

October 27, 1998

To: Board of Directors (Water Planning and Resources Committee--Action)

From: General Manager _____

Submitted by: Debra C. Man, Chief
Planning and Resources _____

Subject: Groundwater Recovery Program for the Sepulveda Desalter Project

RECOMMENDATIONS

It is recommended:

1. That the General Manager be authorized to execute a Groundwater Recovery Program agreement with West Basin Municipal Water District to implement the Sepulveda Desalter Project consistent with the major terms and conditions in this letter in form approved by the General Counsel, and
2. That the Board certify that it has reviewed and considered the Initial Findings and Mitigated Negative Declaration for the Sepulveda Desalter Project (Project) and adopt the Lead Agency's finding related to the Project.

EXECUTIVE SUMMARY

West Basin Municipal Water District has requested financial assistance for the Sepulveda Desalter Project (Project) under the principles of Metropolitan's Groundwater Recovery Program (GRP). The proposed 2,400 acre-feet per year (AFY) Project will increase groundwater production by treating groundwater containing total dissolved solids (TDS), chloride, iron and manganese levels in excess of drinking water standards and then serving that treated water to meet municipal needs.

The proposed Project complies with established GRP criteria. Subject to the Board's approval, the proposed Project would be eligible for financial contributions adjusted annually to equal those project costs exceeding Metropolitan's treated full service water rate up to \$250 per acre-foot of production for a period of 20 years.

Assistance to the proposed Project is consistent with the Local Resources Program (LRP) rules adopted by the Board in June of this year. The transition terms of the LRP allow groundwater recovery applications received prior to December 1, 1997 to be "grandfathered" under the existing GRP rules. The Project application was received in September 1997.

Project operation would help the region meet the Year 2020 goal of 500,000 AFY for recovered groundwater and recycled water production. Currently, there is an estimated 125,000 AFY shortfall in meeting the goal.

DETAILED REPORT

The West Basin Municipal Water District (WBMWD) has requested financial assistance for the Sepulveda Desalter Project (Project) under the principles of Metropolitan's Groundwater Recovery Program (GRP). The Water Replenishment District of Southern California (WRD) will construct and operate the Project under agreement with WBMWD.

The California Water Service Company, whose service area covers Hermosa Beach and a portion of the City of Torrance, is a member agency of WBMWD and obtains its imported supplies from Metropolitan through WBMWD. The treated water will be served to customers of California Water Service Company.

The proposed Project, located in the City of Torrance, will increase regional groundwater production by treating groundwater pumped from the West Coast Basin. The groundwater contains elevated levels of total dissolved solids (TDS), chloride, iron and manganese that exceed drinking water standards. Attachment 1 provides a description of the Project's features.

The proposed Project capacity is 2,400 acre-feet per year (AFY). Because of the inherent uncertainty in determining the exact amount of production for a groundwater project, Metropolitan's GRP agreement will include a provision to allow increased production of 20 percent greater than the Project's operating capacity of 2,400 AFY. This could yield as much as 2,880 AFY of production eligible for financial assistance.

The Project production will be in addition to the safe yield of the West Coast Basin and will require replenishment with imported supplies. Under GRP terms, the Project may be called upon to sustain production for up to three consecutive years without delivery of Metropolitan's imported replenishment supplies during drought conditions. This obligation will be met by either interruption of in-lieu replenishment administered by WRD or discontinuing delivery of water to WRD spreading operations in the Montebello Forebay.

Financial assistance would be provided under an agreement term not to exceed 20 years. Metropolitan's financial contribution would be provided to WBMWD as a water sales payment through a yield-purchase arrangement similar to that used for previously approved GRP projects. The contribution would be adjusted annually based on the incurred project capital and operation and maintenance (O&M) costs which exceed Metropolitan's treated water rate. The maximum GRP contribution was set by the Board at \$250 per acre-foot. In order to reduce administrative burden for the local agency and Metropolitan, it is anticipated that the agreement will include a pre-established O&M labor factor.

During the first fiscal year of operation (1999-2000), Metropolitan's contribution rate is estimated to be \$197 per acre-foot. A corresponding total contribution of approximately \$473,000 for fiscal year 1999-2000 will be included in future Operation and Maintenance budgets. Attachment 2 is a forecast of Metropolitan's annual contribution to the Project.

Participation in the Project is consistent with the transition terms of the Local Resource Program (LRP) which allows groundwater recovery applications received prior to December 1, 1997 to be "grandfathered" under the existing GRP rules. The transition window closes on December 9, 1998 at which time the GRP agreement must be fully executed. The Project application was received in

September 1997 and meets the “grandfather” requirements. The transition terms were adopted by the Board in July 1998.

Project operation would help the region meet the Year 2020 goal of 500,000 AFY for recovered groundwater and recycled water production. Currently, there is an estimated 125,000 AFY shortfall in meeting the goal.

Pursuant to the California Environmental Quality Act, the WRD, acting as the Lead Agency, has prepared and approved a Mitigated Negative Declaration for the Project. Metropolitan will not be responsible for implementing any of the mitigation measures associated with the Project. Metropolitan, as a Responsible Agency due to its financial participation in the Project, is required to review and consider the information provided in the Mitigated Negative Declaration prior to reaching a decision on the Project. A copy of the Initial Study and Mitigated Negative Declaration is available for review in the office of the Executive Secretary. No further environmental documentation is necessary to act upon this matter.

KK:jpa

Attachment 7-4A

Attachment 7-4B

Attachment 7-4A

Sepulveda Desalter Project

Project Description

Overview

The proposed site of the Sepulveda Desalter Project (Project) is located in the City of Torrance. The Project will pump and treat brackish groundwater from the West Coast Basin to augment the domestic water supply of California Water Service Company (California Water), a member agency of West Basin Municipal Water District (WBMWD). The West Coast Basin is situated in the westerly part of Los Angeles County, California and underlies the community of Hermosa Beach and the City of Torrance. Total dissolved solids (TDS) concentrations of about 2,500 milligrams per liter (mg/L) in the West Coast Basin are higher than the California Department of Health, Title 22 recommended level of 500 mg/L. Chloride concentrations of about 1,250 mg/L are higher than the California Department of Health, Title 22 recommended level of 250 mg/L. Iron and manganese levels are about 6.6 and 0.2 mg/L, respectively, well above the recommended maximum limits of 0.3 and 0.05 mg/L, respectively. The proposed treatment plant will use a chemical pre-treatment process; reverse osmosis (RO) with cartridge filtration as the main treatment process; filtration of bypass blending groundwater for iron and manganese removal, and disinfection of product water. The Project will provide about 2,400 acre-feet per year of potable water to California Water customers.

Groundwater Production Facilities

Approximately two wells will be constructed near the treatment plant (see Figure 1) to produce about 3,000 acre-feet per year of groundwater to be treated by the Project which will yield about 2,400 acre-feet per year of water for delivery to California Water's potable water distribution system. There are existing inactive wells at the proposed well sites that are unsuitable for project use. An 8" diameter pipeline will be constructed to convey pumped groundwater to the treatment facility.

Treatment Facilities

The proposed treatment plant will be located near the intersection of Sepulveda Boulevard and Anza Avenue on approximately 0.85 acres of land owned by California Water. Process equipment will be housed inside a treatment building (about 3,500 square feet) with access from Sepulveda Boulevard (see Figure 1). Separate facilities will be constructed to store chemicals in an area with secondary containment.

Treatment Process Design

Water pumped from the wells will be chemically pre-treated and split into two streams. One stream (approximately 85 percent) will be delivered to the RO process for treatment. The second stream will bypass the RO treatment process, but will be filtered to remove iron and manganese. The blended product from both streams will be chlorinated prior to delivery to California Water's potable distribution system. The expected production will be about 1,450 gallons per minute (gpm), or 2,400 acre-feet per year of product water using a 90 percent utilization factor.

Pre-Treatment

Chemical preconditioning includes addition of sulphuric acid and an anti-scalant compound to control scaling of membranes by soluble compounds.

RO Treatment

Pre-treated well water is pumped through cartridge filters to remove colloidal particles and other impurities. Water from the cartridge filters enters RO feed pumps where the pressure is boosted prior to entering the membrane assemblies. The membrane assemblies will have a permeate capacity (output) of 1,230 gpm. The recovery is estimated to be 78 percent.

Bypass (Blending) Water

About 270 gpm of chemically pre-treated groundwater will bypass the RO treatment process, be filtered to remove iron and manganese, and subsequently be blended with water from the RO treatment process.

Post-Treatment

Blended product water from the RO and bypass iron and manganese removal processes will be chlorinated prior to direct delivery to California Water's potable water distribution system (hydraulic grade line of 282 feet) via a 24" diameter pipeline approximately 100' in length.

Concentrate Disposal

RO concentrate (reject flow) will be discharged to an existing unused pipeline owned by California Water. A new segment of discharge pipeline will be constructed to connect the existing California Water line to an existing storm drain that discharges to the ocean in Redondo Beach. (Estimated length of new brine line is 7,400' of 12" pipe.)

Points of Connection

Project facilities shall terminate at the points of connection to California Water's existing 24" potable water line beneath Sepulveda Boulevard and at the point of connection to the existing storm drain that discharges into the ocean.

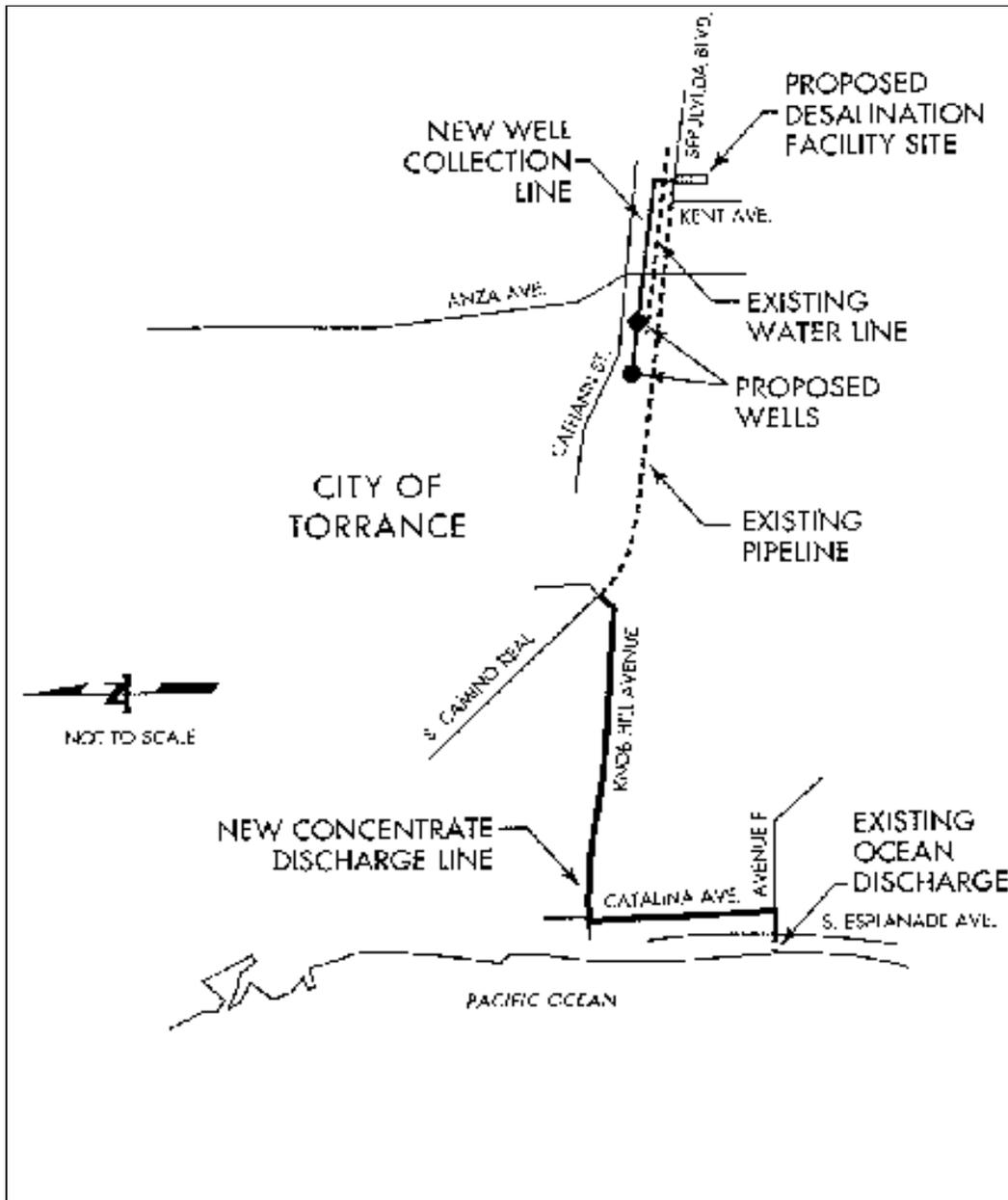


Figure 1
Sepulveda Desalter

Attachment 7-4BMetropolitan's Estimated Contribution

<u>Fiscal Year</u>	<u>Annual Contribution (\$)</u>
2000	\$473,000
2001	\$499,000
2002	\$520,000
2003	\$540,000
2004	\$537,000
2005	\$534,000
2006	\$544,000
2007	\$555,000
2008	\$566,000
2009	\$578,000
2010	\$579,000
2011	\$581,000
2012	\$584,000
2013	\$587,000
2014	\$591,000
2015	\$600,000
2016	\$600,000
2017	\$600,000
2018	\$600,000
2019	\$600,000