



**MWD**

METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA



**7-10**

August 25, 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 Beverly Hills Desalter Project

### **RECOMMENDATIONS**

It is recommended that the Board:

1. Authorize the General Manager to execute a Groundwater Recovery Program agreement with the City of Beverly Hills to implement the Beverly Hills Desalter Project consistent with the major terms and conditions in this letter in form approved by the General Counsel, and
2. Certify that it has reviewed and considered the information provided in the Mitigated Negative Declaration for the Beverly Hills Desalter Project and adopt the Lead Agency's findings related to the project.

### **EXECUTIVE SUMMARY**

The City of Beverly Hills has requested financial assistance for the Beverly Hills Desalter Project (Project) under the principles of Metropolitan's Groundwater Recovery Program (GRP). The proposed 2,600 acre-feet per year (AFY) project will increase groundwater production by treating groundwater containing high total dissolved solids (TDS), iron, manganese and hydrogen sulfide levels that exceed 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 noninterruptible water rate for up to \$250 per acre-foot of production for a period of 20 years.

Assistance to the 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 1993.

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

## **DETAILED REPORT**

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The City of Beverly Hills (Beverly Hills) has requested financial assistance for the Beverly Hills Desalter Project (Project) under the principles of Metropolitan's Groundwater Recovery Program (GRP). Beverly Hills obtains all of its water supply from Metropolitan.

The proposed Project, located in the city of Beverly Hills, will increase regional groundwater production by treating groundwater pumped from the Hollywood Basin. The groundwater contains elevated levels of total dissolved solids (TDS), iron and manganese levels that do not meet drinking water standards. The treated water will be served to customers in Beverly Hills' service area. Attachment 1 provides a description of the Project's features.

The proposed Project capacity is 2,600 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 2,600 AFY. This could yield as much as 3,120 AFY of production eligible for financial assistance.

Financial assistance would be provided under an agreement term not to exceed 20 years. Metropolitan's financial contribution would be provided to Beverly Hills 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 may include a pre-established O&M labor estimate.

During the first year of operation (2001-2002), Metropolitan's contribution rate is estimated to be \$250 per acre-foot. A corresponding total contribution of approximately \$650,000 for fiscal year 2001-2002 will be included in future O&M 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 Resources 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 1993 and meets the "grandfather" requirement. The transition terms were adopted by the Board in June 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 (CEQA), Beverly Hills, 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. Copies of the Initial Study, Mitigated Negative Declaration, and Notice of Determination are available for your review in the office of the Executive Secretary. No further environmental documentation is necessary for you to act upon in this matter.

AMH:jpa

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Attachment(s)

## **Beverly Hills Desalter Project**

### **Project Description**

#### **Overview**

Located in the City of Beverly Hills (Beverly Hills), the Project will pump and treat brackish groundwater from the Hollywood Basin to augment Beverly Hills' domestic water supply. The Hollywood Basin is situated in the western part of Los Angeles County and underlies the city of Beverly Hills and community of West Hollywood. Total dissolved solids (TDS) concentrations in the Basin exceed the California Department of Health, Title 22 recommended level of 500 mg/L. Iron and manganese levels are at or above the recommended maximum levels. The proposed treatment plant will use reverse osmosis (RO) as the main treatment process to remove TDS, hardness, iron, manganese and trace organics. Blend water, untreated by RO membranes, will require iron and manganese removal by either oxidative filtration or the manganese greensand process. The Project will provide approximately 2,600 acre-feet per year of potable water to Beverly Hills customers. Proposed project facilities are shown in Figure 1.

#### **Treatment Facilities**

The proposed treatment plant will be located on Foothill Road, near the intersection of Third Street on approximately 0.1 acres of land at the northern end of property owned by Beverly Hills. Process equipment, above-ground chemical and waste storage tanks, and emergency power systems will be housed inside a treatment and administration building which may be entered by an existing access on Foothill Road. Only those portions of the building devoted to project treatment facilities are part of the Project. All buildings will be architecturally designed to blend with the surrounding environment.

#### **Treatment Process Design**

The proposed primary treatment process is reverse osmosis. Pre-treatment includes a commercial scale inhibitor and acid addition. Post-treatment will include a carbon dioxide air stripper. Water will be pumped from five production wells, all located within Beverly Hills. The approximate locations of the wells are:

- Civic Center Drive at Beverly Boulevard;
- Burton Way at Oakhurst Drive;
- North of Santa Monica Boulevard at Palm Drive;
- Beverly Gardens Park at Santa Monica Boulevard and Carmelita Avenue; and
- Burton Way at North Elm Drive (Well No. 1).

Water will be pumped from the wells to the treatment plant through pipelines within street rights-of-way. At the plant, the raw water will be divided into two treatment streams. One stream (about 40 percent) delivers raw water to the membranes for treatment, then air stripping for post-treatment. The second stream will be bypassed to the oxidative filtration or manganese greensand filters for iron and manganese removal and then blended with treated water. Injection of sulfuric acid and a commercial scale inhibitor will be applied to prevent scaling. The expected water production is 2,600 acre-feet per year.

### **RO Treatment**

Pre-treated well water is then pumped through cartridge filters for solids removal. Water from the cartridge filters enters RO feed pumps where the pressure is boosted prior to entering the membrane assemblies. The membrane assemblies (two are proposed) will each have a permeate capacity (output) of 285 gallons per minute. The recovery is estimated to be 70 percent.

### **Post-Treatment**

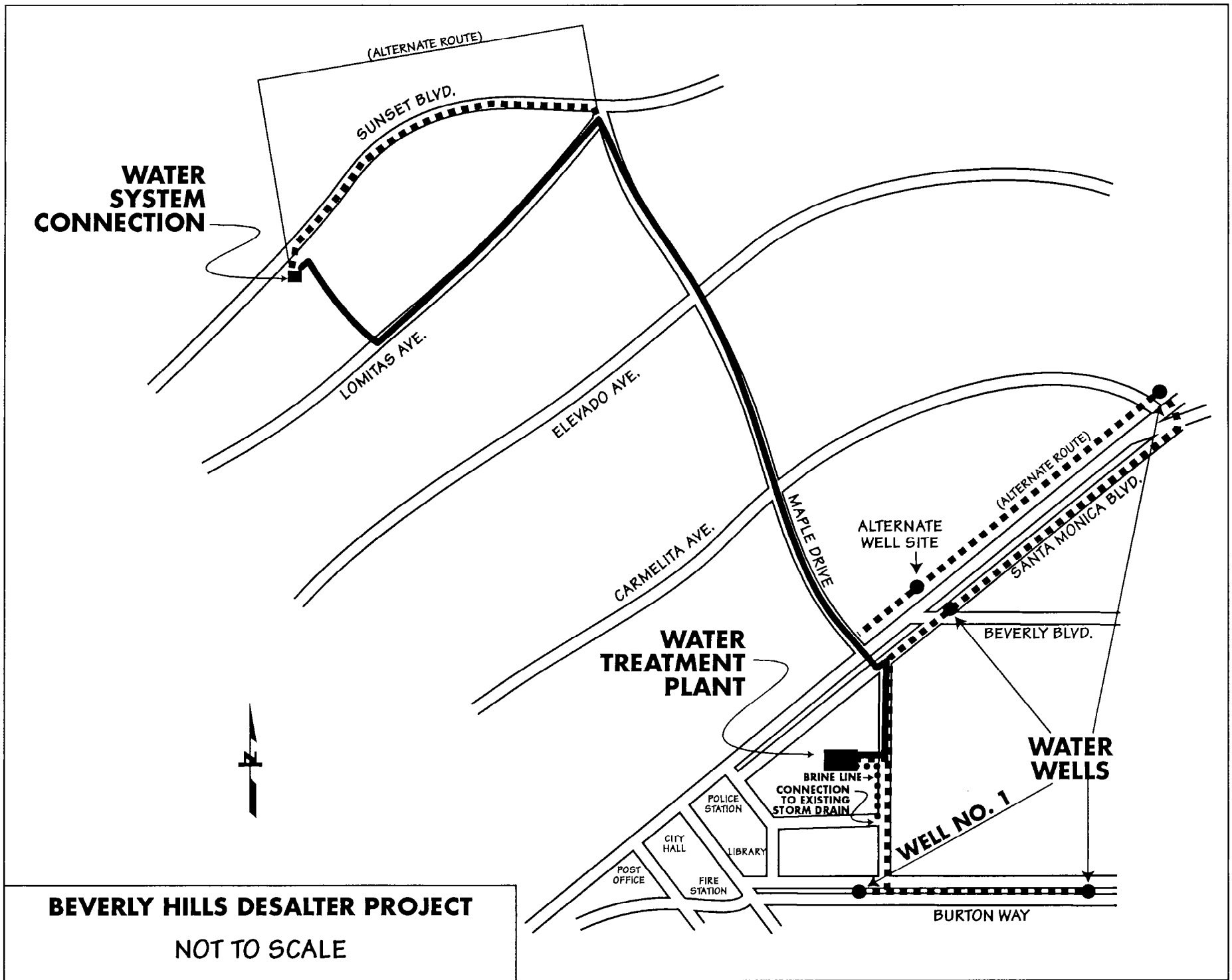
Permeate from the membrane system will undergo air stripping to remove hydrogen sulfide. Bypass water will also be air stripped for hydrogen sulfide removal. Permeate from the membrane system will then be blended with the bypass stream, where lime or calcium carbonate will be added to raise the alkalinity and buffer capacity of the product water. Sodium hypochlorite will be used for disinfection. The finished water will be retained in a clearwell until it is pumped to the distribution system via a 12-inch diameter pipeline that connects the water treatment plant to Beverly Hills' existing Sunset Reservoir.

### **Brine Disposal**

About 336 acre-feet per year of concentrate (brine) will be discharged from the treatment plant to the local storm drain located on Foothill Road. The storm drain would convey the concentrate for ultimate discharge to Ballona Creek. The Los Angeles Regional Water Quality Control Board (RWQCB) has determined that this discharge complies with National Pollutant Discharge Elimination System requirements. An application for waste discharge will be submitted by Beverly Hills to the RWQCB prior to project design and construction.

### **Point of Connection**

Project facilities terminate at the point of connection to Beverly Hills' existing Sunset Reservoir. Approximately one mile of 12-inch diameter potable water pipeline will be constructed to reach this connection. Brine disposal facilities end at the point of connection to the storm drain system. Depending on the final design, a booster pump station may be required to deliver product water to City customers.



**BEVERLY HILLS DESALTER PROJECT**

NOT TO SCALE

Figure 1

**Metropolitan's Estimated Contribution**

| <b><u>Fiscal Year</u></b> | <b><u>Annual Contribution (\$)</u></b> |
|---------------------------|--|
| 1999-2000                 | 0                                      |
| 2000-2001                 | 0                                      |
| 2001-2002                 | 650,000                                |
| 2002-2003                 | 650,000                                |
| 2003-2004                 | 650,000                                |
| 2004-2005                 | 650,000                                |
| 2005-2006                 | 650,000                                |
| 2006-2007                 | 650,000                                |
| 2007-2008                 | 650,000                                |
| 2008-2009                 | 650,000                                |
| 2009-2010                 | 650,000                                |
| 2010-2011                 | 650,000                                |
| 2011-2012                 | 650,000                                |
| 2012-2013                 | 650,000                                |
| 2013-2014                 | 650,000                                |
| 2014-2015                 | 650,000                                |
| 2015-2016                 | 650,000                                |
| 2016-2017                 | 650,000                                |
| 2017-2018                 | 650,000                                |
| 2018-2019                 | 650,000                                |
| 2019-2020                 | 650,000                                |
| 2020-2021                 | 650,000                                |