED (TAF) <sup>7</sup>	53	54	54	55	69	93	115

<sup>1</sup> Projected demand for 2035 is interpolated.

<sup>2</sup> Customer demand values are based on the demand projections from the "2040 Demand Study," Feb 2009. These projected water demands are based on land use in EBMUD's ultimate service area and is unadjusted for conservation and non-potable water. The values are also unadjusted for the current suppressed demand due to the 2007-2010 rationing period and the economic downturn.

<sup>3</sup> Existing conservation saving from the "1994 Water Conservation Master Plan" and planned conservation program savings based on the "2011 Water Conservation Master Plan".

<sup>4</sup> Existing recycled water achieved per the "1993 Water Supply Management Program" and planned recycled water program savings as outlined in Chapter 5 of the UWMP 2010.

<sup>5</sup> Projected available supply data includes dry year supply deliveries from the Freeport Regional Water Project (FRWP) and Bayside Groundwater Project, Phase 1. Delivery rules for the FRWP follow the rules as developed in the Freeport EIR, 2003.

<sup>6</sup> Rationing reduction goals are determined according to projected system storage levels in the Long-Term Drought Management Program guidelines per Table 3-2 in Chapter 3 of the UWMP 2010.

<sup>7</sup> The supplemental supply need is based on EBMUD's modeling studies. It is the amount of water needed based on EBMUD's updated demand projections, the provisions of the 1998 Joint Settlement Agreement and the rationing policy stated in Table 3-2, Chapter 3 of the UWMP 2010. The actual need will be dependent on antecedent conditions and the severity of actual drought conditions. Supplemental supply stored during the initial year of the drought could be later released, diminishing supplemental supply needs. During the drought that continued into 2010, the combined effects of water rationing and an economic downturn suppressed demand below the planning level of demand to maintain a sufficient water supply and deferred the need for supplemental water. However, if the drought had continued into its second year, most likely supplemental supplies would have been obtained from the Freeport Regional Water Facility as anticipated in the Interim Drought Management Program Guidelines discussed in Appendix G-2.

**EAST BAY MUNICIPAL UTILITY DISTRICT**

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DATE: May 5, 2016

MEMO TO: Board of Directors

THROUGH: Alexander R. Coate, General Manager *ARC*

FROM: Richard G. Sykes, Director of Water and Natural Resources *R Sykes*

SUBJECT: Board Hearing on Public Draft of Urban Water Management Plan 2015

**SUMMARY**

Staff has updated the District's Urban Water Management Plan (UWMP) and Water Shortage Contingency Plan (WSCP), and the public draft of the UWMP was released on April 11, 2016. A formal hearing will be held at the Board meeting on May 10, 2016 to receive public comments on the draft UWMP.

**BACKGROUND**

Every five years, the District updates the UWMP in accordance with state law. The UWMP is a long-range planning document that provides an overview of EBMUD's current and projected water usage, water supply programs, and conservation and recycling programs. State law requires that the District's UWMP include a plan for ensuring reliable water service for its customers, especially during multi-year drought periods. The cities and counties within EBMUD's service area rely on the UWMP to verify the adequacy of water supplies in their land use planning. The UWMP also reports on EBMUD's progress in meeting the requirements of the Water Conservation Act of 2009, which seeks a statewide 20 percent reduction in urban per capita water use by the year 2020. The WSCP provides guidance in managing and implementing programs and actions to address water shortage conditions. The updated WSCP includes the Drought Management Guidelines adopted by the Board on March 22, 2016.

RGS:AET:dec

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