EAST BAY
MUNICIPAL UTILITY DISTRICT

July 10, 2012

Alicia Parker, Planner II
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 – Central Estuary Implementation Guide

Dear Ms. Parker:

This letter responds to the City of Oakland's (City) request of April 25, 2012, for water agency consultation concerning the Central Estuary Implementation Guide (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 Central Estuary Implementation Guide 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 currently underutilized project site is developed with commercial, residential, industrial, and park uses. The estimated water demand for the area is approximately 600,000 gallons per day (gpd). The estimated water demand for the proposed project at build out that consists of residential, industrial, commercial, office, and parks is estimated to be approximately 900,000 gpd and is consistent with EBMUD's demand projections that indicate both densification and land use class changes in some areas with these types of land uses.

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EBMUD's demand projections indicate both densification and land use changes in all 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 Central Estuary Implementation Guide, consisting of approximately 416 acres, is bounded by 19th Avenue to the north, 50th Avenue to the south, Oakland Estuary to the west, and Interstate 880 to the east. As described in the City's Water Supply Assessment request letter, the Central Estuary Implementation Guide projects a reasonable foreseeable growth scenario of 391 residential units, 31 live/work units, 374,857 square feet of industrial space, 712,022 square feet of commercial and/or office space, and 10.7 acres of parks.

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 Central Estuary Implementation Guide 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 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 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 Central Estuary Implementation Guide presents an opportunity to incorporate water conservation measures. Conditions of approval for the implementation of the Central Estuary Implementation Guide 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 Central Estuary Implementation Guide 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, the District recommends that the City require developers of new or redevelopment projects within the Central Estuary Implementation Guide area to coordinate and consult with the District 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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Enclosures: 1. Letter of Request for Water Supply Assessment dated April 25, 2012
2. EBMUD 2010 Urban Water Management Plan
3. EBMUD Demand and Supply Projections Table

cc: Board of Directors w/o Enclosure 2