

Appendix H

Water Supply Assessment





CITY OF OAKLAND

Planning, Building and Neighborhood Preservation Department
250 Frank H. Ogawa Plaza, Suite 3315, Oakland, California, 94612

November 5, 2012

William Kirkpatrick
Manager of Water Distribution Planning
East Bay Municipal Utility District
P.O. Box 24055
Oakland, CA 94623-1055

RE: Request for Confirmation of Water Supply Assessment for the proposed
Broadway/Valdez District Specific Plan, Oakland (SCH #2012052008; Oakland Planning
Case No. ZS12046 and ER120005)

Dear Mr. Kirkpatrick:

Per amendments to Section 10912 of the Water Code implemented by Senate Bill 610, the City of Oakland is submitting this request to the East Bay Municipal Utility District (EBMUD) to prepare a Water Supply Assessment (WSA). The assessment is required in order to determine whether adequate water supply is available to meet the projected water demand of the proposed implementation of the *Broadway/Valdez District Specific Plan*. A Notice of Preparation (NOP) for an Environment Impact Report (EIR) was sent to you on May 2, 2012.

The *Broadway/Valdez District Specific Plan* ("the Plan") will be a 25-year planning document, with a planning horizon to the year 2035. The Plan will develop strategies to encourage more retail and mixed-use development in the areas on and off Broadway between Grand Avenue and Interstate 580. The Plan will include general plan and zoning amendments, along with detailed strategies and work programs to create and implement projects, site design and development standards, as well as funding strategies to carry out the Plan. **The Project ("reasonably foreseeable" growth scenario) assumes development of up to 1,800 residential units; 1,114,050 square feet of retail space; 695,000 square feet of office space; and a 180-room hotel**, which collectively exceeds the thresholds for requiring a WSA.

Although EBMUD's May 17 2012 letter (in response to the NOP) requested that future development projects in the area request separate WSAs, the City nevertheless requests EBMUD prepare a WSA at this time for the entire development program/Project so as to avoid future individual projects from having to prepare separate WSAs, as long as the future project conforms to the Plan. This will help ensure future development projects in conformance with the Plan will have an expedited review process, one of the basic purposes of the Plan. Moreover, it also allows EBMUD, and the City, to better coordinate long-range planning efforts.

The City respectfully requests that EBMUD immediately prepare a WSA for the proposed project as described above. The City acknowledges that this request for an assessment is a required part of the environmental documentation for the project. We appreciate your prompt response to this request.

Please contact me if you need additional information. I can be reached at (510) 238-2166 or by email at ashen@oaklandnet.com.

Sincerely,



Aisa Shen
Planner III
Strategic Planning Division

cc: Elizabeth Kramer, ESA Associates

January 22, 2013

Alisa Shen, Planner III
City of Oakland
Planning, Building and Neighborhood Preservation Department
Strategic Planning Division
250 Frank H. Ogawa Plaza, Suite 3315
Oakland, CA 94612

Re: Water Supply Assessment – Broadway/Valdez District Specific Plan

Dear Ms. Shen:

This letter responds to the City of Oakland's (City) request of November 28, 2012, for water agency consultation concerning the Broadway/Valdez District Specific Plan (Enclosure 1) located in Oakland, which is within the East Bay Municipal Utility District's (EBMUD) Ultimate Service Boundary. EBMUD appreciates the opportunity to provide this response.

Pursuant to Sections 10910-10915 (SB-610) of the California Water Code, the project meets the threshold requirement for an assessment of water supply availability based on the amount of water this project would require, a mixed-use 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 assessment 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 demands for the Broadway/Valdez District Specific Plan area are 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 currently developed with mainly commercial uses, and the estimated existing water demand for the area is approximately 185,000 gallons per day (gpd). The projected water demand for the proposed project at build out is 860,000 gpd. The City provided estimates on the existing and future average water demands for the proposed project to be approximately 393,000 gpd and 1,029,000 gpd, respectively; these estimates are based on wastewater generation rates, which results in an overestimate of water demands for residential, office space, hotels, and parking structure land uses. Given the District's land use demand approach, system capacity charge studies, and good informational references on water unit ranges, the District's estimated water demand is 860,000 gpd for the proposed project at

build out. In addition, the City's estimates also include a significant quantity of water demand for parking spaces, which should be zero.

EBMUD's demand projections indicate both densification and land use changes in a majority of existing land use classifications, including commercial and multi-family 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.

Project Area

The Broadway/Valdez District Specific Plan project site, is approximately 96 acres and is bounded by Interstate 580 to the north, Grand Avenue to the south, and centered around Broadway. As described in the City's Water Supply Assessment request letter, the Broadway/Valdez District Specific Plan is a mixed-used development project that has a reasonable foreseeable growth scenario of up to 1,797 residential units, 1,114,050 square feet of retail space, 694,889 square feet of office space, a hotel with 181 rooms, and up to 6,409 parking spaces.

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 Broadway/Valdez District Specific Plan will not change EBMUD's 2040 demand projection.

EBMUD Water Supply and Water Rights

EBMUD has water rights 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 rights 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 Freepoint 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 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 5-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;
- Dry-year supply of Central Valley Project (CVP) water, through the Freeport Regional Water Facility, is available; and
- 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 imposes rationing based on the projected storage available at the end of September. By imposing rationing in the first dry year of potential drought periods, EBMUD attempts to minimize rationing 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. Table 3-2, Long-Term Drought Management Program Guidelines, in the 2010 UWMP summarizes the Drought Management Program guidelines for consumer water reduction goals based on projected system storage.

In Table 4-3, EBMUD Demand and Supply Projections (Enclosure 3), "Single Dry Water Year" (or Year 1 of "Multiple Dry Water Years") is determined to be a year that EBMUD would implement Drought Management Program elements at the "moderate" stage with the goal of achieving a reduction between 0 to 10 percent in customer demand. Year 2 of "Multiple Dry Years" is determined to be a year that EBMUD would implement Drought Management Program elements at the "severe" stage with the goal of achieving between 10 to 15 percent reduction in customer demand. Year 3 of "Multiple Dry Years" is a year in which EBMUD would implement Drought Management Program elements at the "critical" stage. Despite water savings from EBMUD's aggressive conservation and recycling programs and rationing of up to 15 percent, additional supplemental supplies beyond those provided through the Freeport Regional Water Facility and the Bayside Groundwater Facility will be needed during Years 2 and 3 of a three-year drought. Therefore, supplemental supplies are needed in a multiple-year drought periods while continuing to meet the requirements of senior downstream water right holders and the provisions of the 1998 JSA.

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 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 project is designed to yield 2 mgd over a 6-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 Broadway/Valdez District Specific Plan presents an opportunity to incorporate water conservation measures. Conditions of approval for the implementation of the Broadway/Valdez District Specific Plan 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 project sponsors to discuss water conservation programs and best management practices applicable to such projects. A key objective of these discussions 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.

The Broadway/Valdez District Specific Plan may not be a likely candidate for recycled water due to minimal irrigation demand and the potential high cost to provide recycled water to the project site. However, EBMUD recommends that the City require developers of new or redevelopment projects within the Broadway/Valdez District Specific Plan area to coordinate and consult with EBMUD during the planning and implementation phases of future projects regarding the feasibility of providing recycled water for appropriate non-potable uses.

The project sponsor should contact David J. Rehnstrom, Senior Civil Engineer, at (510) 287-1365 for further information.

Sincerely,



William R. Kirkpatrick
Manager of Water Distribution Planning Division

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sb13_002a.doc

Enclosures: 1. Letter of Request for Water Supply Assessment dated November 28, 2012
2. EBMUD 2010 Urban Water Management Plan
3. EBMUD Demand and Supply Projections Table

cc: Board of Directors w/o Enclosure 2



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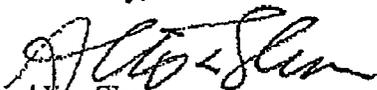
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Sincerely,



Alisa Shen
Planner III
Strategic Planning Division

cc: Elizabeth Kanner, ESA Associates

Water Demand Summary

Development Area	Water Demand (gpd)			
	Existing	Proposed	Increase	
Valdez Triangle	240,664	489,488	248,824	103%
North End	152,209	539,452	387,243	254%
Total	392,873	1,028,940	636,067	162%

Land Use (Existing Development to Remain) Summary

Development Area	Retail (square-feet)	Office (square-feet)	Residential (dwelling units)	Hotel		Parking (spaces)
				Square-feet	Units	
Valdez Triangle	616,291	113,977	127	0	0	868
North End	346,187	312,794	230	0	0	1,802
Total	962,478	426,771	357	0	0	2,670

Note: This table includes square-footages and units of existing development to remain within the Project Area including existing development that will remain as part of New Development within the Project Area.

Land Use (New Development) Summary

Development Area	Retail (square-feet)	Office (square-feet)	Residential (dwelling units)	Hotel		Parking (spaces)
				Square-feet	Units	
Valdez Triangle	793,504	116,085	1,030	117,700	181	3,394
North End	320,546	578,804	767	0	0	3,015
Total	1,114,050	694,889	1,797	117,650	181	6,409

Note: Total proposed square-footages shown on Table 3.4-Proposed Water Demand Estimate include existing development square-footages that will remain as part of New Development within the Project Area.

Land Use (Existing Development to Remain + New Development) Summary

Development Area	Retail (square-feet)	Office (square-feet)	Residential (dwelling units)	Hotel		Parking (spaces)
				Square-feet	Units	
Valdez Triangle	1,409,795	230,062	1,157	117,700	181	4,262
North End	666,733	891,598	997	0	0	4,817
Total	2,076,528	1,121,660	2,154	117,650	181	9,079

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

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

¹ Projected demand for 2035 is interpolated.

² 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.

³ Existing conservation savings from the "1994 Water Conservation Master Plan" and planned conservation program savings based on the "2011 Water Conservation Master Plan."

⁴ 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.

⁵ 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.

⁶ Rationing reduction goals are determined according to projected system storage levels in the Long-Term Drought Management Program guidelines per Table 3-7 in Chapter 3 of the UWMP 2010.

⁷ 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 5-2, 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 defer 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.