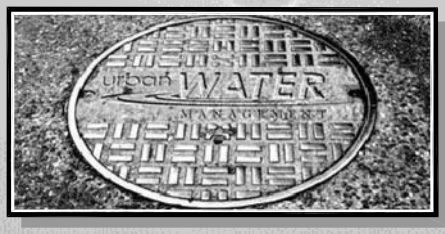
Erler & Kalinowski, Inc.

City of Burlingame

Urban Water Management Plan

June 2011



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ABBREVIATIONS

AB 1420	Assembly Bill 1420 Amending Urban Water Management Plan Act
ABAG	Association of Bay Area Governments
AMR	Automatic Meter Reading
BAWSCA	Bay Area Water Supply and Conservation Agency
DMM	Best Management Practice
CEQA	California Environmental Quality Act
CII	Commercial, Industrial, and Institutional
CIP	Capital Improvement Program
CUWCC	California Urban Water Conservation Council
DRIP	Drought Implementation Plan
DSS	Decision Support System Model
DWR	Department of Water Resources
EOP	Emergency Operation Plans
ERP	Emergency Response Plan
ET	Evaporation-transpiration
FY	Fiscal year
GPC/D	Gallons per capita per day
GPD	Gallons per day
GPF	Gallons per flush
GPM	Gallons per minute
HTWTP	Henry Tracy Water Treatment Plant
in/mo	Inches per month
ISA	Interim Supply Allocation
ISG	Individual Supply Guarantee
ISL	Interim Supply Limitation
IWSAP	Interim Water Shortage Allocation Plan
MCL	Maximum contaminant level
MG	Million gallons
MGD	Million gallons per day
MOU	Memorandum of Understanding
PEIR	Programmatic Environmental Impact Report
psi	Pounds per square inch
PWEP	Potable Water Emergency Plan
RMF	Residential multi-family
RSF	Residential single family
SB7	Senate Bill 7, Water Conservation Act of 2009
SCADA	Supervisory Control and Data Acquisition
SCVWD	Santa Clara Valley Water District
SEMS	Standardized Emergency Management System
SFPUC	San Francisco Public Utilities Commission
SFPD	San Francisco Planning Department
SMOA	San Mateo Operational Area

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Abbreviations (Continued)

SWP	State Water Project
TAC	BAWSCA Technical Advisory Committee
TDS	Total dissolved solids
UAW	Unaccounted for water
ULFT	Ultra Low Flow Toilets
USEPA	United States Environmental Protection Agency
UWMP	Urban Water Management Plan
WCC	Water Conservation Coordinator
WP	Washington Park
WQB	Water Quality Bureau
WRPR	Water Rationing Plan Resolution 49-92
WSA	Water Supply Agreement
WSIP	Water System Infrastructure Implementation Plan
WWTP	Wastewater Treatment Plant

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1. INTRODUCTION AND PLAN PREPARATION

In 1983, the California Legislature enacted the Urban Water Management Planning Act ("UWMP Act") (Water Code Sections 10610 - 10657). The UWMP Act states that every urban water supplier that provides water to 3,000 or more customers, or that provides over 3,000 acre-feet of water annually, should make every effort to ensure the appropriate level of water service reliability to meet the needs of its customers during normal, dry, and multiple dry years. Normally, the UWMP Act requires urban water suppliers to update their Urban Water Management Plan ("UWMP") for submittal to the Department of Water Resources ("DWR") in years ending in five and zero. However, because of recent changes in UWMP requirements, State law has extended the deadline for the 2010 plans to 1 July 2011. In accordance with the UWMP Act, Erler & Kalinowski, Inc ("EKI") has, on behalf of the City of Burlingame ("City" or "Burlingame"), this 2010 update to the City's 2005 Urban Water Management Plan.

This UWMP has been prepared in general accordance with the format suggested in DWR's *Guidebook to Assist Urban Water Suppliers to Prepare a 2010 Urban Water Management Plan*, dated March 2011. The text of specific sub-sections of the UWMP Act has been included in justified, courier font at the beginning of specific sections of this UWMP. The information presented in that section of the UWMP and associated figures, tables, attachments, and references are collectively intended to comply with the requirements of that sub-section of the UWMP Act. To the extent practicable, supporting documentation has been provided in Appendix A through Appendix O. Other sources for the information contained herein are provided in the references section of the document.

In addition, as described below, this UWMP has been prepared to reflect the recent changes to the UWMP Act and the regional coordination efforts between the Bay Area Water Supply and Conservation Agency ("BAWSCA"), the BAWSCA member agencies, and the San Francisco Public Utilities Commission ("SFPUC").

1.1 CHANGES TO THE UWMP ACT

Burlingame's 2010 UWMP describes how the City intends to manage its current and future water resources and demands to continue to provide customers with an adequate and reliable water supply. Additionally, Burlingame's 2010 UWMP reflects the following significant revisions that have been made to the UWMP Act since 2000. The most recent version of the UWMP Act is included as Appendix A.

- Pursuant to Assembly Bill ("AB") 1420, Laird, 2007, eligibility for water management grants and loans from DWR, the State Water Resources Control Board, and the California Bay-Delta Authority will be conditioned on the implementation of all locally cost-effective Demand Management Measures ("DMMs") described in the UWMP Act.

- Pursuant to Senate Bill ("SB") 1087, Florez, 2005, water use projections reported in a UWMP now must identify the projected water use for lower income single-family and multi-family residential households. The intent of this legislation is to assist water suppliers in complying with Government Code 65589.7, which grants priority for providing service to housing units that are affordable for lower income households.
- Pursuant to SB 7, Steinberg, 2009, the State of California must reduce urban per capita water use by 20% no later than 31 December 2020, and by at least 10% no later than 31 December 2015. The legislation recognizes that it may be possible to achieve the per capita water use reductions while maintaining or even increasing overall water use, depending on changes in climate and population within each supplier's service area.

  SB 7 identifies the UWMP as the primary mechanism for reporting water use estimates and water use targets required by SB 7. UWMPs must also include the following:

  - A water efficiency component that includes programs for implementing best management practices, climate-appropriate landscaping, and accelerated water metering;
  - A local water resources component that considers water quality and alternative local supply sources;
  - A water efficiency planning component that estimates the conservation savings to be achieved through the development of local supplies, residential water efficiency, and commercial, industrial, and institutional water efficiency; and
  - Interim milestones for assessing progress toward meeting these conservation targets.

1.2 REGIONAL COORDINATION EFFORTS

Additionally, Burlingame's 2010 UWMP reflects coordination with BAWSCA and the SFPUC. BAWSCA is the agency that represents Burlingame and the 27 other cities, water districts, and utilities, in negotiations with SFPUC. SFPUC is the wholesale water supplier to all of the BAWSCA member agencies, also referred to as the "Suburban Purchasers" or "Wholesale Customers." Together with SFPUC, BAWSCA developed common language for inclusion in each Suburban Purchasers' UWMP regarding the following issues:

- BAWSCA and its powers and role;
- Water Conservation Implementation Plan ("WCIP"; BAWSCA, 2009);
- BAWSCA's regional coordination efforts towards water demand management;
- Long Term Reliable Water Supply Strategy ("LTRWSS"; BAWSCA, 2010);
- SFPUC regional water system;

- Water System Improvement Plan ("WSIP");
- The 2009 Water Supply Agreement ("WSA");
- Individual Supply Guarantees ("ISGs");
- Tier 1 and Tier 2 Water Shortage Allocations;
- SB 7 analysis;
- Climate change;
- The 2018 Interim Supply Limitation ("ISL");
- The 2018 Individual Supply Allocations ("ISAs)"; and
- Quantity and reliability of SFPUC's Wholesale Water Supply.

For clarification purposes, the common language provided to Burlingame by BAWSCA is presented in a greyer color as compared to the remainder of the UWMP text and has been indented for emphasis. As a result, there may be some redundancies in the information presented and the number of times that certain terms are abbreviated or defined.

1.3 AGENCY COORDINATION

10620 (d) (2) Each urban water supplier shall coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.

The Bay Area Water Supply and Conservation Agency (BAWSCA) was created on May 27, 2003 to represent the interests of the 26 agencies that include cities, water districts, a water company, and a university, in Alameda, Santa Clara and San Mateo counties that purchase water on a wholesale basis from the San Francisco Regional Water System (RWS). Collectively, the BAWSCA agencies are referred to as the Wholesale Customers.

BAWSCA is the only entity that has the authority to directly represent the needs of the wholesale customers that depend on the RWS. Through BAWSCA, the wholesale customers can work with the San Francisco Public Utilities Commission (SFPUC) on an equal basis to ensure the RWS is rehabilitated and maintained and to collectively and efficiently meet local responsibilities.

BAWSCA has the authority to coordinate water conservation, supply and recycling activities for its agencies; acquire water and make it available to other agencies on a wholesale basis; finance projects, including improvements to the regional water system; and build facilities jointly with other local public agencies or on its own to carry out the agency's purposes.

Compliance with the Urban Water Management Planning Act lies with each agency that delivers water to its customers. In this instance, the responsibility for completing an UWMP lies with the individual BAWSCA member agencies.

BAWSCA's role in the development of the 2010 UWMP updates is to work closely with its member agencies and the SFPUC to maintain consistency among the multiple documents being developed.

As a member of BAWSCA and the BAWSCA Technical Advisory Committee ("TAC"), the City has coordinated with BAWSCA and its 25 other member agencies throughout the update of Burlingame's UWMP. A summary of Burlingame's efforts to coordinate with SFPUC, the San Francisco Planning Department ("SFPUD"), BAWSCA, and the 25 other BAWSCA member agencies provided in Section 1.5 and Table 1. A copy of each of the notices described below is provided in Appendix B.

1.4 WATER MANAGEMENT TOOLS

10620 (f) An urban water supplier shall describe in the plan water management tools and options used by that entity that will maximize resources and minimize the need to import water from other regions.

To help maximize its water resources and reduce its dependency on imported water, the City is currently implementing, or planning to implement, the water management tools described in Section 6 of this UWMP. These demand management measures will assist the City in its continued efforts toward improving water use efficiency. In addition, as described in Section 6.3, Burlingame is investigating the feasibility of expanding its recycled and groundwater water resources to decrease the use of potable water for non-potable demands and increase supply reliability during dry years.

1.5 NOTIFICATION OF UWMP PREPARATION

10621. (b) Every urban water supplier required to prepare a plan pursuant to this part shall notify any city or county within which the supplier provides water supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan. The urban water supplier may consult with, and obtain comments from, any city or county that receives notice pursuant to this subdivision.

10642. Each urban water supplier shall encourage the active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan. Prior to adopting a plan, the urban water supplier shall make the plan available for public inspection and shall hold a public hearing thereon. Prior to the hearing, notice of the time and place of hearing shall be published within the jurisdiction of the publicly owned water supplier pursuant to Section 6066 of the Government Code.. The urban water supplier shall provide notice of the time and place of hearing to any city or county within which the supplier provides water supplies. A privately owned water supplier shall provide an equivalent notice within its service area. After the hearing, the plan shall be adopted as prepared or as modified after the hearing.

Preparation of the UWMP began in November 2010 for completion in July 2010, with notifications and interactions between stakeholders as discussed further below.

1.5.1 Agency Notification

On 3 February 2011, the City sent a letter to BAWSCA and to each BAWSCA member agency informing them that the City was in the process of updating its UWMP and soliciting their input in the update process. In addition, Burlingame sent a notification letter to SFPUC and San Mateo County ("County") on 3 February 2011. A copy of these letters is included in Appendix B.

On 17 March 2011, the City sent a letter to each of the above mentioned agencies informing them the locations the document would be available for review and welcoming their input and comments on the document. The draft 2010 UWMP was available for public review at the Public Library and City Hall. The letter also informed the agencies that the SB 7 and UWMP public hearing would be occurring at City Hall on 16 May 2011. The letter was sent more than 60 days before the public hearing as required by code. A copy of the notification letter is included in Appendix B.

1.5.2 Public Notification

Consistent with requirements of California Government Code 6066[1], Burlingame issued public notifications soliciting public input during the preparation of 2010 UWMP. On 3 March 2011 and 10 March 2011, Burlingame published a notice in the *San Mateo Daily Journal* informing the public that the 2011 UWMP would be available for public review at City Hall and at the Public Library. The notice also informed the public that the SB 7 and 2010 UWMP public hearing would be held at Tracy City Hall on 16 May 2011. A copy of the newspaper announcement is included in Appendix C.

1.5.3 Adoption and Implementation of UWMP

As described in Section 1.3, the City informed the public and the appropriate agencies of (1) its intent to prepare a UWMP, (2) where the UWMP was available for public review, and (3) when the public hearing regarding the UWMP and SB 7 would be held. All notifications were completed in compliance with the stipulations of Section 6066 of the Government Code.

This UWMP was adopted by Resolution No. 31-2011 by the City Council during its 16 May 2011 City Council meeting. A copy of the resolution is included in Appendix D.

A copy of the adopted 2010 UWMP including any amendments will be provided to DWR, the California State Library, San Mateo County, and SFPUC within 30 days of the

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[1] Government Code section 6066. Publication of notice pursuant to this section shall be once a week for two successive weeks. Two publications in a newspaper published once a week or oftener, with at least five days intervening between the respective publication dates not counting such publication dates, are sufficient. The period of notice commences upon the first day of publication and terminates at the end of the fourteenth day, including therein the first day.

adoption. A copy of the adopted 2010 UWMP will be available for public review during normal business hours within 30 days after filing the plan with DWR.

The UWMP will be implemented as described in the following sections.

2. SERVICE AREA AND SYSTEM DESCRIPTION

10631. A plan shall be adopted in accordance with this chapter and shall do all of the following:
10631. (a) Describe the service area of the supplier; including current and projected population, climate, and other demographic factors affecting the supplier's water management planning. The projected population estimates shall be based upon data from the state, regional, or local service agency population projections within the service area of the urban water supplier and shall be in five-year increments to 20 years or as far as data is available.

The City of Burlingame is located in San Mateo County, approximately 15 miles south of the City of San Francisco, California (Figure 1). The City is bordered by the City of Millbrae directly to the north, the City of San Mateo to the southeast, the town of Hillsborough to the south, the City of San Francisco watershed lands to the west, and San Francisco Bay to the east. The City's potable water system serves approximately 9,100 connections, both within the City limits and in the unincorporated Burlingame Hills area. The City also supplies potable water, primarily for irrigation purposes, to San Mateo County's Coyote Point Park. The higher-elevation, unincorporated Burlingame Hills is located west of the City, while Coyote Point is located southeast of the City along San Francisco Bay (Figure 2). Figure 3 shows the current zoning for the City.

As required by the UWMP Act, specific information related to the City's population, and climate is provided below. A brief description of the City's water system is also included.

2.1 POPULATION

The service area population includes people within the City Limits and residents of the unincorporated Burlingame Hills area. Historical population was calculated by the addition of Burlingame population estimates from the Department of Finance ("DOF"; DOF, 2007 and DOF, 2010) and the residents in the Burlingame Hills area.

Specific population estimates for the Burlingame Hills area are not available from the DOF. Therefore, population of the Burlingame Hills area was calculated by multiplying the 420 units identified in the City's Housing Element (City of Burlingame, 2010a) by the estimated people per household that is specific to Burlingame (DOF, 2008). The historical population is listed in Table 2. As calculated, the population served by Burlingame in 2009-10 is 30,282 people.

The City is predominantly zoned residential, with a commercial and industrial core in the eastern portion of the City and two centrally located commercial districts. Figure 3 shows the current zoning for the City. Much of the City is "built out," allowing for only modest population increases in the future assuming continuation of current zoning and

densities. The Association of Bay Area Governments ("ABAG") provides population projections for San Francisco Bay Area cities (ABAG, 2007). The ABAG staff collects data on current land use and development policies of local governments and uses this information in its estimates of population growth. ABAG population projections are only for the incorporated City limits and do not included the unincorporated Burlingame Hills, which is also served water by the City.

The City adopted the Downtown Specific Plan (City of Burlingame, 2010b) on 4 October 2010 that added the possibility of up to 1,232 additional dwelling units, which was after the publication of ABAG, 2007. Future population projections are based on the addition of ABAG's estimate of people within the Burlingame City Limits, residents within the unincorporated Burlingame Hills, and the additional people projected in the Downtown Specific Plan. Future population projections through 2034-35 are listed in Table 2.

2.2 CLIMATE

The climate in Burlingame is generally considered temperate. The average temperature is 57°F, with an average low of 49°F and an average high of 65°F (Table 3). The mean summer temperature (i.e., June through September) is 63°F. Precipitation averages 20 inches per year with most precipitation falling between November and March and little to none occurring April through September. The lack of rainfall during the warmer summer months contributes to a higher water demand in the summer, which is exacerbated by high evapotranspiration ("ET") rates. ET records indicate an average loss of four inches per month ("in/mo"), with a high of 6 in/mo in June and July, and lows of 1 to 2 in/mo from December to January (Table 3).

2.3 CITY WATER DISTRIBUTION SYSTEM

The City owns, operates, and maintains the potable water distribution system that serves drinking water to residential, commercial, and industrial establishments.

2.3.1 Water Distribution System

The City's distribution system consists of six pumping stations, seven water storage tanks, and buried pipes of varying compositions, ages, and sizes (Figure 4 and Figure 5). The distribution system provides water to eight pressure zones within the City's water service area. The elevation of the pressure zones is shown in Table 4. The number of service connections by water use sector is listed in Table 5. Water is transferred between pressure zones through a system of pipes and pumping stations. The pumping stations are referred to as:

1. Donnelly,
2. Easton,
3. Skyview,
4. Trousdale,

5. Hillside, and
6. Sisters of Mercy.

Five of the pumping stations transfer water from the lower elevations of the City to the higher elevations, while the Sisters of Mercy station provides also provide fire flow to the Sisters of Mercy property (Figure 4 and Figure 5). The sizes of the pumps range between 7.5 and 200 horsepower. Current pump station conditions are described in the *Water System Pumping Station Study, Condition Assessment,* prepared by Olivia Chen Consultants, dated August 2003 (OCC, 2003).

Water is stored in the City's seven water storage tanks at five sites that provide an aggregate water storage volume of 2.94 million gallons ("MG") (EKI, 2004) (Table 6). The largest water storage facility is the Hillside Tank, which holds 1.5 MG. The smallest water storage facilities are the individual tanks at the Alcazar and Donnelly sites. There are two tanks at each site and each tank holds 0.05 MG (Table 6).

2.3.2 Water System Connections to SFPUC

Water is supplied to the City via six metered turnouts connected to SFPUC's Sunset Supply Pipeline and Crystal Springs Pipelines Nos. 2 and 3. Because the pressures in the SFPUC pipelines vary between 95 pounds per square inch ("psi") and 105 psi, pressure reducing valves are in place at the turnouts to deliver water at consistent and manageable pressures to the City's distribution system.

Water from the turnouts is supplied to the Aqueduct Zone at sufficient pressure to supply end-users within this zone without additional pumping. As described above, to supply the elevated regions of the City, pumping stations boost water from the Aqueduct Zone to the more elevated pressure zones and their associated storage facilities.

3. SYSTEM WATER DEMANDS

10631. A plan shall be adopted in accordance with this chapter and shall do all of the following:
10631 (e) (1) Quantify, to the extent records are available, past and current water use, over the same five-year increments described in subdivision (a), and projected water use, identifying the uses among water use sectors including, but not necessarily limited to, all of the following uses:
(A) Single family residential.
(B) Multifamily.
(C) Commercial.
(D) Industrial.
(E) Institutional and governmental.
(F) Landscape.
(G) Sales to other agencies.
(H) Saline water intrusion barriers, groundwater recharge, or conjunctive use, or any combination thereof.
(I) Agricultural.
(2) The water use projections shall be in the same five-year increments described in subdivision(a).

For the purposes of this UWMP, potable water demand is defined as the potable water volume purchased from SFPUC. Water demand is dependent on climate, population, industry, and the types of development present in a community. Sections 3.1and 3.2 describe Burlingame's historical and projected water demands for residential, commercial, industrial, institutional, and landscape irrigation purposes within the City (water use sectors A through F, as described above). As described in Section 3.3, this discussion does not include demands for the water use sectors G through I.

3.1 CURRENT AND HISTORIC TOTAL WATER DEMAND

The City's current and historic total water demands include the water consumed by metered accounts in the City ("metered water consumption"), unmetered water used by the Water and Fire Departments ("unmetered water consumption") and the water that is lost or unaccounted for within the system ("unaccounted for water" or "UAW"). Currently there are limited non-potable water demands within the City and approximately 92% of the total water demand is for potable water, which is purchased wholesale from SFPUC.

3.1.1 Current and Historic Potable Water Demand

Records of Burlingame's historic potable water demand are maintained by the City's Finance Department. Total potable water demand for the City is equivalent to the sum of the metered water consumption, the unmetered water consumption, and the UAW. To more fully understand patterns of water use within Burlingame, the metered accounts were divided into the water use sectors described below. Table 7 contains historical total

water demands, including recycled water demand, for the City for the period of fiscal years ("FY") 2005-06 through 2009-10.

3.1.1.1 Water Use Sectors

Each account within Burlingame is assigned into one of 55 categories for the purposes of water and sewer billing purposes. For the purposes of this UWMP, these 55 categories were grouped into seven water-use sectors, as described below:

- The *Residential Single Family ("RSF")* and *Residential Multi-Family ("RMF")* sectors incorporate residences from the City and from Burlingame Hills, the unincorporated portion of San Mateo County that is served by the City's water system.
- The *Commercial* sector includes those food-related businesses, such as bakeries and restaurants, and non-food related businesses such as laundromats and car washes.
- The *Industrial* sector includes larger businesses such as the chocolate manufacturing plant, the hotels, mortuaries, and other industries.
- The *Institutional* sector primarily includes government-related services (e.g., police and fire departments, City Hall) and religious and educational buildings. For purposes of this UWMP, small recreational areas were included in the institutional sector.
- The *Irrigation* sector includes the County parks (including Coyote Point Recreation Area), golf courses, and other parks.
- The *Other* sector includes *Temporary Services* and *Fireline* water use is estimated by the City's Water and Fire Departments and is typically a small portion of the total water demand (e.g., approximately 0.01 million gallons per day, "MGD").

The residential sectors (*RSF* and *RMF*) account for the majority of potable water use in the City (Table 8). *RSF* accounts represented an average of 43% of the total City water demand from FY 2005-06 through FY 2009-10 and *RMF* accounts represented 18% of the City's total water consumption over the same period. The *Commercial* sector accounted for 10% and *Industrial* sector accounted for 14% of the total City water demand, while the *Institutional* and *Irrigation* sectors accounted for 2% and 6% of the total water demand, respectively. On average, temporary services and fire lines constituted approximately 0.1% of the total City water use between FY 2005-06 and FY 2009-10.

According to the City Consumption Reports prepared by the Finance Department for FY 2005-06 through FY 2009-10, the relative percentage of the total water demand by each sector has not changed significantly. Likewise, as discussed further in Section 3.2.1, significant changes in water use patterns are not projected in the future.

3.1.1.2 Water Demand Patterns

Though the relative proportion of water consumed by each sector has remained fairly constant in recent years, the total quantity of potable water consumed by Burlingame has decreased (i.e., demand has decreased from 4.35 MGD in 2005-06 to 3.94 MGD in 2009-10) (Table 8). Similar to what occurred during the economic downturn during early part of the millennium, it is believed that the current total potable water demand is artificially depressed at least partly due to current economy. Additionally, the multi-year drought the State of California has undergone is likely to have also contributed to reduced water demands. As can be seen in Section 5.2.4.4 , the water demand pattern observed by the City is also comparable to that of the total water demands for all BAWSCA agencies, indicating that the trend in water demand reductions extends to other cities. It is anticipated that with an economic recovery and the end of the drought potable water demands will rebound and, with the growth forecasted for the City, water consumption is likely to increase in the future.

3.1.1.3 Unaccounted for Water

Based on records of the City's wholesale purchases from SFPUC, water billing data, and operational estimates of water volume used during system operations and maintenance, the City's Finance Department estimates the percentage of UAW within the system. Table 8 shows that the average UAW since 2005-06 is 7.5%. Typically, water suppliers try to maintain UAW at less than 10% of total demand. If UAW is greater than 10% of total demand, water suppliers typically perform a system-wide water audit to find and repair major leaks.

3.1.2 Current and Historic Non-Potable Water Demand

In addition to the potable water use described above, the City has historically used approximately 0.30 MGD of recycled water at the WWTP (Table 7).

3.2 PROJECTED TOTAL WATER DEMAND

Potable and non-potable water demand projections are discussed in the following sections.

3.2.1 Projected Potable Water Demand

BAWSCA and its member agencies completed three planning studies to estimate the future water demand and conservation potential for each of the BAWSCA member agencies:

- Wholesale Customer Water Demand Projections Technical Report (URS, 2004a);
- Wholesale Customer Water Conservation Potential Technical Report (URS, 2004b); and

- Wholesale Customer Recycled Water Potential Technical Memorandum (RMC, 2004).

In September 2008, BAWSCA initiated work on the development of the Water Conservation Implementation Plan ("WCIP"; BAWSCA, 2009a). Total water demand projections, before and after plumbing code savings, were also updated utilizing the new ABAG (2007) population and employment projections. The Demand Side Management Least Cost Planning Decision Support System (DSS Model) was used to estimate the future water demands for each of the BAWSCA member agencies. Total water demand estimates, before and after plumbing code savings (i.e., water savings associated with the change out of old plumbing fixtures with new, more water efficient fixtures) were projected between 2010 and 2035.

The City utilized the DSS Model, which was based upon ABAG (2007) and updated the model to include the additional population and employment associated with the Downtown Specific Plan as well as the proposed development of commercial property located along Airport Boulevard, which were not specifically contemplated in ABAG (2007) at the time the DSS Model was completed as part of the WCIP. From the DSS Model, the City was able to obtain the projected water demands by water use sector.

Burlingame's potable water demands for each water use sector for the years 2014-15 through 2034-35 are shown in Table 9 (non-potable demand projections are described in Section 3.2.2). Based on these projections, the City does not anticipate exceeding the 5.23 MGD ISG before 2034-35; the projected average daily potable water demand for Burlingame's service area in 2034-35 is 5.22 MGD.

A summary of the changes in the City's future potable water demand projections is as follows:

1) Water consumption in the *CII* sector will increase by 18% to accommodate planned general commercial development as well as currently proposed development in the vacant parcels along Airport Boulevard;
2) Water consumption in the *Other* sector will only increase slightly through 2034-35;[2]
3) Unmetered water demand will remain constant at 0.02 MGD through 2034-35;
4) The percentage of UAW will remain constant at 7% of the City's total potable water demand per year through 2034-35.

Per Health and Safety Code 50079.5, the City was required to project future water use for new low income housing. The projected low income water use was based on the projected number of needed very low income units for 2009-2014 identified in the Housing Element (City of Burlingame, 2010). The Housing Element projected a need of

[2] *Other* sector demands include water demands for irrigation, temporary meters, and firelines.

148 very low income units from 2009 through 2014. The number of low-income units was multiplied by 2.24 people per unit (DOF, 2008). The gross water use per person (calculated as total water consumed in the City, including by commercial, industrial and other users divided by total population – the actual 5-year per capita consumption is approximately 87 gpcd) was assumed to be 152 gpcd based on the 2007-08 water demand that is assumed to be more representative of existing water demand before the economic downturn. Demand was split between single and multifamily units based on historic City water usage data for these two categories. The same amount of low-income demand was assumed to be added during each additional five year period. Table 9 contains the project water demands for low and very low income housing.

3.2.2 Projected Non-Potable Water Demand

The 0.30 MGD recycled water demand at the WWTP is expected to remain constant through 2034-35.

3.3 WATER USE SECTORS NOT INCLUDED IN THE DEMAND PROJECTIONS

This section describes why historical and projected water demands for the water use sectors described in Section 10631(e)(1) (G) through (I) and listed below were not included in Burlingame's water demand calculations because they are not applicable to the City:

- Sales to other agencies;
- Saline water intrusion barriers, groundwater recharge, or conjunctive use, or any combination thereof; and
- Agricultural.

3.3.1 Sales to Other Agencies

Metered interties exist between the Burlingame water system and the City of Millbrae and the Town of Hillsborough water system. Burlingame has served (sold) water to Millbrae in the past through the intertie. The City also has unmetered interties with the California Water Service Company along the southern portion of the distribution system. However, water sales are not included in Burlingame's water demand estimate because, although Burlingame does have an understanding with Millbrae that it can buy or sell water in emergency situations or pursuant to project-specific agreements, Burlingame does not sell water under normal operating conditions.

3.3.2 Saline Water Intrusion Barriers, Groundwater Recharge, and Conjunctive Use

Burlingame does not use water for saline water intrusion barriers and does not currently participate in active groundwater recharge activities or a conjunctive use program.

3.3.3 Agricultural

Burlingame does not sell water to agricultural customers and does not expect to in the future.

3.4 COORDINATING WATER USE PROJECTIONS

Burlingame provides the SFPUC with water use projections for 25 years every five years as part of the urban water management planning process.

3.5 BASELINE WATER USE AND WATER CONSERVATION TARGETS

The Water Conservation Act of 2009 ("Water Conservation Act") directs DWR to develop technical methodologies and criteria to ensure the consistent implementation of the Water Conservation Act and to provide guidance to urban retail water suppliers in developing baseline and compliance water use. The Water Conservation Act was incorporated into Division 6 of the California Water Code commencing with Section 10608 of Part 2.55. The methodologies for developing baseline and compliance water use were established in *Methodologies for Calculating Baseline and Compliance Urban Per Capita Water, California Department of Water Resources Division of Statewide Integrated Water Management Water Use and Efficiency Branch*, dated 1 October 2010 (DWR, 2010)

The Water Conservation Act specifically calls for developing seven methodologies and a set of criteria for adjusting daily per capita water use at the time compliance is required (the 2015 and 2020 compliance years) under Section 10608.20(h):

1. *The department, through a public process and in consultation with the California Urban Water Conservation Council, shall develop technical methodologies and criteria for the consistent implementation of this part, including, but not limited to, both of the following:*
    A. *Methodologies for calculating base daily per capita water use, baseline commercial, industrial, and institutional water use, compliance daily per capita water use, gross water use, service area population, indoor residential water use, and landscaped area water use.*
    B. *Criteria for adjustments pursuant to subdivisions (d) and (e) of Section 10608.24.*

Sections 10608.20 and 10608.28 of the Water Code allow water suppliers the choice of complying individually or regionally by mutual agreement with other water suppliers or regional agencies. DWR has also developed a methodology for regional compliance. The following calculation methodologies have been developed and are described in DWR, 2010:

- Methodology 1: Gross Water Use
- Methodology 2: Service Area Population
- Methodology 3: Base Daily Per Capita Water Use
- Methodology 4: Compliance Daily Per Capita Water Use
- Methodology 5: Indoor Residential Use

- Methodology 6: Landscaped Area Water Use
- Methodology 7: Baseline Commercial, Industrial, and Institutional Water Use
- Methodology 8: Criteria for Adjustments to Compliance Daily Per Capita Water Use
- Methodology 9: Regional Compliance

3.5.1 Baseline Water Use

Water suppliers must define a 10- or 15-year base (or baseline) period for water use that will be used to develop their future target per capita water use. Water suppliers must also calculate water use for a 5-year baseline period and use that value to determine a minimum required reduction in water use by 2020. Utilizing 15-year baseline period is only allowed for water suppliers that meet at least 10 percent of their 2008 measured retail water demand through recycled water; the City of Burlingame does not meet this criterion.

To calculate the per capita water use, the City used the population estimates described in Section 2.1 and the total potable water use described in Section 3.1. The City calculated its 10-year baseline water use using gross per capita water usage data (calculated as total water consumed in the City, including by commercial, industrial and other users divided by total population – the actual 5-year per capita consumption is approximately 87 gpcd) for the 10-year period between 1 July 1995 through 30 June 2005. The 5-year baseline water use was calculated using per capita water usage data for the 5-year period between 1 July 2002 through 30 June 2007. These historical data and the calculated 5- and 10-year baselines are shown in Table 10 and are 157 gallons per capita per day ("gpcd") and 163 gpcd, respectively.

3.5.2 Water Use Targets

The Water Conservation Act requires that agencies calculate their 2015 and 2020 water use targets using one of the following four methods:

- Method 1: Eighty percent of the water supplier's baseline per capita water use;
- Method 2: Per capita daily water use estimated using the sum of performance standards applied to indoor residential use, landscaped area water use, and commercial, industrial, and institutional uses;
- Method 3: Ninety-five percent of the applicable state hydrologic region target as stated in the State's 20x2020 Water Conservation Plan, dated February 2010; and
- Method 4: Total savings subtracted from baseline water use. Savings include metering savings, residential savings, commercial, industrial, and institutional savings, and landscape and water loss savings.

The target may need to be adjusted further to achieve a minimum reduction in water use regardless of the target method (this is explained in Methodology 3). The Water Code directs that water suppliers must compare their actual water use in 2020 with their calculated targets to assess compliance. In addition, water suppliers must comply with an

interim target in 2015 which is established as the midpoint between the baseline water use and the 2020 target level. The years 2015 and 2020 are referred to in the methodologies as compliance years. All baseline, target, and compliance-year water use estimates must be calculated and reported in gallons per capita per day. The City's 2020 water use target of 133 gpcd was calculated by Method 4 and is listed in Table 11. The 2015 water use target is 148 gpcd, which is the midpoint between the 10-year baseline and the 2020 target.

The Water Conservation Act also contains a minimum allowable cutback in per capita water consumption. This minimum water use cutback is calculated as 95 percent of the City's average water consumption between 2002-03 to 2006-07 (i.e., 5-year baseline). The City's five year baseline is calculated 157 gpcd. Therefore, the minimum per capita water consumption the City must achieve is 149 gpcd by 2020 (i.e., 157 gpcd x 0.95 = 149 gpcd). If calculation of water use targets using Methods 1 through 4 results in a water use target of greater than 149 gpcd, the City would still be obligated to reduce their per capita water use to at least 149 gpcd. However, because the 2020 target of 134 gpcd calculated using Method 4 is less than the maximum target of 149 gpcd, the City must use 134 gpcd as its water use target.

3.5.3 Implementation Plan

The city plans on achieving the 2020 water use target using a combination of water conservation and potential regionalization. Adjustments to the plan will be made as necessary to keep the City on track for meeting the 2020 target. The implementation plan was reviewed with the public at the 16 May 2011 public hearing. The methods to decrease per capita water use are discussed below.

3.5.3.1 Conservation

Burlingame will create a water conservation plan that develops the future of the City's water conservation program as discussed in Section 6. The plan will describe how the City will implement the demand management measures ("DMMs") and how to expand coverage of the existing DMMs.

3.5.3.2 Recycled Water Use

The City will finalize a recycled water plan to determine if it is cost effective to implement a recycled water program outside of the existing use wastewater treatment plant.

3.5.3.3 Regionalization

The City will analyze the possibility of regionalizing water use targets with surrounding communities. The Guidelines specify criteria for development of regional subgroups. These guidelines require that water suppliers meet one of the following criteria to form a regional alliance:

- The water suppliers must be members of a regional water management group as defined in Section 10537 of the Water Code, or members of a regional water management funding area, or recipients of water from a common wholesaler. For the purposes of regional compliance, a regional water management funding area is interpreted to mean an Integrated Regional Water Management planning area, and the State Water Project and the Central Valley Project are not to be considered wholesalers.
- The water suppliers' service area boundaries must be contiguous.
- The majority of each water supplier's Service Area Population must be located in the same hydrologic region.

If appropriate, the City may potentially engage in discussions with surrounding agencies regarding mutually beneficial arrangements for regionalization.

4. WATER SYSTEM SUPPLIES

10631. A plan shall be adopted in accordance with this chapter and shall do all of the following:
10631. (b) Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments described in subdivision (a). . .

The City purchases all of its potable water from SFPUC in accordance with the Water Supply Agreement Between the City and County of San Francisco and Wholesale Customers in Alameda, San Mateo and Santa Clara Counties, approved by the San Francisco Public Utilities Commission ("SFPUC" or "Commission") and which was approved by the Commission on 28 April 2009 (Appendix E).

The City also uses some recycled water. The following sections describe Burlingame's water sources and quantify the City's projected recycled water supplies through 2034-35.

To maintain consistency with the UWMPs prepared by SFPUC and the other BAWSCA member agencies, much of the language describing the SFPUC wholesale water supply in the following sections is common language provided by BAWSCA.

4.1 SFPUC WHOLESALE WATER

This sections describes the sources of wholesale water provided by SCPUC, the process for sharing water between SFPUC, BAWSCA, and wholesale customers,

4.1.1 Description of Wholesale Water Supply

Approximately 85 percent of the SFPUC water supply originates in the Hetch Hetchy watershed, located in Yosemite National Park, and runs down the Tuolumne River into the Hetch Hetchy Reservoir. Water from the Hetch Hetchy watershed is managed through the Hetch Hetchy Water and Power Project. The remaining 15 percent of SFPUC's water is produced in the Alameda and Peninsula watersheds and stored in six different reservoirs in Alameda and San Mateo Counties. Details of the various components of the regional water system are provided below in Sections 4.1.2, 4.1.3, and 4.1.4. Information on the Hetch Hetchy, Alameda, and Peninsula water systems is from SFPUC and BAWSCA websites. The following language provided by BAWSCA:

> Water System (RWS), operated by the San Francisco Public Utilities Commission (SFPUC). This supply is predominantly from the Sierra Nevada, delivered through the Hetch Hetchy aqueducts, but also includes treated water produced by the SFPUC from its local watersheds and facilities in Alameda and San Mateo Counties.
>
> The amount of imported water available to the SFPUC's retail and wholesale customers is constrained by hydrology, physical facilities, and the institutional

parameters that allocate the water supply of the Tuolumne River. Due to these constraints, the SFPUC is very dependent on reservoir storage to firm-up its water supplies.

The SFPUC serves its retail and wholesale water demands with an integrated operation of local Bay Area water production and imported water from Hetch Hetchy. In practice, the local watershed facilities are operated to capture local runoff.

4.1.1.1 Hetch Hetchy Watershed & System

The Hetch Hetchy system is supplied by runoff from the upper Tuolumne River watershed on the western slope of the central Sierra Nevada. Three major reservoirs collect runoff: Hetch Hetchy Reservoir; Lake Lloyd; and Lake Eleanor. Storage space in New Don Pedro Reservoir is integrated into system operations. New Don Pedro Reservoir is owned by the Modesto and Turlock Irrigation Districts and is located on the Tuolumne River downstream of the Hetch Hetchy System. Water is diverted from Hetch Hetchy Reservoir into a series of tunnels and aqueducts from the Sierra Nevada to the San Joaquin Pipelines that cross the San Joaquin Valley to the Coast Range Tunnel which connects to the Alameda system at the Alameda East Portal. Water stored in Hetch Hetchy reservoirs is also used for hydroelectric generation and released downstream to satisfy in stream flow requirements.

Normally only Hetch Hetchy reservoir supplies water for municipal and industrial uses. Releases from Lake Eleanor and Lake Lloyd are used to satisfy in stream flow requirements, satisfy downstream obligations, and produce hydroelectric power. Water stored in New Don Pedro Reservoir is credited to San Francisco's water bank account to allow diversions upstream and is also used to meet fishery water requirements on the lower Tuolumne River under the Federal Energy Regulatory Commission license held by the Modesto and Turlock Irrigation Districts.

Runoff from the protected, high altitude, granitic watershed upstream of Hetch Hetchy is of relatively high water quality. The quality of water provided from Hetch Hetchy Reservoir has been sufficient to support an exemption from filtration requirements from the United States Environmental Protection Agency ("USEPA"). Consequently, Hetch Hetchy water normally is not filtered prior to delivery.

4.1.1.2 Alameda System

The Alameda System includes conveyance facilities connecting the Hetch Hetchy system and Alameda water sources to the Peninsula System. These conveyance facilities include pipelines known as the Alameda Creek Siphons that connect the Coast Range Tunnel to the Irvington Tunnel. The Irvington Tunnel supplies the four Bay Division Pipelines that cross the South Bay Area to the Peninsula System. Bay Division Pipelines 1 and 2 cross the Bay near the Dumbarton Bridge. Bay Division Pipelines 3 and 4 traverse the southerly edge of the Bay delivering water to SFPUC customers along the way. All four pipelines reconnect near the inlet to the Pulgas Tunnel on the Peninsula. The Alameda

System includes two reservoirs, San Antonio Reservoir and Calaveras Reservoir, which collect water from the upper Alameda Creek watershed in Alameda County. The Sunol Valley Water Treatment Plant filters and disinfects water supplied from San Antonio and Calaveras Reservoirs in the Alameda watershed. Water from the Sunol Water Treatment Plant comprises approximately 15 percent of total water delivered to the Bay Area.

A turnout from the South Bay Aqueduct of the California State Water Project can supply limited supplemental water to San Antonio Reservoir. However, the SFPUC currently possesses no entitlements to water to be delivered from the State Water Project.

4.1.1.3 Peninsula System

The Peninsula System includes conveyance facilities connecting the Bay Division Pipelines to San Francisco's in-City distribution system and to other SFPUC customers on the Peninsula. Two reservoirs, Crystal Springs and San Andreas, collect runoff from the San Mateo Creek watershed. Water from Pilarcitos Reservoir, on Pilarcitos Creek, serves the Coastside County Water District (which includes Half Moon Bay) directly and can also deliver water to Crystal Springs and San Andreas Reservoirs. Water delivered from the Bay Division Pipelines in excess of Peninsula System and San Francisco in-City demands spills into Crystal Springs and San Andreas Reservoirs.

The Harry Tracy Water Treatment Plant ("HTWTP") filters and disinfects water supplied from Crystal Springs and San Andreas Reservoirs before it is delivered to Peninsula customers and San Francisco's in-City distribution system. Under normal conditions, the City can receive a portion of its water supply via the Sunset Supply Pipeline from the HTWTP, located in the adjacent City of Millbrae. Currently, SFPUC provides water from the HTWTP through a pressure-reducing valve within the Sunset Supply Pipeline that will open during high demand periods (i.e., lower pressure) allowing water from HTWTP to flow south into the City.

4.1.2 2009 Water Supply Agreement

The business relationship between San Francisco and its wholesale customers is largely defined by the "Water Supply Agreement between the City and County of San Francisco and Wholesale Customers in Alameda County, San Mateo County and Santa Clara County" entered into in July 2009 (WSA). The new WSA replaced the Settlement Agreement and Master Water Sales Contract that expired June 2009. The WSA addresses the ratemaking methodology used by the City in setting wholesale water rates for its wholesale customers in addition to addressing water supply and water shortages for the RWS. The WSA has a 25-year term.

In terms of water supply, the WSA provides for a 184 million gallon per day (MGD, expressed on an annual average basis) "Supply Assurance" to the SFPUC's wholesale customers, subject to reduction, to the extent and for the period made necessary by reason of water shortage, due to drought, emergencies, or by malfunctioning or rehabilitation of the regional water system. The WSA does not

guarantee that San Francisco will meet peak daily or hourly customer demands when their annual usage exceeds the Supply Assurance. The SFPUC's wholesale customers have agreed to the allocation of the 184 MGD Supply Assurance among themselves, with each entity's share of the Supply Assurance set forth on Attachment C to the WSA. The Supply Assurance survives termination or expiration of the WSA and this agency's Individual Water Sales Contract with San Francisco.

The Water Shortage Allocation Plan between the SFPUC and its wholesale customers, adopted as part of the WSA in July 2009, addresses shortages of up to 20% of system-wide use. The Tier 1 Shortage Plan allocates water from the RWS between San Francisco Retail and the wholesale customers during system-wide shortages of 20% or less. The WSA also anticipated a Tier 2 Shortage Plan adopted by the wholesale customers, which would allocate the available water from the RWS among the wholesale customers.

4.1.3 Individual Supply Guarantees

In 2009, Burlingame, along with 25 other Bay Area water suppliers signed a Water Supply Agreement (WSA) with San Francisco, supplemented by an individual Water Supply Contract. These contracts, which expire in 25 years, provide for a 184 million gallon a day (MGD, expressed on an annual average basis) Supply Assurance to the SFPUC's wholesale customers collectively. Burlingame's Individual Supply Guarantee (ISG) is 5.23 MGD (or approximately 5,857 acre feet per year). Although the WSA and accompanying Water Supply Contract expire in 2034, the Supply Assurance (which quantifies San Francisco's obligation to supply water to its individual wholesale customers) survives their expiration and continues indefinitely.

4.1.4 Water System Improvement Program

In order to enhance the ability of the SFPUC water supply system to meet identified service goals for water quality, seismic reliability, delivery reliability, and water supply, the SFPUC has undertaken the Water System Improvement Program (WSIP), approved October 31, 2008. The WSIP will deliver capital improvements aimed at enhancing the SFPUC's ability to meet its water service mission of providing high quality water to customers in a reliable, affordable and environmentally sustainable manner. Many of the water supply and reliability projects evaluated in the WSIP were originally put forth in the SFPUC's Water Supply Master Plan (2000).

A Program Environmental Impact Report (PEIR) was prepared in accordance with the California Environmental Quality Act for the WSIP. The PEIR, certified in 2008, analyzed the broad environmental effects of the projects in the WSIP at a program level and the water supply impacts of various alternative supplies at a project level. Individual WSIP projects are also undergoing individual project specific environmental review as required.

In approving the WSIP, the Commission adopted a Phased WSIP Variant for water supply that was analyzed in the PEIR. This Phased WSIP Variant established a mid-term water supply planning milestone in 2018 when the

Commission would reevaluate water demands through 2030. At the same meeting, the Commission also imposed the Interim Supply Limitation which limits the volume of water that the member agencies and San Francisco can collectively purchase from RWS to 265 MGD until at least 2018. Although the Phased WSIP Variant included a mid-term water supply planning milestone, it did include full implementation of all proposed WSIP facility improvement projects to insure that the public health, seismic safety, and delivery reliability goals were achieved as soon as possible.

As of July 1, 2010, the WSIP was 27% complete overall with the planning and design work over 90% complete. The WSIP is scheduled to be completed in December 2015.

4.1.5 2018 Interim Supply Limitation

As part of its adoption of the Water System Improvement Program (WSIP) in October 2008, discussed separately herein, the Commission adopted a water supply element, the Interim Supply Limitation ("ISL"), to limit sales from San Francisco Regional Water System (RWS) watersheds to an average annual of 265 million gallons per day (mgd) through 2018. The wholesale customers' collective allocation under the ISL is 184 mgd and San Francisco's is 81 mgd. Although the wholesale customers did not agree to the ISL, the WSA provides a framework for administering the ISL.

BAWSCA has developed a strategy to address each of its member agencies' unmet needs flowing from the ISL through its Water Conservation Implementation Plan and the Long-term Reliable Water Supply Strategy, separately addressed herein.

4.1.6 Interim Supply Allocations

The Interim Supply Allocations (ISAs) refers to each individual wholesale customer's share of the ISL. On December 14, 2010, the Commission established each agency's ISA through 2018. In general, the Commission based the allocations on the lesser of the projected fiscal year 2017-18 purchase projections or Individual Supply Guarantees. The ISAs are effective only until December 31, 2018 and do not affect the Supply Assurance or the Individual Supply Guarantees, both discussed separately herein. San Francisco's Interim Supply Allocation is 81 million gallons per day (mgd); Burlingame's ISA is 4.97 mgd.

As stated in the Water Supply Agreement, the wholesale customers do not concede the legality of the Commission's establishment of the ISAs and Environmental Enhancement Surcharge, discussed below, and expressly retain the right to challenge either or both, if and when imposed, in a court of competent jurisdiction.

4.1.7 Environmental Enhancement Surcharge

The Commission plans to establish the Environmental Enhancement Surcharge concurrently with the budget-coordinated rate process. This surcharge will be

unilaterally imposed by SFPUC on individual wholesale customers, and SFPUC retail customers, when each agency's use exceeds their Interim Supply Allocation and when sales of water to the wholesale customers and San Francisco retail customers, collectively, exceeds the Interim Supply Limitation of 265 mgd.

The SFPUC is in the process of developing the methodology and amount of this volume-based charge. The Environmental Enhancement Surcharge will become effective beginning fiscal year 2011-12.

4.1.8 Water Conservation Implementation Plan

In September 2009, BAWSCA completed the Water Conservation Implementation Plan (WCIP). The goal of the WCIP is to develop an implementation plan for BAWSCA and its member agencies to attain the water efficiency goals that the agencies committed to in 2004 as part of the Program Environmental Impact Report (PEIR) for the Water System Improvement Program (WSIP), which is further described in Section [[4.1.4]]. The WCIP's goal was expanded to include identification of how BAWSCA member agencies could use water conservation as a way to continue to provide reliable water supplies to their customers through 2018 given the SFPUC's 265 million gallons per day (MGD) Interim Supply Limitation. The SFPUC imposed the Interim Supply Limitation on October 31, 2008, to limit the volume of water that the BAWSCA member agencies and San Francisco can collectively purchase from the RWS to 265 MGD until at least 2018.

Based on the WCIP development and analysis process, BAWSCA and its member agencies identified five new water conservation measures, which, if implemented fully throughout the BAWSCA service area, could potentially save an additional 8.4 MGD by 2018 and 12.5 MGD by 2030. The demand projections for the BAWSCA member agencies, as transmitted to the SFPUC on June 30, 2010, indicate that collective purchases from the SFPUC will stay below 184 MGD through 2018 as a result of revised water demand projections, the identified water conservation savings, and other actions.

Several member agencies have elected to participate in the BAWSCA regional water conservation programs and BAWSCA continues to work with individual member agencies to incorporate the savings identified in the WCIP into their future water supply portfolios with the goal of maintaining collective SFPUC purchases below 184 MGD through 2018.

Figure 6 indicates the locations of the various capital improvement projects which comprise the WSIP.

4.2 RECYCLED WATER

The City currently uses approximately 300,000 gallons per day ("GPD") of recycled water for internal use within the WWTP. The City has not historically used recycled water outside of the WWTP and does not currently have the treatment capabilities to meet Title 22, Article 3 criteria for re-use of the recycled water for non-potable uses such as irrigation (Table 13). Details regarding the WWTP capacities, average flows, and treatment processes are discussed in Section 4.4.3.

4.3 GROUNDWATER

Historically, the City has not utilized groundwater as a drinking water source (i.e., as described above, the sole source of the City's drinking water has been wholesale water supplied by the SFPUC). However, the City has constructed one groundwater supply well located near Washington Park, which has been used to irrigate portions of City-owned landscaping and parks, including Washington Park, City Hall, Alpine Park, Victoria Park, and Burlingame High School (Roman & Lougee, 2000). The WP Well was not constructed for drinking water purposes and is not rated as a drinking water well.

The WP Well has been used intermittently since its construction in the early 1990's, and is not currently in operation. In 2004, the City began rehabilitation efforts at the WP Well and performed a short-term aquifer pump test to estimate the maximum sustainable pump rate. Based on the results of the short-term aquifer pump test, the maximum sustainable pump rate was estimated to be 150 gallons per minute ("GPM"). It is unknown, however, if this production rate is limited by the pump, the well construction, or the aquifer. Further, the City has not yet determined the long-term reliability of the groundwater supply. Historic and potential future use of the WP Well is described in more detail below. In addition, information related to the local groundwater basin is provided below.

4.3.1 Groundwater Basin Description

10631. A plan shall be adopted in accordance with this chapter and shall do all of the following:
10631 (b) . . . . If groundwater is identified as an existing or planned source of water available to the supplier, all of the following information shall be included in the plan: (2) A description of any groundwater basin or basins from which the urban water supplier pumps groundwater. For those basins for which a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the urban water supplier has the legal right to pump under the order or decree. For basins that have not been adjudicated, information as to whether the department has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current official departmental bulletin that characterizes the condition of the groundwater basin, and a detailed description of the efforts being undertaken by the urban water supplier to eliminate the long-term overdraft condition.

Burlingame overlies the southern portion of the 40 square mile Westside Groundwater Basin ("Basin"). The Basin consists of unconsolidated colluvium that was deposited in a northwest trending trough in the underlying impervious bedrock. The approximate boundaries of the Basin are shown in Figure 7. The Basin is bounded by bedrock highs in Golden Gate Park to the North and at Coyote Point to the South (DWR Bulletin 118,

Rogge, 2003; Yates, 2003a; DWR, 2003). The San Bruno Mountains and San Francisco Bay form the eastern boundary of the Basin while the Serra Fault[3] and the Pacific Ocean form the western boundary (Rogge, 2003; Yates, 2003a; DWR, 2003). Adjoining groundwater basins are the Lobos Basin to the North and the San Mateo Plain Aquifer to the South.

It should be noted that Basin boundary shown on Figure 7 has only recently been identified in the literature (i.e., in Rogge, 2003; Yates, 2003a; DWR, 2003). Previously, the Basin was thought to be delineated to the west by the San Andreas Fault (CH2MHill, 1997) and the southern boundary had not been precisely defined. Phillips et al. (1993) tentatively determined that the southern Basin boundary was in Millbrae because of the increase in clay content that was encountered in boring logs. Millbrae was then identified as the southern boundary of the Basin in subsequent reports (CH2MHill, 1994; 1996; 1997; Luhdorff and Scalmanini, 2002). More recent review of work related to bedrock mapping and groundwater elevation contouring has led to re-defining the Basin's southern boundary at Coyote Point (Rogge, 2003; Yates, 2003a; DWR, 2003), and the Basin's western boundary along the Serra Fault. The modification of the southern boundary of the Basin has resulted in the inclusion of Burlingame within the Basin.

4.3.1.1 Aquifer Conditions and Properties

The Basin is composed of two main water-bearing units, the shallow, unconfined Colma aquifer and the deeper, confined Merced aquifer. Within the two major water bearing zones in the Basin, there are multiple smaller aquifer zones that are delineated vertically by different sand and clay layers within the Merced and Colma formations. The thickness and extent of these interbedded sand and clay layers vary spatially throughout the Basin.

All of the municipal groundwater extraction wells in the Cities of San Bruno, South San Francisco, and Daly City are screened in the deeper, confined Merced aquifer where the water quality is better. The specific yield of wells in the Basin has been observed to be greater in the northern portions of the Basin than in the southern (SBMP, 2001; Yates, 2003a). Shallow wells have been installed within the Colma, typically to monitor groundwater in the vicinity of chemical release sites. Steep downward vertical gradients exist between the unconfined (upper) and confined (deeper) aquifers, but the hydraulic connection between the two aquifers is thought to be limited (Yates, 2003a; Luhdorff & Scalmanini, 2002; Figure 8).

4.3.1.2 Groundwater Levels and Flow Directions

Figure 8 presents a conceptual model of the Basin with arrows indicating the general groundwater flow directions. At the northern end of the Basin, groundwater in the

[3] The Serra Fault is a series of thrust faults parallel to the San Andreas Fault in the Coast Ranges (Rogge, 2003).

shallow aquifer tends to flow in a westerly direction towards the Pacific Ocean. From South San Francisco southward to Burlingame, groundwater within the shallow aquifer generally flows east towards San Francisco Bay (Burns and McDonnell, 2002; Rogge, 2003; Yates, 2003a).

Throughout the Basin, groundwater flow in the deeper aquifer is generally east towards San Francisco Bay. The groundwater mounds observed near Coyote Point and Golden Gate Park add a northern and southern component to the flow, respectively. Additionally, historic groundwater extraction in the vicinity of San Bruno has created a local depression in the water table. A flow divide near the south end of the San Francisco airport separates the area where groundwater flows toward the pumping depression in San Bruno from the area where groundwater flows toward the Bay (Yates, 2003a). The divide trends south-southwest from near the Millbrae exit on Highway 101, and groundwater west of the divide is captured by the San Bruno wells (Yates, 2003a). In the vicinity of Burlingame, which is south of the groundwater divide, groundwater flow is generally east towards the San Francisco Bay. However, there is a concern in the future that extraction in the vicinity of San Bruno could cause saltwater intrusion along San Francisco Bay and beneath Burlingame.

4.3.2 Groundwater Management

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10631. A plan shall be adopted in accordance with this chapter and
shall do all of the following:
10631. (b) . . . . If groundwater is identified as an existing or
planned source of water available to the supplier, all of the following
information shall be included in the plan: (1) A copy of any
groundwater management plan adopted by the urban water supplier,
including plans adopted pursuant to Part 2.75 (commencing with Section
10750), or any other specific authorization for groundwater management.
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Burlingame has not historically utilized groundwater as a significant water supply source or participated in management of the Basin. However, other entities that overly the Basin, such as San Bruno and Daly City, rely on groundwater for a significant portion of their potable water supply and are actively involved in Basin management. Appendix F contains a copy of the Groundwater Management Plan, dated March 1999.

4.3.3 Historic Groundwater Use

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10631. A plan shall be adopted in accordance with this chapter and
shall do all of the following:
10631.  (b) . . . . If groundwater is identified as an existing or
planned source of water available to the supplier, all of the following
information shall be included in the plan: (3) A detailed description
and analysis of the location, amount, and sufficiency of groundwater
pumped by the urban water supplier for the past five years. The
description and analysis shall be based on information that is
reasonably available, including, but not limited to, historic use
records.
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As discussed above, the City has not historically used groundwater as a drinking water source but has operated one groundwater well for irrigation purposes at Washington Park. The WP Well, storage tank, and distribution system were constructed in the early 1990's to supply City parks with groundwater. The WP Well was initially intended to supply irrigation water to Alpine Park, Victoria Park, and Washington Park, City Hall, and Burlingame High school, but the dimensions of the distribution system pipelines (1 to 2 inches diameter) made distribution to the outlying parks impractical. Instead, the WP Well was used to irrigate three sections of Washington Park: the ball field, the back park, and the front park.

The WP Well operated for approximately one year but data regarding the production capacity and pumping schedules during this operational period are not available. Consistent pumping was discontinued because of operational difficulties, and the WP Well has since been used only intermittently. Since the water extracted by the WP Well is not metered and its operation has been sporadic, the quantity of water extracted in recent years is not available.

4.3.4 Projected Future Groundwater Use

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10631. A plan shall be adopted in accordance with this chapter and
shall do all of the following:
10631. (b) . . . . If groundwater is identified as an existing or
planned source of water available to the supplier, all of the following
information shall be included in the plan: (4) A detailed description
and analysis of the amount and location of groundwater that is
projected to be pumped by the urban water supplier. The description and
analysis shall be based on information that is reasonably available,
including, but not limited to, historic use records.
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In the future, it is expected that groundwater will be used on an irregular basis to supply irrigation water to portions of Washington Park during periods of drought only. The total demand from the three sections of Washington Park that would receive groundwater for irrigation is estimated to be approximately 0.025 MGD. This estimate is based on the summer irrigation demand estimates of Washington Park based on irrigation schedules provided by Burlingame's Parks and Recreation Department (EKI, 2004) and monthly water use patterns for all City Parks (provided by City Consumption Reports) (EKI, 2004)[4]. According to production estimates of the WP Well and the available storage in the WP Well storage tank, the WP Well system has the capacity to meet these irrigation demands.[5]

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[4] For the purpose of this UWMP, the City has assumed that monthly water use trends in Washington Park are similar to those trends observed at all of the City Parks. Based on the fraction of total annual water use consumed at all City Parks during each month of the year, and the estimated July irrigation demand at Washington Park, water demands were extrapolated for the months of August through June. The sum of these monthly demand estimates is 0.025 MGD.

[5] The potential pumping volume is based on the maximum sustainable pumping rate of 150 GPM.

However, should the currently projected water supply available to the City materially change, the City may elect in the future to further evaluate the availability of groundwater as a potential source of supply.

4.4 POTENTIAL WATER SUPPLY PROJECTS AND PROGRAMS

10631. A plan shall be adopted in accordance with this chapter and shall do all of the following:
10631 (h) Include a description of all water supply projects and water supply programs that may be undertaken by the urban water supplier to meet the total projected water use as established pursuant to subdivision (a) of Section 10635. The urban water supplier shall include a detailed description of expected future projects and programs, other than the demand management programs identified pursuant to paragraph (1) of subdivision (f), that the urban water supplier may implement to increase the amount of the water supply available to the urban water supplier in average, single dry, and multiple dry water years. The description shall identify specific projects and include a description of the increase in water supply that is expected to be available from each project. The description shall include an estimate with regard to the implementation timeline for each project or program.

The City is not actively pursuing additional potable water supplies to supplement its normal year SFPUC potable water supply. Since Burlingame's current potable water demand (3.94 MGD; Table 8) is less than its ISG, and its projected potable water demands through 2034-35 are not expected to exceed its 5.23 MGD ISG, the City does not anticipate a need for additional potable water supplies in the current planning horizon.

4.4.1 Development of Desalinated Water

10631. A plan shall be adopted in accordance with this chapter and shall do all of the following:
10631 (i) Describe the opportunities for development of desalinated water, including, but not limited to, ocean water, brackish water, and groundwater, as a long-term supply.

As described above, Burlingame does not anticipate a need for supplemental water supplies in the near future and is not pursuing desalination at this time.

4.4.2 Water Transfers

10631. A plan shall be adopted in accordance with this chapter and shall do all of the following:
10631(d) Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis….

Though the SFPUC WSA does permit water transfers, Burlingame does not presently anticipate the need for water right transfers during normal year conditions. However, should that condition change in the future, it is possible that Burlingame could purchase water from another BAWSCA agency. For example, if another BAWSCA agency is able

to use groundwater, or another surface water supply (e.g., from the State Water Project "SWP" or Santa Clara Valley Water District "SCVWD") instead of a portion of its ISG, that SFPUC water may be available for transfer. Some agencies are also beginning to consider regional recycled water facilities and desalinization facilities, which would open additional possibilities for future water right transfers.

4.4.3 Recycled Water Plan

Recycling water involves treating wastewater to an acceptable level such that it can be reused for irrigation, cooling, and other non-potable applications. The appeal of water recycling is its potential to offset the use of potable supplies. The regulatory requirements for recycled water are defined in the California Code of Regulations, Title 22, Article 3 and differ for different uses (e.g. irrigation for food crops, landscape, and recreation). Table 13contains a summary of the Title 22 reclaimed water regulations for each of the permitted uses. Because recycled water is treated wastewater, its availability is closely linked to the treatment capability of the City's WWTP. The following section describes Burlingame's wastewater treatment and water recycling facilities and current and projected uses of recycled water.

4.4.3.1 Coordination

10633. The plan shall provide, to the extent available, information on recycled water and its potential for use as a water source in the service area of the urban water supplier. The preparation of the plan shall be coordinated with local water, wastewater, groundwater, and planning agencies that operate within the supplier's service area, and shall include all of the following:

The City coordinates with adjacent municipalities and wastewater agencies in both the treatment and discharge of its wastewater. Burlingame's WWTP processes wastewater from the City, the unincorporated Burlingame Hills, and the Town of Hillsborough. The WWTP is located approximately at sea level along the San Francisco Bay. The WWTP contains facilities to recycle a portion of the treated wastewater for use within the WWTP.

Once treated, the City's effluent is sent, through a joint transport system with the City of Millbrae, to South San Francisco. Prior to discharge into the San Francisco Bay through the South San Francisco Outfall, the Burlingame-Millbrae wastewater undergoes dechlorination along with the wastewater effluent from South San Francisco, Burlingame, and the City and County of San Francisco.

4.4.3.2 Wastewater Quantity, Quality and Current Uses

10633 (a) A description of the wastewater collection and treatment systems in the supplier's service area, including a quantification of the amount of wastewater collected and treated and the methods of wastewater disposal.
(b) A description of the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.
(c) A description of the recycled water currently being used in the supplier's service area, including, but not limited to, the type, place, and quantity of use.

The following sections provide information regarding the WWTP collection and treatment system, wastewater quantities, and current uses of wastewater within Burlingame.

Wastewater Collection System

The City operates and maintains the wastewater collection system that conveys wastewater from the users to the WWTP. The City system includes gravity pipelines, lift stations, and force mains.

Wastewater Treatment System

Burlingame's WWTP treatment process includes four treatment steps: (1) primary sedimentation, (2) secondary biological treatment, (3) sodium hypochlorite disinfection, and (4) contact time in a plug flow detention facility. Recycled wastewater undergoes an additional flocculation and clarification treatment step. Figure 9 is a schematic of the treatment process at the WWTP facility. Following treatment at the WWTP, the effluent is sent to South San Francisco through the Burlingame-Millbrae Central Bay Outfall system and discharged after dechlorination into a joint-use deep-water outfall in the San Francisco Bay (Nolte, 1982; Roman & Lougee, 2000). An influent equalization basin is currently under construction to provide flow equalization during wet weather.

Wastewater Quantity

The average dry weather flow ("ADWF") of wastewater treated at the City's WWTP has remained fairly constant at approximately 3.0-3.5 MGD. The permit goes up to 5.5 MGD, ADWF, but the flow is not expected to increase significantly in the foreseeable future.[6]

Current Wastewater Uses

The Burlingame WWTP uses approximately 300,000 GPD of treated wastewater for internal use within the plant. However, the treated wastewater does not meet Title 22, Article 3 recycled water requirements for non-potable uses outside of the WWTP and is

[6] Current and projected wastewater average daily flows were provided by Veolia Water North America.

discharged into the San Francisco Bay through the Burlingame-Millbrae Central Outfall system after use (Nolte 1982).

4.4.3.3 Potential Demand

10633 (d) A description and quantification of the potential uses of recycled water, including, but not limited to, agricultural irrigation, landscape irrigation, wildlife habitat enhancement, wetlands, industrial reuse, groundwater recharge, and other appropriate uses, and a determination with regard to the technical and economic feasibility of serving those uses.
(e) The projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years, and a description of the actual use of recycled water in comparison to uses previously projected pursuant to this subdivision.
(f) A description of actions, including financial incentives, which may be taken to encourage the use of recycled water, and the projected results of these actions in terms of acre-feet of recycled water used per year.
(g) A plan for optimizing the use of recycled water in the supplier's service area, including actions to facilitate the installation of dual distribution systems, to promote recirculating uses, to facilitate the increased use of treated wastewater that meets recycled water standards, and to overcome any obstacles to achieving that increased use.

The City is currently studying potential future uses of recycled water. Table 13 identifies the accepted uses of recycled water as outlined in Title 22. These uses include specific types of irrigation, impoundment, cooling and air conditioning, and other uses such as groundwater recharge, dust control, and flushing toilets and urinals. All of the activities identified in Table 13 are allowed for disinfected, tertiary treated recycled water. A smaller subset of these activities is permitted for use with disinfected secondary treated recycled water, which is the current level of treatment provided at the WWTP.

If a larger-scale recycled water program were to be implemented in Burlingame, irrigation water users on Airport Boulevard would be candidates for receiving the recycled water. According to the 2000 UWMP (Roman & Lougee, 2000), non-potable water pipelines have been installed in the Bayside Park driving range and soccer fields south of the WWTP. The 2000 UWMP also indicates that ten hotels (five within a ½-mile radius of the wastewater treatment plant) use irrigation meters, and may be potential candidates for recycled water in the future.

Irrigation needs for Coyote Point and its golf course, hotel landscaping, and City parks and school fields could also potentially be met by recycled water, especially as these irrigation demands typically are greatest during the summer months, the time of greatest potable water demand (EKI, 2004). Construction water for dust control and moisture conditioning for compaction could also potentially be met with reclaimed water. If the recycled water is high enough quality (i.e., sufficiently low in minerals and salts), it could potentially be used for cooling water for industrial processes at local industries.

While the use of recycled water to reduce potable water demands is a potentially viable alternative in Burlingame, to extend current use of recycled water within the City would require expensive infrastructure and additional treatment capacities. Until more detailed studies can be conducted, the City does not anticipate an increase in its use of recycled water in the in the next 20 years.

The 2005 UWMP projected there would be recycled water only at the WWTP. The City still uses recycled water at the WWTP and therefore, has met the previous projections. There have been no financial incentives or other actions to encourage the use of recycled water.

4.4.4 Indirect Reuse

The City is not considering indirect reuse at this time, because there is no recycled water at a high enough quality for this purpose.

5. WATER SUPPLY RELIABILITY AND WATER SHORTAGE CONTINGENCY PLANNING

10631. A plan shall be adopted in accordance with this chapter and shall do all of the following:
10631. (c) Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage, to the extent practicable, and provide data for each of the following:
(1) An average water year.
(2) A single dry water year.
(3) Multiple dry water years.
For any water source that may not be available at a consistent level of use, given specific legal, environmental, water quality, or climatic factors, describe plans to supplement or replace that source with alternative sources or water demand management measures, to the extent practicable.

As described in Section 4, all of Burlingame's potable water supply is purchased from SFPUC. Approximately 7% of Burlingame's total water demand is for recycled water for non-potable use within the WWTP. The following paragraphs describe the supply and reliability of the potable water (also referred to by SFPUC as wholesale water) and recycled water in a normal year (and/or a wet year), in a single dry year, and during a multiple dry year period.

5.1 CURRENT AND PROJECTED WHOLESALE WATER SUPPLY

10631. A plan shall be adopted in accordance with this chapter and shall do all of the following:
10631 (k) Urban water suppliers that rely upon a wholesale agency for a source of water, shall provide the wholesale agency with water use projections from that agency for that source of water in five-year increments to 20 years or as far as data is available. The wholesale agency shall provide information to the urban water supplier for inclusion in the urban water supplier's plan that identifies and quantifies, to the extent practicable, the existing and planned sources of water as required by subdivision (b), available from the wholesale agency to the urban water supplier over the same five-year increments, and during various water -year types in accordance with subdivision (c). An urban water supplier may rely upon water supply information provided by the wholesale agency in fulfilling the plan informational requirements of subdivisions (b) and (c).

According to BAWSCA's Long Term Reliable Water Supply Strategy:

> BAWSCA's water management objective is to ensure that a reliable, high quality supply of water is available where and when people within the BAWSCA service area need it. A reliable supply of water is required to support the health, safety, employment, and economic opportunities of the existing and expected future residents in the BAWSCA service area and to supply water to the agencies,

businesses, and organizations that serve those communities. BAWSCA is developing the Long-Term Reliable Water Supply Strategy (Strategy) to meet the projected water needs of its member agencies and their customers through 2035 and to increase their water supply reliability under normal and drought conditions.

The Strategy is proceeding in three phases. Phase I was completed in 2010 and defined the magnitude of the water supply issue and the scope of work for the Strategy. Phase II of the Strategy is currently under development and will result in a refined estimate of when, where, and how much additional supply reliability and new water supplies are needed throughout the BAWSCA service area through 2035, as well as a detailed analysis of the water supply management projects, and the development of the Strategy implementation plan. Phase II will be complete by 2013. Phase III will include the implementation of specific water supply management projects. Depending on cost-effectiveness, as well as other considerations, the projects may be implemented by a single member agency, by a collection of the member agencies, or by BAWSCA in an appropriate timeframe to meet the identified needs. Project implementation may begin as early as 2013 and will continue throughout the Strategy planning horizon, in coordination with the timing and magnitude of the supply need.

The development and implementation of the Strategy will be coordinated with the BAWSCA member agencies and will be adaptively managed to ensure that the goals of the Strategy, i.e., increased normal and drought year reliability, are efficiently and cost-effectively being met.

5.2 RELIABILITY OF THE REGIONAL WATER SYSTEM

The SFPUC's Water System Improvement Program (WSIP) provides goals and objectives to improve the delivery reliability of the Regional Water System (RWS) including water supply reliability. The goals and objectives of the WSIP related to water supply are:

Program Goal	System Performance Objective
Water Supply – *meet customer water needs in non-drought and drought periods*	• Meet average annual water demand of 265 million gallons per day (mgd) from the SFPUC watersheds for retail and wholesale customers during non-drought years for system demands through 2018. • Meet dry-year delivery needs through 2018 while limiting rationing to a maximum 20 percent system-wide reduction in water service during extended droughts. • Diversify water supply options during non-drought and drought periods. • Improve use of new water sources and drought management, including groundwater, recycled water, conservation, and transfers.

The adopted WSIP had several water supply elements to address the WSIP water supply goals and objectives. The following provides the water supply elements for all year types and the dry-year projects of the adopted WSIP to augment all year type water supplies during drought.

5.2.4.1 Water Supply – All Year Types

The SFPUC historically has met demand in its service area in all year types from its watersheds. They are the:

- Tuolumne River watershed
- Alameda Creek watershed
- San Mateo County watersheds

In general, 85 percent of the supply comes from the Tuolumne River through Hetch Hetchy Reservoir and the remaining 15 percent comes from the local watersheds through the San Antonio, Calaveras, Crystal Springs, Pilarcitos and San Andreas Reservoirs. The adopted WSIP retains this mix of water supply for all year types.

5.2.4.2 Water Supply – Dry-Year Types

The adopted WSIP includes the following water supply projects to meet dry-year demands with no greater than 20 percent system-wide rationing in any one year:

- Restoration of Calaveras Reservoir capacity
- Restoration of Crystal Springs Reservoir capacity
- Westside Basin Groundwater Conjunctive Use
- Water Transfer with Modesto Irrigation District (MID) / Turlock Irrigation District (TID)

In order to achieve its target of meeting at least 80 percent of its customer demand during droughts, the SFPUC must successfully implement the dry-year water supply projects included in the WSIP.

5.2.4.3 Projected SFPUC System Supply Reliability

The SFPUC has provided the attached table [Attachment G; Table 3] presenting the projected RWS supply reliability. This table assumes that the wholesale customers purchase 184 mgd from the RWS through 2030 and the implementation of the dry-water water supply projects included in the WSIP. The numbers represent the wholesale share of available supply during historical year types per the Tier One Water Shortage Allocation Plan. This table does not reflect any potential impact to RWS yield from the additional fishery flows required as part of Calaveras Dam Replacement Project and the Lower Crystal Springs Dam Improvements Project.

5.2.4.4 Impact of Recent SFPUC Actions on Dry Year Reliability of SFPUC Supplies

In adopting the Calaveras Dam Replacement Project and the Lower Crystal Springs Dam Improvements Project, the SFPUC committed to providing fishery flows below Calaveras Dam and Lower Crystal Springs Dam as well as bypass flows below Alameda Creek Diversion Dam. The fishery flow schedules for Alameda Creek and San Mateo Creek represent a potential decrease in available water supply of an average annual 3.9 mgd and 3.5 mgd, respectively with a

total of 7.4 mgd average annually. These fishery flows could potentially create a shortfall in meeting the SFPUC demands of 265 mgd and slightly increase the SFPUC's dry-year water supply needs. If a shortfall occurs, it is anticipated at the completion of construction of both the Calaveras Dam Replacement Project and the Lower Crystal Springs Dam Improvements project in approximately 2015 and 2013, respectively when the SFPUC will be required to provide the fishery flows.

The adopted WSIP water supply objectives include (1) meeting a target delivery of 265 mgd through 2018 and (2) rationing at no greater than 20 percent system-wide in any one year of a drought. As a result of the fishery flows, the SFPUC may not be able to meet these objectives between 2013 and 2018 without (1) a reduction in demand, (2) an increase in rationing, or (3) a supplemental supply. The following describes these actions.

Reduction in Demand

The current projections for purchase requests through 2018 remain at 265 mgd. However, in the last few years, SFPUC deliveries have been below this level, as illustrated below. If this trend continues, the SFPUC may not need 265 mgd from its watersheds to meet purchase requests through 2018. As a result, the need for supplemental supplies of 3.5 mgd starting in 2013 and increasing to 7.4 mgd in 2015 to offset the water supply loss associated with fish releases may be less than anticipated.

Water Deliveries in SFPUC Service Area[7]

	FY2006	FY 2007	FY 2008	FY 2009	FY 2010
Total Deliveries (mgd)	247.5	257	254.1	243.4	225.2

Increase in Rationing

The adopted WSIP provides for a dry year water supply program that, when implemented, would result in system-wide rationing of no more than 20 percent. The PEIR identified the following drought shortages during the design drought; 3.5 out of 8.5 years at 10 percent rationing and 3 out of 8.5 years at 20 percent. If the SFPUC did not develop a supplemental water supply in dry years to offset the effects of the fishery flows on water supply, rationing would increase during dry years. If the SFPUC experiences a drought between 2013 and 2018 in which rationing would need to be imposed, rationing would increase by approximately 1 percent in shortage years. Rationing during the design drought would increase by approximately 1 percent in rationing years.

Supplemental Supply

The SFPUC may be able to manage the water supply loss associated with the fishery flows through the following actions and considerations:

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[7] Reference: SFPUC FY09-10 J-Table Line 9 "Total System Usage" plus 0.7 mgd for Lawrence Livermore National Laboratory use and 0.4 mgd for Groveland. No groundwater use is included in this number. Unaccounted-for-Water is included.

- Development of additional conservation and recycling
- Development of additional groundwater supply
- Water transfer from MID and/or TID
- Increase in Tuolumne River supply
- Revising the Upper Alameda Creek Filter Gallery Project capacity[8]
- Development of a desalination project

Meeting the Level of Service Goal for Delivery Reliability

The SFPUC has stated a commitment to meeting its contractual obligation to its wholesale customers of 184 mgd and its delivery reliability goal of 265 mgd with no greater than 20 percent rationing in any one year of a drought. In Resolution No. 10-0175 adopted by the Commission on October 15, 2010, the Commission directed staff to provide information to the Commission and the public by March 31, 2011 on how the SFPUC has the capability to attain its water supply levels of service and contractual obligations. This directive was in response to concerns expressed by the Commission and the Wholesale Customers regarding the effect on water supply of the instream flow releases required as a result of the Lower Crystal Springs Dam Improvement Project and the Calaveras Dam Replacement Project. In summary, the SFPUC has a projected shortfall of available water supply to meet its LOS goals and contractual obligations. The SFPUC has stated that current decreased levels of demand keep this from being an immediate problem, but that in the near future, the SFPUC must resolve these issues. Various activities are underway by the SFPUC to resolve the shortfall problem. SFPUC staff will report back to the Commission by August 31, 2011 to provide further information on actions to resolve the shortfall problem.

5.3 BURLINGAME'S PROJECTED POTABLE WATER SUPPLY

As discussed above, in accordance with the Master Contract and survivable in perpetuity, Burlingame has an ISG of 5.23 MGD. SFPUC is obligated to provide Burlingame with up to 100% of the City's ISG during years of normal precipitation; Table 12 shows Burlingame's potable water supply projections through the year 2034-35.

In addition to the wholesale potable water supply projections described above, the City also currently uses an average of 0.3 MGD of recycled water at the WWTP. This quantity of recycled water is expected to remain available at a constant volume through 2034-35.

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[8] The adopted WSIP included the Alameda Creek Fishery Enhancement project, since renamed the Upper Alameda Creek Filter Gallery (UACFG) project, which had the stated purpose of recapturing downstream flows released under a 1997 California Department of Fish and Game MOU. Implementation of the UACFG project was intended to provide for no net loss of water supply as a result of the fishery flows bypassed from ACDD and/or released from Calaveras Dam. At the time the PEIR was prepared, the UACFG was described in the context of recapturing up to 6300 AF per year. The UACFG will undergo a separate CEQA process in which all impacts associated with the project will be analyzed fully.

5.4 WATER QUALITY IMPACTS ON RELIABILITY

10634. The plan shall include information, to the extent practicable, relating to the quality of existing sources of water available to the supplier over the same five-year increments as described in subdivision (a) of Section 10631, and the manner in which water quality affects water management strategies and supply reliability.

As discussed in Section 4, the majority of the water supply to the SFPUC Regional Water System is from the Hetch Hetchy Reservoir in the Sierra Nevada Mountains. The Hetch Hetchy Reservoir is considered a very high quality water source due to low total dissolved solid ("TDS") concentrations and other factors. Additional water supplies from the Alameda and Peninsula sources come from areas with restricted access to protect the source water quality.

The SFPUC's Water Quality Division ("WQB") regularly collects and tests water samples from reservoirs and designated sampling points throughout the RWS to ensure that the SFPUC's water meets or exceeds federal and state drinking water standards. In 2009, the WQB conducted 58,595 drinking water tests in the transmission and distribution systems. This monitoring effort is in addition to the extensive treatment process control monitoring performed by our certified and knowledgeable treatment plant staff. The SFPUC also has online instruments providing continuous water quality monitoring at numerous locations. Additionally, the City of Burlingame collected 845 water quality samples within its own distribution system. A copy of the combined Burlingame and SFPUC 2009 water quality report is included as Appendix H. As can be seen in Appendix H, all of the analyzed constituents were detected at concentrations below the Maximum Contaminant Level ("MCL").

Future supplemental water sources currently being pursued by SFPUC and BAWSCA are currently of unknown water quality. Depending upon the water quality of such future sources of water and how SFPUC proposes to blend the future water supplies into the existing system, some impacts to water quality are possible.

The results of Burlingame and SFPUC's water quality assessments showed that SFPUC watersheds have very low levels of contaminants, and that those contaminants that are found at low levels are associated with wildlife and, to a limited extent, human recreation. For the purposes of this UWMP, it is anticipated that this high-quality potable water source will continue to be available to the City through the planning horizon ending in the year 2034-35. Water quality is expected to be similar for 2009-10, 2014-15, 2029-20, 2024-25, 2029-30 and 2034-35.

5.5 SUPPLY VERSUS DEMAND

10635 (a) Every urban water supplier shall include, as part of its urban water management plan, an assessment of the reliability of its water service to its customers during normal, dry, and multiple dry water years. This water supply and demand assessment shall compare the total water supply sources available to the water supplier with the total projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and multiple dry water years. The water service reliability assessment shall be based upon the information compiled pursuant to Section 10631, including available data from state, regional, or local agency population projections within the service area of the urban water supplier.

Burlingame's projected potable water demands were compared to projected potable water supplies based on information provided by SFPUC and an independent potable water demand analysis conducted by the City (Section 3.2). As discussed previously, the City developed its potable water demand projections for purposes of CIP development and water planning. For the purposes of this analysis, non-potable demands and supplies are not expected to change with time or climatic conditions. Potable water demand projections and wholesale (or potable) water supplies however, are expected to vary as a function of time and hydrologic conditions and are therefore the focus of this UWMP's supply and demand analysis.

Based on SFPUC and City projections of future potable water demands, Burlingame is not expected to exceed its ISG by 2034-35. As described in Section 3.2, Burlingame's potable water demand was estimated using a DSS Model that incorporated Burlingame's historic potable water purchases and made projections of future water savings due to implementation of water conservation measures and through Plumbing Code impacts.

5.6 WATER SHORTAGES

Appendix I contains Burlingame's Water Shortage Contingency Plan ("WSCP") describing procedures for reducing water demand during drought periods. The purpose of a WSCP is to outline the steps to be taken to manage water supplies and demands during periods of water shortages. A water shortage occurs when supply is reduced to a level that cannot support existing, normal demands. Such a condition may occur as the result of various situations, such as prolonged drought, natural disaster, water supply infrastructure failure or interruption, or regulatory actions. The WSCP outlines the actions to be taken by the City during a water shortage condition in order to balance Burlingame's water demands with its available supplies.

Burlingame purchases all of its potable water from SFPUC's RWS. Although small volumes of recycled water have been used selectively within the City, the Regional

System is currently the City's only water source.[9] For this reason, Burlingame's water supply availability during a water shortage is almost entirely dependent upon the SFPUC's water supply availability. The following sections discuss how the necessary water demand reductions will be distributed between the City's many customers during a water shortage with the goal of reducing water use in a straightforward and equitable manner.

5.6.1 Tier 1 and Tier 2 Water Shortage Allocations

The following is a discussion regarding the Tier 1 Drought Allocation between SFPUC and BAWSCA and the Tier 2 Drought Allocation amongst the BAWSCA agencies. Appendix J contains City Resolution No. 9-2011 adopting the Tier 2 Drought Implementation Plan.

> In July 2009, in connection with the WSA, the wholesale customers and San Francisco adopted a Water Shortage Allocation Plan (WSAP) to allocate water from the regional water system to retail and wholesale customers during system-wide shortages of 20% or less (the "Tier One Plan"). The Tier One Plan replaced the prior Interim Water Shortage Allocation Plan, adopted in 2000, which also allocated water for shortages up to 20%. The Tier One Plan also allows for voluntary transfers of shortage allocations between the SFPUC and any wholesale customer and between wholesale customers themselves. In addition, water "banked" by a wholesale customer, through reductions in usage greater than required, may also be transferred.
>
> The Tier One Plan, which allocates water between San Francisco and the wholesale customers collectively, distributes water based on the level of shortage:

Level of System Wide Reduction in Water Use Required	Share of Available Water	
	SFPUC Share	Wholesale Customers Share
5% or less	35.5%	64.5%
6% through 10%	36.0%	64.0%
11% through 15%	37.0%	63.0%
16% through 20%	37.5%	62.5%

> The Tier One Plan will expire at the end of the term of the Water Supply Agreement, unless extended by San Francisco and the wholesale customers.
>
> The wholesale customers have negotiated and adopted the "Tier Two Plan," the second component of the WSAP which allocates the collective wholesale customer share among each of the 26 wholesale customers. This Tier Two allocation is

[9] Recycled water is used for limited purposes at the wastewater treatment plant.

based on a formula that takes multiple factors for each wholesale customer into account, including:

- Individual Supply Guarantee;
- Seasonal use of all available water supplies; and
- Residential per capita use.

The water made available to the wholesale customers collectively will be allocated among them in proportion to each wholesale customer's Allocation Basis, expressed in millions of gallons per day (mgd), which in turn is the weighted average of two components. The first component is the wholesale customer's Individual Supply Guarantee, as stated in the WSA, and is fixed. The second component, the Base/Seasonal Component, is variable and is calculated using the monthly water use for three consecutive years prior to the onset of the drought for each of the wholesale customers for all available water supplies. The second component is accorded twice the weight of the first, fixed component in calculating the Allocation Basis. Minor adjustments to the Allocation Basis are then made to ensure a minimum cutback level, a maximum cutback level, and a sufficient supply for certain wholesale customers.

The Allocation Basis is used in a fraction, as numerator, over the sum of all wholesale customers' Allocation Bases to determine each wholesale customer's Allocation Factor. The final shortage allocation for each wholesale customer is determined by multiplying the amount of water available to the wholesale customers' collectively under the Tier One Plan, by the wholesale customer's Allocation Factor.

The Tier Two Plan requires that the Allocation Factors be calculated by BAWSCA each year in preparation for a potential water shortage emergency. As the wholesale customers change their water use characteristics (e.g., increases or decreases in SFPUC purchases and use of other water sources, changes in monthly water use patterns, or changes in residential per capita water use), the Allocation Factor for each wholesale customer will also change. However, for long-term planning purposes, each wholesale customer shall use as its Allocation Factor, the value identified in the Tier Two Plan when adopted.

The Tier Two Plan will expire in 2018 unless extended by the wholesale customers.

5.6.2 Projected Single Dry Year Supply and Demand Comparison

Comparison of SFPUC's single dry year water supply projections (assuming a 10% system-wide water supply shortage) to the potable water demand projections developed by SFPUC and Burlingame (Section 3.2) indicates that the City may have to institute a range of water shortage conservation measures during dry years. In accordance with the WSA, which allocates available water supplies between SFPUC and BAWSCA and the Tier 2 Implementation Plan, which allocates water available to BAWSCA among the BAWSCA agencies, Burlingame can expect to have its SFPUC water supply reduced to 4.09 MGD in a single dry year or a 22% cutback in supply (Table 14). If a single dry year were to occur starting during 2010-2011, based upon the 2009-2010 purchases,

Burlingame would need to reduce water consumption by approximately 4 percent. The actual, future percent cutbacks in water consumption will depend upon the then-current water purchase relative to the projected single dry year supply.

5.6.3 Projected Multiple Dry Year Supply and Demand Comparison

For multiple dry year scenarios, it is anticipated by San Francisco that regional water deliveries may be reduced by as much as 20% system-wide. In accordance with the WSA, which allocates available water supplies between SFPUC and BAWSCA, and the Tier 2 Implementation Plan, which allocates water available to BAWSCA among the BAWSCA agencies, Burlingame can expect to have its water supply reduced to 3.58 MGD, or a 32% reduction in supply (Table 14). If a multiple dry year were to occur starting during 2010-2011, based upon the 2009-2010 purchases, Burlingame would need to reduce water consumption by approximately 4% during the first year and 16 percent in the second and third years of the multiple dry year period. The actual, future percent cutbacks in water consumption will depend upon the then-current water purchase relative to the projected single dry year supply.

5.6.4 Burlingame Municipal Code

Chapter 15.06 - Water Shortage Emergencies of the Burlingame Municipal Code establishes the broad authority that the City may enforce when a water shortage emergency is declared by the City Council. The authority includes imposing restrictions, establishing water use allocations, and imposing penalties including excessive use charges and water use restrictors. Appendix K contains a copy of Chapter 15.06 of the Burlingame Municipal Code.

5.6.5 Stages of Action

10632. The plan shall provide an urban water shortage contingency analysis that includes each of the following elements that are within the authority of the urban water supplier: (a) Stages of action to be undertaken by the urban water supplier in response to water supply shortages, including up to a 50 percent reduction in water supply, and an outline of specific water supply conditions which are applicable to each stage.

The City's WRPR 49-92 does not currently include "Stages of Action" associated with specific cutback requirements (Appendix L). However, for the purposes of this UWMP, five Stages of Action have been established (each Stage corresponds to a water supply condition and City-wide water use reduction goal, from 5% to 50%) and identified mechanisms by which the City would expect to achieve the required water savings for each Stage of Action. These Stages of Action, and their associated cutbacks, are described in Table 15.

The first stage, Stage I, refers to a 5% cutback from the City's normal year potable water supply and is representative of the projected cutbacks that SFPUC estimated Burlingame

would have to achieve during single dry years. It is anticipated 5% reductions in demand are achievable through development of public awareness campaign to inform its customers of the drought conditions. Past experience has shown that when informed of drought conditions, customers modify their water use behavior to a significant enough degree that Burlingame should be able to achieve a 5% cutback in total potable water demand.

The second stage of action, Stage II, is to be implemented when the City's potable water supply falls 10% short of its normal year supply. It is estimated that a Stage II overall reduction of 10% could be achieved through a 5% reduction in indoor water use and a 25% reduction in outdoor water use. Potential methods for such reductions include increased emphasis on development and implementation of a public information campaign (e.g., notices of drought conditions), and by developing and enforcing a landscape irrigation schedule for single family residences (Table 17).

The third stage of action, Stage III, is to be implemented when the City's potable water supply is 20% less than its normal year supply. The steps to achieve a Stage III reduction include all of the steps outlined in Stage II, as well as the additional mandates described in Table 18. To achieve the 20% reduction in water use required in Stage III, it is estimated that the City would have to decrease indoor water use by 10% and decrease outdoor water use by 50%. In the event of a Stage III reduction, the City will initiate an aggressive program to work with customers to retrofit or replace of high flush toilets, showerheads, and faucet aerators with low-water use fixtures. Water savings can be achieved either through simple, inexpensive modifications such as toilet tank displacement devices, or through actual replacement of the fixtures (e.g., installation of ULFTs). The City also plans to further restrict potable water use for irrigation purposes at all accounts (residential and CII) and to restrict non-essential uses of potable water (e.g., water used for fountains and swimming pools, car washing, sidewalk washing, etc.) as necessary to meet the 20% reduction.

The fourth stage of action, Stage IV, identifies mechanisms by which the City can reduce demand in the event of 30% reduction in potable water supply, as was necessary during previous droughts during the late 1980's and early 1990's. Such reductions could be accomplished through the actions outlined in Stages 1 through III and mandatory modification or replacement of <u>all</u> high-flow plumbing fixtures and severe cutbacks in outdoor water use. By eliminating irrigation at public parks, the golf course, all external CII accounts, and other irrigation areas, and by further restricting single family residential outdoor water use, it is estimated that external water use can be reduced by 75%.

The fifth stage of action, Stage V, includes the City's response to a 50% reduction in potable water supply, as mandated by the UWMP Act. In a Stage V situation, the City will prohibit all water use except as required for public health and safety (50 gpcd). Reductions in Stage V will include a 100% cutback in outdoor water use.

5.6.6 Estimate of Minimum Supply for Next Three Years

10632 (b) An estimate of the minimum water supply available during each of the next three water years based on the driest three-year historic sequence for the agency's water supply.

The driest three-year historic sequence on record that impacted the City's potable water supply since 1920 occurred between 1990 and 1992. Based on the water supply information provided to the City by SFPUC from its Water Supply Reliability Model, it is estimated that the City's minimum supply for the next three years (2011 to 2013) will be 4.09 MGD if there is a single dry year in that period or 3.58 MGD if there is a multiyear drought.

5.6.7 Catastrophic Supply Interruption Plan

10632(c) Actions to be undertaken by the urban water supplier to prepare for, and implement during, a catastrophic interruption of water supplies including, but not limited to, a regional power outage, an earthquake, or other disaster.

Catastrophic supply interruptions may be caused by a regional power outage, an earthquake, or other disaster. In the event of a catastrophic supply interruption, the response procedures that Burlingame would follow are described in:

- SFPUC Emergency Operations Plan
- San Mateo County's Emergency Operation Plan
- Burlingame's Emergency Operations Plan;
- Burlingame's Potable Water Emergency Plan; and
- Burlingame's Water System Emergency Response Plan.

Actions described in these Plans focus on maintaining flow within, and from, the regional water system pipelines. In the event that this water is unsafe for consumption, Burlingame plans to distribute potable water to residents at emergency distribution centers. The following sections summarize the information presented in the aforementioned Plans, including measures to be taken to ensure the reliability of the water supply, and describe the methods by which Burlingame would distribute drinking water to its residents in the event of a water system emergency.

5.6.7.1 Capital Projects for Seismic Reliability and Overall System Reliability

As discussed previously in Section 4.14 the SFPUC is also undertaking a WSIP in order to enhance the ability of the SFPUC water supply system to meet identified service goals for water quality, seismic reliability, delivery reliability, and water supply.

As illustrated previously in Figure 6, the WSIP projects include several projects located in San Francisco to improve the seismic reliability of the in-city distribution system, as well as many projects related to the SFPUC RWS to address both seismic reliability and overall system reliability. All WSIP projects are expected to be completed by 2016.

In addition to the improvements that will come from the WSIP, San Francisco has already constructed the following system interties for use during catastrophic emergencies, short-term facility maintenance and upgrade activities, and in times of water shortages:

- A 40 mgd system intertie between the SFPUC and the Santa Clara Valley Water District (Milpitas Intertie); and
- One permanent and one temporary intertie to the South Bay Aqueduct, which would enable the SFPUC to receive State Water Project water.

The WSIP includes intertie projects, such as the EBMUD-Hayward-SFPUC Intertie. The SFPUC and EBMUD have completed construction of this 30 mgd intertie between their two systems in the City of Hayward, as part of the WSIP.

The WSIP also includes projects related to standby power facilities at various locations. These projects will provide for standby electrical power at six critical facilities to allow these facilities to remain in operation during power outages and other emergency situations. Permanent engine generators will be provided at four locations (San Pedro Valve Lot, Millbrae Facility, Alameda West, and Harry Tracy Water Treatment Plant), while hookups for portable engine generators will be provided at two locations (San Antonio Reservoir and Calaveras Reservoir).

5.6.7.2 SFPUC Emergency Operations Plan (EOP)

Following San Francisco's experience with the 1989 Loma Prieta Earthquake, the SFPUC created a departmental SFPUC Emergency Operations Plan ("EOP"). The SFPUC EOP, originally released in 1992, and has been updated on average every two years. The latest plan update will be released in Spring, 2011. The EOP addresses a broad range of potential emergency situations that may affect the SFPUC and that supplements the City and County of San Francisco's Emergency Operations Plan prepared by the Department of Emergency Management and most recently updated in 2008. Specifically, the purpose of the SFPUC EOP is to describe the department's emergency management organization, roles and responsibilities and emergency policies and procedures.

In addition, SFPUC divisions and bureaus have their own EOPs that are in alignment with the SFPUC EOP and describe each division's/bureau's specific emergency management organization, roles and responsibilities and emergency policies and procedures. The SFPUC tests its emergency plans on a regular basis by conducting emergency exercises. Through these exercises the SFPUC learns how well the plans will or will not work in response to an emergency. Plan improvements are based on exercise and sometime real world event response and evaluation. Also, the SFPUC has an emergency response training plan that is based on federal, state and local standards and exercise and incident

improvement plans. SFPUC employees have emergency training requirements that are based on their emergency response role.

Emergency Drinking Water Planning

In February 2005, the SFPUC Water Quality Bureau published a City Emergency Drinking Water Alternatives report. The purpose of this project was to develop a plan for supplying emergency drinking water in the City after damage and/or contamination of the SFPUC raw and/or treated water systems resulting from a major disaster. The report addresses immediate response after a major disaster. Since the publication of this report, the SFPUC has implemented a number of projects to increase its capability to support the provision of emergency drinking water during an emergency. These projects include:

- Public Information and materials for home and business
- Designation and identification of 67 emergency drinking water hydrants throughout San Francisco
- Purchase of emergency related equipment including water bladders and water bagging machines to help with distribution post disaster
- Coordinated planning with City Departments, neighboring jurisdictions and other public and private partners to maximize resources and supplies for emergency response

With respect to emergency response for the SFPUC Regional Water System, the SFPUC has prepared the *SFPUC Regional Water System Emergency Response and Recovery Plan* (ERRP), completed in 2003 and updated in 2006. The purpose of this plan is to describe the SFPUC RWS emergency management organizations, roles and responsibilities within those organizations, and emergency management procedures. This contingency plan addresses how to respond to and to recover from a major RWS seismic event, or other major disaster. The ERRP complements the other SFPUC emergency operations plans at the Department, Division and Bureau levels for major system emergencies.

The SFPUC has also prepared in an SFPUC-Suburban Customer Water Supply Emergency Operations and Notification Plan. The plan was first prepared in 1996 and has been updated several times – most recently in July of 2010. The purpose of this plan is to provide contact information, procedures and guidelines to be implemented by the following entities when a potential or actual water supply problem arises: the SFPUC Water Supply and Treatment Division ("WS&TD"), Water Quality Bureau ("WQB"), and SFPUC wholesale customers, BAWSCA, and City Distribution Division (CDD – considered to be a customer for the purposes of this plan). For the purposes of this plan, water quality issues are treated as potential or actual supply problems.

Power Outage Preparedness and Response

SFPUC's water transmission system is primarily gravity fed, from the Hetch Hetchy Reservoir to the City and County of San Francisco. Within San Francisco's in-city distribution system, the key pump stations have generators in place and all others have connections in place that would allow portable generators to be used.

Although water conveyance throughout the RWS would not be greatly impacted by power outages because it is gravity fed, the SFPUC has prepared for potential regional power outages as follows:

- The Tesla disinfection facility, the Sunol Valley Water Treatment Plant, and the San Antonio Pump Station, have back-up power in place in the form of generators or diesel powered pumps. Additionally, both the Sunol Treatment Plant and the San Antonio Pump Station would not be impacted by a failure of the regional power grid because it runs off of the SFPUC hydro-power generated by the RWS.
- Both the Harry Tracy Water Treatment Plant and the Baden Pump Station have back-up generators in place.
- Additionally, as described in the next section, the WSIP includes projects which will expand the SFPUC's ability to remain in operation during power outages and other emergency situations.

5.6.7.3 Potable Water Emergency Operations Plan

Burlingame's EOP was written in coordination with the County of San Mateo's Operational Area Emergency Operations Plan Potable Water Procurement and Distribution Annex ("SMOA EOP"). Together, these Plans provide the framework for responding to major emergencies or disasters associated with natural disasters, technological incidents, and national security/terrorism emergencies. Annexes to these Plans outline a strategy to prepare for, mitigate, respond to, and recover from an emergency or disaster that affects the water utilities that serve the population with San Mateo County, and the City in particular.

Burlingame's Potable Water Emergency Plan ("PWEP"), an annex to the City's EOP, guides the City's emergency management in an organized response to water treatment and distribution emergencies that affect the City. The City conducts training periodically to help assure that City personnel are up to date regarding of the emergency response procedures. Detailed information on personnel roles, responsibilities, emergency services, communication, recovery, and reporting procedures are provided in the PWEP.

In the event of an emergency, Burlingame will implement its PWEP, the first step of which involves conducting an immediate Damage Assessment of the System to identify and report any problems associated with pumps, storage facilities, and water infrastructure. Critical pump stations have onsite emergency power generators to provide uninterrupted power and the City can supply a portable generator to provide power those pump stations that are not permanently equipped with emergency generators. The City can also pump water to different parts of the system through alternate routes if a pump station is inoperable or can backfeed the system from Mills Reservoir.

If the water supplied through the regional water system is not potable or cannot otherwise be treated for potable use, Burlingame will distribute emergency drinking water supplies,

most likely in one-gallon plastic containers, from designated Emergency Shelters (such as City facilities and school campuses). The location of these shelters will be determined based on the emergency at-hand. It is estimated that, given the normal operating capacity of its storage reservoirs, Burlingame has approximately 1.6 million gallons of water in storage. In an emergency situation, this quantity would be sufficient to provide the City's residents with five gallons per person per day for 11 days, two gallons per person per day for 27 days, or one gallon per person per day for 54 days.

5.6.7.4 Burlingame's Emergency Response Plan

The City's Water System Emergency Response Plan ("City's ERP") includes plans and procedures that can be implemented in the event of a terrorist or other intentional attack on the public water system to lessen the impact of on the safety and supply of drinking water. It is the City's intent that the ERP be used in conjunction with the SMOA EOP Center Guidebook and Section Checklists and the City's EOP.

Much of the information contained in the City's ERP was compiled from the USEPA's *Response Protocol Toolbox: Planning for and Responding to Drinking Water Contamination Threats and Incidents*, the final module of which is dated April, 2004. The purpose of USEPA's Guidance Document is to assist water systems in complying with the Public Health Security and Bioterrorism and Response Act, dated 12 June 2002 (42 USC 201 et seq.).

The City's ERP details threat evaluations, site characterizations, planned public health and operational responses, public notification strategies, short-term alternate domestic water supplies, and remediation and recovery actions. The City's ERP considers five different potential incidents identified from available USEPA guidance:

- Contamination of the water system;
- Contamination at a major event;
- Notification from health officials of potential water contamination;
- Intrusion through Supervisory Control and Data Acquisition ("SCADA") system; and
- Structural damage.

Evaluation of these threats is to be carried out according to the management structure outlined in the City's ERP. Agencies included in this discussion are consistent with the five designated levels of the Standardized Emergency Management System ("SEMS") defined in the California Code of Regulations, Title 19 (Division 2, Chapter 1). The SEMS is intended to standardize responses to emergencies that involve multiple jurisdictions or multiple agencies. The organizational levels referred to in these regulations are: (1) field response (e.g., local fire and police departments), (2) local government (i.e., the City of Burlingame), (3) operational area (i.e., San Mateo County), (4) regional, and (5) State (led by the Governor's Office of Emergency Services). The

management structures defined in the City's ERP, EOP, and the SMOA EOP are all consistent with SEMS standards.

5.6.8 Prohibitions, Penalties and Consumption Reduction Methods

10632 (d) Additional, mandatory prohibitions against specific water use practices during water shortages, including, but not limited to, prohibiting the use of potable water for street cleaning. (e) Consumption reduction methods in the most restrictive stages. Each urban water supplier may use any type of consumption reduction methods in its water shortage contingency analysis that would reduce water use, are appropriate for its area, and have the ability to achieve a water use reduction consistent with up to a 50 percent reduction in water supply. (f) Penalties or charges for excessive use, where applicable.

To ensure that customers comply with the provisions of the WRPR, the City specifies certain actions, prohibition of actions, and penalties to be instituted during times of drought. As described in the DMM section of this document (Section 6), these actions include the following:

Prohibitions:

- Additional water allocation for new landscaping,
- Gutter or street flooding,
- Using a hose to clean hard surfaces (e.g. sidewalk),
- Use of potable water in decorative fountains,
- Use of potable water for non-essential construction purposes (e.g. backfill consolidation, dust control),

Mandates:

- Positive shutoff valves for all hoses,
- Low water use landscaping designs and irrigations systems for new or renovated landscaping,
- Restaurant/Hotels shall serve water upon request only,
- Water used for cooling purposes must be recycled,
- Broken / defective plumbing must be repaired immediately,
- Water-saving fixtures or devices must be incorporated into new construction projects if they are to obtain a service connection,

Encouraged Actions:

- Use of groundwater or reclaimed water for irrigation of turf areas, median strips, and street sweepers, and
- Use of reduction flow equipment for vehicle dealer/fleet washing.

Table 16contains the water allocations and percent reductions that can be imposed under the WRPR. A more complete list of the WRPR water use regulations and restrictions can be found in Table 17 and Appendix L.

In addition to the above prohibitions, mandates, and encouraged actions, the WRPR states that water accounts found to be "excessive users" are "subject to review and possible reduction, including termination of service." The WRPR also stipulates penalties to be imposed on customers who are in excess of their WRPR-defined water allocations. For consumption up to 110% of the allocation, customers are charged two times the regular unit charge for each unit of water used above their allocation. For excess consumption up to 130% over allocation the charge increases to three times the regular unit charge and for excess water use over 130% of allocation the City charges customers five times the regular unit charge for water used above their allocation. Under certain circumstances (e.g., repeated violations of water use restrictions) the City may install a flow restriction devise or terminate service at the offending account.

The City, as part of preparing the WSCP, has already modified its billing system to automatically calculate baseline water supply allocations on a per-account basis and to impose excessive use charges as deemed appropriate.

5.6.9 Analysis of Revenue Impacts of Reduced Sales during Shortages

10632 (g) An analysis of the impacts of each of the actions and conditions described in subdivisions (a) to (f), inclusive, on the revenues and expenditures of the urban water supplier, and proposed measures to overcome those impacts, such as the development of reserves and rate adjustments.

In the event of a drought, if the City anticipates significant loss in revenue due to decreased consumption, the City may increase its water rates so that customers are charged for the actual cost of providing water during a shortage. These rates will be specified in the City of Burlingame's water rate schedule, as approved by the City Council and in accordance with Proposition 218 requirements.

However, the City of Burlingame carries a one million dollar rate stabilization line item in its annual budget. These funds are used by the City to overcome revenue impacts due to fluctuating water use such as occur during a water shortage.

5.6.10 Draft Ordinance and Use Monitoring Procedure

10632 (h) A draft water shortage contingency resolution or ordinance.
10632 (i) A mechanism for determining actual reductions in water use pursuant to the urban water shortage contingency analysis.

A copy of the City's Municipal Code Chapter 15.06 - Water Shortage Emergencies and WRPR No. 49-92 are included as Appendices K and L, respectively. Based on FY 2005-06 to 2009-10 water use within the City's service area, implementation of Resolution No. 49-92 should theoretically result in a 20% reduction in water use. To determine the actual reduction in water use during water shortage periods, the City plans to increase the frequency at which it conducts meter readings to ensure that customers are

conserving water. By frequently monitoring water use at its residential and CII accounts, the City will ensure compliance with water shortage rationing and be able to inflict penalties on those who are not complying with the WRPR or the Stage of Action being enforced. Non-compliance with the required water conservation will result in the penalties described in Section 5.6.9, including fines, flow restriction devices, and termination of service as a last resort.

6. DEMAND MANAGEMENT MEASURES

10631. A plan shall be adopted in accordance with this chapter and shall do all of the following:
10631 (f) Provide a description of the supplier's water demand management measures. This description shall include all of the following:
(1) A description of each water demand management measure that is currently being implemented, or scheduled for implementation, including the steps necessary to implement any proposed measures, including, but not limited to, all of the following:

A) Water Surveys for Single Family and Multi-Family Residential Customers
B) Residential Plumbing Retrofit
C) System Water Audits, Leak Detection, and Repair
D) Metering
E) Large Landscape Conservation Program and Incentives
F) High-Efficiency Appliance Promotion Programs
G) Public Information Programs
H) School Education Programs
I) Conservation Programs for Commercial, Industrial, Institutional Customers
J) Wholesale Agency Assistance Programs
K) Non-Promotional Water Pricing Programs
L) Water Conservation Coordinator
M) Waste Water Prohibition
N) Residential Ultra Low Flush Toilet Replacement

To the degree that information is available, Burlingame has described its current and projected future efforts to conserve potable water use within the City. For the purposes of this UWMP, EKI has referred to the UWMP Act's Best Management Practices ("BMPs") as Demand Management Measures ("DMMs").

6.1 REGIONAL WATER CONSERVATION

BAWSCA and its member agencies look for opportunities to work with other water agencies, including the SFPUC and the Santa Clara Valley Water District (SCVWD), and leverage available resources to implement water use efficiency projects. For example, in 2005, BAWSCA and the SFPUC entered into a Memorandum of Understanding (MOU) regarding the administration of a Spray Valve Installation Program. Through this MOU, BAWSCA and the SFPUC worked cooperatively to offer and coordinate the installation of water conserving spray valves to food service providers throughout the BAWSCA service area. In addition, BAWSCA participates in the Bay Area Efficient Clothes Washer Rebate Program, which is a residential rebate program offered by all of the major Bay Area water utilities. Through participation in this program, BAWSCA and its participating member agencies were the recipients of $187,500 in Proposition 50 grant funds, which became available in Fiscal Year 2006/2007.
More recently, as part of the Bay Area Integrated Regional Water Management Plan, BAWSCA and the other major Bay Area water utilities submitted a

Proposition 84 Implementation Grant Proposal in January 2011 to support regional water conservation efforts that offer drought relief and long-term water savings. The proposed project includes a package of water conservation programs to improve water use efficiency throughout the San Francisco Bay Area. The project provides direct funding, financial incentives (rebates), and/or subsidies for the implementation of programs that achieve reduced water demand, by all classes of water users: residential, and commercial, industrial and institutional. Four specific programs were selected for the project because they were determined to provide the most quantifiable and sustainable water savings, including: 1.) Water-Efficient Landscape Rebates, Training and Irrigation Calculator, 2.) High-Efficiency Toilet/Urinal Direct Install and/or Rebates, 3.) High-Efficiency Clothes Washer Rebates, and 4.) Efficient Irrigation Equipment Rebates.

BAWSCA and its member agencies will continue to look to partner with each other and the other Bay Area water utilities, as appropriate, to develop regional water conservation efforts that extend beyond local interests to examine costs, benefits and other related issues on a system-wide level. The goal is to maximize the efficient use of water regionally by capitalizing on variations in local conditions and economies of scale.

6.2 BURLINGAME WATER CONSERVATION

Although Burlingame does not anticipate future potable water demands to exceed its ISG before 2034-35, Burlingame is committed to water conservation and efficient use of water and has implemented the applicable California Urban Water Conservation Council's ("CUWCC") 14 DMMs. The City is planning on preparing a water conservation plan to further develop the direction of the City's conservation program. A description of each DMM and the actions Burlingame has taken, or plans to take, towards implementation of these DMMs is outlined below.

6.2.1 DMM 1 - Residential Surveys

Burlingame's residential surveys ("surveys") are performed on request or when triggered by customer calls regarding high bills or leak investigations. The surveys consist of a personal visit to the residence by the Water Conservation Coordinator ("WCC") aimed at determining the source of increased water use (e.g. leaks, swimming pools, etc.). This site visit includes checks for leaks in toilets and faucets, showerhead flow rates and replacement recommendations, as well as checks on irrigation and landscape systems.

The City has performed 872 residential audits since 2005-06 at a cost of $18,000. The City will continue to perform residential surveys as requested and for high water calls.

6.2.2 DMM 2 - Residential Retrofits

The City adopted Ordinance 1846-2010 establishing indoor water conservation regulations in March 2010. A copy of the ordinance is provided in Appendix M. The ordinance requires all new construction and applicable remodels to at a minimum, install

fixtures that comply with the efficiency standards listed in the ordinance. The ordinance complies with the provisions of the 2007 California Plumbing Code. Compliance with the Ordinance is overseen by the City Community Development Department, Building Division.

When requested ,water conservation kits are distributed consisting of two low flow shower heads, toilet tank leak detection dye tablets, tank displacement water bags, soil moisture indicators for potted plants, and other devices that simplify water conservation for the City's residential customers. The conservation items distributed are listed on Table 18 by fiscal year.

The City also has a number of rebate programs designed to encourage customers to upgrade their homes with water efficient fixtures. The largest rebates that the City offers are for ultra low flow toilets ("ULFTs") and water efficient clothes washers. These programs are discussed in depth below in Sections 6.2.6 (DMM-6) and 6.2.14 (DMM-14).

The City will continue to offer the water conservation kits and rebates.

6.2.3 DMM 3 - System Water Audits

To minimize water loss within the system, the City conducts leak investigation and repair on a regular basis. As listed in Table 18, the City has fixed 103 leaks since 2005-06. Investigations are triggered by abnormally high water bills.[10] When leaks in the system are detected, they are repaired by the City. Leaks on the customer's side of the meter are reported to the customer and the City advises them on repair.

The City conducts annual system water audits to determine the quantity of water lost ("UAW") by comparing the City's purchased potable water supplies with its recorded potable water use. Table 8 shows the quantity of potable water that the City purchased from SFPUC and the amount of potable water consumed within the City (both for customer accounts, City accounts, and unmetered use). Water purchases are recorded in the City's Fiscal Reports, while total metered and unmetered use is recorded by the City register.[11] As listed in Table 8 the City had an average UAW of 7.5 percent between 2005-06 and 2009-10, with a low of 7 percent and a high of 8.8 percent loss.

The City will continue to monitor its potable water distribution system efficiency to maintain it above 90% efficient.

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[10] The City defines a water bill as abnormally high if it exceeds water use from the same billing cycle of the previous year by more than 20%. Additionally, the City will respond to customer complaints of high water bills.
[11] Unmetered water use is estimated by the Fire and Water Departments.

6.2.4 DMM 4 - Metering

All customers are metered and billed by meter size and the quantity of use (Table 19). Customers with large landscaped areas (i.e., greater than 5,000 square feet) are required to install separate irrigation meters in accordance with Ordinance 1845-2010, enacted in March 2010 and described below in Section 6.2.5 (Appendix N). Meters are recommended for landscape areas greater than 2,500 square feet. The installation of such meters is enforced through the City's Community Development Department, Building Division.

Water meters are read by City employees either manually, using "touch-read" meters, or via automatic meter reading ("AMR") instrumentation. Meters are rechecked frequently when a customer's bill is suspiciously higher than previous months. If a meter recheck confirms a large increase in water use, the City proceeds with a leak investigation or residential survey.

As of July 2010, of the City's 9,113 meters, approximately 5,600 of them are AMR meters having radio capabilities. The City installs approximately 900 new meters annually.[12] It is the City's eventual goal to have all AMR meters. Then, if desired, the City could allow customers to monitor their own water use and alert them if there is a leak.

6.2.5 DMM 5 - Large Landscape

In March 2010, the City adopted an ordinance "Establishing Water Conservation In Landscaping Regulations" modeled after the California Water Conservation in Landscaping Act (Ordinance 1845-2010, Appendix N). This Ordinance includes provisions for new and rehabilitated landscapes, as well as for existing landscapes. Provisions include maximum water allowances, estimated water use, landscape and irrigation design plans, irrigation, maintenance, and auditing schedules, grading design plans, and a soil analysis. Compliance with the Ordinance is overseen by the City Parks Department and Community Development Department, Building Division.

Furthermore, as part of the CII audits performed for DMM 9, the landscaping irrigation system is inspected.

6.2.6 DMM 6 - High-Efficiency Clothes Washers

The City participates in BAWSCA's high-efficiency clothes washer rebate program. Through a partnership with PG&E, BAWSCA and participating member agencies offer a combined water and energy rebates of up to $125 per washing machine if a resident

[12] Information on meter replacements was provided by Rob Mallick.

purchases a qualifying efficient clothes washer. Guidelines and applications for the City's High-Efficiency clothes washer rebates can be found on BAWSCA's website.[13]

The number of washing machine rebates issued each year is listed in Table 18. The City will continue to offer up to $30,000 in rebates for High-Efficiency Washers and ULFTs per year.

6.2.7 DMM 7 - Public Information

The City budgets $10,000 per year for public information programs. Current public information programs sponsored by the City include City-hosted booths at community events (e.g., at "Art in the Park"), water bill inserts informing customers about water conservation and rebate programs, and distribution of water conservation literature and kits.[14] Public information literature (e.g., water conservation pamphlets) and the Water Conservation Kits are available at special events and at City Hall. The City also maintains educational information (e.g. water-saving tips, and rebate programs) on its website. The items distributed per fiscal year are listed on Table 18.

The City participates in BAWSCA's free landscaping classes as described on BAWSCA's website.[15] BAWSCA's Landscape Class Series is designed to introduce homeowners, commercial property managers, landscape service providers, and others to the concepts of sustainable landscaping, focusing on creating beautiful, water-efficient gardens.

The City will continue to promote water conservation using the methods described in this section.

6.2.8 DMM 8 - School Education

The City implemented BAWSCA's "Water-wise School Education Kits Program" in 2009-10. Through the Water-wise School Education Kits Program, kits are distributed to 5th grade students that enable them to install water saving devices and perform a water audit in their home. Included with the kit is a curriculum for the teacher. The water conservation curriculum that can be easily implemented by teachers, easily understood and taken back into the home by the students, and includes methods to quantify the water savings as a result of taking the actions in the curriculum.

The kits are typically taken home by the students, who may share the learning experience with their family members. The energy and water efficient devices contained in the kits

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[13] http://bawsca.org/water-conservation/residential-water-conservation-programs/high-efficiency-clothes-washer-rebate-program/
[14] Information regarding Public Information activities provided by Rob Mallick.
[15] http://bawsca.org/water-conservation/residential-water-conservation-programs/landscape-education-classes/

are installed in the home and the family is able to calculate the water savings resulting from each device. Essentially the kit allows the student to perform in-home water audit.

The kit includes:

- Energy and Water Saving High-Efficiency Showerhead,
- Kitchen Aerator,
- Flip Control Bathroom Aerator,
- Energy Cost Calculator,
- Mini-Tape Measure,
- Flow Rate Test Bag,
- Multi-Function Drop / Rain Gauge,
- Water Temperature Check Card, and
- Toilet Leak Detector Tablets.

After the student performs the audit and installs the water and energy savings devices, affidavits signed by the parents are returned to the school, collected by the teacher, and forwarded to Water Wise for program documentation of implementation and resulting savings.

The City also provides literature, information, and classroom visits upon request. Visits include an informational presentation on the City's water and wastewater system, conducted by Donna Allen from Veolia Water North America, the company that operates and maintains the WWTP.

The City will continue to implement school education programs as appropriate.

6.2.9 DMM 9 - Commercial, Industrial, Institutional Accounting

The City provides commercial and industrial customers with assistance in conducting water audits and in determining ways to cost-effectively reduce water consumption. The City has an annual budget to conduct the audits (Table 18). The purpose of the audits is to identify inefficient, wasteful, or malfunctioning fixtures. It includes inspection of plumbing fixtures, cooling equipment and irrigation methods. Where applicable, the City identifies opportunities for in-house recycling of process-water, low-flow fixtures and toilets, and landscaping water conservation.

The City will continue to offer audits to CII customers who request them.

Furthermore, the City has established a budget to provide spray valve replacement. The budget for each fiscal year is listed in Table 18.

6.2.10 DMM 10 - Wholesaler Incentives

This DMM does not apply to Burlingame because Burlingame is not a wholesale water agency.

6.2.11 DMM 11 - Conservation Pricing

During non-drought years, the City's water customers are billed for every 1,000 gallons of water used, with an additional fixed monthly charge according to their meter size. Rates are based on wholesale water prices from the SFPUC, and are slightly higher for residents of Burlingame Hills than for residents of the City of Burlingame (i.e., $7.03 and $6.31 respectively, see Table 19). In the future, Burlingame intends to consider the effects of implementing an increasing block rate schedule for water charges.

In times of drought, the City's rate structure for water use changes according the per capita residential allocation plan set forth in Resolution 49-92 (Appendix L). The plan allocates 100 GPD for the first person, 70 GPD for the 2nd, 3rd, and 4th, occupants, and 50 GPD for each additional occupant. Customers who exceed their allocation by 10% are billed at two times the regular charge, while an exceedance of 30% or more results in five times the regular rate.

The sewer rates are included in Appendix O.

6.2.12 DMM 12 - Conservation Coordinator

The water services and operations technician performs the duties of "Water Conservation Coordinator" for the City. This person responds to leak investigations, performs residential surveys, maintains water conservation material and kits, provides customer service to low pressure and dirty water reports, and completes the other water conservation activities on behalf of the City.

6.2.13 DMM 13 - Waste Prohibitions

The City's Water Rationing Plan (Resolution 49-92, Appendix L) includes a subsection that reduces water waste during times of shortage by prohibiting, mandating, and encouraging various actions.

Prohibitions include:

- Additional water allocation for new landscaping,
- Gutter or street flooding ,
- Using a hose to clean hard surfaces (e.g. sidewalk),
- Use of potable water in decorative fountains, and
- Use of potable water for non-essential construction purposes (e.g. backfill consolidation, dust control).

Mandates include:

- Positive shutoff valves for all hoses,

- Low water use landscaping designs and irrigations systems for new or renovated landscaping,
- Restaurant/Hotels shall serve water upon request only,
- Water used for cooling purposes must be recycled,
- Broken/defective plumbing must be repaired immediately, and
- Water-saving fixtures or devices must be incorporated into new construction projects if they are to obtain a service connection.

Encouraged Actions include:

- Use of groundwater or reclaimed water for irrigation of turf areas, median strips, and street sweepers and
- Use of reduction flow equipment for vehicle dealer/fleet washing.

In non-drought years, the City encourages water conservation, but does not mandate the aforementioned actions.

6.2.14 DMM 14 - Ultra Low Flow Toilets

The City participates in BAWSCA's toilet rebate program. BAWSCA offers rebates of up to $150 per toilet if the resident replaces a toilet that uses 3.5 gallons per flush (GPF) or more with an EPA WaterSense Labeled HET. Guidelines and applications for the City's ULFT rebate program can be found on the BAWSCA's website.[16] Qualifying toilets must meet the criteria for ULFT established by California Urban Water Conservation Council of 1.60 gallons per flush ("GPF").

The toilet rebates issued since 2005-06 are listed in Table 18. The City will continue to offer up to $30,000 in rebates for High-Efficiency Washers and ULFTs per year.

6.3 SCHEDULE OF IMPLEMENTATION

10631. A plan shall be adopted in accordance with this chapter and shall do all of the following:
10631 (f) (2) A schedule of implementation for all water demand management measures proposed or described in the plan.

The City strives to meet DMM recommendations and to implement demand management measures in a timely manner. Each of the aforementioned DMMs is currently being implemented by the City or scheduled for implementation as described above.

[16] http://bawsca.org/water-conservation/residential-water-conservation-programs/high-efficiency-toilet-rebate-program/

6.4 EFFECTIVENESS OF IMPLEMENTATION

10631. A plan shall be adopted in accordance with this chapter and shall do all of the following:
10631 (f)(3) A description of the methods, if any, that the supplier will use to evaluate the effectiveness of water demand management measures implemented or described under the plan.

The City does not currently evaluate the effectiveness (in terms of water savings) of each individual DMM described above. However, as described in Section 3.1, potable water use within the City has declined since 2005-06, at least partly due to the City's increased water conservation efforts.

6.5 CONSERVATION SAVINGS

10631. A plan shall be adopted in accordance with this chapter and shall do all of the following:
10631 (f) (4) An estimate, if available, of existing conservation savings on water use within the supplier's service area, and the effect of the savings on the supplier's ability to further reduce demand.

The City does not currently implement a formal program for tracking the effectiveness of the individual DMMs on water use savings within the City. Potential methods for quantifying the water saved by DMMs that the City implements could include development of a database that would allow the City to track those accounts that had retrofitted their plumbing fixtures as part of a DMM (e.g. water-efficient clothes washers, ULFT and other low-flow fixtures), and comparing water use at those accounts pre- and post- retrofit. The City may consider such an analysis in future years, although normalizing the results for climatic, land use or other changes at an account may make such determination of water savings difficult.

6.6 EVALUATION OF DEMAND MANAGEMENT MEASURES NOT IMPLEMENTED

10631. A plan shall be adopted in accordance with this chapter and shall do all of the following:
10631 (g) An evaluation of each water demand management measure listed in paragraph (1) of subdivision (f) that is not currently being implemented or scheduled for implementation. In the course of the evaluation, first consideration shall be given to water demand management measures, or combination of measures, that offer lower incremental costs than expanded or additional water supplies. This evaluation shall do all of the following:
(1) Take into account economic and noneconomic factors, including environmental, social, health, customer impact, and technological factors.
(2) Include a cost-benefit analysis, identifying total benefits and total costs.
(3) Include a description of funding available to implement any planned water supply project that would provide water at a higher unit cost.
(4) Include a description of the water supplier's legal authority to implement the measure and efforts to work with other relevant agencies to ensure the implementation of the measure and to share the cost of implementation.

Burlingame currently implements 13 of the 14 DMMs described by the CUWCC. The remaining DMM, the Wholesaler Incentives (DMM-11) does not apply to Burlingame because Burlingame is not a wholesale water supplier.

7. CLIMATE CHANGE

The issue of climate change has become an important factor in water resources planning in the State, and is frequently being considered in urban water management planning purposes, though the extent and precise effects of climate change remain uncertain. As described by the SFPUC in its Final Water Supply Availability Study for the City and County of San Francisco, dated October 2009, there is evidence that increasing concentrations of greenhouse gasses have caused and will continue to cause a rise in temperatures around the world, which will result in a wide range of changes in climate patterns. Moreover, there is evidence that a warming trend occurred during the latter part of the 20th century and will likely continue through the 21st century. These changes will have a direct effect on water resources in California, and numerous studies have been conducted to determine the potential impacts to water resources. Based on these studies, climate change could result in the following types of water resource impacts, including impacts on the watersheds in the Bay Area:

- Reductions in the average annual snowpack due to a rise in the snowline and a shallower snowpack in the low and medium elevation zones, such as in the Tuolumne River basin, and a shift in snowmelt runoff to earlier in the year;
- Changes in the timing, intensity and variability of precipitation, and an increased amount of precipitation falling as rain instead of as snow;
- Long-term changes in watershed vegetation and increased incidence of wildfires that could affect water quality;
- Sea level rise and an increase in saltwater intrusion;
- Increased water temperatures with accompanying potential adverse effects on some fisheries and water quality;
- Increases in evaporation and concomitant increased irrigation need; and
- Changes in urban and agricultural water demand.

According to the SFPUC (2009), other than the general trends listed above, there is no clear scientific consensus on exactly how climate change will quantitatively affect the state's water supplies, and current models of water systems in California generally do not reflect the potential effects of climate change.

Initial climate change modeling completed by the SFPUC indicates that about seven percent of runoff currently draining into Hetch Hetchy Reservoir will shift from the spring and summer seasons to the fall and winter seasons in the Hetch Hetchy basin by 2025. This percentage is within the current interannual variation in runoff and is within the range accounted for during normal runoff forecasting and existing reservoir management practices. . The predicted shift in runoff timing is similar to the results found by other researchers modeling water resource impacts in the Sierra Nevada due to warming trends associated with climate change.

The SFPUC has stated that based on this preliminary analysis, the potential impacts of climate change are not expected to affect the water supply available

from the San Francisco Regional Water System (RWS) or the or the overall operation of the RWS through 2030.

The SFPUC views assessment of the effects of climate change as an ongoing project requiring regular updating to reflect improvements in climate science, atmospheric/ocean modeling, and human response to the threat of greenhouse gas emissions. To refine its climate change analysis and expand the range of climate parameters being evaluated, as well as expand the timeframes being considered, the SFPUC is currently undertaking two additional studies. The first utilizes a newly calibrated hydrologic model of the Hetch Hetchy watershed to explore sensitivities of inflow to different climate change scenarios involving changes in air temperature and precipitation. The second study will seek to utilize state-of-the-art climate modeling techniques in conjunction with water system modeling tools to more fully explore potential effects of climate change on the SFPUC water system as a whole. Both analyses will consider potential effects through the year 2100.

8. COMPLETED UWMP CHECKLIST

No.	UWMP requirement	Calif. Water Code reference	UWMP Section
PLAN PREPARATION			
4	Coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.	10620(d)(2)	Section 1.5 Table 1
6	Notify, at least 60 days prior to the public hearing on the plan required by Section 10642, any city or county within which the supplier provides water that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan. Any city or county receiving the notice may be consulted and provide comments.	10621(b)	Section 1.5 Table 1 Appendix C
7	Provide supporting documentation that the UWMP or any amendments to, or changes in, have been adopted as described in Section 10640 et seq.	10621(c)	Appendix D
54	Provide supporting documentation that the urban water management plan has been or will be provided to any city or county within which it provides water, no later than 60 days after the submission of this urban water management plan.	10635(b)	Appendix P
55	Provide supporting documentation that the water supplier has encouraged active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan.	10642	Appendix B Appendix C
56	Provide supporting documentation that the urban water supplier made the plan available for public inspection and held a public hearing about the plan. For public agencies, the hearing notice is to be provided pursuant to Section 6066 of the Government Code. The water supplier is to provide the time and place of the hearing to any city or county within which the supplier provides water. Privately-owned water suppliers shall provide an equivalent notice within its service area.	10642	Table 1 Appendix C
57	Provide supporting documentation that the plan has been adopted as prepared or modified.	10642	Appendix D
58	Provide supporting documentation as to how the water supplier plans to implement its plan.	10643	Appendix D
59	Provide supporting documentation that, in addition to submittal to DWR, the urban water supplier has submitted this UWMP to the California State Library and any city or county within which the supplier provides water supplies a copy of its plan no later than 30 days after adoption. This also includes amendments or changes.	10644(a)	Appendix P

No.	UWMP requirement	Calif. Water Code reference	UWMP Section
60	Provide supporting documentation that, not later than 30 days after filing a copy of its plan with the department, the urban water supplier has or will make the plan available for public review during normal business hours	10645	Appendix P
SYSTEM DESCRIPTION			
8	Describe the water supplier service area.	10631(a)	Section 2
9	Describe the climate and other demographic factors of the service area of the supplier	10631(a)	Section 2 Table 3
10	Indicate the current population of the service area	10631(a)	Section 2.1 Table 2
11	Provide population projections for 2015, 2020, 2025, and 2030, based on data from State, regional, or local service area population projections.	10631(a)	Section 2.1 Table 2
12	Describe other demographic factors affecting the supplier's water management planning.	10631(a)	Section 2
SYSTEM DEMANDS			
1	Provide baseline daily per capita water use, urban water use target, interim urban water use target, and compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data.	10608.20(e)	Section 3.5 Table 10 Table 11
2	*Wholesalers:* Include an assessment of present and proposed future measures, programs, and policies to help achieve the water use reductions. *Retailers:* Conduct at least one public hearing that includes general discussion of the urban retail water supplier's implementation plan for complying with the Water Conservation Bill of 2009.	10608.36 10608.26(a)	N/A
3	Report progress in meeting urban water use targets using the standardized form.	10608.40	N/A
25	Quantify past, current, and projected water use, identifying the uses among water use sectors, for the following: (A) single-family residential, (B) multifamily, (C) commercial, (D) industrial, (E) institutional and governmental, (F) landscape, (G) sales to other agencies, (H) saline water intrusion barriers, groundwater recharge, conjunctive use, and (I) agriculture.	10631(e)(1)	Section 3.1 Section 3.2 Table 8 Table 9
33	Provide documentation that either the retail agency provided the wholesale agency with water use projections for at least 20 years, if the UWMP agency is a retail agency, OR, if a wholesale agency, it provided its urban retail customers with future planned and existing water source available to it from the wholesale agency during the required water-year types	10631(k)	Appendix P
34	Include projected water use for single-family and multifamily residential housing needed for lower income households, as identified in the housing element of any city, county, or city and county in the service area of the supplier.	10631.1(a)	Table 9

No.	UWMP requirement	Calif. Water Code reference	UWMP Section
SYSTEM SUPPLIES			
13	Identify and quantify the existing and planned sources of water available for 2015, 2020, 2025, and 2030.	10631(b)	Section 4 Table 12
14	Indicate whether groundwater is an existing or planned source of water available to the supplier. If yes, then complete 15 through 21 of the UWMP Checklist. If no, then indicate "not applicable" in lines 15 through 21 under the UWMP location column.	10631(b)	Section 4.3
15	Indicate whether a groundwater management plan been adopted by the water supplier or if there is any other specific authorization for groundwater management. Include a copy of the plan or authorization.	10631(b)(1)	Section 4.3
16	Describe the groundwater basin.	10631(b)(2)	Section 4.3.1
17	Indicate whether the groundwater basin is adjudicated? Include a copy of the court order or decree.	10631(b)(2)	Section 4.3
18	Describe the amount of groundwater the urban water supplier has the legal right to pump under the order or decree. If the basin is not adjudicated, indicate "not applicable" in the UWMP location column.	10631(b)(2)	N/A
19	For groundwater basins that are not adjudicated, provide information as to whether DWR has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current official departmental bulletin that characterizes the condition of the groundwater basin, and a detailed description of the efforts being undertaken by the urban water supplier to eliminate the long-term overdraft condition. If the basin is adjudicated, indicate "not applicable" in the UWMP location column.	10631(b)(2)	Section 4.3
20	Provide a detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years	10631(b)(3)	Section 4.3.3
21	Provide a detailed description and analysis of the amount and location of groundwater that is projected to be pumped.	10631(b)(4)	Section 4.3.4
24	Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.	10631(d)	Section 4.4.2
30	Include a detailed description of all water supply projects and programs that may be undertaken by the water supplier to address water supply reliability in average, single-dry, and multiple-dry years, excluding demand management programs addressed in (f)(1). Include specific projects, describe water supply impacts, and provide a timeline for each project.	10631(h)	Section 4.4
31	Describe desalinated water project opportunities for long-term supply, including, but not limited to, ocean water, brackish water, and groundwater.	10631(i)	Section 4.4.1

No.	UWMP requirement	Calif. Water Code reference	UWMP Section
44	Provide information on recycled water and its potential for use as a water source in the service area of the urban water supplier. Coordinate with local water, wastewater, groundwater, and planning agencies that operate within the supplier's service area.	10633	Section 4.4.3
45	Describe the wastewater collection and treatment systems in the supplier's service area, including a quantification of the amount of wastewater collected and treated and the methods of wastewater disposal.	10633(a)	Section 4.4.3.2
46	Describe the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.	10633(b)	Section 4.4.3.2
47	Describe the recycled water currently being used in the supplier's service area, including, but not limited to, the type, place, and quantity of use.	10633(c)	Section 4.4.3
48	Describe and quantify the potential uses of recycled water, including, but not limited to, agricultural irrigation, landscape irrigation, wildlife habitat enhancement, wetlands, industrial reuse, groundwater recharge, indirect potable reuse, and other appropriate uses, and a determination with regard to the technical and economic feasibility of serving those uses.	10633(d)	Section 4.4.3.3
49	The projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years, and a description of the actual use of recycled water in comparison to uses previously projected.	10633(e)	Section 4.4.3
50	Describe the actions, including financial incentives, which may be taken to encourage the use of recycled water, and the projected results of these actions in terms of acre-feet of recycled water used per year.	10633(f)	Section 4.4.3
51	Provide a plan for optimizing the use of recycled water in the supplier's service area, including actions to facilitate the installation of dual distribution systems, to promote recirculating uses, to facilitate the increased use of treated wastewater that meets recycled water standards, and to overcome any obstacles to achieving that increased use.	10633(g)	Section 4.4.3
WATER SHORTAGE RELIABILITY AND WATER SHORTAGE CONTINGENCY PLANNING [b]			
5	Describe water management tools and options to maximize resources and minimize the need to import water from other regions.	10620(f)	Section 5.1
22	Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage and provide data for (A) an average water year, (B) a single dry water year, and (C) multiple dry water years.	10631(c)(1)	Section 5.2 Table 14

No.	UWMP requirement	Calif. Water Code reference	UWMP Section
23	For any water source that may not be available at a consistent level of use - given specific legal, environmental, water quality, or climatic factors - describe plans to supplement or replace that source with alternative sources or water demand management measures, to the extent practicable.	10631(c)(2)	Section 5.2.4.4
35	Provide an urban water shortage contingency analysis that specifies stages of action, including up to a 50-percent water supply reduction, and an outline of specific water supply conditions at each stage	10632(a)	Section 5.6.7 Table 15 Table 16 Table 17
36	Provide an estimate of the minimum water supply available during each of the next three water years based on the driest three-year historic sequence for the agency's water supply.	10632(b)	Section 5.6.6
37	Identify actions to be undertaken by the urban water supplier to prepare for, and implement during, a catastrophic interruption of water supplies including, but not limited to, a regional power outage, an earthquake, or other disaster.	10632(c)	Section 5.6.7
38	Identify additional, mandatory prohibitions against specific water use practices during water shortages, including, but not limited to, prohibiting the use of potable water for street cleaning.	10632(d)	Section 5.6.8 Table 15 Table 17
39	Specify consumption reduction methods in the most restrictive stages. Each urban water supplier may use any type of consumption reduction methods in its water shortage contingency analysis that would reduce water use, are appropriate for its area, and have the ability to achieve a water use reduction consistent with up to a 50 percent reduction in water supply.	10632(e)	Section 5.6.5 Section 5.6.8 Table 15
40	Indicated penalties or charges for excessive use, where applicable.	10632(f)	Section 5.6.8
41	Provide an analysis of the impacts of each of the actions and conditions described in subdivisions (a) to (f), inclusive, on the revenues and expenditures of the urban water supplier, and proposed measures to overcome those impacts, such as the development of reserves and rate adjustments.	10632(g)	Section 5.6.9
42	Provide a draft water shortage contingency resolution or ordinance.	10632(h)	Appendix I Appendix L
43	Indicate a mechanism for determining actual reductions in water use pursuant to the urban water shortage contingency analysis.	10632(i)	Appendix I
52	Provide information, to the extent practicable, relating to the quality of existing sources of water available to the supplier over the same five-year increments, and the manner in which water quality affects water management strategies and supply reliability	10634	Section 5.4

No.	UWMP requirement	Calif. Water Code reference	UWMP Section
53	Assess the water supply reliability during normal, dry, and multiple dry water years by comparing the total water supply sources available to the water supplier with the total projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and multiple dry water years. Base the assessment on the information compiled under Section 10631, including available data from state, regional, or local agency population projections within the service area of the urban water supplier.	10635(a)	Section 5.2 Appendix G
DEMAND MANAGEMENT MEASURES			
26	Describe how each water demand management measures is being implemented or scheduled for implementation. Use the list provided.	10631(f)(1)	Section 6
27	Describe the methods the supplier uses to evaluate the effectiveness of DMMs implemented or described in the UWMP.	10631(f)(3)	Section 6
28	Provide an estimate, if available, of existing conservation savings on water use within the supplier's service area, and the effect of the savings on the ability to further reduce demand.	10631(f)(4)	N/A
29	Evaluate each water demand management measure that is not currently being implemented or scheduled for implementation. The evaluation should include economic and non-economic factors, cost-benefit analysis, available funding, and the water suppliers' legal authority to implement the work.	10631(g)	Section 6
32	Include the annual reports submitted to meet the Section 6.2 requirements, if a member of the CUWCC and signer of the December 10, 2008 MOU.	10631(j)	N/A

9. REFERENCES

ABAG, 2007. Association of Bay Area Governments. ABAG Projections 2007.

ABAG, 2009. Association of Bay Area Governments. ABAG Projections 2009.

BAWSCA, 2009. Water Conservation Implementation Plan. Bay Area Water Supply and Conservation Association, September 2009.

BAWSCA, 2010. Long-Term Reliable Water Supply Strategy. Bay Area Water Supply and Conservation Association, 27 May 2010.

City of Burlingame, 2010a. 2009-2014 Housing Element 2010.

City of Burlingame, 2010b. Downtown Specific Plan, Resolution No. 73-2010

DOF, 2007. California Department of Finance, *E-4 Historical Population Estimates for City, County and the State, 1991-2000, with 1990 and 2000 Census Counts*. Sacramento, California, August 2007.

DOF, 2008. California, Department of Finance, *E-5 Population and Housing Estimates for Cities, Counties and the State, 2001-2008, with 2000 Benchmark.* Sacramento, California, May 2008.

DOF, 2010. California Department of Finance, *E-4 Population Estimates for Cities, Counties and the State, 2001-2010, with 2000 Benchmark.* Sacramento, California, May 2010.

DWR, 2000. State of California, The Resources Agency, Department of Water Resources. *The Preparing for California's Next Drought: Changes Since 1987-92,* July 2000.

DWR, 2003. California's Department of Water Resources, *Groundwater Bulletin 118.*

DWR, 2010. *Methodologies for Calculating Baseline and Compliance Urban Per Capita Water, California Department of Water Resources Division of Statewide Integrated Water Management Water Use and Efficiency Branch*, dated Use 1 October 2010

EKI, 2004. Erler and Kalinowski, Inc., *City of Burlingame Water System Master Plan*, 2004.

EKI, 2010. Erler and Kalinowski, Inc., *2009 Water System Master Plan Update*, 2010.

EKI, Draft City of Burlingame Water Shortage Contingency Plan, June 2009.

Housing Element, 2010. City of Burlingame, 2009-2014 Housing Element, March 2010.

Luhdorff and Scalmanini, 2002. *Conceptualization of the Lake-Aquifer System Westside Groundwater Basin, San Francisco and San Mateo Counties*, 2002.

Nolte, 1982. George S. Nolte and Associates, *City of Burlingame Wastewater Management Facilities Master Plan*, 1982.

OCC, 2002. Olivia Chen Consultants, Inc. and Barbara Foster Associates, *SFPUC – Suburban Customer Water Supply Emergency Operations and Notifications Plan,* Rev. 5, April 2002.

OCC, 2003. Olivia Chen Consultants, *Water System Pumping Station Study, Condition Assessment,* August 2003.

Phillips et al., 1993. Phillips, S.P., Hamlin, S.N. & Yates, E.B., *Geohydrology, Water Quality, and Estimation of Groundwater Recharge in San Francisco, CA, 1987-92*; Geological Survey; Water Resources Investigation Report 93-4019, 1993.

RMC, 2004. Raines, Melton & Carella, Inc., *SFPUC Wholesale Customer Recycled Water Potential Technical Memorandum*, December 2004.

Rogge, 2003. *Dimensions of the Westside Groundwater Basin San Francisco and San Mateo Counties, California*, 2003.

Roman & Lougee and Stetson, 2001. Roman & Lougee and Stetson Engineers Inc., City of Burlingame, *Technical Memorandum No. 1 for Water Quality, Water Distribution System and Storage Tanks – Phase 1*, January 2001.

Roman & Lougee, 2000. Roman & Lougee Consulting Engineers Inc., *2000 Urban Water Management Plan,* November 2000.

SBMP, 2001. Bookman-Edmonston Engineering, Inc. and Hydrofocus Inc., *City of San Bruno Water System Master Plan Update Westside Basin Proposed Groundwater Management Plan,* 2001.

URS, 2004a. United Research Center, *SFPUC Wholesale Customer Water Conservation Potential Technical Memorandum*, December 2004.

URS, 2004b. United Research Center, *SFPUC Wholesale Customer Water Demand Projections Technical Memorandum*, December 2004.

URS, 2005. United Research Center, *SFPUC 2030 Purchase Estimates Technical Memorandum*, February 2005.

Yates, 2003a. *Westside Basin Unified Groundwater Model.*

Yates, 2003b. Correspondence with Mr. Gus Yates, Fall 2003

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TABLES

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Table 1
Coordination with Appropriate Agencies and Public
City of Burlingame, California

Action	SFPUC	BAWSCA	BAWSCA Member Agencies	San Mateo County	Public
Sent notice of intention to prepare UWMP (a)	2/3/2011	2/3/2011	2/3/2011	2/3/2011	--
Participated in UWMP development	Yes	Yes	Yes	--	--
Received copy of draft UWMP	--	Yes	--	Yes	-- (b)
Commented on the draft UWMP	--	--	--	--	Yes
Sent notice of public hearing for UWMP and SB 7	3/17/2011	3/17/2011	3/17/2011	3/17/2011	3/3/17 and 3/10/2011
Attended public meetings	--	--	--	--	5/16/2011
Received copy of adopted UWMP	--	6/14/2011	--	6/14/2011	6/14/2011 (c)

Abbreviations:
BAWSCA = Bay Area Water Supply and Conservation Agency
SFPUC = San Francisco Public Utilities Commission
UWMP = Urban Water Management Plan

Notes:
(a) Notice of intention to prepare the UWMP was sent to agencies on 3 February 2011.
(b) A copy of the draft UWMP was made available to the Public at City Hall Public Works Department and the Burlingame Public Library.
(c) A copy of the adopted UWMP is available to the Public at City Hall Public Works Department.

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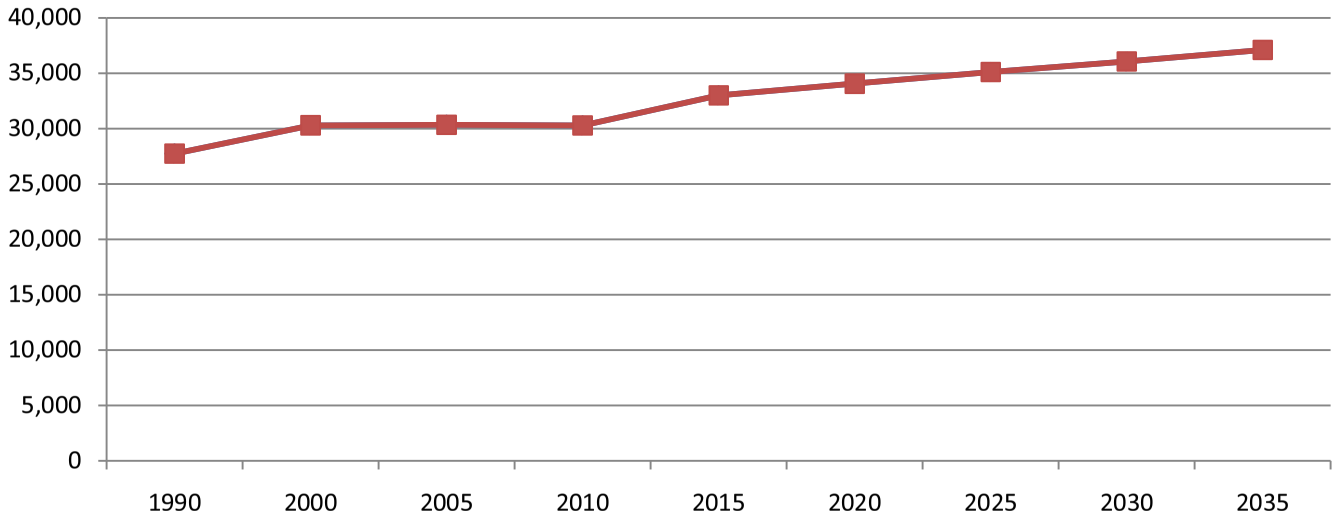
Table 2
Historic and Projected Service Area Population (a)
City of Burlingame, California

	Historic (b)				Projected (c)				
	1990	**2000**	**2005**	**2010**	**2014-15**	**2019-20**	**2024-25**	**2029-30**	**2034-35**
City Only (d)	26,801	29,354	29,400	29,342	31,000	31,500	31,700	31,900	31,900
Total Population (e)	27,741	30,294	30,340	30,282	32,993	34,051	35,099	36,051	37,104



Notes:

(a) The service area boundary is shown on Figure 4. The population was calculated per the Guidebook to Assist Urban Water Suppliers to Prepare a 2010 Urban Water Management Plan.

(b) Historic population data (FY 1990 through 2010) are from References 1 and 2 for the City of Burlingame with the addition of the Burlingame Hills area population. Burlingame Hills population calculated by 420 units (Reference 3) multiplied by 2.24 people per household (Reference 3).

(c) FY 2014-15 through 2034-35 population estimates are from Reference 5 for the City of Burlingame with the addition of the Burlingame Hills area population as described in Note 2 and the projected population from the downtown specific plan (Reference 6).

(d) City Only population includes only the population from within the City of Burlingame City limits.

Table 2
Historic and Projected Service Area Population (a)
City of Burlingame, California

(e) Includes the population from both within the City limits and the inincorporated Burlingame Hills area, which is served by the City of Burlingame.

References:

(1) State of California, Department of Finance, E-4 Historical Population Estimates for City, County and the State, 1991-2000, with 1990 and 2000 Census Counts. Sacramento, California, August 2007.
(2) State of California, Department of Finance, E-4 Population Estimates for Cities, Counties and the State, 2001-2010, with 2000 Benchmark. Sacramento, California, May 2010.
(3) Housing Element, 2010. City of Burlingame, 2009-2014 Housing Element, March 2010.
(4) State of California, Department of Finance, E-5 Population and Housing Estimates for Cities, Counties and the State, 2001-2008, with 2000 Benchmark. Sacramento, California, May 2008.
(5) ABAG, Association of Bay Area Governments. ABAG Projections 2007, 2007.
(6) Burlingame Downtown Specific Plan, October 2010.

Table 3
Average Monthly Climate Data for the City of Burlingame
City of Burlingame, California

	Jan	Feb	March	April	May	June	July	Aug	Sep	Oct	Nov	Dec	Annual
ET (in) (a)	1.6	2.0	3.6	4.8	5.7		6.5	5.9	4.7	3.4	2.1	1.4	41.6
Precipitation (in) (b)	4.4	3.61	2.8	1.37	0.39	0.11	0.02	0.05	0.18	0.99	2.32	3.75	20.0
Temp (F) (b)	49.1	52.1	53.7	55.8	58.5	61.4	62.7	63.6	64.1	61	55.2	49.8	57.3
$Temp_{Max}$ (F) (b)	55.8	59.1	61.2	63.8	66.8	70.0	71.4	72.1	73.4	70.1	62.9	56.4	65.3
$Temp_{Min}$ (F) (b)	42.5	45	46.2	47.7	50.3	52.7	54.1	55	54.8	51.9	47.4	43.2	49.2

Abbreviations:
ET = Average Evapotranspiration
F = Degrees Fahrenheit
in = inches
Temp = Average Temperature
$Temp_{Max}$ = Average maximum temperature
$Temp_{Min}$ = Average minimum temperature

Notes:
(a) Evapotranspiration data are from the Department of Water Resources, California Irrigation Management Information System.
(b) Data from Western Regional Climate Center for Station 047769 SAN FRANCISCO WSO AP from 1 July 1948 to 31 July 2010.

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Table 4
Water Distribution System Pressure Zone Elevations
City of Burlingame, California

Zone Name	Elevation (feet) (a)	
	Minimum	Maximum
Adeline Pressure Regulator	170	430
Alcazar	240	420
Aqueduct	5	115
Canyon Pressure Regulator	150	280
Donnelly	100	310
Hillside Pressure Tank	100	180
Mills	340	600
Skyview Pressure Tank	540	618

Notes:
(a) Minimum and maximum elevations of pressure zones from City of Burlingame Water System Master Plan, 2004.
(b) Pressure zone elevations shown in feet above mean sea level.

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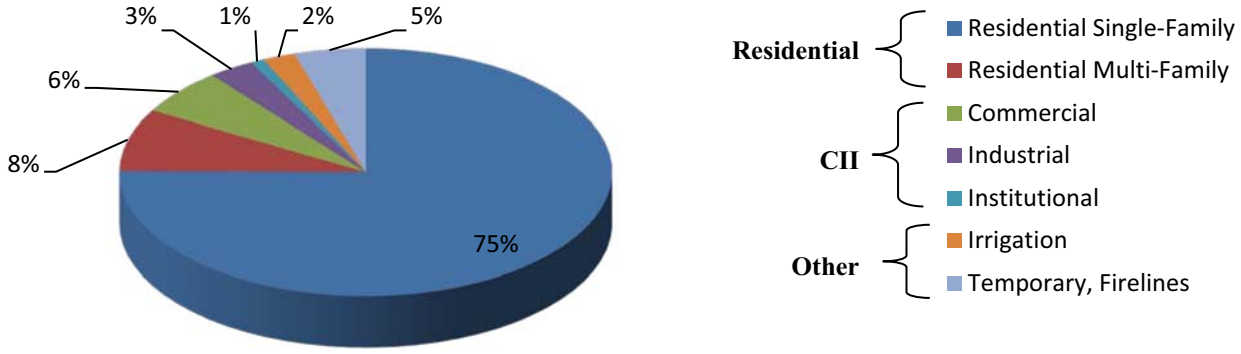
Table 5
Water Service Connections by Water Use Sector
City of Burlingame, California

Customer Sectors		Service Connections 2009-10 (a)	Percent of Total Connections
Residential	Residential Single-Family	6,820	75%
	Residential Multi-Family	738	8%
	Subtotal Residential	7,558	83%
CII	Commercial	586	6%
	Industrial	270	3%
	Institutional	79	1%
	Subtotal CII	*935*	10%
Other	Irrigation	195	2%
	Temporary, Firelines	425	5%
	Subtotal Other	*620*	7%
Total Service Connections		9,113	*100%*



Abbreviations:
CII = Commercial, Industrial, and Institutional

Notes:
(a) Water service connections were provided by the City's Consumption Reports (FY 2009-10).

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Table 6
Water Storage Facility Information
City of Burlingame, California

Storage Facility Name (b)	Storage Capacity (MG)	Water Level Elevation (ft) (a)	
		Min	Max
Alcazar	0.10	499	517
Donnelly	0.10	343	361
Hillside	1.50	223	240
Mills	1.07	656	685
Skyview	0.17	612	626
Total Capacity	2.94	-- (c)	-- (c)

Abbreviations:
ft = Feet
Max = Maximum
Min = Minimum
MG = Millions of gallons

Notes:
(a) Water elevation is measured in feet above mean sea level.
(b) Storage facility data for Hillside, Mills, and Skyview tanks are from Roman & Lougee and Stetson, 2001. Data for Alcazar and Donnelly tanks from the City of Burlingame Water Master Plan (EKI, 2004).
(c) Data not applicable and/or available.

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Table 7
Historic Water Use for the City of Burlingame Service Area (a)
City of Burlingame, California

Water Use	2005-06	2006-07	2007-08	2008-09	2009-10
Potable Water (c)	4.35	4.53	4.50	4.28	3.94
Recycled Water (b)	0.30	0.30	0.30	0.30	0.30
Gross Water Use (MGD)	4.35	4.53	4.50	4.28	3.94

Abbreviations:
SFPUC = San Francisco Public Utilities Commission
MGD = Millions of gallons per day

Notes:
(a) Values are reported in millions of gallons per day ("MGD") for the fiscal years 2005 though 2010. For breakdown of potable use see Table 8.
(b) Recycled water is used at the wastewater treatment plant.
(c) Quantity of water purchased from SFPUC, as recorded in the City's Salesmaster Reports.
(d) Gross water use does not include recycled water that is only used within the City's wastewater treatment plant for irrigation and in-plant process purposes.

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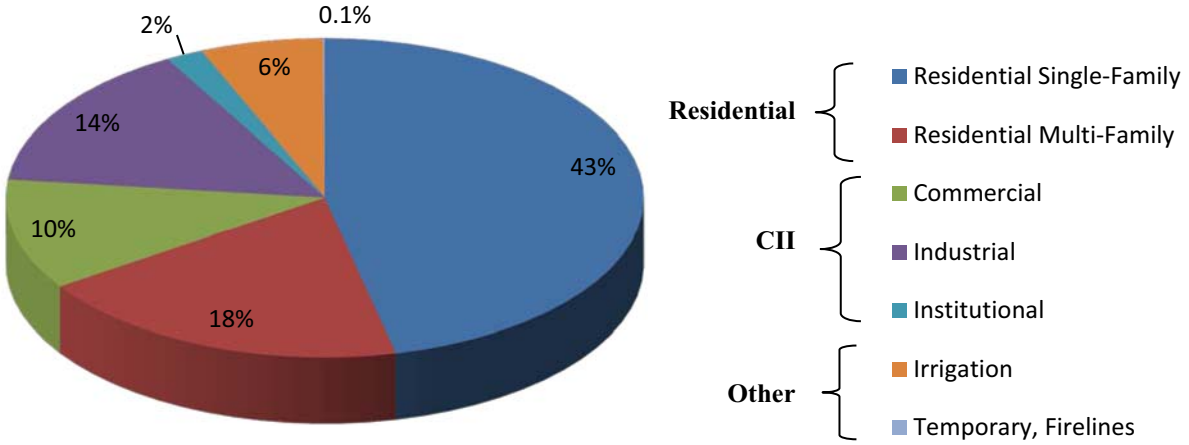
Table 8
Historic Potable Gross Water Use by Water Use Sector (a)
City of Burlingame, California

	Customer Sectors	2005-06	2006-07	2007-08	2008-09	2009-10		% of Total
Residential	Residential Single-Family	680	721	694	668	608	674.1	43%
	Residential Multi-Family	284	289	278	275	266	278.3	18%
	Subtotal Residential	*964*	*1,010*	*972*	*943*	*874*	*952.4*	60%
CII	Commercial	178	170	166	159	144	163.4	10%
	Industrial	220	222	220	214	208	216.8	14%
	Institutional	26	29	29	28	26	27.6	2%
	Subtotal CII	*424*	*421*	*415*	*401*	*378*	*407.8*	26%
Other	Irrigation	85	96	102	91	79	90.6	6%
	Temporary, Firelines	1	2	2	2	1	1.6	0.1%
	Subtotal Other	*86*	*98*	*104*	*93*	*80*	*92.2*	6%
	Subtotal Metered (b)	*1,474*	*1,529*	*1,491*	*1,437*	*1,332*	*1,452*	*92%*
	Unmetered (c)	3.1	6.0	7.3	5.7	6.0	5.6	0.4%
	Unaccounted for water (d)	7.0%	7.2%	8.8%	7.7%	7.0%	7.5%	7.5%
	Total Water Purchased (MG) (e)	1,588	1,653	1,643	1,562	1,438	1,577	100%
	Total Water Purchased (MGD)	4.35	4.53	4.50	4.28	3.94	4.32	100%



Abbreviations:
CII = Commercial, Industrial, and Institutional
FY = Fiscal Year
MG = Millions of gallons
MGD = Millions of gallons per day

Table 8
Historic Potable Gross Water Use by Water Use Sector (a)
City of Burlingame, California

Notes:

(a) Except where noted, use is reported in millions of gallons for FY 2005-06 through 2009-10.
(b) Metered water use was provided by the City's Consumption Reports (FY 2005 through 2009).
(c) Unmetered water is estimated by the City Water and Fire Departments on a monthly basis as reported by the City's Salesmaster Report.
(d) Unaccounted for water is the quantity of water purchased less the known quantity of water used and is reported as a percent of the total water purchased.
(e) Total Water Purchased is the quantity of potable water purchased wholesale from San Francisco Public Utility Commission as reported by the City's Salesmaster Report.

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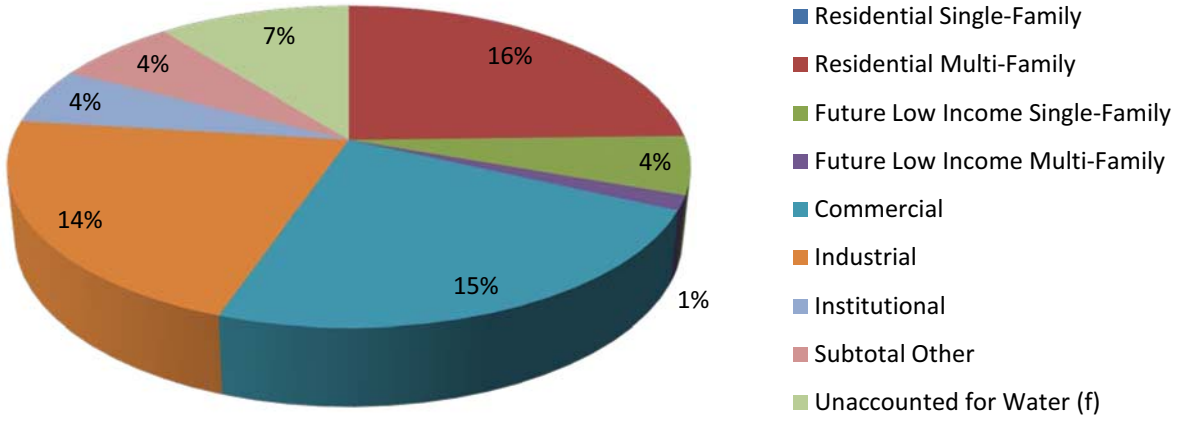
Table 9
Projected Water Use by Water Use Sector (a)
City of Burlingame, California

	Customer Sectors (b), (c), (d), (e)	2014-15	2019-20	2024-25	2029-30	2034-35
Residential	Residential Single-Family	1.92	1.88	1.84	1.81	1.78
	Residential Multi-Family	0.89	0.87	0.86	0.85	0.84
	Future Low Income Single-Family	0.04	0.08	0.12	0.16	0.20
	Future Low Income Multi-Family	0.01	0.02	0.03	0.04	0.05
	Subtotal Residential	**2.86**	**2.85**	**2.85**	**2.86**	**2.87**
CII	Commercial	0.72	0.74	0.76	0.79	0.80
	General Commercial	*0.51*	*0.52*	*0.55*	*0.57*	*0.58*
	Airport Boulevard	*0.22*	*0.22*	*0.22*	*0.22*	*0.22*
	Industrial	0.57	0.62	0.67	0.73	0.74
	Institutional	0.17	0.18	0.19	0.19	0.19
	Subtotal CII	**1.46**	**1.53**	**1.62**	**1.71**	**1.73**
Other	Irrigation	0.21	0.22	0.22	0.23	0.23
	Temporary, Firelines	0.004	0.004	0.004	0.004	0.004
	Subtotal Other	**0.21**	**0.22**	**0.22**	**0.23**	**0.23**
	Subtotal Metered	4.54	4.60	4.69	4.80	4.83
	Unmetered (e)	0.02	0.02	0.02	0.02	0.02
	Unaccounted for Water (f)	0.34	0.35	0.35	0.36	0.37
Estimated Active Conservation Savings		0.08	0.09	0.10	0.11	0.12
Total Estimated Gross Water Use (MGD)		4.90	4.97	5.07	5.18	5.22



Abbreviations:
CII = Commercial, Industrial, Institutional
FY = Fiscal Year
MGD = Millions of gallons per day

Table 9
Projected Water Use by Water Use Sector (a)
City of Burlingame, California

Notes:

(a) Water use values are reported in millions of gallons per day for FY 2014-15 through 2034-35. Water use projections are based on the use Management Decision Support System Model (BAWSCA, 2009) with some modifications (see report text for more details regarding modifications to the DSS Model). These projections incorporate plumbing code impacts on water use and assumptions about the effectiveness of water conservation measures on reducing total potable water use.

(b) Residential Multi-Family includes residential water use from the Downtown Specific Plan.

(c) Future low income water use was calculated by multiplying the projected very low income housing units from Reference 1 by 2.24 people per dwelling unit from Reference 2 by the 2007-08 per capita water use of 153 gpcd. This amount was expected to occur every five years. Does not include use from existing low income units. Water use was split between single-family and multi-family by the average percentage of each type of use from 2005-06 through 2009-10.

(d) Commercial includes estimates for the currently planned development located at 350 Beach Blvd Burlingame, CA. Additionally, the commercial use includes those associated with the increased commercial use associated with the Downtown Specific Plan.

(e) Unmetered water use is assumed to remain constant for the planning period.

(f) Unaccounted for water assumed to be 7 percent per the DSS model.

References:

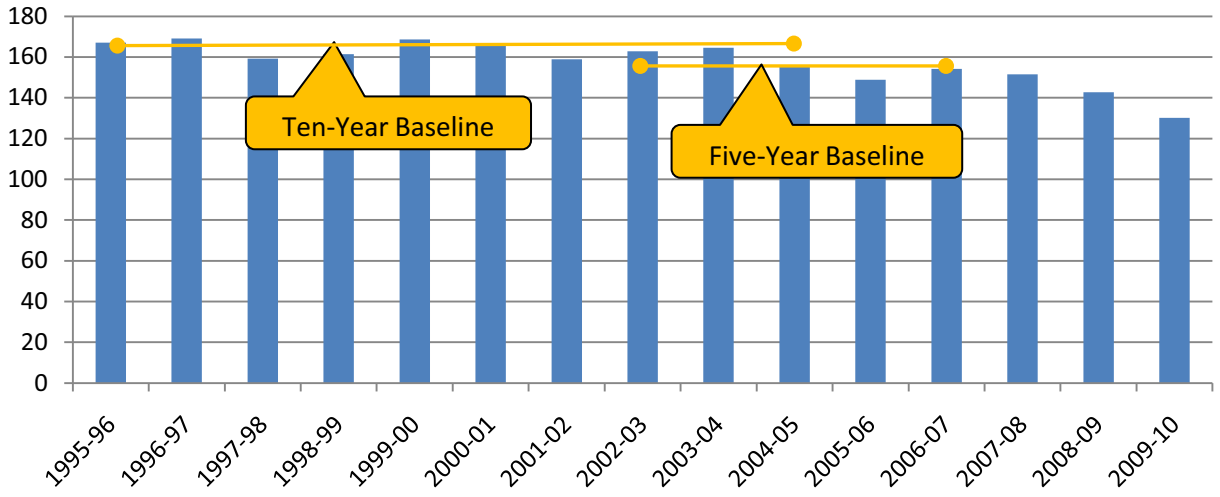
(1) Housing Element, 2010. City of Burlingame, 2009-2014 Housing Element, March 2010.

(2) State of California, Department of Finance, E-5 Population and Housing Estimates for Cities, Counties and the State, 2001-2008, with 2000 Benchmark. Sacramento, California, May 2008.

(3) BAWSCA, 2009. Water Conservation Implementation Plan. Bay Area Water Supply and Conservation Association, September 2009.

Table 10
Historical Daily Per Capita Water Use
City of Burlingame, California

Year	Gross Water Use, MGD (a)	Service Area Population, people (b)	Gallons Per Capita Day, gpcd (c)
1995-96	4.71	28,201	167
1996-97	4.82	28,515	169
1997-98	4.57	28,705	159
1998-99	4.65	28,821	161
1999-00	4.88	28,941	169
2000-01	4.88	29,260	167
2001-02	4.64	29,218	159
2002-03	4.74	29,119	163
2003-04	4.79	29,108	165
2004-05	4.52	29,120	155
2005-06	4.35	29,217	149
2006-07	4.53	29,393	154
2007-08	4.50	29,702	152
2008-09	4.28	29,990	143
2009-10	3.94	30,282	130
10-Year Base Daily Water Use (1995-96 to 2004-05)			163
5-Year Base Daily Water use (2002-03 to 2006-07)			157



Abbreviations:
MGD = Millions of gallons per day
gpcd = gallons per capita per day
SFPUC = San Francisco Public Utilities Commission

Notes:
(a) Quantity of water purchased from SFPUC, as recorded in the City's Salesmaster Reports.

Table 10
Historical Daily Per Capita Water Use
City of Burlingame, California

(b) Population estimates were obtained from References 1 and 2 for the City of Burlingame plus the estimated population in the Burlingame Hills area of unincorporated portion of San Mateo County, which is served by the City of Burlingame (See Table 2).
(c) Gallons Per Capita Day equals gross water use, including unaccounted for water, divided by service area population.

References:

(1) State of California, Department of Finance, E-4 Historical Population Estimates for City, County and the State, 1991-2000, with 1990 and 2000 Census Counts. Sacramento, California, August 2007.
(2) State of California, Department of Finance, E-4 Population Estimates for Cities, Counties and the State, 2001-2010, with 2000 Benchmark. Sacramento, California, May 2010.
(3) State of California, Department of Finance, E-5 Population and Housing Estimates for Cities, Counties and the State, 2001-2008, with 2000 Benchmark. Sacramento, California, May 2008.

Table 11
Daily Per Capita Water Use Target Calculated
by Provisional Method 4
City of Burlingame, California

Landscaping Calculation (a)

[A]	[B]	[C]	[D] = [A]-[B]-[C]
Base Daily per Capita Water Use (gpcd) (b)	**Standard Indoor Residential (gpcd) (c)**	**CII Water Use (gpcd) (d)**	**Landscape and Water Loss per Capita Use (gpcd)**
163	70	48	45

2020 Target Calculation (a)

[E]	[F]	[G]=0.1*[C]	[H]	[I] = 0.216*[A]	[J] = [E]-[F]-[G]-[H]-[I]
Base Daily per Capita Water Use (gpcd) (b)	**Indoor Residential Savings (gpcd) (e)**	**CII Savings (gpcd)**	**Metering Savings (gpcd) (f)**	**Landscape and Water Loss Savings (gpcd)**	**2020 Water Use Target (gpcd)**
163	15	4.8	0	10	133

Water Use Targets	Water Use (gpcd)
2015 Target (g)	148
2020 Target	133

Abbreviations:
CII = Commercial, Industrial, Institutional
gpcd = gallons per capita per day

Notes:
(a) Based on provisional Method 4 as described in the Guidebook (Reference 1).
(b) Base daily per capita water use is the average total potable water use per capita for the time period between 1995-96 to 2004-05.
(c) A standard indoor residential value of 70 gpcd was used from Method 4, because the City does not have the data to calculate the value.
(d) Average annual commercial, industrial, institutional per capita water use for the time period between 1995-96 to 2004-05.
(e) Indoor residential savings of 15 gpcd was assumed from Method 4 based on the standard indoor residential value used in [B].
(f) There are no unmetered connections within the City, however water consumption such as fire flow and hydrant flushing is reported by the City as "unmetered" water use. Therefore, metered savings are assumed to be negligble.
(g) 2015 Target is calculated as the midpoint between the baseline water use (Column [E]) and the 2020 Target.

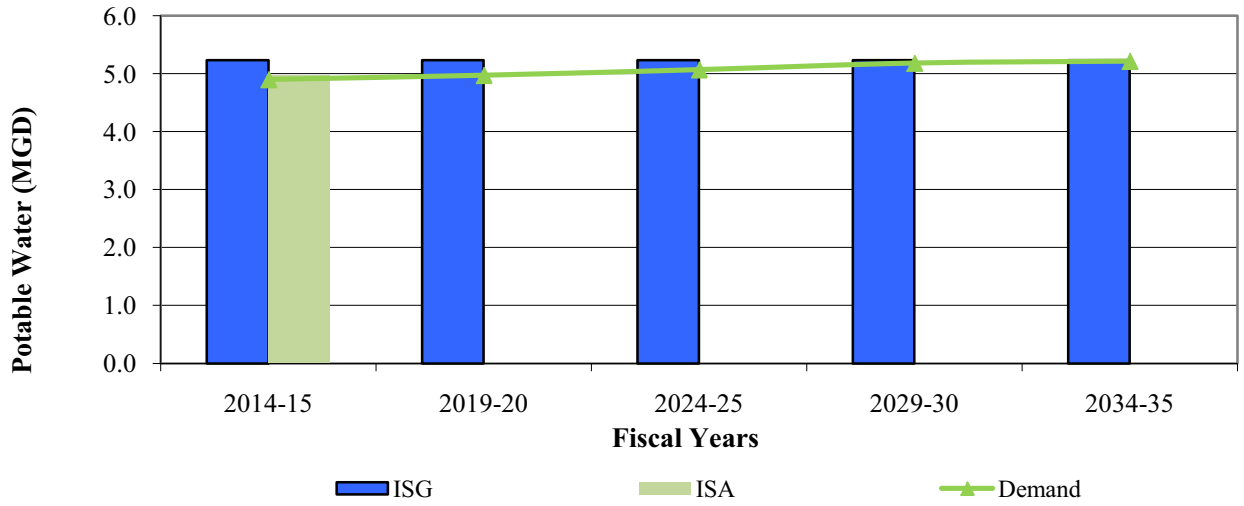
Table 11
Daily Per Capita Water Use Target Calculated
by Provisional Method 4
City of Burlingame, California

Reference:

(1) Department of Water Resources, 2011. *Guidebook to Assist Urban Water Suppliers to Prepare a 2010 Urban Water Management Plan* , March 2011.

Table 12
Projected Potable Water Supply vs. Use for the
City of Burlingame Service Area - Normal Year (a)
City of Burlingame, California

	2014-15	2019-20	2024-25	2029-30	2034-35
Projected Potable Water Use (b)	4.90	4.97	5.07	5.18	5.22
ISG (c)	5.23	5.23	5.23	5.23	5.23
ISA (d)	4.97	--	--	--	--



Abbreviations:
ISA = Interim Supply Allocation
ISG = Individual Supply Guarantee
MGD = Millions of gallons per day

Notes:
(a) Values are reported in millions of gallons per day in five year increments for FY 2014-15 through 2034-35.
(b) Burlingame's potable water use projections are shown in additional detail in Table 9.
(c) The ISG is contained in the Water Supply Agreement between SFPUC and the City. In accordance with the Water Supply Agreement, SFPUC is obligated to provide Burlingame with up to 100% its ISG during normal years.
(d) The ISA is only effective until 2018, but it has been shown in this table for the subsequent years for comparison purposes only.

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Table 13
Recycled Water Uses Allowed In California, California Code Of Regulations, Title 22, Articles 3 and 5.1
City of Burlingame, California

	Treatment Level				
	Disinfected Tertiary Recycled Water	Disinfected Secondary-2.2 Recycled Water	Disinfected Secondary-23 Recycled Water	Undisinfected Secondary Recycled Water	Other
IRRIGATION					
• Food crops where recycled water contacts the edible portion of the crop, including all root crops • Parks and playgrounds • School yards • Residential landscaping • Unrestricted access golf courses • Any other irrigation uses not prohibited by other provisions of the California Code of Regulations	Allowed	Not allowed	Not allowed	Not allowed	Coagulation unnecessary provided filter effluent turbidity ≤ 2 NTU, turbidity of influent is continuously measured, influent turbidity > 5 NTU for ≤ 15 min and never > 10 NTU, and that there is capability to automatically activate chemical addition or divert the wastewater if the filter influent turbidity > 5 NTU for > 15 min.
• Food crops where edible portion is produced above ground and not contacted by recycled water	Allowed	Allowed	Not allowed	Not allowed	
• Cemeteries • Freeway landscaping • Restricted access golf courses • Ornamental nursery stock and sod farms where access by general public is not restricted • Pasture for animals producing milk for human consumption • Nonedible vegetation with access control to prevent use as a park, playground, or school yard	Allowed	Allowed	Allowed	Not allowed	
• Orchards with no contact between edible portion and recycled water • Vineyards with no contact between edible portion and recycled water	Allowed	Allowed	Allowed	Allowed	

Table 13
Recycled Water Uses Allowed In California, California Code Of Regulations, Title 22, Articles 3 and 5.1
City of Burlingame, California

	Treatment Level				
	Disinfected Tertiary Recycled Water	Disinfected Secondary-2.2 Recycled Water	Disinfected Secondary-23 Recycled Water	Undisinfected Secondary Recycled Water	Other
IRRIGATION					
● Non food-bearing trees, including Christmas tree farms not irrigated less than 14 days before harvest or allowing access to the public ● Fodder and fiber crops and pasture for animals not producing milk for human consumption ● Seed crops not eaten by humans ● Food crops that undergo commercial pathogen-destroying processing before consumption by humans ● Ornamental nursery stock and sod farms not irrigated less than 14 days before harvest, retail sale, or allowing access by the general public	Allowed	Allowed	Allowed	Allowed	
IMPOUNDMENT					
● Non-restricted recreational impoundments	Allowed assuming conventional treatment, or as noted in "Other" column (a) (b)	Not allowed	Not allowed	Not allowed	Disinfected tertiary recycled water without conventional treatment is allowed assuming the following monitoring is performed: Sample and analyze monthly at point following disinfection and prior to entry to use impoundment for Giardia, enteric viruses, and Cryptosporidium during first 12 months of operation and use, then quarterly thereafter, discontinuing after 2 years with department approval.
● Restricted recreational impoundments and publicly accessible fish hatcheries	Allowed	Allowed	Not allowed	Not allowed	
● Landscape impoundments without decorative fountains	Allowed	Allowed	Allowed	Not allowed	

Table 13
Recycled Water Uses Allowed In California, California Code Of Regulations, Title 22, Articles 3 and 5.1
City of Burlingame, California

	Treatment Level				
	Disinfected Tertiary Recycled Water	Disinfected Secondary-2.2 Recycled Water	Disinfected Secondary-23 Recycled Water	Undisinfected Secondary Recycled Water	Other
COOLING AND AIR CONDITIONING					
● Industrial or commercial cooling or air conditioning involving cooling tower, evaporative condenser, spraying, or any mechanism that that creates a mist	Allowed (c)	Not allowed	Not allowed	Not allowed	
● Industrial or commercial cooling or air conditioning not involving a cooling tower, evaporative condenser, spraying, or other mechanism that creates a mist	Allowed	Allowed	Allowed	Not allowed	
OTHER USES					
● Groundwater recharge	Allowed under special case-by-case permits by RWQCBs (d)				
● Flushing toilets and urinals (e) ● Priming drain traps ● Industrial process water that may contact workers ● Structural firefighting ● Decorative fountains ● Commercial laundries ● Consolidation of backfill around potable water pipelines ● Artificial snow making for commercial outdoor use ● Commercial car washes, including hand washes if the recycled water is not heated, where the general public is excluded from the washing process.	Allowed	Not allowed	Not allowed	Not allowed	Coagulation unnecessary provided filter effluent turbidity < 2 NTU, turbidity of influent is continuously measured, influent turbidity > 5 NTU for < 15 min and never > 10 NTU, and that there is capability to automatically activate chemical addition or divert the wastewater if the filter influent turbidity > 5 NTU for > 15 min.

Table 13
Recycled Water Uses Allowed In California, California Code Of Regulations, Title 22, Articles 3 and 5.1
City of Burlingame, California

	Treatment Level				
	Disinfected Tertiary Recycled Water	Disinfected Secondary-2.2 Recycled Water	Disinfected Secondary-23 Recycled Water	Undisinfected Secondary Recycled Water	Other
OTHER USES (continued)					
● Industrial boiler feed ● Nonstructural fire fighting ● Backfill consolidation around non-potable piping ● Soil compaction ● Mixing concrete ● Dust control on roads and streets ● Cleaning roads, sidewalks and outdoor work areas ● Industrial process water that will not come into contact with workers	Allowed	Allowed	Allowed	Not allowed	
● Flushing sanitary sewers	Allowed	Allowed	Allowed	Allowed	

Abbreviations:
NTU = Nephelometric turbidity units
RWQCB = Regional Water Quality Control Board

Notes:
(a) "Conventional treatment" is defined as any treatment that utilizes a sedimentation unit process between the coagulation and filtration processes and produces disinfected tertiary recycled water effluent.
(b) Tertiary standards to be met at the point between the disinfection process and the point of entry to the use impoundment.
(c) Drift eliminators and/or biocides are required if public or employees can be exposed to mist.
(d) Refer to Groundwater Recharge Guidelines, California Department of Health Services.
(e) Title 22, Article 5 currently prohibits recycled water for internal use in free-standing single-family residences or in any facility producing or processing food products or beverages.

Table 14
Water Supply Allocation During Single and Multiple Dry Years
City of Burlingame, California

	Purchases 2009-2010	Single Dry Year	Multiple Dry Years		
			Year 1	Year 2	Year 3
System-Wide Shortage (%)	0%	10%	10%	20%	20%
BAWSCA Wholesale Allocation (MGD) (a)	184.0	152.6	152.6	132.5	132.5
Burlingame Allocation (%) (b)	--	2.68%	2.68%	2.70%	2.70%
Burlingame Consumption/Allocation (MGD) (c)	4.28	4.09	4.09	3.58	3.58
Percent Cutback Relative to 2009-2010 Purchases (d)		4%	4%	16%	16%
Percent Reduction in Supply (Compared to ISG)		22%	22%	32%	32%

Abbreviations:
BAWSCA = Bay Area Water Supply and Conservation Agency
ISG = Individual Supply Guarantee
MGD = Million Gallons Per Day
SFPUC = San Francisco Public Utilities Commission

Notes:
(a) From the 22 February 2010 letter from Paula Kehoe, SFPUC, to Nicole Sandkulla, BAWSCA. Assumes BAWSCA agencies are purchasing 184 MGD and dry year starts in 2010.
(b) From Column 30 on Table 3 - Calculation of Final Purchase Cutback and Allocation Factor for the Tier 2 Drought Implementation Plan.
(c) For a normal year, the Burlingame allocation is their ISG. For dry years is wholesale allocation multiplied by the percent of the Burlingame allocation.

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Table 15
Water Shortage Contingency Plan - Stages of Action (a)
City of Burlingame, California

Stage of Action	Supply Reduction	Cutbacks (a)	Reduction Methods
Stage I Watch	5%	Indoor (5%) Outdoor (5%)	● Water waste, flooding, or runoff into the street or gutters is prohibited. ● Hoses cannot be used to clean hard surface areas, including but not limited to sidewalks, driveways, roofs, and awnings. ● Hoses used for vehicle or building washing must have positive shutoff valves.
Stage II Alert	10%	Indoor (5%) Outdoor (25%)	● Stage 1 Reduction Methods and the following method. ● Irrigation with potable water is prohibited between the hours of 10 a.m. and 5 pm.
Stage III Warning	20%	Indoor (10%) Outdoor (50%)	● Stage 2 Reduction Methods and the following methods. ● No irrigation shall be permitted on any day other than Monday and Thursday. This provision does not apply to hand-held hose watering of vegetation, if the hose is equipped with a positive water shutoff valve, which is allowed between the hours of 5 p.m. and 10 a.m. ● Potable water shall not be used to clean, fill, or maintain levels in outdoor decorative fountains; interior fountains must recirculate water. ● Businesses must post notification of water shortage conditions in restrooms. ● Hotels must post notification of water shortage conditions in rooms. ● City buildings must post notification of water shortage conditions in restrooms and break rooms. ● Broken or defective plumbing, sprinklers, or irrigation system which permit the escape or leakage of potable water must be repaired within 24 hours of the discovery of the defect or leak.
Stage IV Crisis	30%	Indoor (15%) Outdoor (75%)	● Stage 3 Reduction Methods and the following methods. ● All irrigation with potable water is prohibited unless performed with a hose equipped with a positive shutoff valve. ● Restaurants and hotel banquets shall serve water to customers only ● upon request. ● Draining and/or filling any existing or new swimming pools with potable water is prohibited. ● The use of potable water for construction uses or street sweeping is prohibited.
Stage V Emergency	50%	Indoor (35%) Outdoor (100%)	● Stage 4 Reduction Methods and the following methods. ● All irrigation with potable water is prohibited. ● The use of potable water for vehicle washing is prohibited.

Notes:
(a) From City of Burlingame Water Shortage Contingency Plan, June 2011.

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Table 16
Water Shortage Contingency Plan - Water Allocations and Percent Reductions (a)
City of Burlingame, California

	Summer (June 1- Nov 30)	**Winter (Dec 1-May 31)**
Residential *(Single Family and Duplex)*	GPD/person	GPD/person
First Person	100	100
2nd-4th Persons	70	70
5 or more persons	50	50
Landscape Lot Size	GPD/lot	GPD/lot
<10,000 square feet	50	50
>10,000 square feet	150	150
>3/4 Acre	300 (b)	300 (b)
	Reduction	Reduction
Residential *(Multi-Family)*	15%	7%
Commercial *(Food Related)*	20%	10%
Commercial *(Non-food Related)*	25%	15%
Industrial	25%	15%
Institutional	25%	25%
Irrigation/Parks	50%	50%

Abbreviations:
GPD = Gallons per day

Notes:
(a) Allocations and reductions as described in City Resolution 49-92. If implemented, Resolution 49-92 would result in a 20% cutback in water use.
(b) Landscape water allocations represent the maximum allowance assuming water conservation measures are implemented.

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Table 17
Water Shortage Contingency Plan - Water Use Regulations and Restrictions (a)
City of Burlingame, California

- Water waste, flooding or runoff into the street or gutters is prohibited.
- Hoses cannot be used to clean hard surface areas (sidewalks, driveways, roofs, awnings, etc.).
- Hoses used for any purpose must have positive shutoff valves.
- Restaurants or hotel banquets can serve water only upon request.
- Potable water cannot be used to clean, fill or maintain levels in decorative fountains. The use of groundwater is permitted.
- Additional water allocations will not be allowed for new landscaping or expansion of existing landscaping. Low water use landscaping designs and irrigation systems must be employed for new or renovating landscaping.
- Water service connections for new construction will only be granted if water-saving fixtures or devises are incorporated into the plumbing system.
- Use of potable water for consolidation of backfill, dust control or other non-essential construction purposes in prohibited. The use of groundwater and/or recycled water is permitted when approved by the Department of Health
- Verified water waste as determined by the City will serve as prima facie evidence that the allocation assigned to the water account is excessive. The allocation will then be subject to review and possible reduction, including termination of service.
- Water used for all cooling purposes must be recycled.
- The use of groundwater and/or recycled water is strongly encouraged when approved by the Dept. of Health for the following uses: Irrigation of turf areas, irrigation of median strips, street or parking lot sweepers/washers.
- Use of reduction water flow equipment for the washing of fleet or dealer vehicles is strongly encouraged. Positive shutoff valves must be used.
- Broken or defective plumbing, sprinklers, or irrigation systems which permit the escape or leakage of water must be immediately repaired.

Notes:
(a) Regulation and restriction of water use as described in City Resolution 49-92.

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Table 18
Historic Budget and Expenditure for Conservation Related Activities (a)
City of Burlingame, California

		2005-06	2006-07	2007-08	2008-09	2009-10	Total
Budget	Public Info Budget (b)	$26,000	$10,000	$10,000	$10,000	$10,000	
	Spray Valve Budget (b)	--	$2,500	$2,500	$2,500	$2,500	$10,000
	CII Audit Budget (b)	$35,000	$35,000	$35,000	$40,000	$40,000	$185,000
	Washer/Toilet Rebate Budget (b)	--	$10,000	$45,000	$30,000	$30,000	$115,000
Actions	Residential Surveys (c)						
	# of Surveys	208	209	131	178	146	872
	Hours	69	70	44	59	49	291
	Labor Cost (d)	$4,301	$4,322	$2,709	$3,681	$3,019	$18,033
	CII Audits						
	# of Audits	0	2	4	0	2	
	Leaks						
	# of Leaks Fixed	20	19	25	14	25	103
	Washer/Toilets Rebates						
	# of Toilets	46	40	65	104	305	560
	Toilet Rebate Cost (e)	$2,300	$2,000	$3,250	$5,200	$15,250	$28,000
	# of Washers	100	106	141	100	90	537
	Washer Rebate Cost (f)	$7,500	$7,950	$10,575	$7,500	$6,750	$40,275
	Misc. Conservation Items						
	Shower Timers	200	200		1,100		
	Rain gauge Kits	400	400		1,300		
	Home water saving kits	500	500				
	Generic Hot Water Temp.	500	500		1,000		
	Dye tablets				2,000		
	Massage showerheads				1,000		
	Bathroom aerator				1,000		
	Soil Moisture Meter Probe				384		
	Water Conservation Wheel				360		

Abbreviations
CII = Commercial, Industrial, Institutional
FY = Fiscal Year

Notes:
(a) Based on data from City of Burlingame, Operating and Capital Outlay Worksheets for the Public Works: Water Operations/Maintenance (FYs 2005-06 through 2009-10) and personal communications with Rob Mallick.
(b) Budget items reflect how much the City has budgeted for each activity in the given FY. These values do not necessarily reflect actual expenditures.

Table 18
Historic Budget and Expenditure for Conservation Related Activities (a)
City of Burlingame, California

(c) Residential surveys are quantified by the number of responses to high bill complaints.
(d) Labor costs were calculated assuming an hourly wage of $62.04 for a water service worker.
(e) Toilet rebate is based on $50 rebate amount per low flow toilet.
(f) Washer rebate is based on $75 rebate amount per high efficiency washer.

Table 19
Commercial and Residential Monthly Water Charges
City of Burlingame, California

	Service Area	2010
Rates (a)	Burlingame	$6.31
	Burlingame Hills	$7.03
	Meter Size (inches)	**2010**
Service Charges	5/8"& 3/4"	$28.98
	1"	$49.28
	1.5"	$95.68
	2"	$153.65
	3"	$289.94
	4"	$484.19
	6"	$965.46
	8"	$1,545.33

Notes:

(a) Rates are per 1,000 gallons of water used. The first 2,000 gallons are included in the service charge.

(b) Based on http://www.burlingame.org/Index.aspx?page=175, accessed November 2010.

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Table 20
Implementation of Demand Management Measures
City of Burlingame, California

No.	Name	Implemented	Implementation Plan
1	Water survey programs for single-family residential and multifamily residential customers	Yes	Survey 1.5% of Single Family and 1.5% of Multi Family accounts based on request or high bill.
2	Residential plumbing retrofit	Yes	Provide water aerators and showerheads as requested.
3	System water audits, leak detection, and repair	Yes	Annually determine water loss, fix known leaks, and evaluate the use of the AWWA water audit software.
4	Metering with commodity rates for all new connections and retrofit of existing connections	Yes	All connections have meters.
5	Large landscape conservation programs and incentives	Yes	As part of the commercial audits, will audit the landscaping. Also will continue to replace mixed-use meters with dedicated landscape meters
6	High-efficiency washing machine rebate programs	Yes	Will continue to participate in the regional washing machine rebate program
7	Public information programs	Yes	Will provide conservation information in City's electronic newsletter and website, bill inserts, at a booth at Art in the Park, and provide conservation information at public Works counter.
8	School education programs	Yes	Continue to implement the Waterwise program.
9	Conservation programs for commercial, industrial, and institutional accounts	Yes	Continue to provide commercial audits as requested.
10	Wholesale agency programs	Not applicable	Not applicable
11	Conservation pricing	Implement by 2013	Implement a tiered rate schedule by 2013.
12	Water conservation coordinator	Yes	Water conservation coordinator will continue to implement and document demand management measures.
13	Water waste prohibition	Yes	The City's water rationing plan includes a subsection that reduces water waste during times of shortage.
14	Residential ultra-low-flush toilet replacement programs	Yes	Continue participation in regional toilet replacement rebate program

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FIGURES

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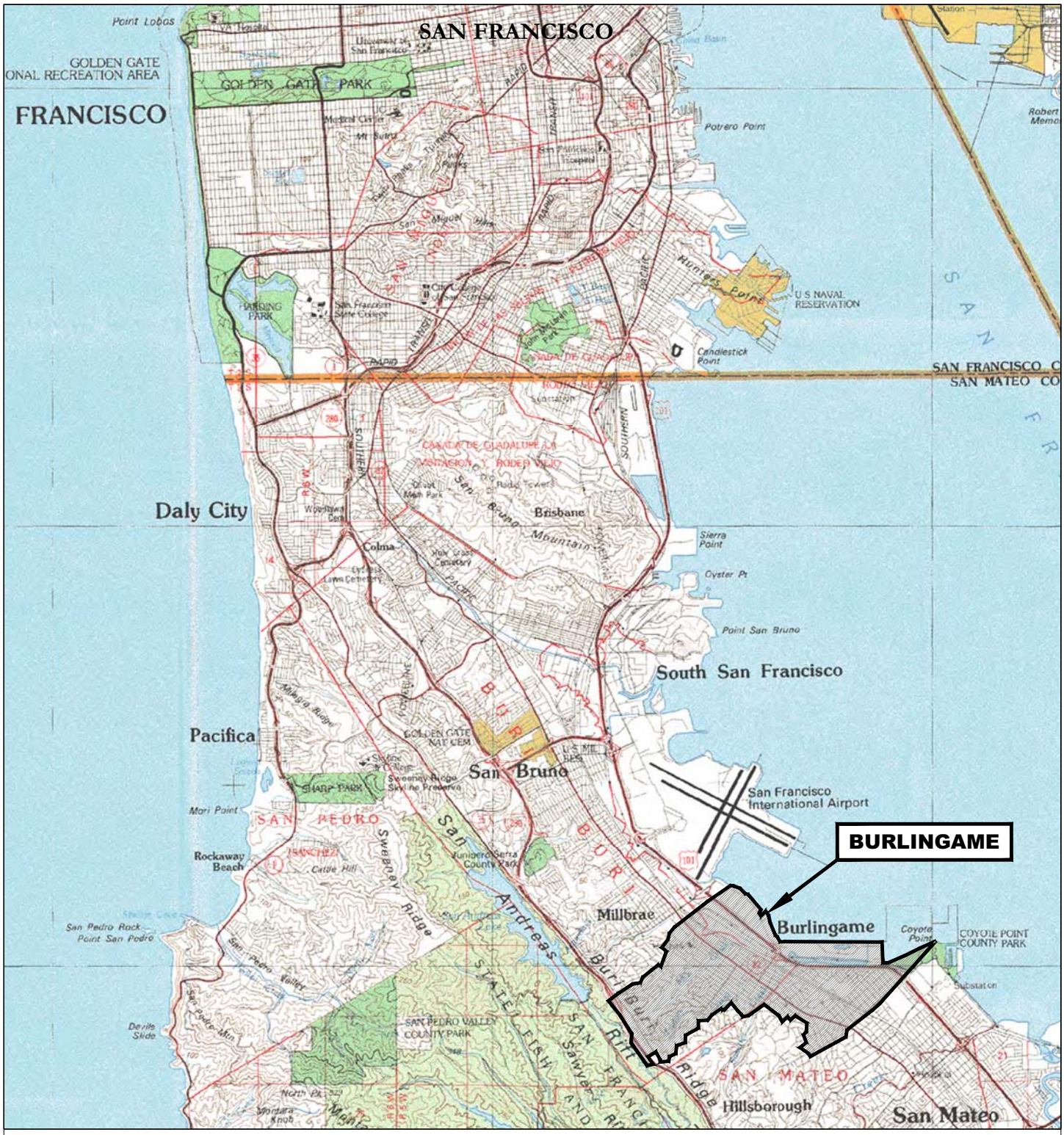

Notes:

1. All locations are approximate.
2. U.S.G.S. 1:100,000 Series Topographic Map, San Francisco Quadrangle, California, 1978.

Erler & Kalinowski, Inc.

Site Vicinity Map

N

0 2 4

(Approximate Scale in Miles)

City of Burlingame
Burlingame, CA
June 2011
EKI A20031.18.C1

Figure 1

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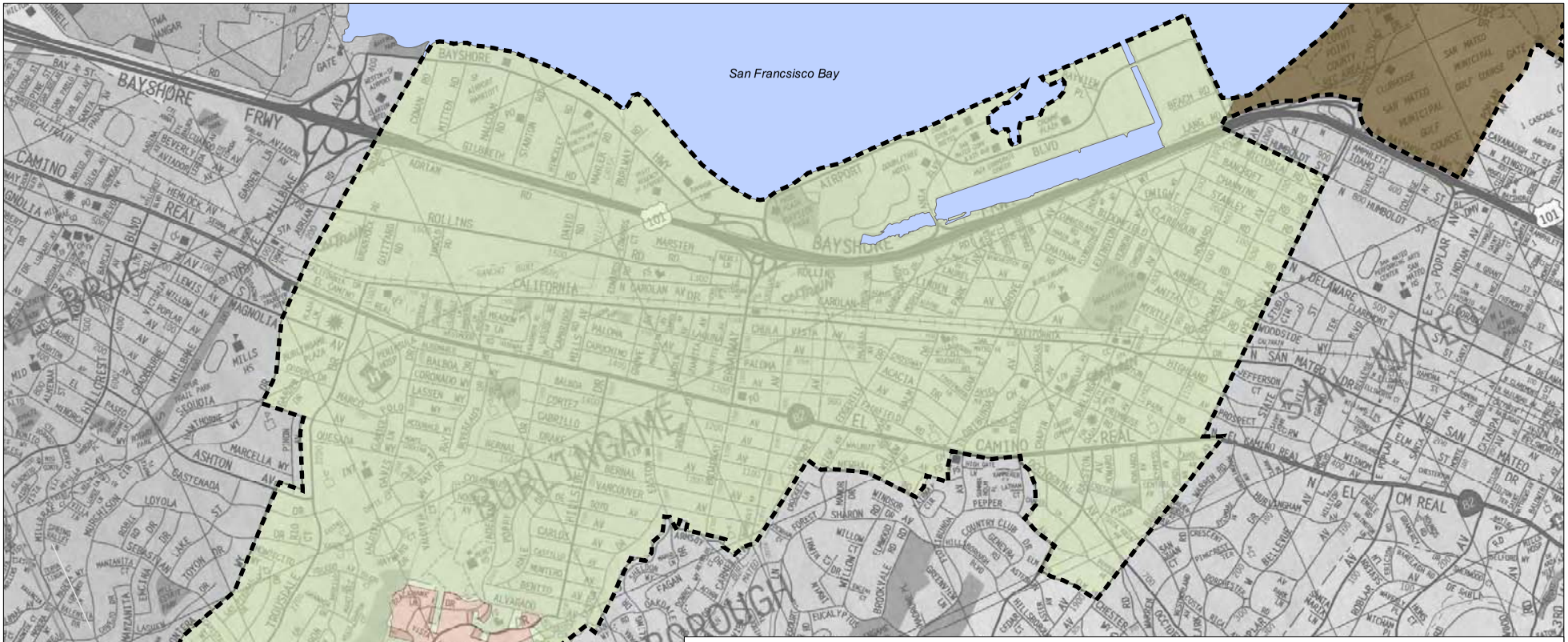

Source: Thomas Brothers Maps, 2003

Legend:

- City of Burlingame
- Unincorporated Area of Burlingame (See Note 3)
- Coyote Point (See Note 4)
- City of Burlingame Water Srevice Area

0 1,600 3,200

(Approximate Scale in Feet)

N

Notes

1. All locations are approximate.
2. City Basemap obtained from City of Burlingame Geographical Information System.
3. Unicorporated areas of Burlingame are served with potable water by the City of Burlingame.
4. Regional Park with no residential demands.
5. Service area boundary is the same from baseline period through current.

Erler & Kalinowski, Inc.

City of Burlingame Service Area

City of Burlingame
Burlingame, CA
June 2011
A20031.18.C1
Figure 2

Path: X:\A20031\Maps_18.C1\2011\06\Figure 2 - City of Burlingame Service Area.mxd

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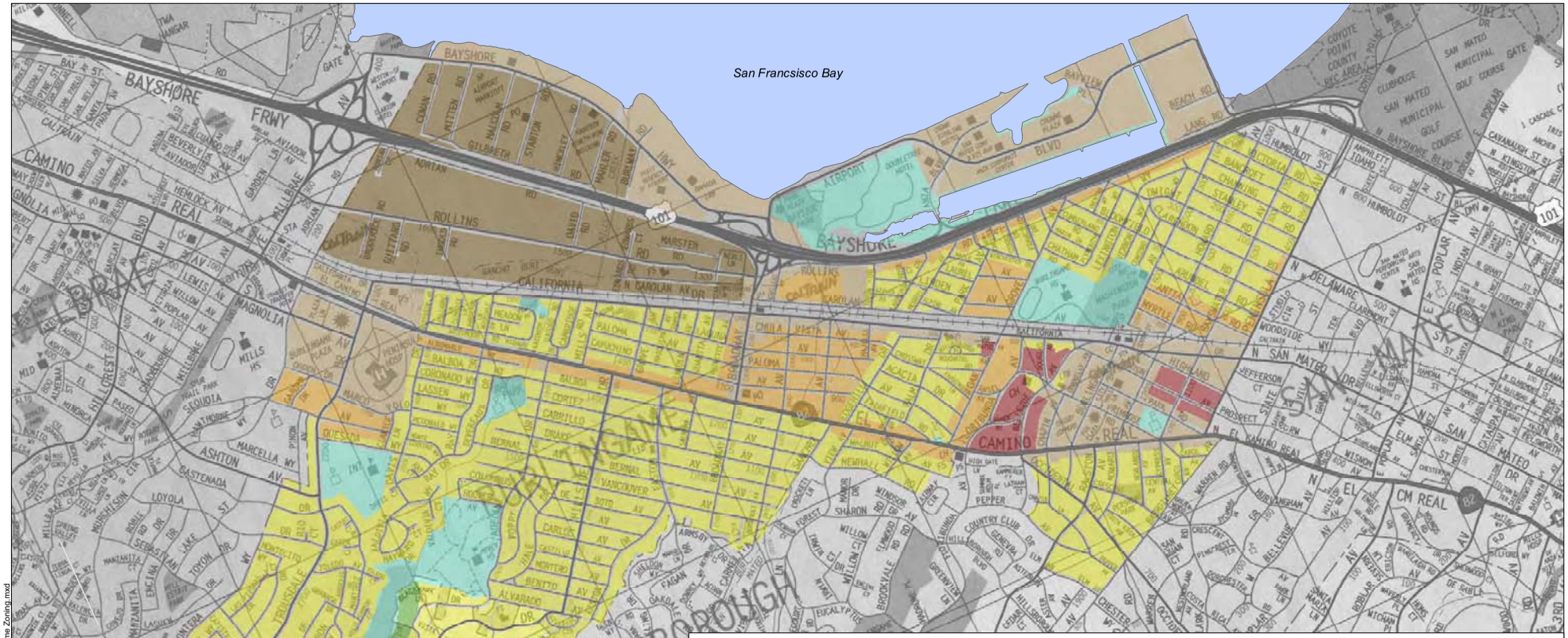

Source: Thomas Brothers Maps, 2003

Legend:

- Commercial
- Industrial
- Institutions
- Parks

Residential:

- High Density
- Medium to High Density
- Low to Medium Density

0 1,600 3,200

(Approximate Scale in Feet)

N

Notes

1. All locations are approximate.
2. City Basemap obtained from City of Burlingame Geographical Information System.
3. City zoning obtained from City of Burlingame, dated summer 2009. Downtown specific plan zoning not included.

Erler & Kalinowski, Inc.

Current and Projected Future City of Burlingame Zoning

City of Burlingame
Burlingame, CA
June 2011
A20031.18.C1
Figure 3

Path: X:\A20031\Maps_18.C1\2011\06\Figure 3 - Current and Projected Future City of Burlingame Zoning.mxd

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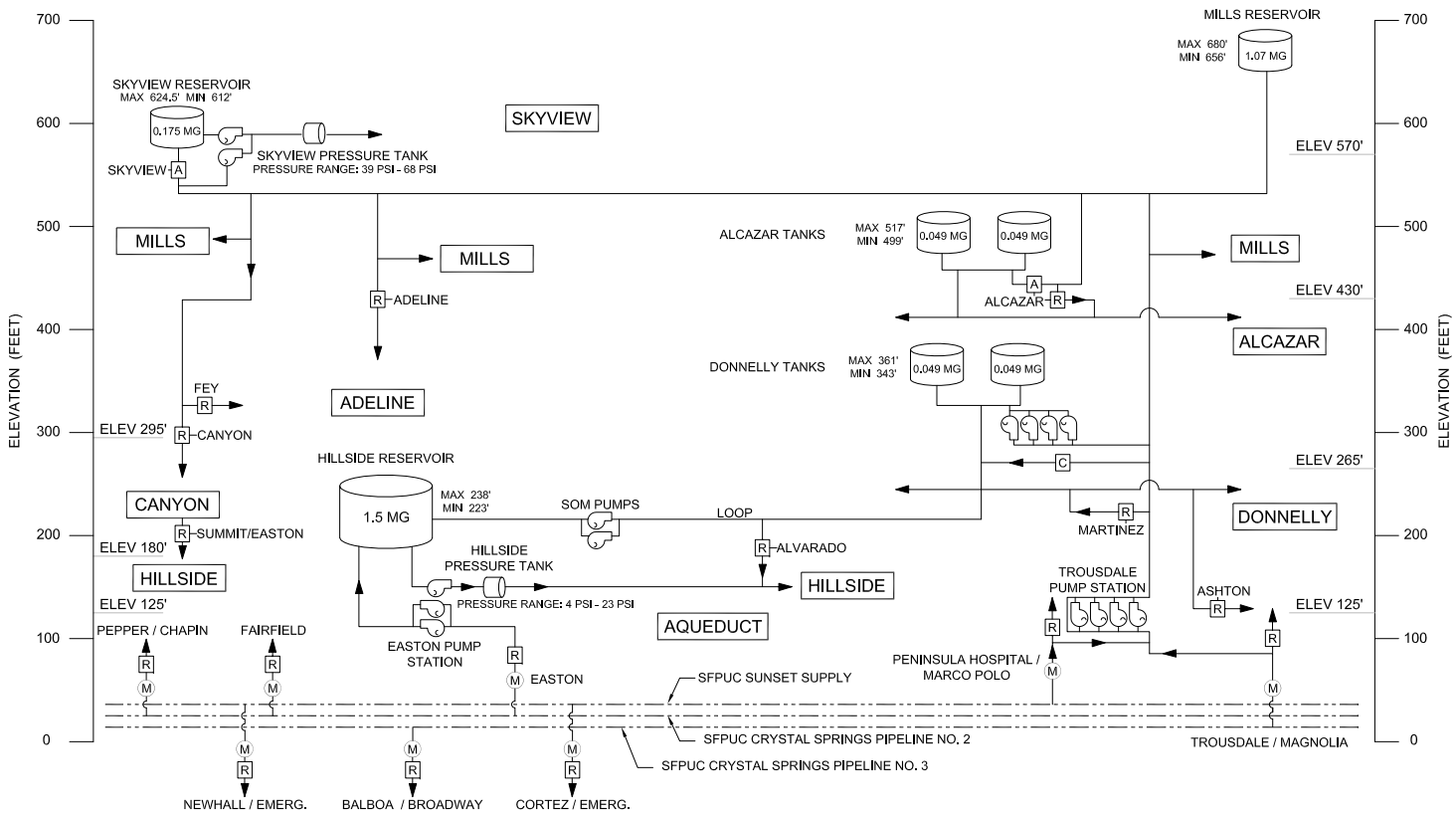

Legend:

M	SFPUC Meter Connection
R	Pressure Regulating Valve
A	Altitude Valve
C	Control Valve
	Pump Station
	Pressure Tank
	Reservoir Tank
—·—·—	SFPUC Aqueduct Distribution System Zone

Abbreviations:

EMERG.	=	Emergency
MAX	=	Maximum
MG	=	Million Gallons
MIN	=	Minimum
SFPUC	=	San Francisco Public Utilities Commission
SOM	=	Sisters of Mercy

Water Statistics:

9097	Service Connections
6	Pumping Stations
5	Water Storage Tank Sites
10	Pressure Zones
107	Miles of Water Main
5.5	Sq. Miles, 66% Residential 34% Commercial / Industrial
6	Connections with SFPUC (2 Additional Emergency Connections

Water Distribution System Schematic

City of Burlingame
Burlingame, CA
June 2011
EKI A20031.18.C1

Figure 4

G:\A20031.18.C1\June11\Figure 4 - Water Distribution System Schematic.dwg 6-13-11

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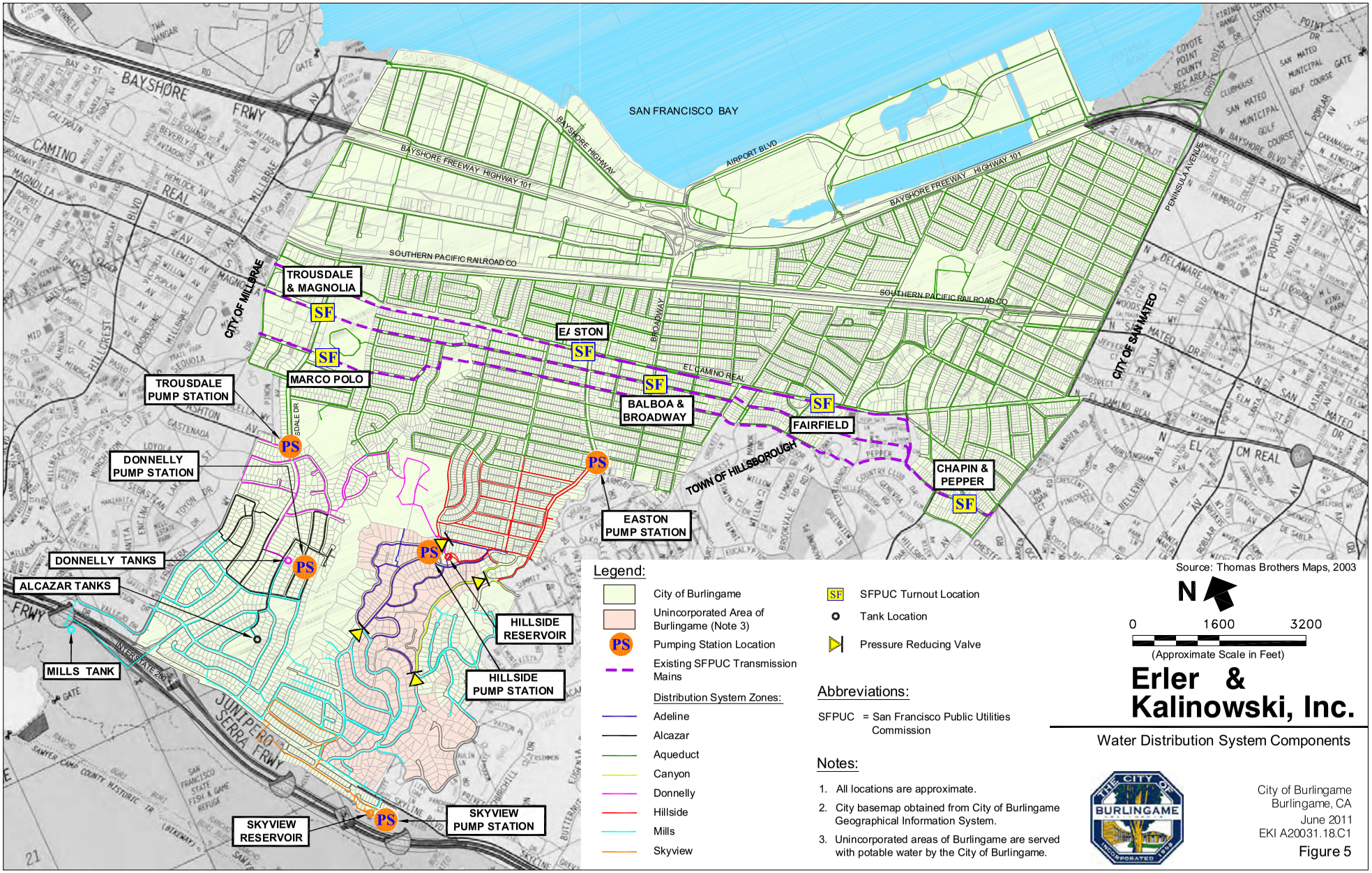
SAN FRANCISCO BAY
BAYSHORE FREEWAY HIGHWAY 101
BAYSHORE HIGHWAY
AIRPORT BLVD
SOUTHERN PACIFIC RAILROAD CO
EL CAMINO REAL
BROADWAY
CITY OF MILLBRAE
CITY OF SAN MATEO
TOWN OF HILLSBOROUGH
PENINSULA AVENUE
TROUSDALE & MAGNOLIA
EASTON
MARCO POLO
BALBOA & BROADWAY
FAIRFIELD
CHAPIN & PEPPER
TROUSDALE PUMP STATION
DONNELLY PUMP STATION
EASTON PUMP STATION
DONNELLY TANKS
ALCAZAR TANKS
MILLS TANK
HILLSIDE RESERVOIR
HILLSIDE PUMP STATION
SKYVIEW RESERVOIR
SKYVIEW PUMP STATION
SF
PS
Legend:
City of Burlingame
Unincorporated Area of Burlingame (Note 3)
Pumping Station Location
Existing SFPUC Transmission Mains
Distribution System Zones:
Adeline
Alcazar
Aqueduct
Canyon
Donnelly
Hillside
Mills
Skyview
SFPUC Turnout Location
Tank Location
Pressure Reducing Valve
Abbreviations:
SFPUC = San Francisco Public Utilities Commission
Notes:
1. All locations are approximate.
2. City basemap obtained from City of Burlingame Geographical Information System.
3. Unincorporated areas of Burlingame are served with potable water by the City of Burlingame.
Source: Thomas Brothers Maps, 2003
N
0 1600 3200
(Approximate Scale in Feet)
Erler & Kalinowski, Inc.
Water Distribution System Components
THE CITY OF BURLINGAME
City of Burlingame
Burlingame, CA
June 2011
EKI A20031.18.C1
Figure 5

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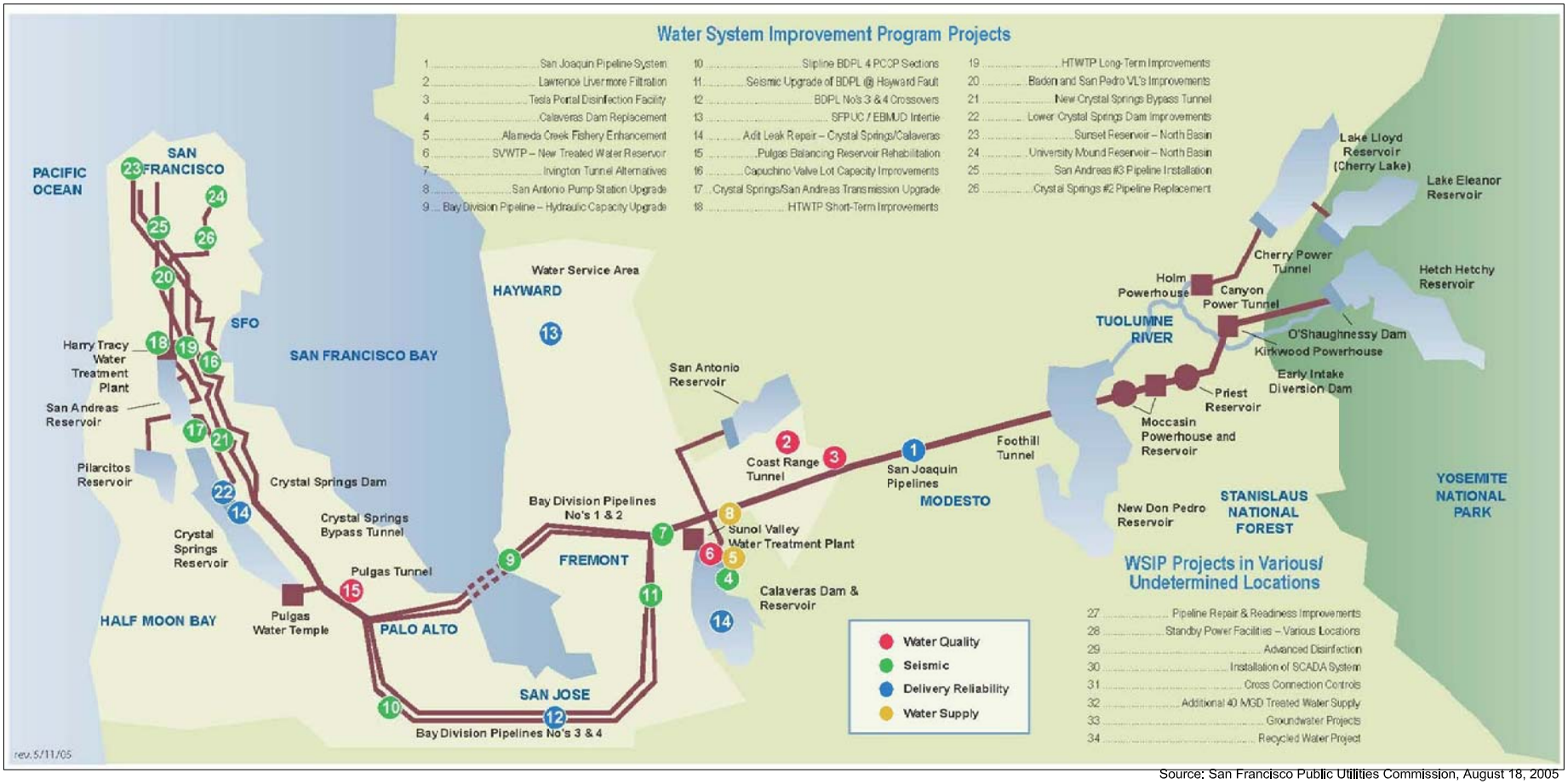

Source: San Francisco Public Utilities Commission, August 18, 2005

Abbreviations:

BDPL	= Bay Division Pipeline
EBMUD	= East Bay Municipal Utility District
HTWTP	= Henry Tracy Water Treatment Plant
MGD	= Millions of Gallons per Day
PCCP	= Prestressed Concrete Cylinder Pipe
SCADA	= Supervisory Control and Data
SFO	= San Francisco Airport
SFPUC	= San Francisco Public Utilities Commission
SVWTP	= Sunol Valley Water Treatment Plant
WSIP	= Water System Infrastructure Implementation Plan

Notes:

1. All locations are approximate.
2. Not to scale

Erler & Kalinowski, Inc.

SFPUC Water System Improvement Program Projects

City of Burlingame
Burlingame, CA
June 2011
EKI A20031.18.C1

Figure 6

20110613.11491758 G:\A20031.18.C1\June11\Figure 6 – SFUPC Water System Improvement Program Projects.dwg Layout1

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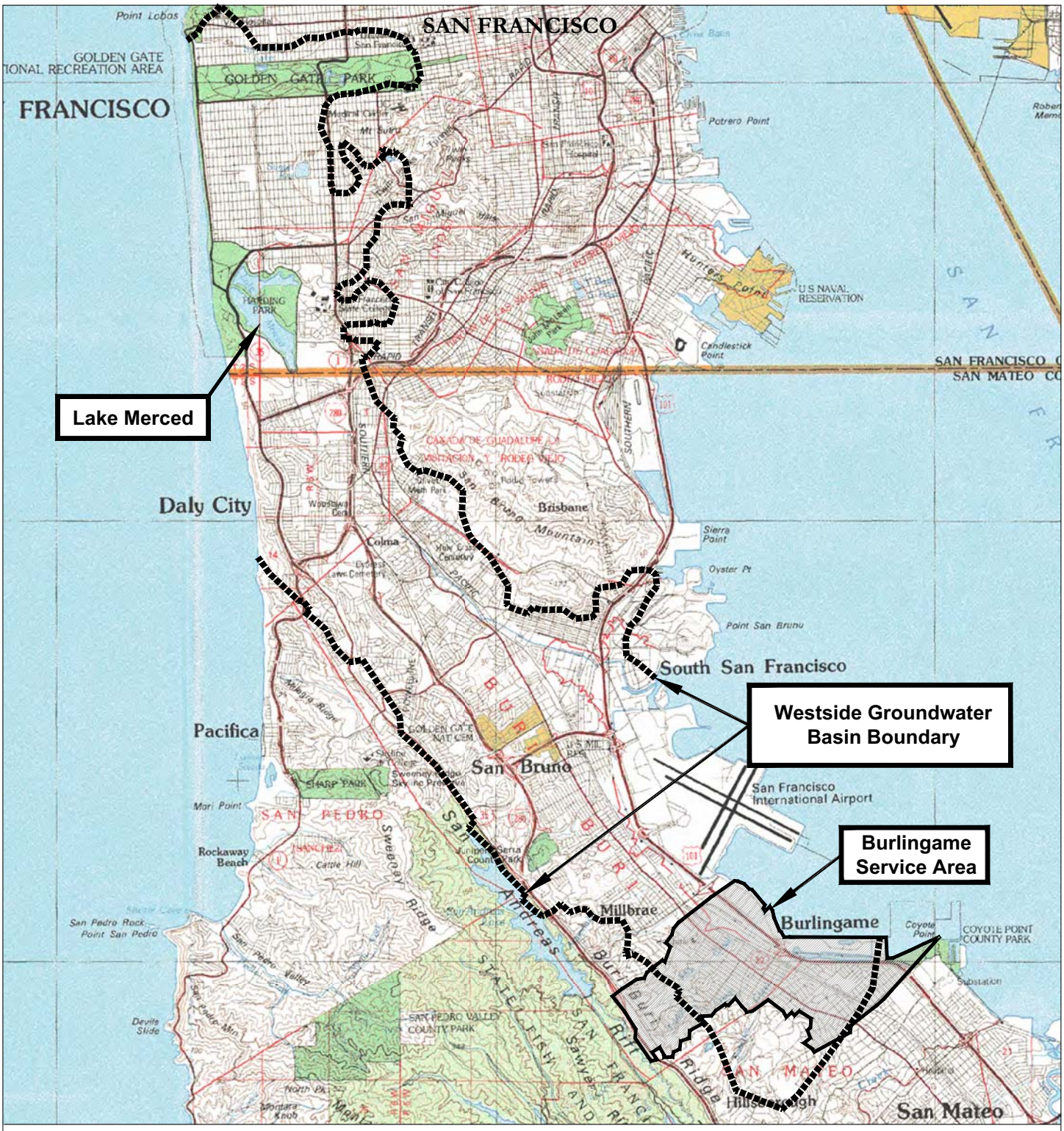

Notes:

1. All locations are approximate.
2. U.S.G.S. 1:100,000 Series Topographic Map, San Francisco Quadrangle, California, 1978.

N

0 2 4

(Approximate Scale in Miles)

Erler & Kalinowski, Inc.

Site Vicinity Map and Location of the Westside Groundwater Basin

City of Burlingame
Burlingame, CA
June 2011
EKI A20031.18.C.1

Figure 7

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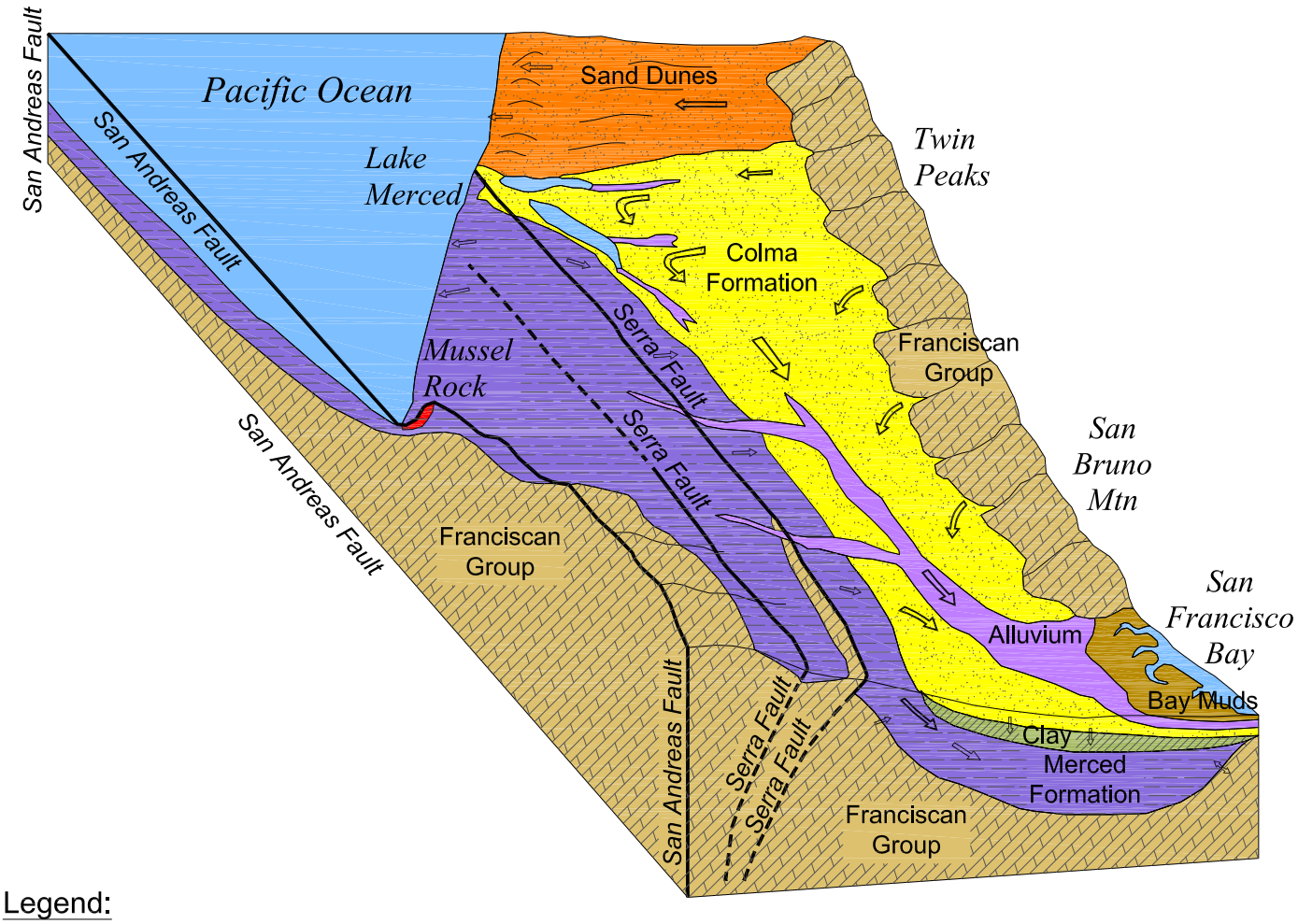

Legend:

- Colma Formation - sand and silty sand with interbedded silt, gravel, and clay layers
- Merced Formation - sand with thin interbedded silt and clay layers
- Bedrock - Franciscan Formation
- Clay Aquitard

Notes:

1. All locations are approximate.
2. This figure presents a conceptual model of the Westside Groundwater Basin showing the different geologic formations within the Basin. The arrows show generalized groundwater flow directions within the Basin.
3. Source: Rogge, 2003, *Dimensions of the Westside Groundwater Basin, San Francisco and San Mateo Counties, California,* Masters Thesis at San Francisco State University.

Erler & Kalinowski, Inc.

Conceptual Model of the Westside Groundwater Basin

City of Burlingame
Burlingame, CA

June 2011
EKI A20031.18.C1

Figure 8

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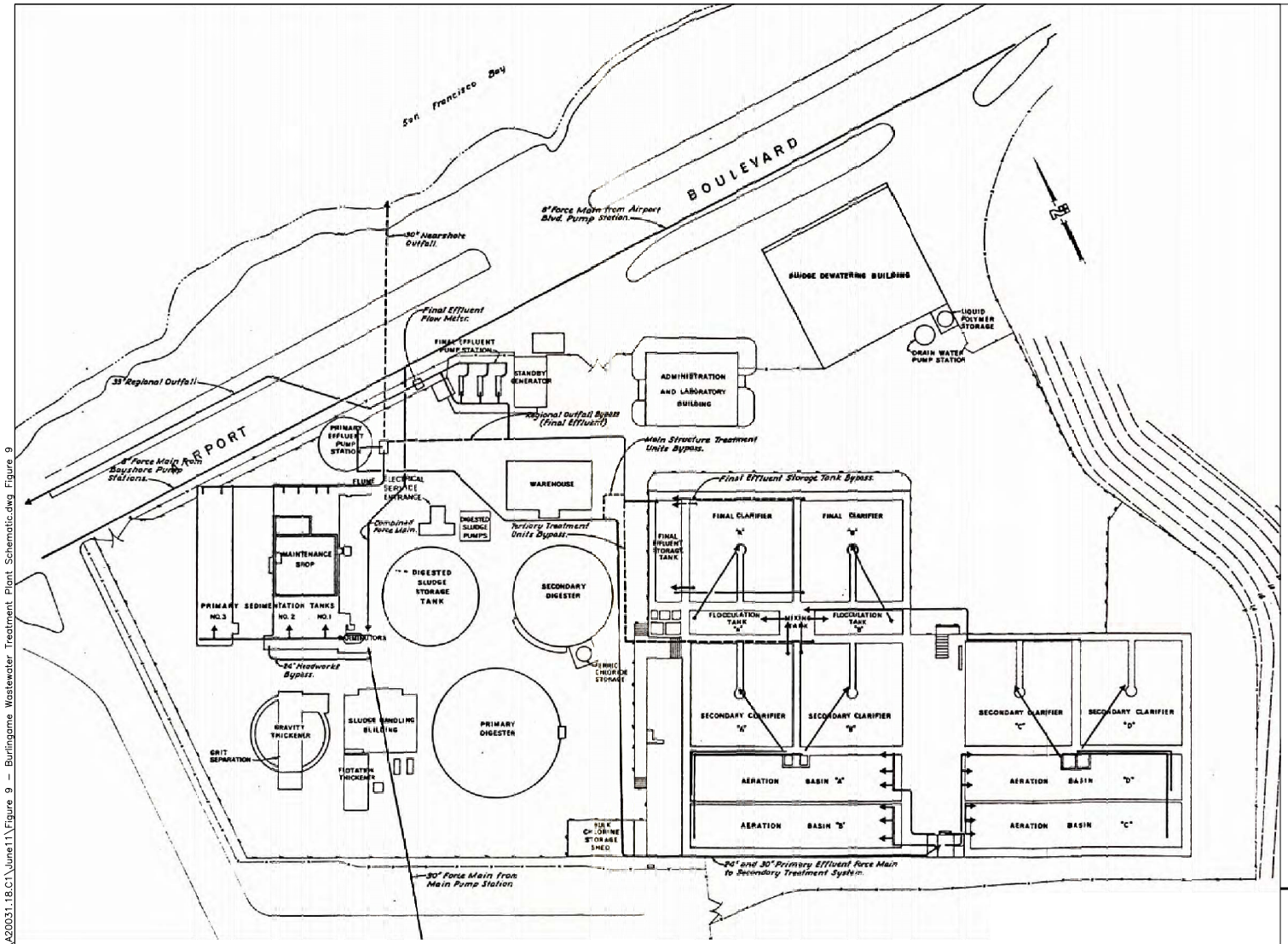

Source: City of Burlingame Wastewater Management Facilities Master Plan, Nolte and Associates, 1983

N

Notes:

1. All locations are approximate
2. Not to scale

Erler & Kalinowski, Inc.

Burlingame Wastewater Treatment Plant Schematic

City of Burlingame
Burlingame, CA
June 2011
EKI A20031.18.C1

Figure 9

20110613.11551159 G:\A20031.18.C1\June11\Figure 9 – Burlingame Wastewater Treatment Plant Schematic.dwg Figure 9

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APPENDIX A:
URBAN WATER MANAGEMENT PLANNING ACT

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Established: AB 797, Klehs, 1983
Amended: AB 2661, Klehs, 1990
AB 11X, Filante, 1991
AB 1869, Speier, 1991
AB 892, Frazee, 1993
SB 1017, McCorquodale, 1994
AB 2853, Cortese, 1994
AB 1845, Cortese, 1995
SB 1011, Polanco, 1995
AB 2552, Bates, 2000
SB 553, Kelley, 2000
SB 610, Costa, 2001
AB 901, Daucher, 2001
SB 672, Machado, 2001
SB 1348, Brulte, 2002
SB 1384, Costa, 2002
SB 1518, Torlakson, 2002
AB 105, Wiggins, 2004
SB 318, Alpert, 2004
SB 1087, Florez, 2005
SBX7 7, Steinberg, 2009

CALIFORNIA WATER CODE DIVISION 6
PART 2.6. URBAN WATER MANAGEMENT PLANNING

CHAPTER 1. GENERAL DECLARATION AND POLICY

10610. This part shall be known and may be cited as the "Urban Water Management Planning Act."

10610.2. (a) The Legislature finds and declares all of the following:

(1) The waters of the state are a limited and renewable resource subject to ever-increasing demands.

(2) The conservation and efficient use of urban water supplies are of statewide concern; however, the planning for that use and the implementation of those plans can best be accomplished at the local level.

(3) A long-term, reliable supply of water is essential to protect the productivity of California's businesses and economic climate.

(4) As part of its long-range planning activities, every urban water supplier should make every effort to ensure the appropriate level of reliability in its water service sufficient to meet the needs of its various categories of customers during normal, dry, and multiple dry water years.

(5) Public health issues have been raised over a number of contaminants that have been identified in certain local and imported water supplies.

(6) Implementing effective water management strategies, including groundwater storage projects and recycled water projects, may require specific water quality and salinity targets for meeting groundwater basins water quality objectives and promoting beneficial use of recycled water.

(7) Water quality regulations are becoming an increasingly important factor in water agencies' selection of raw water sources, treatment alternatives, and modifications to existing treatment facilities.

(8) Changes in drinking water quality standards may also impact the usefulness of water supplies and may ultimately impact supply reliability.

(9) The quality of source supplies can have a significant impact on water management strategies and supply reliability.

(b) This part is intended to provide assistance to water agencies in carrying out their long-term resource planning responsibilities to ensure adequate water supplies to meet existing and future demands for water.

10610.4. The Legislature finds and declares that it is the policy of the state as follows:

(a) The management of urban water demands and efficient use of water shall be actively pursued to protect both the people of the state and their water resources.

(b) The management of urban water demands and efficient use of urban water supplies shall be a guiding criterion in public decisions.

(c) Urban water suppliers shall be required to develop water management plans to actively pursue the efficient use of available supplies.

CHAPTER 2. DEFINITIONS

10611. Unless the context otherwise requires, the definitions of this chapter govern the construction of this part.

10611.5. "Demand management" means those water conservation measures, programs, and incentives that prevent the waste of water and promote the reasonable and efficient use and reuse of available supplies.

10612. "Customer" means a purchaser of water from a water supplier who uses the water for municipal purposes, including residential, commercial, governmental, and industrial uses.

10613. "Efficient use" means those management measures that result in the most effective use of water so as to prevent its waste or unreasonable use or unreasonable method of use.

10614. "Person" means any individual, firm, association, organization, partnership, business, trust, corporation, company, public agency, or any agency of such an entity.

10615. "Plan" means an urban water management plan prepared pursuant to this part. A plan shall describe and evaluate sources of supply, reasonable and practical efficient uses, reclamation and demand management activities. The components of the plan may vary according to an individual community or area's characteristics and its capabilities to efficiently use and conserve water. The plan shall address measures for residential, commercial, governmental, and industrial water demand management as set forth in Article 2 (commencing with Section 10630) of Chapter 3. In addition, a strategy and time schedule for implementation shall be included in the plan.

10616. "Public agency" means any board, commission, county, city and county, city, regional agency, district, or other public entity.

10616.5. "Recycled water" means the reclamation and reuse of wastewater for beneficial use.

10617. "Urban water supplier" means a supplier, either publicly or privately owned, providing water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually. An urban water supplier includes a supplier or contractor for water, regardless of the basis of right, which distributes or sells for ultimate resale to customers. This part applies only to water supplied from public water systems subject to Chapter 4 (commencing with Section 116275) of Part 12 of Division 104 of the Health and Safety Code.

CHAPTER 3. URBAN WATER MANAGEMENT PLANS
Article 1. General Provisions

10620.

(a) Every urban water supplier shall prepare and adopt an urban water management plan in the manner set forth in Article 3 (commencing with Section 10640).

(b) Every person that becomes an urban water supplier shall adopt an urban water management plan within one year after it has become an urban water supplier.

(c) An urban water supplier indirectly providing water shall not include planning elements in its water management plan as provided in Article 2 (commencing with Section 10630) that would be applicable to urban water suppliers or public agencies directly providing water, or to their customers, without the consent of those suppliers or public agencies.

(d)

(1) An urban water supplier may satisfy the requirements of this part by participation in areawide, regional, watershed, or basinwide urban water management planning where those plans will reduce preparation costs and contribute to the achievement of conservation and efficient water use.

(2) Each urban water supplier shall coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.

(e) The urban water supplier may prepare the plan with its own staff, by contract, or in cooperation with other governmental agencies.

(f) An urban water supplier shall describe in the plan water management tools and options used by that entity that will maximize resources and minimize the need to import water from other regions.

10621.

(a) Each urban water supplier shall update its plan at least once every five years on or before December 31, in years ending in five and zero.

(b) Every urban water supplier required to prepare a plan pursuant to this part shall notify any city or county within which the supplier provides water supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan. The urban water supplier may consult with, and obtain comments from, any city or county that receives notice pursuant to this subdivision.

(c) The amendments to, or changes in, the plan shall be adopted and filed in the manner set forth in Article 3 (commencing with Section 10640).

Article 2. Contents of Plans

10630. It is the intention of the Legislature, in enacting this part, to permit levels of water management planning commensurate with the numbers of customers served and the volume of water supplied.

10631. A plan shall be adopted in accordance with this chapter and shall do all of the following:

(a) Describe the service area of the supplier, including current and projected population, climate, and other demographic factors affecting the supplier's water management planning. The projected population estimates shall be based upon data from the state, regional, or local service agency population projections within the service area of the urban water supplier and shall be in five-year increments to 20 years or as far as data is available.

(b) Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments described in subdivision (a). If groundwater is identified as an existing or planned source of water available to the supplier, all of the following information shall be included in the plan:

(1) A copy of any groundwater management plan adopted by the urban water supplier, including plans adopted pursuant to Part 2.75 (commencing with Section 10750), or any other specific authorization for groundwater management.

(2) A description of any groundwater basin or basins from which the urban water supplier pumps groundwater. For those basins for which a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the urban water supplier has the legal right to pump under the order or decree.

For basins that have not been adjudicated, information as to whether the department has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current official departmental bulletin that characterizes the condition of the groundwater basin, and a detailed description of the efforts being undertaken by the urban water supplier to eliminate the long-term overdraft condition.

(3) A detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the

past five years. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(4) A detailed description and analysis of the amount and location of groundwater that is projected to be pumped by the urban water supplier. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(c) Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage, to the extent practicable, and provide data for each of the following:

(1) An average water year.
(2) A single dry water year.
(3) Multiple dry water years.

For any water source that may not be available at a consistent level of use, given specific legal, environmental, water quality, or climatic factors, describe plans to supplement or replace that source with alternative sources or water demand management measures, to the extent practicable.

(d) Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.

(e)

(1) Quantify, to the extent records are available, past and current water use, over the same five-year increments described in subdivision (a), and projected water use, identifying the uses among water use sectors including, but not necessarily limited to, all of the following uses:

(A) Single-family residential.
(B) Multifamily.
(C) Commercial.
(D) Industrial.
(E) Institutional and governmental.
(F) Landscape.
(G) Sales to other agencies.
(H) Saline water intrusion barriers, groundwater recharge, or conjunctive use, or any combination thereof.
(I) Agricultural.

(2) The water use projections shall be in the same five-year increments described in subdivision (a).

(f) Provide a description of the supplier's water demand management measures. This description shall include all of the following:

(1) A description of each water demand management measure that is currently being implemented, or scheduled for implementation, including the steps necessary to implement any proposed measures, including, but not limited to, all of the following:

(A) Water survey programs for single-family residential and multifamily residential customers.

(B) Residential plumbing retrofit.

(C) System water audits, leak detection, and repair.

(D) Metering with commodity rates for all new connections and retrofit of existing connections.

(E) Large landscape conservation programs and incentives.

(F) High-efficiency washing machine rebate programs.

(G) Public information programs.

(H) School education programs.

(I) Conservation programs for commercial, industrial, and institutional accounts.

(J) Wholesale agency programs.

(K) Conservation pricing.

(L) Water conservation coordinator.

(M) Water waste prohibition.

(N) Residential ultra-low-flush toilet replacement programs.

(2) A schedule of implementation for all water demand management measures proposed or described in the plan.

(3) A description of the methods, if any, that the supplier will use to evaluate the effectiveness of water demand management measures implemented or described under the plan.

(4) An estimate, if available, of existing conservation savings on water use within the supplier's service area, and the effect of the savings on the supplier's ability to further reduce demand.

(g) An evaluation of each water demand management measure listed in paragraph (1) of subdivision (f) that is not currently being implemented or scheduled for implementation. In the course of the evaluation, first consideration shall be given to water demand management measures, or combination of measures, that offer lower incremental costs than expanded or additional water supplies. This evaluation shall do all of the following:

(1) Take into account economic and noneconomic factors, including environmental, social, health, customer impact, and technological factors.

(2) Include a cost-benefit analysis, identifying total benefits and total costs.

(3) Include a description of funding available to implement any planned water supply project that would provide water at a higher unit cost.

(4) Include a description of the water supplier's legal authority to implement the measure and efforts to work with other relevant agencies to ensure the implementation of the measure and to share the cost of implementation.

(h) Include a description of all water supply projects and water supply programs that may be undertaken by the urban water supplier to meet the total projected water use as established pursuant to subdivision (a) of Section 10635. The urban water supplier shall include a detailed description of expected future projects and programs, other than the demand management programs identified pursuant to paragraph (1) of subdivision (f), that the urban water supplier may implement to increase the amount of the water supply available to the urban water supplier in average, single-dry, and multiple-dry water years. The description shall identify specific projects and include a description of the increase in water supply that is expected to be available from each project. The description shall include an estimate with regard to the implementation timeline for each project or program.

(i) Describe the opportunities for development of desalinated water, including, but not limited to, ocean water, brackish water, and groundwater, as a long-term supply.

(j) Urban water suppliers that are members of the California Urban Water Conservation Council and submit annual reports to that council in accordance with the ‘‘Memorandum of Understanding Regarding Urban Water Conservation in California,’’ dated September 1991, may submit the annual reports identifying water demand management measures currently being implemented, or scheduled for implementation, to satisfy the requirements of subdivisions (f) and (g).

(k) Urban water suppliers that rely upon a wholesale agency for a source of water, shall provide the wholesale agency with water use projections from that agency for that source of water in five-year increments to 20 years or as far as data is available. The wholesale agency shall provide information to the urban water supplier for inclusion in the urban water supplier’s plan that identifies and quantifies, to the extent practicable, the existing and planned sources of water as required by subdivision (b), available from the wholesale agency to the urban water supplier over the same five-year increments, and during various water-year types in accordance with subdivision (c). An urban water supplier may rely upon water supply information provided by the wholesale agency in fulfilling the plan informational requirements of subdivisions (b) and (c), including, but not limited to, ocean water, brackish water, and groundwater, as a long-term supply.

10631.5. The department shall take into consideration whether the urban water supplier is implementing or scheduled for implementation, the water demand management activities that the urban water supplier identified in its urban water management plan, pursuant to Section 10631, in evaluating applications for grants and loans made available pursuant to Section 79163. The urban water supplier may submit to the department copies of its annual reports and other relevant documents to assist the department in determining whether the urban water supplier is implementing or scheduling the implementation of water demand management activities.

10632. The plan shall provide an urban water shortage contingency analysis which includes each of the following elements which are within the authority of the urban water supplier:

(a) Stages of action to be undertaken by the urban water supplier in response to water supply shortages, including up to a 50 percent reduction in water supply, and an outline of specific water supply conditions which are applicable to each stage.

(b) An estimate of the minimum water supply available during each of the next three water years based on the driest three-year historic sequence for the agency's water supply.

(c) Actions to be undertaken by the urban water supplier to prepare for, and implement during, a catastrophic interruption of water supplies including, but not limited to, a regional power outage, an earthquake, or other disaster.

(d) Additional, mandatory prohibitions against specific water use practices during water shortages, including, but not limited to, prohibiting the use of potable water for street cleaning.

(e) Consumption reduction methods in the most restrictive stages. Each urban water supplier may use any type of consumption reduction methods in its water shortage contingency analysis that would reduce water use, are appropriate for its area, and have the ability to achieve a water use reduction consistent with up to a 50 percent reduction in water supply.

(f) Penalties or charges for excessive use, where applicable.

(g) An analysis of the impacts of each of the actions and conditions described in subdivisions (a) to (f), inclusive, on the revenues and expenditures of the urban water supplier, and proposed measures to overcome those impacts, such as the development of reserves and rate adjustments.

(h) A draft water shortage contingency resolution or ordinance.

(i) A mechanism for determining actual reductions in water use pursuant to the urban water shortage contingency analysis.

10633. The plan shall provide, to the extent available, information on recycled water and its potential for use as a water source in the service area of the urban water supplier. The preparation of the plan shall be coordinated with local water, wastewater, groundwater, and planning agencies that operate within the supplier's service area, and shall include all of the following:

(a) A description of the wastewater collection and treatment systems in the supplier's service area, including a quantification of the amount of wastewater collected and treated and the methods of wastewater disposal.

(b) A description of the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.

(c) A description of the recycled water currently being used in the supplier's service area, including, but not limited to, the type, place, and quantity of use.

(d) A description and quantification of the potential uses of recycled water, including, but not limited to, agricultural irrigation, landscape irrigation, wildlife habitat enhancement, wetlands, industrial reuse, groundwater recharge, and other appropriate uses, and a determination with regard to the technical and economic feasibility of serving those uses.

(e) The projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years, and a description of the actual use of recycled water in comparison to uses previously projected pursuant to this subdivision.

(f) A description of actions, including financial incentives, which may be taken to encourage the use of recycled water, and the projected results of these actions in terms of acre-feet of recycled water used per year.

(g) A plan for optimizing the use of recycled water in the supplier's service area, including actions to facilitate the installation of dual distribution systems, to promote recirculating uses, to facilitate the increased use of treated wastewater that meets recycled water standards, and to overcome any obstacles to achieving that increased use.

10634. The plan shall include information, to the extent practicable, relating to the quality of existing sources of water available to the supplier over the same five-year increments as described in subdivision (a) of Section 10631, and the manner in which water quality affects water management strategies and supply reliability.

Article 2.5 Water Service Reliability

10635.

(a) Every urban water supplier shall include, as part of its urban water management plan, an assessment of the reliability of its water service to its customers during normal, dry, and multiple dry water years. This water supply and demand assessment shall compare the total water supply sources available to the water supplier with the total projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and multiple dry water years. The water service reliability assessment shall be based upon the information compiled

pursuant to Section 10631, including available data from state, regional, or local agency population projections within the service area of the urban water supplier.

(b) The urban water supplier shall provide that portion of its urban water management plan prepared pursuant to this article to any city or county within which it provides water supplies no later than 60 days after the submission of its urban water management plan.

(c) Nothing in this article is intended to create a right or entitlement to water service or any specific level of water service.

(d) Nothing in this article is intended to change existing law concerning an urban water supplier's obligation to provide water service to its existing customers or to any potential future customers.

Articl 3. Adoption and Implementation of Plans

10640. Every urban water supplier required to prepare a plan pursuant to this part shall prepare its plan pursuant to Article 2 (commencing with Section 10630).

The supplier shall likewise periodically review the plan as required by Section 10621, and any amendments or changes required as a result of that review shall be adopted pursuant to this article.

10641. An urban water supplier required to prepare a plan may consult with, and obtain comments from, any public agency or state agency or any person who has special expertise with respect to water demand management methods and techniques.

10642. Each urban water supplier shall encourage the active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan. Prior to adopting a plan, the urban water supplier shall make the plan available for public inspection and shall hold a public hearing thereon. Prior to the hearing, notice of the time and place of hearing shall be published within the jurisdiction of the publicly owned water supplier pursuant to Section 6066 of the Government Code. The urban water supplier shall provide notice of the time and place of hearing to any city or county within which the supplier provides water supplies. A privately owned water supplier shall provide an equivalent notice within its service area. After the hearing, the plan shall be adopted as prepared or as modified after the hearing.

10643. An urban water supplier shall implement its plan adopted pursuant to this chapter in accordance with the schedule set forth in its plan.

10644.

(a) An urban water supplier shall file with the department and any city or county within which the supplier provides water supplies a copy of its plan no later than 30 days after adoption. Copies of amendments or changes to the plans shall be filed with the department and any city or county within which the supplier provides water supplies within 30 days after adoption.

(b) The department shall prepare and submit to the Legislature, on or before December 31, in the years ending in six and one, a report summarizing the status of the plans adopted pursuant to this part. The report prepared by the department shall identify the outstanding elements of the individual plans. The department shall provide a copy of the report to each urban water supplier that has filed its plan with the department. The department shall also prepare reports and provide data for any legislative hearings designed to consider the effectiveness of plans submitted pursuant to this part.

10645. Not later than 30 days after filing a copy of its plan with the department, the urban water supplier and the department shall make the plan available for public review during normal business hours.

CHAPTER 4. MISCELLANEOUS PROVISIONS

10650. Any actions or proceedings to attack, review, set aside, void, or annul the acts or decisions of an urban water supplier on the grounds of noncompliance with this part shall be commenced as follows:

(a) An action or proceeding alleging failure to adopt a plan shall be commenced within 18 months after that adoption is required by this part.

(b) Any action or proceeding alleging that a plan, or action taken pursuant to the plan, does not comply with this part shall be commenced within 90 days after filing of the plan or amendment thereto pursuant to Section 10644 or the taking of that action.

10651. In any action or proceeding to attack, review, set aside, void, or annul a plan, or an action taken pursuant to the plan by an urban water supplier on the grounds of noncompliance with this part, the inquiry shall extend only to whether there was a prejudicial abuse of discretion. Abuse of discretion is established if the supplier has not proceeded in a manner required by law or if the action by the water supplier is not supported by substantial evidence.

10652. The California Environmental Quality Act (Division 13 (commencing with Section 21000) of the Public Resources Code) does not apply to the preparation and adoption of plans pursuant to this part or to the implementation of actions taken pursuant to Section 10632. Nothing in this part shall be interpreted as exempting from the California Environmental Quality Act any project that would significantly affect water

supplies for fish and wildlife, or any project for implementation of the plan, other than projects implementing Section 10632, or any project for expanded or additional water supplies.

10653. The adoption of a plan shall satisfy any requirements of state law, regulation, or order, including those of the State Water Resources Control Board and the Public Utilities Commission, for the preparation of water management plans or conservation plans; provided, that if the State Water Resources Control Board or the Public Utilities Commission requires additional information concerning water conservation to implement its existing authority, nothing in this part shall be deemed to limit the board or the commission in obtaining that information. The requirements of this part shall be satisfied by any urban water demand management plan prepared to meet federal laws or regulations after the effective date of this part, and which substantially meets the requirements of this part, or by any existing urban water management plan which includes the contents of a plan required under this part.

10654. An urban water supplier may recover in its rates the costs incurred in preparing its plan and implementing the reasonable water conservation measures included in the plan. Any best water management practice that is included in the plan that is identified in the "Memorandum of Understanding Regarding Urban Water Conservation in California" is deemed to be reasonable for the purposes of this section.

10655. If any provision of this part or the application thereof to any person or circumstances is held invalid, that invalidity shall not affect other provisions or applications of this part which can be given effect without the invalid provision or application thereof, and to this end the provisions of this part are severable.

10656. An urban water supplier that does not prepare, adopt, and submit its urban water management plan to the department in accordance with this part, is ineligible to receive funding pursuant to Division 24 (commencing with Section 78500) or Division 26 (commencing with Section 79000), or receive drought assistance from the state until the urban water management plan is submitted pursuant to this article.

10657.

(a) The department shall take into consideration whether the urban water supplier has submitted an updated urban water management plan that is consistent with Section 10631, as amended by the act that adds this section, in determining whether the urban water supplier is eligible for funds made available pursuant to any program administered by the department.

(b) This section shall remain in effect only until January 1, 2006, and as of that date is repealed, unless a later enacted statute, that is enacted before January 1, 2006, deletes or extends that date.

APPENDIX B:
UWMP AGENCY NOTIFICATION LETTERS

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The City of Burlingame

PUBLIC WORKS DEPARTMENT
TEL: (650) 558-7230
FAX: (650) 685-9310

CITY HALL - 501 PRIMROSE ROAD
BURLINGAME, CALIFORNIA 94010-3997

CORPORATION YARD
(650) 558-7670
FAX: (650) 696-1598

February 3, 2011

BAWSCA
155 Bovet Road, Suite 302
San Mateo, CA 94404

Subject: **Notice of Preparation of Urban Water Management Plan**

To Whom It May Concern:

The Urban Water Management Plan Act requires the City of Burlingame to update its Urban Water Management Plan by June 30, 2011. We are reviewing our current Plan, which was last updated in 2005, and will be considering revisions to it.

We will make proposed revisions to our Plan available for public review and will hold a public hearing later this year. In the meantime, if you any questions about our Plan, or the process for updating it, please contact:

Art Morimoto, P.E.
Assistant Public Works Director
City of Burlingame
501 Primrose Road
Burlingame, CA 94010
TEL: (650) 558-7230
FAX: (650) 685-9310
E-mail: amorimoto@burlingame.org

Sincerely,

Syed Murtuza, P.E.
Public Works Director

The City of Burlingame

PUBLIC WORKS DEPARTMENT
(650) 558-7230

CITY HALL - 501 PRIMROSE ROAD
BURLINGAME, CALIFORNIA 94010-3997

CORPORATION YARD
(650) 558-7670

March 17, 2011

Member Agency
Bay Area Water Supply and Conservation Agency

Re: **Notice of Public Hearing for Draft Urban Water Management Plan – 2010 Update Including Urban Water Use Targets**

The Urban Water Management Plan Act (California Water Code Section 10610 – 10657) requires the City of Burlingame to update its Urban Water Management Plan (UWMP) by July 1, 2011. Section 10620(d)(2) of the Act requires that "*Each urban water supplier shall coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source,...*". Additionally, California law requires that, in conjunction with the update to the Urban Water Management Plan, the community be given an opportunity to give input on the City of Burlingame's urban water use target in the Urban Water Management Plan, any impacts to the local economy, and City of Burlingame's method of determining its urban water use target. Burlingame is conducting a public hearing prior to the City Council's adoption of the 2010 UWMP and we invite your agency's participation in this process.

The City of Burlingame will hold a public hearing to adopt an urban water use target and updates to its Urban Water Management Plan for 2010-2015. The public hearing will be held at 7:00 pm on Monday, May 16, 2011 at Burlingame City Hall, City Council Chambers, located at 501 Primrose Road, Burlingame, California 94010. Comments on the draft 2010 UWMP may be made prior to the public hearing to Art Morimoto at the address below, or at the public hearing. A draft of the 2010 UWMP will be available at the Burlingame Main Library located at 480 Primrose Road, Burlingame, California 94010 and at City Hall, Public Works Department located at 501 Primrose Road, Burlingame, California 94010. If you have questions regarding the draft 2010 UWMP, please contact:

Art Morimoto, P.E.
Public Works Department, Engineering Division
501 Primrose Road
Burlingame, CA 94010-3906
(650) 558-7230
amorimoto@burlingame.org

Yours very truly,

By _____
Syed Murtuza, P.E.
Director of Public Works

The City of Burlingame

PUBLIC WORKS DEPARTMENT
(650) 558-7230

CITY HALL - 501 PRIMROSE ROAD
BURLINGAME, CALIFORNIA 94010-3997

CORPORATION YARD
(650) 558-7670

March 17, 2011

Ms. Paula Kehoe
SF Public Utilities Commission
1145 Market Street, 4th Floor
San Francisco, CA 94103

Mr. David Holbrook
County of San Mateo
Building and Planning Department
455 County Center, 2nd Floor
Redwood City, CA 94063

Ms. Nicole Sandkulla
Bay Area Water Supply and Conservation Agency
165 Bovet Road, Suite 302
San Mateo, CA 94402

Re: **Notice of Public Hearing for Draft Urban Water Management Plan – 2010 Update Including Urban Water Use Targets**

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(650) 558-7230
amorimoto@burlingame.org

Yours very truly,
THE CITY OF BURLINGAME

Syed Murtuza, P.E.
Director of Public Works

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APPENDIX C:
UWMP PUBLIC NOTIFICATION NOTICES

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DOUBLE-SIDED PRINTING

AFFIDAVIT OF PUBLICATION
SAN MATEO DAILY JOURNAL

STATE OF CALIFORNIA
County of San Mateo

The undersigned declares: That at all times hereinafter mentioned, affiant was a permanent resident of the United States, over the age of eighteen years old, and was at and during all said times. The Office Manager of the San Mateo Daily Journal, a newspaper published daily in the County of San Mateo, State of California. The notice mentioned was set in type no smaller than nonpareil and was preceded with words printed in black face type not smaller than size 6, describing and expressing in general terms, the purpose and character of the notice intended to be given; that the

NOTICE OF PUBLIC HEARING

CITY OF BURLINGAME

Of which the annexed is a printed copy was published and printed in said newspaper twice on the 3rd and10th Days of March 2010.

I declare under penalty of perjury that the foregoing is true and correct.

_____
Gale Divver

Dated at San Mateo, California,
this _____ day of _____.

203 Public Notices

203 Public Notices

NOTICE OF PUBLIC HEARING
CITY OF BURLINGAME
URBAN WATER MANAGEMENT PLAN - 2010 UPDATE
INCLUDING URBAN WATER USE TARGETS

The City of Burlingame is preparing a draft update of its Urban Water Management Plan (UWMP). Water agencies develop UWMPs in order to help ensure a reliable water supply sufficient to meet the future needs of their customers. The current UWMP was prepared in 2005 and, as required by California law, must be updated by July 1, 2011. Additionally, California law requires that, in conjunction with the update to the Urban Water Management Plan, the community be given an opportunity to give input on the City of Burlingame's urban water use target in the Urban Water Management Plan, any impacts to the local economy, and City of Burlingame's method of determining its urban water use target.

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501 Primrose Road
Burlingame, CA 94010-3906
(650) 558-7230
amorimoto@burlingame.org

210 Lost & Found

LOST: Center cap from wheel of Cadillac. Around Christmas time. Chrome with multi-colored Cadillac emblem in center. Small hole near edge for locking device. Belmont or San Carlos area. Joel 650-592-1111.

MISSING GREY MALE CAT named "Biscotti". Last seen 12/4 on Aviador Ave. in Millbrae. 12 years old, 12 lbs., strong athletic build. Domestic short hair, solid grey including nose, neutered,declawed front paws. Microchip #985121004140019. Please call Home Again lost pet service at 888-468-3242 with any info. Thank you!

294 Baby Stuff

WOODEN POTTY CHAIR with play tray, excellent condition, $65., Daly City, (650)755-9833

295 Art

PAINTING "jack vettriano" Portland gallery 26 x 33, $55. (650)345-1111.

296 Appliances

AIR CONDITIONER - slider model for narrow windows, 10k BTU, excellent condition, $100., (650)212-7020

CHANDELIER NEW 4 lights $90. (650)878-9542

CHOPPERS (4) with instructions $7/all. (650)368-3037

GAS STOVE, small, 4 burner oven and broiler. 26.5 D x 20.5 W. $50., (650)341-2181

IRON - BLACK & DECKER PRO X 725 with board, $35., (650)726-7424

KENMORE MICROWAVE - Great condition, extremely clean, ready to use, 24"W18"D15"H. interior 14.5"W12"H16"D SOLD!

PORTABLE GE Dishwasher, excellent condition $75 OBO, (650)583-0245

RADIATOR HEATER, oil filled, electric, 1500 watts $25. (650)504-3621

RCA VACUUM tube manual '42 $25. (650)593-8880

REFRIGERATOR - Jordon 3 glass door commercial refrigerator SOLD!

SHOP VACUUM rigid brand 3.5 horse power 9 gal wet/dry $40. (650)591-2393

UNDERCOUNTER DISHWASHER GE-brand, never used. $100. (650)364-0902

VACUUM CLEANER $50 (650)367-1350

VACUUM CLEANER excellent condition $40. (650)878-9542

VACUUM CLEANER Oreck-cannister type $40., (650)637-8244

WASHER/DRYER "MAYTAG" - Brand new with 3 year warranty, $850. both, (650)726-4168

297 Bicycles

BICYCLE "MAGNA" 24 inch wheels purple. $40., San Mateo.SOLD!

BICYCLE - Standancer Jr., 28", $75. obo (650)676-0732

GIRL'S BIKE HUFFY Purple 6-speed good cond. $35 - Angela (650)269-3712

298 Collectibles

28 RECORDS - 78 RPMS, Bing Crosby, Frankie Laine, Al Jolson, many others, all in book albums, $60. all, (650)347-5104

298 Collectibles

49ER REPORT issues '85-'87 $35/all, (650)592-2648

5 PIECE territorial quarters uncirculated $16. (408)249-3858

COLLECTORS '75 LP's in covers $5/each, (650)726-7424

GEISHA DOLL - 14" - BEAUTIFULLY PACKAGED IN PLASTIC CASE.- $25/obr. SOLD!

GLASSES 6 sets redskins, good condition never used $25/all. (650)346-1111

JACK TASHNER signed ball $25. Richard (650)834-4926

MERCHANT MARINE, framed forecastle card, signed by Captain Angdok '79. 13 x 17 inches $35 cash. (650)755-9238

ORIGINAL PAT O'BRIEN'S HURRICANE glass, great condition, $10., (650)726-7424

POSTER - framed photo of President Wilson and Chinese Junk $25 cash, (650)755-8238

SPORTS CARDS over 10k some stars and old cards $100/all. (650)207-2712

VASE - with tray, grey with red flowers, perfect condition, $30., (650)345-1111

302 Antiques

(2) ANTIQUE Hurricane lamp complete with wicks $25/each, (650)726-7424

1912 COFFEE Perculater Urn, perfect condition includes electric cord $85

ANTIQUE SOLID mahogany knick-knack or bookshelf with 4 small drawers, good condition, $85. 650-726-5260

CHINA CABINET - Vintage, 6 foot, solid mahogany, $300/obo. (650)867-0379

CHROME TOASTER '50. Excellent condition, $50., Daly City, (650)755-9833

303 Electronics

46" MITSUBISHI Projector TV, great condition. $400. (650)261-1541.

COMSWITCH 3500 - used for fax, computer modem, telephone answering machine, never used, $20., (650)347-5104

DEWALT HEAVY duty work site radio charger in box $100. (650)756-7878

DVD PLAYER -Toshiba DVD, video, CD player, 5 disk changer, dolby digital, works great, Burl., $50., SOLD

DVD PLAYER AMW excellent condition simple to use $35. (650)347-5104

ELECTRONICS - Flip camcorder $50. (650)583-2767

FIVE REALISTIC-BRAND shelf speakers, 8 ohms, new, 4 1/2 in. x 4 1/4 in. x 7 in. $20/each. (650)364-0902

JVC VHS recorder - Like new, $15., (650)367-8949

PANASONIC TV 21 inch $25., (650)637-8244

SANIO CASETTE/RECORDER 2 way Radio - $95.obo, call for more details, (650)290-1960

SONY RADIO cassette recorder $25 black good condition. (650)345-1111

TV - Big Screen, $70., ok condition, (650)367-1350

TV 5 inch Black and white good condition in box $10. (408)249-3858

303 Electronics

TV SET 32 inch with remote and stand $30. (650)520-0619

304 Furniture

2 END Tables solid maple '60's era $40/both. (650)670-7545

4 STURDY metal dining chairs $20/each. (650)756-6778

BED BRASS single trundle $100 nice and clean. (650)854-3235

BLACK LEATHER office chair with 5 rollers $25. (650)871-5078

BOOKCASE - $25., (650)255-6652

CABINET - wood, $70., (650)367-1350

CHANDELIER WITH 5 lights/ candelabre base with glass shades $20. (650)504-3621

COCKTAIL AND end table brass and glass top $65. (650)854-3235

COFFEE TABLE - $60., (650)367-1350

COFFEE TABLE light brown lots of storage good condition $55. (650)867-2720

COMPUTER DESK $70. (650)367-1350

CREDENZA - $25., (650)255-6652

DINING CHAIRS (6) $100/all. (650)854-3235

DINING ROOM table $100. (650)854-3235

DISPLAY CASE wood & glass 31 x 19 inches $30. (650)873-4030

DRAFTING TABLE 30 x 42" with side tray. excellent cond $75. (650)949-2134

END TABLE marble top with drawer with matching table $70/all. (650)520-0619

ENTERTAINMENT CENTER - Oak wood, great condition, glass doors, fits large TV, 2 drawers, shelves , $100/obo. (650)261-9681

GOSSIP BENCH with phone shelf excellent conditon, $75., Daly City, (650)755-9833

MATTRESSES (2) single, single nice and clean $100.(650)854-3235

METAL DESK, 7 drawers, 2 shelves, gray, 3x6 ft. $75. (650)364-0902

OFFICE DESK - $25., (650)255-6652

PICNIC TABLE round $25. (650)854-3235

ROCKING CHAIR - Traditional, full size Rocking chair. Excellent condition $100., (650)504-3621

ROCKING CHAIR for nursing mother or grandmother $75. (650)854-3235

ROCKING CHAIRS - (2) Great for family with new born baby, $50. each or $75. for both, SOLD

TV STAND good condition beige lots of storage $30. (650)867-2720

WOODEN KITCHEN China Cabinet: $99 (great condition!), (650)367-1350

306 Housewares

"PRINCESS HOUSE" decorator urn "Vase" cream with blue flower 13 inch H $25., (650)868-0436

CANDLEHOLDER - Gold, angel on it, tall, purchased from Bruaners, originally $100., selling for $35.,(650)867-2720

COUNTRY KITCHEN pot rack with down lights, Retailed at $250. New in box $99 (650) 454-6163

GEORGE FORMAN Grill brand new $35., (650)726-7424

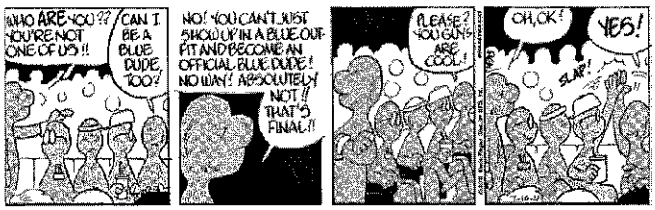
HAMILTON BEACH Mixer, vintage, juicer & bowl, beater. $30/obo(650)576-6067

307 Jewelry & Clothing

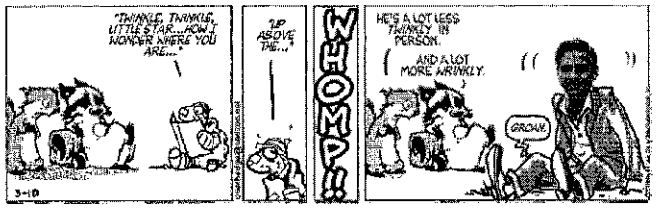
49ER'S JACKET Child size $50. (650)871-7200

BLACK VELVET evening jacket w/silver sparkles, Sz 20W, $10. (650)712-1070

Drabble



Over the Hedge



307 Jewelry & Clothing

BLACK VELVET pants, Sz L, $7. (650)712-1070

CUSTOM JEWELRY all kinds, lengths and sizes $50/all. (650)592-2648

HOLIDAY WEAR, barely worn: Macy's black sweater set, Size M, wool w/gold metallic stripes, $15 set (650)712-1070

LADIES BRACELET, Murano glass. Various shades of red and blue $100 Daly City, no return calls. (650)991-2353

LADIES GOLD Lame' elbow length-gloves sz 7.5 $15 New. RWC. (650)858-0436

LIZ CLAIBORNE black evening jacket Sz. 12, acetate/polyester, $10. (650)712-1070

SHEER PURPLE tunic, Sz XL, w/embroidered design & sequins, $10. (650)712-1070

SILVER SEQUIN shirt-jacket Sz 12-14 - very dressy, $15. (650)712-1070

TOURQUOISE BLUE party dress, covered w/sequins, sz 14, $15. (650)712-1070

308 Tools

CLICKER TORQUE wrench 1/2 inch drive 20-150 LBS reversible all chrome $40. 650-595-3933

DOLLY - Heavy Duty, Dual Use 54" hgt. Upright-Push Cart South City $99.OBO (415) 410 - 9801

DRILL, MAKITA - 12V, w/ case, bits, batteries, and charger, $50.,(650)344-8549 leave msg.

ENGINE ANALYZER & TIMING LITE - Sears Penske USA, for older cars, like new, $65., (650)344-8549 leave msg.

MACHINIST VISE heavy duty, 6-in. jaws, weight 125 lbs. $60. (650)364-0902

PRESSURE WASHER 2500 PSI, good condition, $350., (650)926-9841

RIDGED WET AND DRY VACUUM -16 gallons 5 horse power in box accessories included $65., (650)756-7878

SPEEDAIR AIR COMPRESSOR - 4 gallon stack tank air compressor $100., (650)591-4710

TABLE SAW 10", very good condition $85. (650) 787-8219

TORO LEAF BLOWERS, Power Sweep + 850 Super Blower, Electric like new $40. pair South City (415) 410-9801

203 Public Notices

NOTICE OF PUBLIC HEARING
CITY OF BURLINGAME
URBAN WATER MANAGEMENT PLAN - 2010 UPDATE INCLUDING URBAN WATER USE TARGETS

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203 Public Notices

ATTENTION CAFE OWNERS/CONCESSIONAIRES

REQUEST FOR PROPOSAL FOR REDWOOD SHORES CAFÉ VENDOR SPACE

The City of Redwood City is pleased to offer an opportunity for a café owner to open a café in the Redwood Shores Branch Library, 399 Marine Parkway, Redwood Shores.
The Café is approximately 450 sq. feet.
The Redwood Shores Branch Library , features over 22,000 square feet in a single story, light-filled building designed to take advantage of its waterside setting.
The café will have its own exterior entrance so can be open before or after library hours.

Amenities

- Entrance to café is adjacent to the 400-mile Bay Trail
- Oracle and Electronic Arts headquarters close by
- Library has 4 meeting rooms available for catering opportunities
- Over 15,000 residents live in Redwood Shores
- Ongoing classes scheduled in the meeting rooms
- Homework Center
- 80+ attendees at week-end storytimes
- Interior and exterior tables and chairs provided

Request for Proposal at:
Redwood City Downtown Library,
2nd Floor Administration Office
1044 Middlefield Road, Redwood City
Contact Serena Gregorio, Phone 650-780-7036
Or on-line at www.redwoodcity.org/library

Published in the San Mateo Daily Journal, March 1, 3, 8, 10

Drabble

Over the Hedge

203 Public Notices

LEGAL NOTICES

Fictitious Business Name Statements, Trustee Sale Notice, Alcohol Beverage License, Name Change, Probate, Notice of Adoption, Divorce Summons, Notice of Public Sales, and More.

Published in the Daily Journal for San Mateo County.

Fax your request to: 650-344-5290
Email them to: ads@smdailyjournal.com

309 Office Equipment

CALCULATOR - (2) heavy duty, Casio & Sharp, $35. each. (650)344-8549 leave msg.

CALCULATOR - Casio, still in box, new, $25. (650)867-2720

OFFICE LAMP new $8. (650)346-1111

OFFICE WATER COOLER Hot - Ex Hot ,Cold - Ice Cold Like New South City $99. OBO (415) 410 -9801

310 Misc. For Sale

1 LG .Duffel Bag ,1 Xtra Lg. Duffel w Wheels, 1 Leather week-ender Satchel, All 3 at $75.00 650 871-7211

13 PIECE paint and pad set for home use $25., (650)589-2893

5 NEEDLEPOINT sets still in package $10/each, (650)592-2648

ANGEL WITH lights 12 inches High $12. (650)368-3037

ARTIFICIAL FICUS Tree 6 ft. life like, full branches. In basket $55. (650)269-3712

AUTO STRETCHING - The Complete Manual of Specific Stretching, like new, ask $75. (650) 204-0587

BABIES STROLLER folding good condition $20 Daly City 415-333-8540

BARBIE BEACH vacation & Barbie princess bride computer games $15 each, (650)367-8949

BAY MEADOWS Umbrella - Colorful, large-size, can fit two people underneath. $20 (650)867-2720

BAY MEADOWS Bag - Black with Bay Meadows logo, brand new $20 (650)867-2720

BEADS - Glass beads for jewelry making, $75. all. (650)676-0732

BEAUTIFUL ROUND GOLD FRAMED Beveled Mirrors 34" diameter $75 ea Jerry San Mateo 650-619-9932

BOOK "LIFETIME" WW11 $12., (408)249-3858

CABINET - 1 metal cabinet 3'x7'x14" SOLD!

CABINET OAK, fits over toilet water tank, like new $25. (650)341-5347

CANCER SALVES - A Botanical Approach To Treatment, like new, $35. (650) 204-0587

CANDLE HOLDER with angel design, tall, gold, includes candle. Purchased for $100, now $35. (650)345-1111

CERAMIC BOWLS - Set of blue hand made ceramic bowls (9) with large bowl fork/spoon set $100/all, (650)726-7424

COLORIZED TERRITORIAL Quarters uncirculated with Holder $15/all, (408)249-3858

DOG CAGE/GORILLA - folding large dog cage good condition, 2 door with tray, $75.,(650)355-8949

DOOM (3) computer games $15/each 2 total, (650)367-8949

DOUBLE PANE Windows 48"wide X 34" Tall Wincreens perfect condition vinyl $75. OBO 650-619-9932

310 Misc. For Sale

DRAFTING TABLE 3 ft. x 5 ft., fully adjustable: up, down, tilt. $100. (650)364-0902

EGG SHAPED containers decorative painted set of 8 at 7 inches Tall $3/each. (650)871-7200

ELECTRIC HEATER - Oil filled electric heater, 1500 watts, $30., (650)504-3621

ELECTRONIC TYPEWRITER good condition $35. (650)878-9542

FIREPLACE SCREEN - 36"wide, 29"high, antique brass, folding doors, sliding mesh screen, damper controls. Like new. $100., (650)592-2047

FRONT END Dash Board from '98 Sonoma Truck $50. (650)871-7200

GAME "BEAT THE EXPERTS" never used $3., (408)249-3858

JAMES PATTERSON BOOKS - 2 hardback @$3. each, 4 paperback @ $1. each, (650)341-1861

JANET EVANOVICH BOOKS - 4 hardback @$3. each, 3 paperback @$1. each, (650)341-1861

KIDS GUITAR for 6 years and Up $40. call (650)375-1550

LOUNGE CHAIRS - 2 new, with cover & plastic carring case & headrest, $35. each, (650)592-7483

MASSAGE DEVICE with batteries $9 in box, (650)368-3037

METAL CABINET - 4 drawers, beige 16.5 inches W x 27 3/4 H x 27 inches D. $40., San Mateo, (650)341-5347

NEW BANQUET table 6ft x 30. $40. Call (650)871-7200.

NEW GAIAM Yoga P.M. Tape & CD $10. 650-578-8306

NEW LIVING Yoga Tape for Beginners $8. 650-578-8306

NEW WOOL afghan, colorful, handmade, 4x6 ft., $40. (650)364-0902

NEW YORK Payphone, as it was 50 years ago! $100. (650)364-0902

PACHIRA PLANT 3ft. H. (Money plant) with decorative Pot $30. (650)592-2648

RED LINE D4 ATF fluid (2 quarts), 50% off retail, SOLD!

SF GREETING Cards (300 w/envelopes) factory sealed $20/all. (650)207-2712

SLEEPER BLANKET (3) size 4T Soft $7.50/each. (650)349-6059

SNOW CHAINS - 3 complete sets, sizes fit rims 13" & 15", great condition, $30. all, Burl, (650)347-5104

SOFT BONNET hair drier "Con Air" $20., (650)589-2993

SPANISH GUITAR 6 strings good condition $80. Call (650)375-1550.

SPORTS BOOKS, Full of Facts, All Sports, Beautiful Collection 5 Volumes, $25. 650 871-7211

STUART WOODS HARDBACK BOOKS - 3 @$3. each, (650)341-1861

SUIT/COAT HANGERS (14) sturdy good quality hardwood unused $1/each or all $10. San Bruno 650-588-1946

VASES (25) lovely all sizes $1-$5 Daly City. (650)755-9833

Classifieds

Brought to you by THE DAILY JOURNAL

All classified ads appear on our website at no additional cost. www.smdailyjournal.com
telephone: 650-344-5200 fax: 650-344-5290
email classifieds@smdailyjournal.com

Employment & Education | Merchandise For Sale | Real Estate & Rentals | Legal Notices | Auto/Truck & Other Vehicles | Home & Garden Services

104 Training

TERMS & CONDITIONS
The San Mateo Daily Journal Classifieds will not be responsible for more than one incorrect insertion, and its liability shall be limited to the price of one insertion. No allowance will be made for errors not materially affecting the value of the ad. All error claims must be submitted within 30 days. For full advertising conditions, please ask for a Rate Card.

106 Tutoring

PAINLESS TUTORING
Algebra, Geometry, Trigonometry & Calcuus
Reasonable Rates & Guaranteed Results
(650)245-0632

TUTORING
Spanish, French, Italian
Certificated Local Teacher
All Ages!
(650)573-9718

107 Musical Instruction

Music Lessons
Sales • Repairs • Rentals
Bronstein Music
363 Grand Ave.
So. San Francisco
(650)588-2502
bronsteinmusic.com

110 Employment

AVON SELL OR BUY
Earn up 50% + bonuses
Hablamos Espanol
1(866)440-5795
Independent Sales Rep
Free Gift with Sign Up!

110 Employment

CAREGIVERS
2 years experience required.
Immediate Placement
on all assignments
CALL (650)777-9000

CAREGIVERS
Mid Peninsula CNA's needed.
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FICTITIOUS BUSINESS NAME STATEMENT #242693
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/s/ Nina Waraich /
This statement was filed with the Assessor-County Clerk-Recorder of San Mateo County on 01/10/11. (Published in the San Mateo Daily Journal, 02/10/11, 02/17/11, 02/24/11, 03/03/11

FICTITIOUS BUSINESS NAME STATEMENT #243117
The following person is doing business as: Ontario II Properties, 1575 Bayshore Highway, Suite 100, Burlingame, CA 94010 is hereby registered by the following owner: Andrew Peceimer, same address. The business is conducted by an Individual. The registrants commenced to transact business under the FBN on
/s/ Andrew Peceimer /
This statement was filed with the Assessor-County Clerk-Recorder of San Mateo County on 02/01/11. (Published in the San Mateo Daily Journal, 02/10/11, 02/17/11, 02/24/11, 03/03/11

FICTITIOUS BUSINESS NAME STATEMENT #243118
The following person is doing business as: Ontario III Properties, 1575 Bayshore Highway, Suite 100, Burlingame, CA 94010 is hereby registered by the following owner: Andrew Peceimer, same address. The business is conducted by an Individual. The registrants commenced to transact business under the FBN on
/s/ Andrew Peceimer /
This statement was filed with the Assessor-County Clerk-Recorder of San Mateo County on 02/01/11. (Published in the San Mateo Daily Journal, 02/10/11, 02/17/11, 02/24/11, 03/03/11

203 Public Notices

FICTITIOUS BUSINESS NAME STATEMENT #243119
The following person is doing business as: El Flamingo Properties, 1575 Bayshore Highway, Suite 100, Burlingame, CA 94010 is hereby registered by the following owner: Andrew Peceimer, same address. The business is conducted by an Individual. The registrants commenced to transact business under the FBN on
/s/ Andrew Peceimer /
This statement was filed with the Assessor-County Clerk-Recorder of San Mateo County on 02/01/11. (Published in the San Mateo Daily Journal, 02/10/11, 02/17/11, 02/24/11, 03/03/11

FICTITIOUS BUSINESS NAME STATEMENT #243120
The following person is doing business as: Pritchard Real Estate, 1575 Bayshore Highway, Suite 100, Burlingame, CA 94010 is hereby registered by the following owner: Andrew Peceimer, same address. The business is conducted by an Individual. The registrants commenced to transact business under the FBN on
/s/ Andrew Peceimer /
This statement was filed with the Assessor-County Clerk-Recorder of San Mateo County on 02/01/11. (Published in the San Mateo Daily Journal, 02/10/11, 02/17/11, 02/24/11, 03/03/11

FICTITIOUS BUSINESS NAME STATEMENT #243121
The following person is doing business as: Mar Vista Real Estate, 1575 Bayshore Highway, Suite 100, Burlingame, CA 94010 is hereby registered by the following owner: Andrew Peceimer, same address. The business is conducted by an Individual. The registrants commenced to transact business under the FBN on
/s/ Andrew Peceimer /
This statement was filed with the Assessor-County Clerk-Recorder of San Mateo County on 02/01/11. (Published in the San Mateo Daily Journal, 02/10/11, 02/17/11, 02/24/11, 03/03/11

FICTITIOUS BUSINESS NAME STATEMENT #243122
The following person is doing business as: Milton Manor Properties, 1575 Bayshore Highway, Suite 100, Burlingame, CA 94010 is hereby registered by the following owner: Andrew Peceimer, same address. The business is conducted by an Individual. The registrants commenced to transact business under the FBN on
/s/ Andrew Peceimer /
This statement was filed with the Assessor-County Clerk-Recorder of San Mateo County on 02/01/11. (Published in the San Mateo Daily Journal, 02/10/11, 02/17/11, 02/24/11, 03/03/11

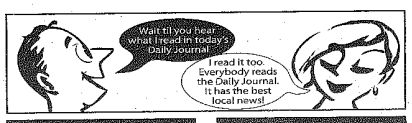
203 Public Notices

FICTITIOUS BUSINESS NAME STATEMENT #243123
The following person is doing business as: Angeleno Real Estate, 1575 Bayshore Highway, Suite 100, Burlingame, CA 94010 is hereby registered by the following owner: Andrew Peceimer, same address. The business is conducted by an Individual. The registrants commenced to transact business under the FBN on
/s/ Andrew Peceimer /
This statement was filed with the Assessor-County Clerk-Recorder of San Mateo County on 02/01/11. (Published in the San Mateo Daily Journal, 02/10/11, 02/17/11, 02/24/11, 03/03/11

FICTITIOUS BUSINESS NAME STATEMENT #243124
The following person is doing business as: Montclair Properties, 1575 Bayshore Highway, Suite 100, Burlingame, CA 94010 is hereby registered by the following owner: Andrew Peceimer, same address. The business is conducted by an Individual. The registrants commenced to transact business under the FBN on
/s/ Andrew Peceimer /
This statement was filed with the Assessor-County Clerk-Recorder of San Mateo County on 02/01/11. (Published in the San Mateo Daily Journal, 02/10/11, 02/17/11, 02/24/11, 03/03/11

FICTITIOUS BUSINESS NAME STATEMENT #243125
The following person is doing business as: Norwalk Properties, 1575 Bayshore Highway, Suite 100, Burlingame, CA 94010 is hereby registered by the following owner: Andrew Peceimer, same address. The business is conducted by an Individual. The registrants commenced to transact business under the FBN on
/s/ Andrew Peceimer /
This statement was filed with the Assessor-County Clerk-Recorder of San Mateo County on 02/01/11. (Published in the San Mateo Daily Journal, 02/10/11, 02/17/11, 02/24/11, 03/03/11

FICTITIOUS BUSINESS NAME STATEMENT #243126
The following person is doing business as: Dunrobin Properties, 1575 Bayshore Highway, Suite 100, Burlingame, CA 94010 is hereby registered by the following owner: Andrew Peceimer, same address. The business is conducted by an Individual. The registrants commenced to transact business under the FBN on
/s/ Andrew Peceimer /
This statement was filed with the Assessor-County Clerk-Recorder of San Mateo County on 02/01/11. (Published in the San Mateo Daily Journal, 02/10/11, 02/17/11, 02/24/11, 03/03/11



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NOTICE OF PUBLIC HEARING
CITY OF BURLINGAME
URBAN WATER MANAGEMENT PLAN - 2010 UPDATE INCLUDING URBAN WATER USE TARGETS

The City of Burlingame is preparing a draft update of its Urban Water Management Plan (UWMP). Water agencies develop UWMPs in order to help ensure a reliable water supply sufficient to meet the future needs of their customers. The current UWMP was prepared in 2005 and, as required by California law, must be updated by July 1, 2011. Additionally, California law requires that, in conjunction with the update to the Urban Water Management Plan, the community be given an opportunity to give input on the City of Burlingame's urban water use target in the Urban Water Management Plan, any impacts to the local economy, and City of Burlingame's method of determining its urban water use target.

The City of Burlingame will hold a public hearing to adopt an urban water use target and updates to its Urban Water Management Plan for 2010-2015. The public hearing will be held at 7:00 pm on Monday, May 16, 2011 at Burlingame City Hall, City Council Chambers, located at 501 Primrose Road, Burlingame, California 94010. Comments on the draft 2010 UWMP may be made prior to the hearing to Mr. Art Morimoto at the address below, or at the public hearing. A draft of the 2010 UWMP will be available for review at the Burlingame Main Library located at 480 Primrose Road, Burlingame, California 94010 and at City Hall, Public Works Department located at 501 Primrose Road, Burlingame, California 94010. If you have any questions regarding the draft 2010 UWMP, please contact:

Art Morimoto, P.E.
Public Works Department, Engineering Division
501 Primrose Road
Burlingame, CA 94010-3906
(650) 558-7230
amorimoto@burlingame.org

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APPENDIX D:
CITY OF BURLINGAME RESOLUTION 31-211, URBAN WATER MANAGEMENT PLAN, 2010 UPDATE

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Agenda Item # 5a
Meeting Date: 5/16/2011

STAFF REPORT

SUBMITTED BY Syed Murtuza

APPROVED BY

TO: HONORABLE MAYOR AND CITY COUNCIL

DATE: May 16, 2011

FROM: PUBLIC WORKS

SUBJECT: ADOPTION OF THE 2010 URBAN WATER MANAGEMENT PLAN FOR THE CITY OF BURLINGAME

RECOMMENDATION: It is recommended that Council take the following actions:

1. Hold a public hearing on the City of Burlingame's draft 2010 Urban Water Management Plan and
2. Approve a resolution adopting the 2010 Urban Water Management Plan.

BACKGROUND: The Urban Water Management Planning Act (Act) requires water suppliers to prepare or update their Urban Water Management Plans (UWMPs) and submit a complete UWMP to the State of California Department of Water Resources every five years. Burlingame's last UWMP was prepared in 2005 and the updated UWMP must be adopted by resolution prior to June 30, 2011.

UWMPs are planning documents prepared to help evaluate whether adequate water supplies will be available to meet anticipated future water demands. In addition, preparation of an UWMP is intended to assist water suppliers in managing the efficient use of water within their service area.

The Water Conservation Act of 2009 (or Senate Bill 7) requires that cities set per capita urban water use targets to be achieved in 2015 and 2020 with the goal of a state-wide reduction in per-capita water consumption of 20% by the year 2020. The draft UWMP establishes these per capita urban water use targets in accordance with the Senate Bill 7 and outlines how the City intends to achieve the water use targets.

Both the Act and Senate Bill 7 require that the City hold a public hearings regarding prior to adoption of the UWMP and the urban water use targets.

DISCUSSION: The City retained Erler & Kalinowski, Inc. to prepare the 2010 UWMP. Findings from the development of the attached draft 2010 UWMP indicate that, during normal water years, Burlingame is expected to have adequate water supply to meet anticipated water demands for the next 25 years, the planning horizon considered in the UWMP. The UWMP also addresses methods in which Burlingame can achieve water use cutbacks during droughts and other water supply disruptions. Additionally, the UWMP has found that Burlingame is efficiently using water through appropriate conservation efforts and use of non-potable water.

The City's 5-year average residential water consumption is approximately 86 gallons per-capita, per day (gpcd). However, under Senate Bill 7, per-capita urban water use is defined as the total water consumption, including that from hotels, industries and businesses, divided by the total population. Therefore, for the purposes of Senate Bill 7, City's baseline per-capita water urban use is 163 gpcd.

As required by Senate Bill 7, the City must set per capita urban water use targets for that must be achieved by 2015 and 2020. For Burlingame, the per-capita urban water use targets are 148 gpcd for 2015 and 133 gpcd for 2020. The City intends to achieve these urban water use targets through actions described in the UWMP, which include the evaluation and potential implementation of additional water conservation measures.

Burlingame's draft UWMP has been prepared in accordance with the Act and Senate Bill 7 and in cooperation with the Bay Area Water Supply and Conservation Agency (BAWSCA), the San Francisco Public Utilities Commission, and the BAWSCA member agencies. Additionally, the City has notified the public of the preparation of the draft UWMP and made the document available for public review in accordance with the State Laws. To date, Burlingame has not received any public or agency comments on the draft UWMP.

Staff has reviewed the draft 2010 UWMP and finds it to be consistent with the City's water demands and supplies. Assuming there are no significant comments at the public hearing, it is recommended that Council approve a resolution adopting the 2010 UWMP.

EXHIBITS: Draft 2010 UWMP, Resolution

BUDGET IMPACT: There is no anticipated budget impact from the adoption of the UWMP.

cc: City Clerk, City Attorney, City Manager, Director of Public Works, Assistant Director of Public Works, Phil Monaghan, Erler & Kalinowski, Inc.

RESOLUTION NO. 31-2011

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF BURLINGAME APPROVING AN URBAN WATER MANAGEMENT PLAN FOR THE CITY OF BURLINGAME

WHEREAS, The Urban Water Management Planning Act (Act) requires water suppliers to prepare or update their Urban Water Management Plans (UWMPs) and submit a complete UWMP to the State of California Department of Water Resources every five years; and

WHEREAS, Burlingame's last UWMP was prepared in 2005 and the updated UWMP must be adopted by resolution prior to June 30, 2011; and

WHEREAS, UWMPs are planning documents prepared for water suppliers to assist them in the evaluation of adequate water supplies to meet anticipated future needs and to assist them in managing the efficient use of water within their service area; and

WHEREAS, in compliance with The Water Conservation Act of 2009 (requires that cities set per capita urban water use targets to be achieved in 2015 and 2020 with the goal of a state-wide reduction in per-capita water consumption of 20% by the year 2020), the City's draft UWMP establishes per capita urban water use targets and the proposed methods to achieve the water use targets for the City; and

WHEREAS, as required by the Water Conservation Act of 2009, the City must conduct a public hearing regarding the Urban Water Management Plan before the City adopts said Plan; and

WHEREAS, Burlingame's draft UWMP has been prepared by Erler & Kalinowski, Inc in accordance with the Act and in cooperation with the Bay Area Water Supply and Conservation Agency (BAWSCA), the San Francisco Public Utilities Commission, and the BAWSCA member agencies; and

WHEREAS, in accordance with the Act and other State Laws the City has notified the public of the preparation of the draft UWMP and has made the document available for public review; and

WHEREAS, as of May 10, 2011, the City has not received any public or agency comments on the draft UWMP;

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF BURLINGAME DOES HEREBY RESOLVE AND ORDER AS FOLLOWS:

1. The City Council of the City of Burlingame finds all of the facts recited above, in the staff report and during the presentation of this matter, to be true and correct.

2. The City Council of the City of Burlingame approves the City of Burlingame Urban Water Management Plan.

Terry Nagel, Mayor

I, Mary Ellen Kearney, City Clerk of the City of Burlingame, do hereby certify that the foregoing resolution was introduced at a regular meeting of the City Council held on the 16th day of May, 2011, and was adopted thereafter by the following vote:

AYES:	Councilmembers:	**BROWNRIGG, DEAL, KEIGHRAN, NAGEL**
NOES:	Councilmembers:	**NONE**
ABSENT:	Councilmembers:	**BAYLOCK**

Mary Ellen Kearney, City Clerk

APPENDIX E:
WATER SUPPLY AGREEMENT

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WATER SUPPLY AGREEMENT

between

THE CITY AND COUNTY OF SAN FRANCISCO

and

WHOLESALE CUSTOMERS
in
ALAMEDA COUNTY, SAN MATEO COUNTY AND SANTA CLARA COUNTY

JULY 2009

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WHOLESALE WATER SUPPLY AGREEMENT

Introductory Statement

Both San Francisco, as the Regional Water System owner and operator, and its Wholesale Customers share a commitment to the Regional Water System providing a reliable supply of high quality water at a fair price, and achieving these goals in an environmentally sustainable manner.

Article 1. Parties, Effective Date, and Defined Terms

1.01 Definitions

The capitalized terms used in this Agreement shall have the meanings set forth in Attachment A.

1.02 Parties

The parties to this Agreement are the City and County of San Francisco and such of the following entities (all of which purchase water from San Francisco) as have executed this Agreement:

Alameda County Water District
California Water Service Company
City of Brisbane
City of Burlingame
City of Daly City
City of East Palo Alto
City of Hayward
City of Menlo Park
City of Millbrae
City of Milpitas
City of Mountain View
City of Palo Alto
City of Redwood City

City of San Bruno
City of San José
City of Santa Clara
City of Sunnyvale
Coastside County Water District
Estero Municipal Improvement District
Guadalupe Valley Municipal Improvement District
Mid-Peninsula Water District
North Coast County Water District
Purissima Hills Water District
Skyline County Water District
Stanford University
Town of Hillsborough
Westborough Water District

The entities listed above which have executed this Agreement shall be collectively referred to as the "Wholesale Customers."

1.03 Effective Date

A. Except as provided in subsection C, this Agreement shall become effective only when it has been approved by San Francisco and by each of the entities listed in Section 1.02 and when San Francisco and each of those entities (except for the City of Hayward) have entered into an Individual Water Sales Contract as provided in Section 9.01.

B. If San Francisco and all of the entities listed in Section 1.02 approve this Agreement and (except for the City of Hayward) an Individual Water Sales Contract on or before July 1, 2009, the effective date shall be July 1, 2009. If San Francisco and all of the entities listed in Section 1.02 approve this Agreement and (except for the City of Hayward) an Individual Water Sales Contract after July 1, 2009 but on or before September 1, 2009, the effective date shall be the date on which the last entity listed in Section 1.02 approves this Agreement and, if required, an Individual Water Sales Contract.

C. If by September 1, 2009 this Agreement has been approved by fewer than all of the entities listed in Section 1.02 or fewer than all of such entities (other than the City of Hayward) have entered into an Individual Water Sales Contract, but it has been approved by entities representing at least 75% in number and 75% of the water purchased from SFPUC by

all listed agencies during FY 2007-08 (i.e., 173.39 MGD), then San Francisco shall have the option to waive the requirement in subsection A that all listed agencies have approved this Agreement and an Individual Water Sales Contract as a condition precedent to this Agreement and any Individual Water Sales Contract becoming effective. San Francisco shall have 60 days from September 1, 2009 (i.e., until October 31, 2009) within which to decide whether or not to waive the condition. If San Francisco decides to waive the condition, those listed agencies that have approved this Agreement and Individual Water Sales Contract before October 31, 2009 will be bound thereby and this Agreement and Individual Water Sales Contracts will become effective as to them, as of the date of San Francisco's waiver. For purposes of determining whether listed agencies that have approved this Agreement represent at least 75% of the water purchased during FY 2007-08, the quantity of water attributable to each listed entity shall be as set forth on Attachment B.

D. The provisions of Article 9 that apply to fewer than all Wholesale Customers (i.e., Sections 9.02 - 9.07) shall not become effective unless San Francisco and the entity to which the section applies have each approved (1) this Agreement, and (2) the underlying Individual Water Sales Contract, unless otherwise provided in Article 9. This provision does not affect the continued enforceability of provisions in those sections that derive from independently enforceable judgments, orders or agreements.

Article 2. Term; Amendments During Term

2.01 Term

The term ("Term") of this Agreement shall be twenty five (25) years. The Term shall begin on July 1, 2009, regardless of whether the Effective Date is before or after that date, and shall end on June 30, 2034. Except as provided in Article 9, the term of all Individual Water Sales Contracts shall also begin on July 1, 2009 and end on June 30, 2034.

2.02 Extension and Renewal of Term

A. In December 2031, the SFPUC may provide written notice to the Wholesale Customers that it is willing to extend the Term of this Agreement. Between January 1, 2032 and June 30, 2032, any Wholesale Customer may accept the SFPUC's offer to extend the Term by providing a written notice of extension to the SFPUC. If such notices of extension are received from Wholesale Customers representing at least two-thirds in number as of June 30, 2032 and seventy five percent (75%) of the quantity of water delivered by the SFPUC to all Wholesale Customers during fiscal year 2030-31, the Term shall be extended for another five (5) years ("First Extension Term"), through June 30, 2039. No party to this Agreement which does not wish to remain a party during the Extension Term shall be compelled to do so by the actions of other parties under this section.

B. In December 2036, the SFPUC may provide written notice to the Wholesale Customers that it is willing to extend the Term of this Agreement. Between January 1, 2037 and June 30, 2037, any Wholesale Customer may accept the SFPUC's offer to extend the Term by providing a written notice of extension to the SFPUC. If such notices of extension are received from Wholesale Customers representing at least two-thirds in number as of June 30, 2037 and seventy five percent (75%) of the quantity of water delivered by the SFPUC to all Wholesale Customers during fiscal year 2035-36, the Term shall be extended for another five (5) years ("Second Extension Term"), through June 30, 2044. No party to this Agreement which does not wish to remain a party during the Extension Term shall be compelled to do so by the actions of other parties under this section.

C. After the expiration of the Term, and, if applicable, the Extension Terms, this Agreement may be renewed by mutual consent of the parties, subject to any modifications thereof which may be determined at that time. If fewer than all of the parties desire to renew this Agreement beyond its Term, with or without modifications, the SFPUC and the Wholesale

Customers who wish to extend the Agreement shall be free to do so, provided that no party to this Agreement which does not wish to become a party to such a renewed Agreement shall be compelled to do so by the actions of other parties under this section.

2.03 Amendments

A. Amendments to Agreement; General

1. This Agreement may be amended with the written consent of all parties.

2. This Agreement may also be amended with the written consent of San Francisco and of Wholesale Customers representing at least two-thirds in number (i.e., 18 as of July 1, 2009) and seventy five percent (75%) of the quantity of water delivered by San Francisco to all Wholesale Customers during the fiscal year immediately preceding the amendment.

3. No amendment which adversely affects a Fundamental Right of a Wholesale Customer may be made without the written consent of that customer. Amendments to Article 5 which merely affect the allocation of costs between City Retail customers on the one hand and Wholesale Customers collectively on the other, and amendments to Articles 6 and 7 which merely alter budgetary, accounting and auditing procedures do not affect Fundamental Rights and may be made with the consent of parties meeting the requirements of Section 2.03.A.2.

4. When an amendment has been approved by San Francisco and the number of Wholesale Customers required in Section 2.03.A.2, San Francisco shall notify each of the Wholesale Customers in writing of the amendment's adoption. Notwithstanding any provision of law or this Agreement, any Wholesale Customer that claims that the amendment violates its Fundamental Rights under Section 2.03.A.3, shall have 30 days from the date San Francisco delivers the notice of its adoption in which to challenge the amendment's validity through a judicial action. If no such action is filed within 30 days, the amendment shall be finally and conclusively deemed to have been adopted in compliance with this section.

B. Amendments to Article 9

1. Notwithstanding the provisions of Sections 2.03.A.2 and 2.03.A.3, any provision of Article 9 which applies only to an individual Wholesale Customer may be amended with the written concurrence of San Francisco and the Wholesale Customer to which it applies;

provided that the amendment will not, directly or indirectly, adversely affect the Fundamental Rights of the other Wholesale Customers.

2. Before making any such amendment effective, San Francisco shall give notice, with a copy of the text of the proposed amendment, to all other Wholesale Customers. The Wholesale Customers shall have 30 days in which to object to the amendment on the ground that it is not permissible under this subsection. If no such objection is received by San Francisco, the proposed amendment shall become effective. If one or more Wholesale Customers object to the amendment, San Francisco, the individual Wholesale Customer with which San Francisco intends to effect the amendment, and the Wholesale Customer(s) which lodged the objection shall meet to discuss the matter.

3. If the dispute cannot be resolved and San Francisco and the Wholesale Customer involved elect to proceed with the amendment, either San Francisco or the Wholesale Customer shall give written notice of such election to each Wholesale Customer that has objected. Any Wholesale Customer that has objected to such amendment shall have 30 days from receipt of this notice within which to commence an action challenging the validity of such amendment, and such amendment shall be deemed effective as of the end of this 30-day period unless restrained by order of court.

C. **Amendments to Attachments**. The following attachments may be amended with the written concurrence of San Francisco and BAWSCA on behalf of the Wholesale Customers:

Attachment	Name
G	January 2006 Water Quality Notification and Communications Plan
J	Water Use Measurement and Tabulation
L-1	Identification of WSIP Projects as Regional/Retail
N-1	Balancing Account/Rate Setting Calculation Table
N-2	Wholesale Revenue Requirement Schedules
N-3	Schedule of Projected Water Sales, Wholesale Revenue Requirement and Wholesale Rates
P	Management Representation Letter

Amendments to these attachments shall be approved on behalf of San Francisco by the Commission and on behalf of BAWSCA by its Board of Directors, unless the Commission by resolution delegates such authority to the General Manager of the SFPUC or the Board of Directors by resolution delegates such authority to the General Manager/CEO of BAWSCA.

D. **Amendments to Individual Water Sales Contracts**. Individual Water Sales Contracts described in Section 9.01 may be amended with the written concurrence of San Francisco and the Wholesale Customer which is a party to that Individual Water Sales Contract; provided that the amendment is not inconsistent with this Agreement or in derogation of the Fundamental Rights of other Wholesale Customers under this Agreement.

Article 3. Water Supply

3.01 Supply Assurance

A. San Francisco agrees to deliver water to the Wholesale Customers up to the amount of the Supply Assurance. The Supply Assurance is for the benefit of the entities listed in Section 1.02, irrespective of whether or not they have executed this Agreement. Water delivered by San Francisco to Retail Customers shall not be included in the Supply Assurance. Until December 31, 2018, the foregoing commitment is subject to Article 4.

B. Both the Supply Assurance and the Individual Supply Guarantees identified in Section 3.02 are expressed in terms of daily deliveries on an annual average basis and do not themselves constitute a guarantee by San Francisco to meet peak daily or hourly demands of the Wholesale Customers, irrespective of what those peak demands may be. The parties acknowledge, however, that the Regional Water System has been designed and constructed to meet peak daily and hourly demands and that its capacity to do so has not yet been reached. San Francisco agrees to operate the Regional Water System to meet peak requirements of the Wholesale Customers to the extent possible without adversely affecting its ability to meet peak demands of Retail Customers. This Agreement shall not preclude San Francisco from undertaking to meet specific peak demand requirements of individual Wholesale Customers in their Individual Water Sales Contracts.

C. The Supply Assurance is perpetual and shall survive the expiration or earlier termination of this Agreement. Similarly, the Individual Supply Guarantees identified in Section 3.02 and/or the Individual Water Sales Contracts are perpetual and shall survive the expiration or earlier termination of this Agreement or the Individual Water Sales Contracts.

D. Notwithstanding the Supply Assurance established by this section, the Individual Supply Guarantees identified in Section 3.02 and the Individual Water Sales Contracts, the amount of water made available by San Francisco to the Wholesale Customers is subject to reduction, to the extent and for the period made necessary by reason of water shortage, Drought, Emergencies, or by malfunctioning or rehabilitation of facilities in the Regional Water System. Any such reduction will be implemented in accordance with Section 3.11. The amount of water made available to the Wholesale Customers may not be reduced, however, merely because the water recycling and groundwater projects which the WSIP envisions to be constructed within San Francisco, or the conservation programs intended to reduce water use

by Retail Customers that are included in the WSIP, do not generate the yield or savings (10 MGD combined) anticipated by San Francisco.

3.02 <u>Allocation of Supply Assurance</u>

A. Pursuant to Section 7.02 of the 1984 Agreement, a portion of the Supply Assurance has been allocated among 24 of the 27 Wholesale Customers. These Individual Supply Guarantees are also expressed in terms of annual average metered deliveries of millions of gallons per day and are listed in Attachment C.

B. Three Wholesale Customers do not have Individual Supply Guarantees. The cities of San Jose and Santa Clara do not have an Individual Supply Guarantees because San Francisco has provided water to them on a temporary and interruptible basis as described in Sections 4.05 and 9.06. The City of Hayward does not have an Individual Supply Guarantee because of the terms of the 1962 contract between it and San Francisco, as further described in Section 9.03.

C. If the total amount of water delivered by San Francisco to Hayward and to the Wholesale Customers that are listed on Attachment C exceeds 184 MGD over a period of three consecutive fiscal years (i.e., July 1 through June 30), then the Individual Supply Guarantees of those Wholesale Customers listed on Attachment C shall be reduced pro rata so that their combined entitlement and the sustained use by Hayward does not exceed 184 MGD. The procedure for calculating the pro rata reduction in Individual Supply Guarantees is set out in Attachment D.

1. The provisions of this subsection C are not in derogation of the reservation of claims to water in excess of the Supply Assurance which are contained in Section 8.07. Nor do they constitute an acknowledgement by Wholesale Customers other than Hayward that San Francisco is obligated or entitled to reduce their Individual Supply Guarantees in the circumstances described herein. The provisions of this subsection C shall, however, be operative unless and until a court determines that its provisions violate rights of the Wholesale Customers derived independently of this Agreement.

2. The foregoing paragraph is not intended to and shall not constitute a contractual commitment on the part of San Francisco to furnish more water than the Supply Assurance to the Wholesale Customers or a concession by San Francisco that the provisions of this subsection violate any rights of the Wholesale Customers.

D. Notwithstanding the reservation of claims contained in Sections 3.02.C and 8.07, it shall be the responsibility of each Wholesale Customer to limit its purchases of water from San Francisco so as to remain within its Individual Supply Guarantee. San Francisco shall not be liable to any Wholesale Customer or be obligated to supply more water to any Wholesale Customer individually or to the Wholesale Customers collectively than the amount to which it or they are otherwise entitled under this Agreement due to the use by any Wholesale Customer of more water than the amount to which it is entitled under this Agreement.

E. San Francisco shall install such new connections between the Regional Water System and the distribution system of any Wholesale Customer that are necessary to deliver the quantities of water to which the Wholesale Customer is entitled under this Agreement. San Francisco shall have the right to determine the location of such connections, in light of the need to maintain the structural integrity of the Regional Water System and, where applicable, the need to limit peaking directly off of Regional Water System pipelines by a Wholesale Customer's individual retail customers, the need to ensure that a Wholesale Customer's individual retail customers have access to alternative sources of water in the event of a reduction in San Francisco's ability to provide them with water, and other factors which may affect the desirability or undesirability of a particular location. San Francisco's decisions regarding the location of new connections and the location, size and type of any new meters shall not be reviewable by a court except for an abuse of discretion or failure to provide a Wholesale Customer with connections and meters adequate to deliver the quantity of water to which it is entitled under this Agreement.

3.03 <u>Wholesale Customer Service Areas</u>

A. Each of the Individual Water Sales Contracts described in Section 9.01 will contain, as an exhibit, a map of the Wholesale Customer’s service area. A Wholesale Customer may not deliver water furnished to it by San Francisco outside the boundary of its service area without the prior written consent of San Francisco, except for deliveries to another Wholesale Customer on an emergency and temporary basis pursuant to Section 3.07.B.

B. If a Wholesale Customer wishes to expand its service area, it shall request San Francisco's consent to the expansion and provide information reasonably requested by San Francisco about the amount of water projected to be purchased from San Francisco to meet demand within the area proposed to be added to the service area.

C. San Francisco may refuse a Wholesale Customer's request to expand its service area on any reasonable basis. If San Francisco denies a request by a Wholesale Customer to expand its service area, or fails to act on the request for six months after it has been submitted, the Wholesale Customer may challenge San Francisco's denial or delay in court. Such a challenge may be based on the Wholesale Customers' claim, reserved in Section 8.07, that San Francisco is obligated under federal or state law to furnish water, included within its Individual Supply Guarantee, to it for delivery outside its then-existing service area and that it is entitled to enlarge its service area to supply water to such customers. San Francisco reserves the right to contest any such claim on any applicable ground. This subsection does not apply to San Jose and Santa Clara, whose maximum service areas are fixed pursuant to Section 9.06.

D. This section will not prevent San Francisco and any Wholesale Customer, other than San Jose and Santa Clara, from agreeing in an Individual Water Sales Contract or an amendment thereto that:

- the Wholesale Customer may expand its service area without subsequent San Francisco approval to a definitive size but no larger, or
- the Wholesale Customer will not expand its service area beyond its present limits without San Francisco approval

and waiving the provisions of this section with respect to any additional expansion.

E. If two or more Wholesale Customers agree to adjust the boundaries of their respective service areas so that one assumes an obligation to serve customers in an area that was previously within the service area of another Wholesale Customer, they may also correspondingly adjust their respective Individual Supply Guarantees. Such adjustments are not subject to the requirements of Section 3.04 and shall require only the consent of San Francisco and the Wholesale Customers involved, so long as the Supply Assurance and the Individual Supply Guarantees of other Wholesale Customers are not affected. Service area boundary adjustments that would result in the expansion of any California Water Service Company service areas are subject to the requirements of Section 9.02.D. Any adjustment of service area boundaries that would result in the supply of water in violation of this Agreement or the Act shall be void.

F. San Francisco acknowledges that it has heretofore consented in writing to deliveries of water by individual Wholesale Customers outside their service area boundaries and

agrees that nothing in this Agreement is intended to affect such prior authorizations, which remain in full force and effect according to their terms. Such authorizations shall be identified in the Individual Water Sales Contracts.

3.04 Permanent Transfers of Individual Supply Guarantees

A. A Wholesale Customer that has an Individual Supply Guarantee may transfer a portion of it to one or more other Wholesale Customers, as provided in this section.

B. Transfers of a portion of an Individual Supply Guarantee must be permanent. The minimum quantity that may be transferred is 1/10th of a MGD.

C. Transfers of portions of Individual Supply Guarantees are subject to approval by the SFPUC. SFPUC review is limited to determining (1) whether a proposed transfer complies with the Act, and (2) whether the affected facilities in the Regional Water System have sufficient capacity to accommodate delivery of the increased amount of water to the proposed transferee.

D. The participants in a proposed transfer shall provide notice to the SFPUC specifying the amount of the Individual Supply Guarantee proposed to be transferred, the proposed effective date of the transfer, which shall not be less than 60 days after the notice is submitted to the SFPUC, and the Individual Supply Guarantees of both participants resulting from the transfer. The SFPUC may require additional information reasonably necessary to evaluate the operational impacts of the transfer. The SFPUC will not unreasonably withhold or delay its approval; if the SFPUC does not act on the notice within 60 days, the transfer will be deemed to have been approved.

E. Within 30 days after the transfer has become effective, both the transferor and the transferee will provide notice to the SFPUC and BAWSCA. By September 30 of each year during the Term, the SFPUC and BAWSCA will prepare an updated Attachment C to reflect transfers occurring during the immediately preceding fiscal year.

F. Amounts transferred will remain subject to pro rata reduction under the circumstances described in Section 3.02.C and according to the formula set forth in Attachment D.

3.05 Restrictions on Resale

Each Wholesale Customer agrees that it will not sell any water purchased from San Francisco to a private party for resale by such private party to others in violation of the Act.

Each Wholesale Customer also agrees that it will not sell water purchased from San Francisco to another Wholesale Customer without prior written approval of the SFPUC, except on a temporary and emergency basis as permitted in Section 3.07.B.2. The SFPUC agrees that it will not unreasonably withhold its consent to a request by a Wholesale Customer to deliver water to another Wholesale Customer for resale.

3.06 Conservation; Use of Local Sources; Water Management Charge

A. In order to support the continuation and expansion of water conservation programs, water recycling, and development of alternative supplies within the Wholesale Customers' service areas, the SFPUC will, if requested by BAWSCA, include the Water Management Charge in water bills sent to Wholesale Customers. The SFPUC will deliver all Water Management Charge revenue to BAWSCA monthly and shall deliver an annual accounting of Water Management Charge revenue to BAWSCA within 90 days after the end of each fiscal year. The SFPUC's obligations to collect and deliver Water Management Charge revenue to BAWSCA under this subsection are conditioned on BAWSCA's delivery to the SFPUC of an annual report describing the projects and programs on which Water Management Charge funds received from the SFPUC during the previous fiscal year were expended and an estimate of the amount of water savings attributable to conservation programs and of the yield of alternative supplies developed. This report will be due within 180 days after the end of each fiscal year during which Water Management Charge funds were received.

B. The SFPUC will work together with BAWSCA to explore ways to support water conservation programs, recycling projects, and conjunctive use alternatives outside the Wholesale Service Area, in particular projects and programs that have the potential to increase both flows in the lower Tuolumne River (downstream of New Don Pedro Reservoir) and water deliveries to the Regional Water System.

C. Each Wholesale Customer shall take all actions within its legal authority related to water conservation that are necessary to insure that the SFPUC (a) remains eligible for (i) state and federal grants and (ii) access to the Drought Water Bank operated by the California Department of Water Resources, as well as other Drought-related water purchase or transfer programs, and (b) complies with future legal requirements imposed on the Regional Water System by the federal government, the State, or any other third party as conditions for receiving funding or water supply.

D. San Francisco and each Wholesale Customer agree that they will diligently apply their best efforts to use both surface water and groundwater sources located within their respective service areas and available recycled water to the maximum feasible extent, taking into account the environmental impacts, the public health effects and the effects on supply reliability of such use, as well as the cost of developing such sources.

3.07 Restrictions on Purchases of Water from Others; Minimum Annual Purchases

A. Each Wholesale Customer (except for Alameda County Water District and the cities of Milpitas, Mountain View and Sunnyvale) agrees that it will not contract for, purchase or receive, with or without compensation, directly or indirectly, from any person, corporation, governmental agency or other entity, any water for delivery or use within its service area without the prior written consent of San Francisco.

B. The prohibition in subsection A does not apply to:

1. recycled water;

2. water necessary on an emergency and temporary basis, provided that the Wholesale Customer promptly gives San Francisco notice of the nature of the emergency, the amount of water that has been or is to be purchased, and the expected duration of the emergency; or

3. water in excess of a Wholesale Customer's Individual Supply Guarantee.

C. Alameda County Water District and the cities of Milpitas, Mountain View and Sunnyvale may purchase water from sources other than San Francisco, provided that San Francisco shall require that each purchase a minimum annual quantity of water from San Francisco. These minimum quantities are set out in Attachment E and shall also be included in the Individual Water Sales Contracts between San Francisco and each of these four Wholesale Customers. The minimum purchase requirement in these Individual Water Sales Contracts will be waived during a Drought or other period of water shortage if the water San Francisco makes available to these Wholesale Customers is less than its minimum purchase quantity.

3.08 Water Quality

A. San Francisco shall deliver treated water to Wholesale Customers (except Coastside County Water District, which receives untreated water from Crystal Springs and Pilarcitos Reservoirs) that complies with primary maximum contaminant level and treatment

technique standards at the regulatory entry points designated in the San Francisco Regional Water System Domestic Water Supply Permit (currently Permit No. 02-04-04P3810001) issued by the California Department of Public Health (CDPH).

B. San Francisco will provide notice to the Wholesale Customers in accordance with the Water Quality Notification and Communications Plan (current version dated January 2006), attached hereto as Attachment G. San Francisco will regularly update its plan in consultation with the Wholesale Customers and the CDPH. The next update will be completed one year after the Effective Date and include expanded coverage of secondary maximum contaminant level exceedances and water quality communication triggers. The plan will note that the Wholesale Customers will receive the same notification no later than the San Francisco water system (currently Permit No. 02-04-01P3810011) except for distribution-related issues.

C. San Francisco and the Wholesale Customers will establish a Water Quality Committee. The Water Quality Committee will meet at least quarterly to collaboratively address water quality issues, such as Water Quality Notification and Communications Plan updates, regulatory issues, and water quality planning studies/ applied research. San Francisco and each Wholesale Customer will designate a representative to serve on the committee. There will be a Chair and Vice Chair position for the Water Quality Committee. The Chair and Vice Chair positions will be held by San Francisco and the Wholesale Customers and rotate between them on an annual basis.

3.09 <u>Completion of WSIP</u>

San Francisco will complete construction of the physical facilities in the WSIP by December 31, 2015. The SFPUC agrees to provide for full public review and comment by local and state interests of any proposed changes that delay previously adopted project completion dates or that delete projects. The SFPUC shall meet and consult with BAWSCA before proposing to the Commission any changes in the scope of WSIP projects which reduce their capacity or ability to achieve adopted levels of service goals. The SFPUC retains discretion to determine whether to approve the physical facilities in the WSIP until after it completes the CEQA process as set forth in Section 4.07.

3.10 <u>Regional Water System Repair, Maintenance and Operation</u>

A. San Francisco will keep the Regional Water System in good working order and repair consistent with prudent utility practice.

B. San Francisco will submit reports to its Retail and Wholesale Customers on the "State of the Regional Water System," including reports on completed and planned maintenance, repair or replacement projects or programs, by September of every even-numbered year, with reports to start in September 2010.

C. San Francisco will cooperate with any audit of the SFPUC's asset management practices that may be initiated and financed by BAWSCA or the Wholesale Customers. BAWSCA may contract with third parties to conduct the audits. San Francisco will consider the findings and recommendations of such audits and will provide a written response indicating agreement with the recommendations, or disagreement with particular recommendations and the reasons why, within 90 calendar days after receipt.

D. San Francisco will continue to operate its reservoirs in a manner that assigns higher priority to the delivery of water to the Bay Area and the environment than to the generation of electric power. The SFPUC, as the Regional Water System operator, is solely responsible for making day-to-day operational decisions.

3.11 Shortages

A. Localized Water Reductions. Notwithstanding San Francisco's obligations to deliver the Supply Assurance to the Wholesale Customers collectively and the Individual Supply Guarantees to Wholesale Customers individually, San Francisco may reduce the amount of water available or interrupt water deliveries to specific geographical areas within the Regional Water System service area to the extent that such reductions are necessary due to Emergencies, or in order to install, repair, rehabilitate, replace, investigate or inspect equipment in, or perform other maintenance work on, the Regional Water System. Such reductions or interruptions may be imposed by San Francisco without corresponding reductions or interruptions in the amount of water available to SFPUC water users outside the specific geographical area where reductions or interruptions are necessary, if the system's ability to supply water outside the specific geographical area has not been impaired. In the event of such a reduction or interruption, San Francisco will restore the supply of water to the specific geographical area as soon as is possible. Except in cases of Emergencies (during which oral notice shall be sufficient), San Francisco will give the affected Wholesale Customer(s) reasonable written notice of such localized reductions or interruptions, the reasons therefor, and the probable duration thereof.

B. System-Wide Shortages and SFPUC Response to Regional Emergencies. Following a major system emergency event, the SFPUC will work closely with its Wholesale Customers to monitor customer demand, including the demand source. In the event that any individual Wholesale Service Area or Retail Service Area customer's uncontrolled distribution system leaks could result in major water waste and endanger the supply provided by the Regional Water System as a whole, flow through some customer connections may need to be temporarily reduced or terminated. SFPUC will work closely with customers to assess the nature of the demand (e.g. fire-fighting versus leakage), so that public health and safety protection can be given top priority.

1. All emergencies that require use of non-potable source water will require use of chlorine, or other suitable disinfectant, if feasible.

2. San Francisco will use its best efforts to meet the seismic reliability and delivery reliability level of service goals adopted by the Commission in conjunction with the WSIP. San Francisco will distribute water on an equitable basis throughout the Regional Water System service area following a regional Emergency, subject to physical limitations caused by damage to the Regional Water System.

3. San Francisco's response to Emergencies will be guided by the then-current version of the ERRP. The SFPUC shall periodically review, and the Commission may amend, the ERRP to ensure that it remains an up-to-date and effective management tool.

4. The SFPUC will give the Wholesale Customers notice of any proposal to amend the ERRP in a manner that would affect them. The notice will be delivered at least thirty days in advance of the date on which the proposal is to be considered by the Commission and will be accompanied by the text of the proposed amendment.

C. Shortages Caused by Drought; Acquisition of Dry Year Supplies. Notwithstanding San Francisco's obligations to deliver the Supply Assurance to the Wholesale Customers collectively and the Individual Supply Guarantees to Wholesale Customers individually, San Francisco may reduce the amount of water available to the Wholesale Customers in response to Drought.

1. The Tier 1 Shortage Plan (Attachment H) will continue to be used to allocate water from the Regional Water System between Retail and Wholesale Customers during system-wide shortages of 20% or less.

2. San Francisco and the Wholesale Customers may negotiate in good faith revisions to the Tier 1 Shortage Plan to adjust for and accommodate anticipated changes due to demand hardening in the SFPUC's Wholesale and Retail Service Areas. Until agreement is reached, the current Tier 1 Shortage Plan will remain in effect.

3. The SFPUC will honor allocations of water among the Wholesale Customers ("Tier 2 Allocations") provided by BAWSCA or if unanimously agreed to by all Wholesale Customers. If BAWSCA or all Wholesale Customers do not provide the SFPUC with Tier 2 Allocations, then the SFPUC may make a final allocation decision after first meeting and discussing allocations with BAWSCA and the Wholesale Customers. For Regional Water System shortages in excess of 20%, San Francisco shall (a) follow the Tier 1 Shortage Plan allocations up to the 20% reduction, (b) meet and discuss how to implement incremental reductions above 20% with the Wholesale Customers, and (c) make a final determination of allocations above the 20% reduction. After the SFPUC has made the final allocation decision, the Wholesale Customers shall be free to challenge the allocation on any applicable legal or equitable basis.

4. San Francisco will use its best efforts to identify potential sources of dry year water supplies and establish the contractual and other means to access and deliver those supplies in sufficient quantity to meet a goal of not more than 20 percent system-wide shortage in any year of the design drought.

5. San Francisco will cooperate with BAWSCA to improve water supply reliability. As an example of such cooperation, San Francisco may invite a representative of BAWSCA to attend and participate in meetings with third parties for development of dry year water supplies. If San Francisco does not invite a BAWSCA representative to attend a specific scheduled meeting, it will promptly (within 30 days of any such meeting) provide BAWSCA with a written or oral report on the meeting, including any decisions reached at it, as well as information about planned subsequent meetings. Progress in securing dry year water supplies will be reported to the SFPUC and the BAWSCA board of directors during the first quarter of each calendar year.

3.12 <u>Wheeling of Water from Outside SFPUC System</u>

Subject to the Wheeling Statute, the SFPUC will not deny use of Regional Water System unused capacity for wheeling when such capacity is available for wheeling purposes during

periods when the SFPUC has declared a water shortage emergency under Water Code Section 350 if the following conditions are met:

A. The transferor pays reasonable charges incurred by the SFPUC as a result of the wheeling, including capital, operation, maintenance, administrative and replacement costs (as such are defined in the Wheeling Statute).

B. Wheeled water that is stored in the Regional Water System spills first.

C. Wheeled water will not unreasonably: (1) impact fish and wildlife resources in Regional Water System reservoirs; (2) diminish the quality of water delivered for consumptive uses; or (3) increase the risk of exotic species impairing Regional Water System operations. The transferor may at its own expense provide for treatment to mitigate these effects.

D. Priority will be given to wheeling by Wholesale Customers or BAWSCA over arrangements for third-party public entities.

3.13 Limits on New Customers

A. New Wholesale Customers Prior to December 31, 2018. Until December 31, 2018, San Francisco will not enter into contracts to supply water to any entity other than a Wholesale Customer (whether permanent or temporary, firm or interruptible) unless:

1. It completes any necessary environmental review under CEQA of the proposed new wholesale water service obligations as provided in Section 4.07;

2. It concurrently completes any necessary environmental review under CEQA as provided in Section 4.07 and commits to make both San Jose and Santa Clara permanent customers with Individual Supply Guarantees equal to at least 9 MGD; and

3. This Agreement is amended to incorporate any commitments to proposed new wholesale customers and to San Jose and Santa Clara, and to address the effects, if any, of the new customer(s) on water supply reliability, water quality and cost to existing customers of the Regional Water System.

B. New Wholesale Customers After December 31, 2018. As of January 1, 2019, San Francisco will not enter into contracts to supply water to any entity other than a Wholesale Customer (whether permanent or temporary, firm or interruptible) unless:

1. It completes any necessary environmental review under CEQA of the proposed new wholesale water service obligations as provided in Section 4.07;

2. It concurrently completes any necessary environmental review under CEQA as provided in Section 4.07 and commits to make both San Jose and Santa Clara permanent customers with Individual Supply Guarantees equal to at least 9 MGD;

3. Doing so increases the reliability of the Regional Water System; and

4. This Agreement is concurrently amended (a) to reflect that increased reliability by means of an increased commitment by San Francisco to deliver water during Droughts and (b) to address the effects, if any, of the new customer(s) on water supply, water quality and cost to existing customers of the Regional Water System.

C. New Retail Customers. San Francisco may enter into new retail water service obligations outside of the City and County of San Francisco:

1. Only in Alameda, San Mateo, Santa Clara, San Joaquin and Tuolumne Counties;

2. That are within or immediately adjacent to areas in which it currently serves other Retail Customers; and

3. Until the aggregate additional demand represented by the new retail customers reaches 0.5 MGD.

The limitations on serving new Retail Customers described in this subsection do not apply to historical obligations to supply water that may be contained in prior agreements between the SFPUC or its predecessor the Spring Valley Water Company, and individual users or property owners located adjacent to Regional Water System transmission pipelines.

D. Water Exchanges and Cost Sharing Agreements with Other Water Suppliers. Subject to completion of necessary environmental review under CEQA, San Francisco may at any time enter into water exchanges or cost sharing agreements with other water suppliers to enhance dry year or normal year water deliveries, provided that San Francisco cannot incur new water service obligations to such other water suppliers unless the requirements for taking on new wholesale customers in subsections A and B above are met.

3.14 Measurement of Water

A. The parties recognize that continuous and accurate measurement of water deliveries to and from the Regional Water System and maintenance of complete and accurate records of those measurements is necessary (1) for the costs of the Regional Water System to be allocated in accordance with this Agreement, (2) for implementation of other provisions of this Agreement, and (3) for effective operation and maintenance of a water system serving a large urbanized region.

B. It is the responsibility of the SFPUC to obtain and record these measurements. To do so, the SFPUC shall install, maintain and operate measuring and recording equipment at the following locations: (1) inputs to the Regional Water System from all water sources ("System Input Meters"), (2) internal flow meters to support operation of the Regional Water System ("In-Line Meters"), (3) deliveries to the City at the San Francisco-San Mateo County line ("County-Line Meters") and to three reservoirs in San Francisco ("In-City Terminal Reservoir Meters"), (4) deliveries to SFPUC Retail Customers located outside the boundaries of the City, and (5) deliveries to the Wholesale Customers, as described and illustrated in Attachment J.

C. The SFPUC shall inspect, test, service, and calibrate the measuring and recording equipment installed at the locations described in subsection B and will repair or replace them when necessary, in order to ensure that their accuracy is consistent with specifications provided in Attachment J.

D. The SFPUC shall continue to contract with a qualified independent metering consultant to perform periodic inspection, testing, servicing and calibration of the County-Line Meters, the In-City Terminal Reservoir Meters, and the System Input and In-Line Meters described in Attachment J, as well as the portion of the SFPUC's Supervisory Control and Data Acquisition (SCADA) system that utilizes the flow signals produced by that measuring and recording equipment. The method, schedule and frequency for calibration and maintenance of the County-Line Meters and the In-City Terminal Reservoir Meters are specified in Attachment J. The SFPUC shall provide copies of the metering consultant's reports to BAWSCA.

E. System Input Meters measure water deliveries into the Regional Water System from sources such as Hetch Hetchy and the SFPUC's water treatment plants. System Input Meters also measure deliveries from the Regional Water System to outside sources or from

such sources to the Regional Water System through interties with the Santa Clara Valley Water District and the East Bay Municipal Utility District. In-Line Meters measure internal system flows and are located on the Bay Division Pipelines and other main transmission pipelines. These meters are collectively referred to as the "System Input and In-line Meters." Similar to the County-Line Meters, the System Input and In-Line Meters have secondary metering equipment, such as differential pressure transmitters and flow recorders. The System Input and In-Line Meters, and all associated secondary metering equipment, shall be calibrated and maintained according to the method, schedule, and frequency specified in the Procedures Manual described in subsection G, below.

F. The locations of the smaller and more numerous meters described in subsection B (4) and (5) are not illustrated in Attachment J; however, they are also critical in the determination of cost allocations, and accordingly require continued maintenance and calibration. It is the responsibility of the SFPUC to maintain the accuracy of these meters and their secondary metering equipment.

G. The SFPUC will prepare a Procedures Manual which will describe in detail the procedures for periodic inspection, testing, servicing and calibration of the measuring and recording equipment described in subsection B. Once the Procedures Manual is completed, the SFPUC and BAWSCA may agree that it should supersede some or all of the requirements in Attachment J regarding the County-Line and the In-City Terminal Reservoir Meters. Unless and until such an agreement is reached and documented, however, the requirements in Attachment J, Section D will continue in force as minimum standards for meter maintenance and calibration of the County-Line and In-City Terminal Reservoir Meters (subject to modification under the circumstances described in Attachment J, Section A.4).

H. If BAWSCA and the SFPUC are unable to agree on the water use calculations required by Attachment J for a particular year, the Wholesale Customers may file a demand for arbitration challenging the SFPUC's determination of the Wholesale Revenue Requirement for that year on the basis of its reliance on disputed water use calculations. Such a challenge must be brought in the manner and within the time specified in Section 8.01.

3.15 New Sources of Water Supply to Maintain Supply Assurance

A. Urgent Reductions of Existing Surface Water Supplies. Sudden and unanticipated events may require San Francisco to act promptly to protect the health, safety and

economic well-being of its Retail and Wholesale Customers. Such sudden events include, but are not limited to drought, earthquakes, terrorist acts, catastrophic failures of facilities owned and operated by San Francisco, and other natural or man-made events. If such events diminish San Francisco's ability to maintain the Supply Assurance, San Francisco may increase the Wholesale Revenue Requirement to pay for planning, evaluation and implementation of replacement sources of supply when such needs arise and without the prior approval of the Wholesale Customers. San Francisco will keep the Wholesale Customers informed of actions being taken under this subsection, progress made, and contingency actions the Wholesale Customers may need to consider taking. To the extent appropriate and applicable, San Francisco will act in accordance with Section 3.11 and the ERRP. Nothing in this subsection limits San Francisco's obligations under Section 3.11 to pursue additional sources of supply to augment supplies available during drought.

B. Non-Urgent Reductions of Existing Surface Water Supplies. Climate change, regulatory actions and other events may impact San Francisco's ability to maintain the Supply Assurance from its existing surface water supplies, but on timescales long enough to permit San Francisco to collaborate with its Wholesale Customers on how best to address possible impacts to water supply. If such events diminish San Francisco's ability to maintain the Supply Assurance, San Francisco may increase the Wholesale Revenue Requirement to pay for planning, evaluation and implementation of replacement sources of supply when such needs arise and without the prior approval of the Wholesale Customers. San Francisco will keep the Wholesale Customers informed of actions being taken under this subsection, progress made, and contingency actions the Wholesale Customers may need to consider taking. San Francisco will solicit input and recommendations from BAWSCA and the Wholesale Customers, and take those recommendations into consideration. Prior to Commission approval of plans or taking other actions that would impact the Wholesale Revenue Requirement, San Francisco will hold a public hearing to receive written and oral comments. Nothing in this subsection modifies San Francisco's obligation to maintain the ability to provide the Supply Assurance under this Agreement.

3.16 New Sources of Water Supply to Increase Supply Assurance

A. Surface Water Supplies From Existing Watersheds After 2018. The Commission action in SFPUC Resolution Number 08-0200, adopted October 30, 2008 requires certain decisions by San Francisco regarding whether to supply more than 265 MGD from its

watersheds following 2018. Such decisions are to be made by December 31, 2018, subject to the exercise of San Francisco's retained CEQA discretion in Section 4.07. San Francisco's future decisions may include an offer to increase the Supply Assurance at the request of some or all of its Wholesale Customers. Costs associated with providing additional water from its existing water supplies in San Mateo, Santa Clara, Alameda, Tuolumne, and Stanislaus Counties shall be allocated to Wholesale and Retail Customers as described in Article 5.

B. New Water Supplies. If San Francisco seeks to develop additional water supplies from new sources to increase the Supply Assurance available to Wholesale Customers, studies and resulting water supply projects will be conducted jointly with BAWSCA under separate agreement(s) specifying the purpose of the projects, the anticipated regional benefits and how costs of studies and implementation will be allocated and charged. Nothing in this Agreement shall serve as precedent for the allocation of such new supply capital costs between Retail and Wholesale Customers or associated operational expenses, which shall only occur following approval of both parties and amendment of this Agreement, if necessary, under Section 2.03.

3.17 Westside Basin Conjunctive Use Program

Subject to completion of necessary CEQA review as provided in Section 4.07, the SFPUC may enter into an agreement with the cities of Daly City and San Bruno and the California Water Service Company, South San Francisco Service Area ("Participating Pumpers") governing the operation of the South Westside Basin Conjunctive Use Program ("Program"), a WSIP Project. The Program would produce Regional benefits for all customers of the Regional Water System by making use of available groundwater storage capacity in the Southern portion of the Westside Basin through the supply of additional surface water ("In Lieu Water") to the Participating Pumpers from the Regional Water System, in exchange for a corresponding reduction in groundwater pumping at existing wells owned by the Participating Pumpers. The new groundwater supply that would accrue to storage as a result of delivery of In Lieu Water would then be recovered from the SFPUC basin storage account during water shortages using new SFPUC Regional Program wells operated by the Participating Pumpers and the SFPUC. Program annual operations and maintenance expenses and water supplies are expected to be allocated as follows:

A. All In Lieu Water delivered to the Participating Pumpers shall be (1) temporary and interruptible in nature and (2) at the sole discretion of the SFPUC based on the total volume of water available to the Regional Water System.

B. All In Lieu Water delivered to the Participating Pumpers shall be considered a delivery of water to storage and shall not be construed to affect or increase the Individual Supply Guarantees of these wholesale customers or to otherwise entitle them to any claim of water in excess of their Individual Supply Guarantees or their Interim Supply Allocations. Furthermore, Environmental Enhancement Surcharges authorized under Section 4.04 will not be applied by the SFPUC to any quantity of In Lieu Water that is delivered to the Participating Pumpers, but will instead be based solely on Participating Pumper water deliveries in excess of their respective Interim Supply Allocations.

C. Any operation and maintenance expenses incurred by the Participating Pumpers and the SFPUC that are related to the operation of Regional Program wells and related assets shall be included as Regional pumping expenses under Section 5.05.B and included as part of the Wholesale Revenue Requirement. For rate setting purposes, estimated Regional Program operation and maintenance expenses shall be used as set forth in Section 6.01. Operation and maintenance expenses associated with the Participating Pumpers' existing wells that do not provide Regional benefits shall not be included in the Wholesale Revenue Requirement. On a case-by-case basis, the SFPUC may include Participating Pumper existing well operation and maintenance expenses in the Wholesale Revenue Requirement provided that such expenses (1) are solely attributable to Regional Program operations and (2) are not caused by the Participating Pumper's failure to operate and maintain its existing wells in a reasonable and prudent manner consistent with water utility industry standards.

D. The SFPUC will audit operation and maintenance expenses submitted by the Participating Pumpers for reimbursement to confirm that such costs were incurred as a result of operating Regional Program wells and related assets. Costs associated with the use of Program facilities for Direct Retail or Direct Wholesale purposes, or that do not otherwise provide Regional benefits, shall not be included in the Wholesale Revenue Requirement. The SFPUC is responsible for resolving disputes with the Participating Pumpers concerning expense allocations. Program expense documentation, including documentation of negotiation and settlement of disputed costs, will be available for review during the Compliance Audit described

in Section 7.04. The Wholesale Customers may dispute the SFPUC's resolution of expense allocations through the arbitration provisions in Section 8.01 of this Agreement.

E. The SFPUC may direct the Participating Pumpers to recover water from the SFPUC basin storage account for any type of shortage referenced in Section 3.11. Water recovered from the SFPUC basin storage account using Regional Program wells may be used for (1) the benefit of all Regional Water System customers; (2) Retail Customers; or (3) one or more of the Participating Pumpers. The Wholesale Revenue Requirement shall only include operation and maintenance expenses incurred due to the operation of Program wells for Regional benefits.

F. All water recovered from the SFPUC basin storage account by the Participating Pumpers and by the SFPUC for delivery to Retail Customers during Shortages caused by Drought shall be used to free up a comparable volume of surface water from the Regional Water System for allocation in accordance with the Tier 1 Shortage Plan.

G. If the Program is terminated for any reason, including breach of the Program agreement by the Participating Pumpers or SFPUC, or due to regulatory action or legal action, then

1. Any water remaining SFPUC Regional storage account shall be used for the benefit of all customers of the Regional Water System;

2. Outstanding eligible operation and maintenance expenses, including costs incurred during recovery of remaining stored water, will be allocated as provided in this section; and

3. The Wholesale Customers will be credited with their share of proceeds from disposition of Program facilities or reimbursed their share of such capital costs for any Program facilities which are retained by the SFPUC for Direct Retail benefit and not used for the benefit of the Wholesale Customers, on the basis of (a) original cost less depreciation and outstanding related Indebtedness or (b) original cost less accumulated depreciation for revenue funded Regional Program facilities.

Article 4. Implementation of Interim Supply Limitation.

4.01 Interim Supply Limitation Imposed by SFPUC

In adopting the WSIP in Res. No. 08-0200, the Commission included full implementation of all proposed WSIP capital improvement projects to achieve level of service goals relating to public health, seismic safety, and delivery reliability, but decided to adopt a water supply element that includes the Interim Supply Limitation. This article describes how the parties will implement the Interim Supply Limitation imposed by the SFPUC between the Effective Date and December 31, 2018.

4.02 Retail and Wholesale Customer Allocations Under Interim Supply Limitation

The Interim Supply Limitation is allocated as follows between Retail and Wholesale Customers:

Retail Customers' allocation:	81 MGD
Wholesale Customers' allocation:	184 MGD

The Wholesale Customers' collective allocation of 184 MGD under the Interim Supply Limitation includes the demand of the cities of San Jose and Santa Clara, whose demand is not included in the Supply Assurance, as provided in Section 3.02.B. By December 31st, 2010, the Commission will establish each Wholesale Customer's Interim Supply Allocation at a public meeting.

4.03 Transfers of Interim Supply Allocations

A. Any Wholesale Customer, including Hayward, may transfer a portion of its Interim Supply Allocation to one or more other Wholesale Customers, as provided in this section. All Wholesale Customers are also eligible transferees, including California Water Service Company up to its Individual Supply Guarantee.

B. Transfers of a portion of an Interim Supply Allocation must be prospective. The duration of a transfer cannot be less than the balance of the fiscal year. The minimum quantity that may be transferred is 1/10th of a MGD.

C. Transfers of portions of Interim Supply Allocations are subject to approval by the SFPUC. SFPUC review is limited to determining (1) whether a proposed transfer complies with

the Act, and (2) whether the affected facilities in the Regional Water System have sufficient capacity to accommodate delivery of the increased amount of water to the proposed transferee.

D. The participants in a proposed transfer shall provide notice to the SFPUC specifying the amount of the Interim Supply Allocation proposed to be transferred and the proposed effective date of the transfer, which shall not be less than 60 days after the notice is submitted to the SFPUC. The SFPUC may require additional information reasonably necessary to evaluate the operational impacts of the transfer. The SFPUC will not unreasonably withhold or delay its approval; if the SFPUC does not act on the notice within 60 days, the transfer will be deemed to have been approved.

E. Within 30 days after the transfer has become effective, both the transferor and the transferee will provide written notice to the SFPUC and BAWSCA.

F. Transfers of Interim Supply Allocations shall continue in effect until the earlier of (1) delivery of written notice to the SFPUC by the transfer participants that the transfer has been rescinded or (2) December 31, 2018.

4.04 Environmental Enhancement Surcharge

A. Establishment of Environmental Enhancement Surcharge. Beginning with wholesale water rates for fiscal year 2011-2012, and continuing for the duration of the Interim Supply Limitation, the Commission will establish the Environmental Enhancement Surcharge concurrently with the budget-coordinated rate process set forth in Article 6 of this Agreement. The monetary amount of the Environmental Enhancement Surcharge per volume of water, such as dollars per acre-foot, will be equivalent for Retail Customer use in excess of 81 MGD and Wholesale Customer use in excess of 184 MGD. The Environmental Enhancement Surcharge will be simple to calculate so that Wholesale Customers can estimate potential surcharges for budgeting purposes and establish retail rates within their service areas.

B. Application of Environmental Enhancement Surcharge. Beginning in fiscal year 2011-12, the Environmental Enhancement Surcharge will be levied only if and when combined Retail Customer and Wholesale Customer purchases exceed the Interim Supply Limitation of 265 MGD and if the fund described in subsection D below has been established by the San Francisco Board of Supervisors. In that event, the Environmental Enhancement Surcharge will apply to Retail Customers for use in excess of 81 MGD and to individual

Wholesale Customers for use in excess of their Interim Supply Allocations established by the Commission pursuant to Section 4.02.

1. Environmental Enhancement Surcharges related to the Retail Customers' use in excess of their 81 MGD Retail Customer Allocation will be paid by the SFPUC, and no portion of such surcharges may be allocated to Wholesale Customers. The method of recovering the Environmental Enhancement Surcharges imposed upon Retail Customers shall be within the sole discretion of the SFPUC.

2. Environmental Enhancement Surcharges related to the individual Wholesale Customers' use in excess of their respective Interim Supply Allocations will be paid to the SFPUC by individual Wholesale Customers.

C. Collection of Environmental Enhancement Surcharge. Notwithstanding the budget-coordinated rate setting process contemplated in Article 6 of this Agreement, the Environmental Enhancement Surcharge for any given year will be determined retrospectively based on actual annual usage during the fiscal year in excess of the Interim Supply Allocation and paid in equal monthly installments over the remainder of the immediately following fiscal year.

D. Establishment of Fund for Environmental Enhancement Surcharge Proceeds. Environmental Enhancement Surcharges paid by the SFPUC and by Wholesale Customers will be placed into a restricted reserve fund. The SFPUC will request the San Francisco Board of Supervisors to establish this fund by ordinance and, if adopted, the fund will be subject to the following restrictions:

1. Interest earnings will stay in the reserve fund.

2. The reserve fund shall (a) be subject to automatic appropriation; (b) require unexpended and unencumbered fund balances to be carried forward from year to year; and (c) not be transferred to the San Francisco General Fund.

3. The reserve fund may be used only for specific environmental restoration and enhancement measures for the Sierra and local watersheds, such as those included in the Watershed Environmental Improvement Program.

4. Environmental Enhancement Surcharge proceeds shall be expended in an expeditious manner. Any Environmental Enhancement Surcharge proceeds that remain in

the reserve fund as of December 31, 2018 shall be used to complete projects previously approved under subsection E. Upon completion of the identified projects, the balance of any unexpended sums in the reserve fund shall be distributed to BAWSCA and the SFPUC in proportion to the total amount of surcharges assessed to the Wholesale and Retail Customers, respectively.

E. Use of Environmental Enhancement Surcharge Proceeds. Specific uses of Environmental Enhancement Surcharges will be decided by the SFPUC and BAWSCA General Managers following input from environmental stakeholders and other interested members of the public. If parties are unable to agree, then they will jointly select a third person to participate in making the decision.

4.05 San Jose/ Santa Clara Interim Supply Allocation and Process for Reduction/ Termination.

San Francisco will supply a combined annual average of 9 MGD to the cities of San Jose and Santa Clara through 2018. Water supplied by San Francisco may only be used in the existing defined service areas in the northern portions of San Jose and Santa Clara shown on Attachment Q. San Francisco may reduce the quantity of water specified in this section when it establishes the Interim Supply Allocations for Wholesale Customers in Section 4.02. The establishment of Interim Supply Allocations for San Jose and Santa Clara shall not be considered a reduction of supply within the meaning of this section, provided that the Interim Supply Allocations assigned to San Jose and Santa Clara do not effect a reduction greater than the aggregate average reduction in Individual Supply Guarantees for Wholesale Customers that have such guarantees. The application of Interim Supply Allocations to San Jose and Santa Clara is subject to the following provisions:

A. In December 2010 and in each December thereafter through 2017, the SFPUC shall prepare and the Commission shall consider, at a regularly scheduled public meeting, a Water Supply Development Report detailing progress made toward meeting the Interim Supply Limitation by June 30, 2018.

B. The annual Water Supply Development Report shall be based on water purchase projections and work plans for achieving the Interim Supply Limitation in the Retail and Wholesale Service Areas. The projections and work plans will be prepared by the SFPUC for

the Retail Customers and by BAWSCA for the Wholesale Customers, respectively, and submitted to the Commission in June of each year beginning in 2010.

C. If the Commission finds that the projections in the Water Supply Development Report show that the Interim Supply Limitation will not be met by June 30, 2018, as a result of Wholesale Customers' projected use exceeding 184 MGD, the Commission may issue a conditional five-year notice of interruption or reduction in supply of water to San Jose and Santa Clara.

D. Upon issuance of the conditional notice of interruption or reduction, the SFPUC will prepare a new analysis of water supply that will be utilized by the San Francisco Planning Department in its preparation of any necessary documentation under CEQA pursuant to Section 4.07 on the impacts of interrupting or reducing service to San Jose and Santa Clara.

E. Such notice of interruption or reduction will be rescinded if the Commission finds, based upon a subsequent annual Water Supply Development Report, that sufficient progress has been made toward meeting the Interim Supply Limitation or projections show that the Interim Supply Limitation will be met by June 30, 2018.

F. In no case shall any interruption or reduction of service to San Jose or Santa Clara pursuant to this section become effective less than two years from the completion of the CEQA process (not including resolution of any appeals or litigation) or five years from the notice, whichever is longer. If the five-year notice is issued after 2013, such interruption or reduction would occur after 2018.

G. If deliveries to San Jose and Santa Clara are interrupted, existing turnout facilities to San Jose and Santa Clara will remain in place for possible use during emergencies.

H. San Francisco and the cities of San Jose and Santa Clara will cooperate with BAWSCA and the Santa Clara Valley Water District in the identification and implementation of additional water sources and conservation measures for the cities' service areas that are relevant to the water supply and the possible offer of permanent status for the two cities by the SFPUC.

4.06 <u>San Francisco Decisions in 2018 Regarding Future Water Supply</u>

A. By December 31, 2018, San Francisco will have completed any necessary CEQA review pursuant to Section 4.07 that is relevant to making San Jose and Santa Clara

permanent customers of the Regional Water System and will decide whether or not to make San Jose and Santa Clara permanent customers of the Regional Water System. San Francisco will make San Jose and Santa Clara permanent customers only if, and to the extent that, San Francisco determines that Regional Water System long term water supplies are available. In the event that San Francisco decides to afford permanent status to San Jose and Santa Clara, this Agreement will be amended pursuant to Section 2.03.

B. By December 31, 2018, San Francisco will have completed any necessary CEQA review pursuant to Section 4.07 and will decide how much water if any, in excess of the Supply Assurance it will supply to Wholesale Customers from the Regional Water System to meet their projected future water demands until the year 2030, and whether to offer a corresponding increase in the Supply Assurance as a result of its determination.

4.07 <u>Retained Discretion of SFPUC and Wholesale Customers</u>

A. This Agreement contemplates discretionary actions that the SFPUC and the Wholesale Customers may choose to take in the future that could result in physical changes to the environment ("Discretionary Actions"). The Discretionary Actions include decisions to:

1. Develop additional or alternate water resources by the SFPUC or one or more Wholesale Customers;

2. Implement the physical facilities comprising the WSIP by December 31, 2015;

3. Approve wheeling proposals by Wholesale Customers;

4. Approve new wholesale customers and water exchange or cost sharing agreements with other water suppliers;

5. Provide additional water to San Jose and/or Santa Clara;

6. Offer permanent status to San Jose and/or Santa Clara;

7. Reduce or terminate supply to San Jose and/or Santa Clara;

8. Provide additional water to Wholesale Customers in excess of the Supply Assurance to meet their projected future water demands; and

9. Offer a corresponding volumetric increase in the Supply Assurance.

The Discretionary Actions may require the SFPUC or Wholesale Customers to prepare environmental documents in accordance with CEQA prior to the SFPUC or the Wholesale Customers determining whether to proceed with any of the Discretionary Actions. Accordingly, and notwithstanding any provision of this Agreement to the contrary, nothing in this Agreement commits the SFPUC or the Wholesale Customers to approve or carry out any Discretionary Actions that are subject to CEQA. Furthermore, the SFPUC's or Wholesale Customers' decisions to approve any of these Discretionary Actions are subject to the requirement that San Francisco and each Wholesale Customer, as either a "Lead Agency" (as defined in Section 21067 of CEQA and Section 15367 of the CEQA Guidelines) or a "Responsible Agency" (as defined in Section 21069 of CEQA and Section 15381 of the CEQA Guidelines) shall have completed any CEQA-required environmental review prior to approving a proposed Discretionary Action.

B. In considering any proposed Discretionary Actions, the SFPUC and Wholesale Customers retain absolute discretion to: (1) make such modifications to any of the proposed Discretionary Actions as may be necessary to mitigate significant environmental impacts; (2) select feasible alternatives to the proposed Discretionary Actions that avoid significant adverse impacts; (3) require the implementation of specific measures to mitigate the significant adverse environmental impacts as part of the decision to approve the Discretionary Actions; (4) balance the benefits of the proposed Discretionary Actions against any significant environmental impacts before taking final actions to approve the proposed Discretionary Actions if such significant impacts cannot otherwise be avoided; or (5) determine not to proceed with the proposed Discretionary Actions.

Article 5. Wholesale Revenue Requirement

5.01 Scope of Agreement

This Article shall be applicable only to the water rates charged by San Francisco to the Wholesale Customers. Nothing contained in this Agreement shall limit, constrain, or in any way affect the rates which San Francisco may charge for water sold to Retail Customers or the methodology by which such rates are determined.

5.02 General Principles

This Article sets forth the method by which the Wholesale Customers' collective share of expenses incurred by the SFPUC in delivering water to them will be determined. This collective share is defined as the "Wholesale Revenue Requirement."

A. The SFPUC currently operates several enterprises, including the Water Enterprise, the Wastewater Enterprise, and the Hetch Hetchy Enterprise.

B. The Wastewater Enterprise is responsible for treating sewage within San Francisco and provides no benefit to the Wholesale Customers.

C. The Hetch Hetchy Enterprise is responsible for storing and transmitting water to the Water Enterprise, generating hydroelectric power and transmitting it to San Francisco, generating electric power within San Francisco, and distributing electricity and steam heat within San Francisco. Its water supply operations provide benefits to the Wholesale Customers.

D. The Water Enterprise delivers water to both Retail Customers, which are located both within and outside San Francisco, and to the Wholesale Customers, all of which are located outside San Francisco.

E. This Article implements two general principles as follows: (1) the Wholesale Customers should not pay for expenses of SFPUC operations from which they receive no benefit and (2) the Wholesale Customers should pay their share of expenses incurred by the SFPUC in delivering water to them on the basis of Proportional Annual Use unless otherwise explicitly provided in this Agreement.

F. To implement these general principles, the Wholesale Revenue Requirement will consist of, and be limited to, the Wholesale Customers' shares of the following categories of expense:

1. Capital cost recovery of Water Enterprise Existing Assets, and Hetch Hetchy Enterprise Existing Assets classified as Water-Only and the Water-Related portion of Joint assets (Section 5.03)

2. Contribution to the capital cost of Water Enterprise New Regional Assets (Section 5.04)

3. Water Enterprise operation and maintenance expenses, including power purchased from the Hetch Hetchy Enterprise that is used in the operation of the Water Enterprise (Section 5.05)

4. Water Enterprise administrative and general expenses (Section 5.06)

5. Water Enterprise property taxes (Section 5.07)

6. The Water Enterprise's share of the Hetch Hetchy Enterprise's operation and maintenance, administrative and general, and property tax expenses (Section 5.08)

7. The Water Enterprise's share of the Hetch Hetchy Enterprise's capital cost of New Assets classified as Water-Only and the Water-Related portion of Joint assets (Section 5.09)

In each of these cost categories, Direct Retail Expenses will be allocated entirely to Retail Customers. Direct Wholesale Expenses will be allocated entirely to the Wholesale Customers. Regional Expenses will be allocated between Retail Customers and Wholesale Customers as provided in this Article.

G. For purposes of establishing the rates to be charged Wholesale Customers, expenses will be based on the budget for, and estimates of water purchases in, the following fiscal year, as provided in Article 6. For purposes of accounting, the Wholesale Revenue Requirement will be determined on the basis of actual expenses incurred and actual water use, as provided in Article 7.

H. In addition, rates charged to Wholesale Customers may include the Wholesale Customers' contribution to a Wholesale Revenue Coverage Reserve, as provided in Section 6.06, which is not included in the Wholesale Revenue Requirement itself.

5.03 Capital Cost Recovery - Existing Regional Assets

A. SFPUC has previously advanced funds to acquire or construct Existing Assets used and useful in the delivery of water to both Wholesale Customers and Retail Customers. The parties estimate that the Wholesale Customers' share of the net book value of these assets, as of the expiration of the 1984 Agreement on June 30, 2009, will be approximately $366,734,424, as shown on Attachment K-1.

B. In addition, SFPUC has also previously advanced funds received from Retail Customer revenues to acquire or construct assets included in Construction-Work-In-Progress (CWIP) as of June 30, 2009. The parties estimate that the Wholesale Customers' share of the book value of these revenue funded capital expenditures, as of the expiration of the 1984 Agreement on June 30, 2009, will be approximately $15,594,990, as shown on Attachment K-2. The Wholesale Customers shall pay their share of the cost of Existing Assets and revenue-funded CWIP by amortizing the amounts shown on Attachment K-1 and Attachment K-2 over 25 years at an interest rate of 5.13 percent. The amounts to be included in the Wholesale Revenue Requirement pursuant to this section shall be the sum of the annual principal and interest amounts shown on Attachments K-3 (for Water Enterprise Regional Assets and the one Direct Wholesale Asset) and K-4 (for Hetch Hetchy Enterprise Water-Only Assets and the Water-Related portion [45 percent] of Joint assets) calculated on the basis of monthly amortization of principal as set forth on Attachments K-3 and K-4.

C. In addition, the Commission has previously appropriated funds, advanced through rates charged to Retail Customers, for construction of capital projects. Some of these projects are active, and have unexpended balances of appropriated funds that are not included in CWIP as of June 30, 2009. These projects, and the associated balances, are shown on Attachment K-5. Expenditures of funds from these balances during FY 2009-10, FY 2010-11 and FY 2011-12 will be reviewed in FY 2012-13. The SFPUC will prepare a report showing the amount expended in each year on each project and the total expended during all years on all projects that are categorized as Regional or, in the case of Hetch Hetchy Enterprise, are categorized as either Water-Only or Joint. The wholesale share of that total will be determined using the allocation principles in this Agreement based on Proportional Water Use during those three years. The result, plus accrued interest at the rate specified in Section 6.05.B, will be calculated by the SFPUC and its calculation reviewed by the Compliance Auditor as part of the Compliance Audit for FY 2012-13. The audited total will be paid based on a schedule of level annual principal and interest amounts over ten years at an interest rate of 4.00%, calculated on

a monthly amortization basis. All or any portion of the balance may be prepaid. The first year's payment will be included in the Wholesale Revenue Requirement for FY 2014-15.

D. The parties agree that the Wholesale Customers' share of the net book values of Existing Regional Assets as of June 30, 2008 as shown on Attachment K-1 are accurate. The compliance audit conducted on the calculation of the FY 2008-09 Suburban Revenue Requirement required by the 1984 Agreement will determine the actual amounts of depreciation on, and capital additions to, plant in service during that fiscal year. Those amounts will be compared to the corresponding estimates shown on Attachments K-1 and K-2. The differences will be added to or subtracted from the estimated asset values shown on Attachments K-1 and K-2 and the amortization schedules in Attachments K-3 and K-4 will be recalculated. The wholesale allocation factors shall be fixed at 70.1% for the Water Enterprise Existing Assets and 64.2% for Hetch Hetchy Enterprise Existing Assets for both the preliminary and final payment schedules. The SFPUC will prepare and provide to the Wholesale Customers revised Attachments K-1 through K-4 based on the Wholesale Customers' share of the net book value of the assets placed in service as of June 30, 2009 used to provide water service to the Wholesale Customers and the net book value of revenue-funded CWIP expended as of June 30, 2009. The revised Attachments K-1 through K-4 shall be approved by the General Manager of the SFPUC and the General Manager/CEO of BAWSCA and will be substituted for the original Attachments K-1 through K-4.

E. The original Attachments K-1 through K-4, based on estimates, shall be used for estimating the Wholesale Revenue Requirement for the fiscal year beginning July 1, 2009. The revised Attachments, based on audited actuals, shall be used to determine the actual Wholesale Revenue Requirement for FY 2009-10 and to determine the Wholesale Revenue Requirement(s) in all subsequent years, except as may be provided elsewhere in this Agreement.

F. The Wholesale Customers, acting through BAWSCA, may prepay the remaining unpaid Existing Assets principal balance, in whole or in part, at any time without penalty or early payment premium. Any prepayments will be applied in the month immediately following the month in which the prepayment is made and the revised monthly amount(s) will be used to calculate the Wholesale Revenue Requirement. Any partial prepayments must be in an amount at least equal to $10 million. In the event of a partial prepayment, an updated schedule for the remaining payments shall be prepared reflecting the unpaid balance after prepayment,

amortized through the end of FY 2034, calculated as provided in this section. The updated schedule, approved by the General Manager of the SFPUC and the General Manager/CEO of BAWSCA, will be substituted for Attachment K-3 and/or Attachment K-4.

5.04 Capital Cost Contribution - New Regional Assets

A. Debt-Funded Capital Additions. The Wholesale Customers shall pay the wholesale share of Net Annual Debt Service for New Regional Assets. The Regional projects in the WSIP are identified in Attachment L-1.

1. The amount of Net Annual Debt Service for New Regional Assets will be determined for each series of Indebtedness issued. Until the proceeds of a particular series are Substantially Expended, the amount attributable to specific projects will be based on the expected use of proceeds shown in the "Certificate Regarding Use of Proceeds" executed by the SFPUC General Manager on behalf of the Commission in connection with the sale of the Indebtedness, provided such certificate identifies the use of proceeds at a level of detail equivalent to that shown on Attachment L-2, which is a copy of the certificate prepared for the 2006 Revenue Bonds, Series A. If a certificate does not identify the use of proceeds at that level of detail, the SFPUC General Manager shall prepare and execute a separate certificate which does identify the use of proceeds at the level of detail shown on Attachment L-2 and deliver it to BAWSCA within 15 days from the closing of the sale of the Indebtedness.

2. After the proceeds of a series are Substantially Expended, the SFPUC General Manager will prepare and execute a certificate showing the actual expenditure of proceeds at a level of detail equivalent to the initial General Manager certificate. The resulting allocation of Net Debt Service to New Regional Assets for a series of bonds will be used in the fiscal year in which the proceeds have been Substantially Expended and thereafter. Differences between the amount of Net Debt Service paid by Wholesale Customers prior to that year and the amount of Net Debt Service that they should have paid during that time based on the actual expenditure of proceeds will be taken into account in calculation of the balancing account for the fiscal year in which the proceeds were Substantially Expended. The application of the remaining proceeds shall be proportionate to the allocation of the Net Debt Service to New Regional Assets.

3. The Wholesale Customers' share of Net Annual Debt Service for the New Regional Assets that are categorized as Direct Wholesale will be 100 percent. (None of the

projects in the WSIP are categorized as Direct Wholesale.) The Wholesale Customers' share of Net Annual Debt Service for all other New Regional Assets will be determined each year and will be equal to the Wholesale Customers' Proportional Annual Use.

4. If Indebtedness is issued by the SFPUC to refund the 2006 Revenue Bonds, Series A or to refund any other long-term Indebtedness issued after July 1, 2009, the Net Annual Debt Service attributable to proceeds used for refunding will be allocated on the same basis as the Indebtedness being refunded.

5. The SFPUC will prepare an annual report showing for each issue of Indebtedness and through the most recently completed fiscal year: (1) net financing proceeds available to pay project costs, (2) actual earnings on proceeds, (3) actual expenditures by project. The report shall be substantially in the form of Attachment L-3 and shall be delivered to BAWSCA on or before November 30 of each year, commencing November 2009.

6. In addition to Net Debt Service, Wholesale Customers will pay a proportionate share of annual administrative costs associated with Indebtedness, such as bond trustee fees, credit rating agency fees, letter of credit issuer fees, San Francisco Revenue Bond Oversight Committee fees, etc., but only to the extent such fees are neither paid from proceeds of Indebtedness nor included in SFPUC operation and maintenance or administrative and general expenses.

B. **Revenue-Funded Capital Additions**. The Wholesale Customers shall pay the wholesale share of the appropriation contained in the SFPUC annual budget for each year to be used to acquire or construct New Regional Assets. If such appropriations are reimbursed from proceeds of Indebtedness, the Wholesale Customers will be credited for prior payments made under this Section 5.04.B.

The Wholesale Customers' share of the annual appropriation for revenue-funded New Regional Assets that are categorized as Direct Wholesale will be 100 percent. (None of the Repair and Replacement projects in the SFPUC's most recent capital improvement program updated on February 10, 2009, is categorized as Direct Wholesale.) The Wholesale Customers' share of the annual appropriation for all other revenue-funded New Regional Assets will be determined each year and will be equal to the Wholesale Customers' Proportional Annual Use in each fiscal year. The amount appropriated in each fiscal year for the wholesale share of New

Regional Assets shall be contributed to the Wholesale Capital Fund described in Section 6.08 and reported on and administered as shown in that section and Attachments M-1 through M-3.

5.05 Water Enterprise Operation and Maintenance Expenses

There are five categories of Water Enterprise Operation and Maintenance Expenses, described below:

A. Source of Supply

1. Description: This category consists of the costs of labor, supervision and engineering; materials and supplies; and other expenses incurred in the operation and maintenance of collecting and impounding reservoirs, dams, wells and other water supply facilities located outside San Francisco; watershed protection; water supply planning; and the purchase of water.

2. Allocation: Direct Retail expenses, including water supply planning for Retail operations (such as City Retail water conservation programs), will be assigned to the Retail Customers. Regional expenses will be allocated between Retail Customers and Wholesale Customers on the basis of Proportional Annual Use. Direct Wholesale expenses will be assigned to the Wholesale Customers. (As of the Effective Date there are no Direct Wholesale expenses in the Source of Supply category.)

B. Pumping

1. Description: This category consists of the costs of labor, supervision and engineering; materials and supplies; and other expenses incurred in the operation and maintenance of water pumping plants, ancillary structures and equipment and surrounding grounds; and fuel and power purchased for pumping water.

2. Allocation: Direct Retail expenses will be assigned to the Retail Customers. Regional expenses will be allocated between Retail Customers and Wholesale Customers on the basis of Proportional Annual Use. Direct Wholesale expenses will be assigned to the Wholesale Customers. (As of the Effective Date there are no Direct Wholesale expenses in the Pumping category.)

C. Treatment

1. Description: This category consists of the costs of labor, supervision and engineering; materials and supplies and other expenses incurred in the operation and

maintenance of water treatment plants and drinking water quality sampling and testing. The cost of water quality testing will not include expenses incurred on behalf of the Wastewater Enterprise. Any remaining costs, after adjusting for the Wastewater Enterprise, will be reduced by the amount of revenue received for laboratory analyses of any type performed for agencies, businesses and/or individuals other than the Water and Hetch Hetchy Enterprises.

2. Allocation: Direct Retail expenses will be assigned to the Retail Customers. Regional expenses will be allocated between Retail Customers and Wholesale Customers on the basis of Proportional Annual Use. Direct Wholesale expenses will be assigned to the Wholesale Customers. (As of the Effective Date there are no Direct Wholesale expenses in the Treatment category.)

D. <u>Transmission and Distribution</u>

1. Description: This category consists of the cost of labor, supervision and engineering; materials and supplies; and other expenses incurred in the operation and maintenance of transmission and distribution pipelines, appurtenances, meters (other than those expenses payable by individual Wholesale Customers pursuant to Section 5.10.C.3), distribution reservoirs storing treated water, craft shops and auto shops servicing vehicles used for operation and maintenance of the Regional Water System rather than for Direct Retail facilities, and miscellaneous facilities related to the transmission and distribution of water.

2. Allocation: Direct Retail Transmission and Distribution expenses will be assigned to the Retail Customers. Regional Transmission and Distribution expenses will be allocated between Retail and Wholesale Customers on the basis of Proportional Annual Use. Expenses incurred for the operation and maintenance of three terminal reservoirs, i.e., Sunset Reservoir (North and South Basins), University Mound Reservoir (North and South Basins), and Merced Manor Reservoir, as well as transmission pipelines delivering water to them, are classified as Regional expenses notwithstanding the location of the reservoirs within San Francisco. Direct Wholesale expenses will be assigned to the Wholesale Customers. (As of the Effective Date the only Direct Wholesale expenses in the Transmission and Distribution category are associated with the Palo Alto pipeline.)

E. Customer Services

1. Description: This category consists of labor; materials and supplies; and other expenses incurred for meter reading, customer record keeping, and billing and collection for the Water Enterprise.

2. Allocation: Customer Services expenses will be allocated among the Water Enterprise, the Wastewater Enterprise, and Hetch Hetchy Enterprise in proportion to the time spent by employees in Customer Services for each operating department/enterprise. The Water Enterprise's share of Customer Services expense will be allocated 98 percent to the Retail Customers and two percent to the Wholesale Customers, as illustrated on Attachment N-2, Schedule 1.

5.06 Water Enterprise Administrative and General Expenses

Administrative and General expenses consist of the Water Enterprise's share of the cost of general government distributed through the full-cost Countywide Cost Allocation Plan, the services of SFPUC support bureaus, Water Enterprise administrative and general expenses that cannot be directly assigned to a specific operating and maintenance category, and the cost of the Compliance Audit. These four subcategories, and the method by which costs in each are to be calculated and allocated, are as follows:

A. Countywide Cost Allocation Plan

1. Description: This subcategory consists of the Water Enterprise's share of the costs of San Francisco general government and other City central service departments which are not directly billed to the Water Enterprise or other operating departments. All San Francisco operating departments are assigned a prorated share of these costs through the full-cost Countywide Cost Allocation Plan (COWCAP) prepared annually by the San Francisco Controller.

2. Allocation: The Water Enterprise's assigned share of central government costs as shown in the annual full-cost COWCAP prepared by the San Francisco Controller, will be allocated between Retail Customers and Wholesale Customers on the basis of the composite percentage of the allocated expenses in the five categories of operation and maintenance expense described in Section 5.05. The composite wholesale percentage shown on Attachment N-2, Schedule 1 is 42.07 percent, derived by dividing the wholesale share of

Operation and Maintenance expenses ($46,573,883) by total Operation and Maintenance expenses ($110,700,133).

B. Services of SFPUC Bureaus

1. Description: This subcategory consists of the support services provided to the Water Enterprise by the SFPUC Bureaus, which presently consist of the General Manager's Office, Business Services, External Affairs, and Infrastructure Bureau. Business Services presently includes Financial Services, Information Technology Services, Human Resource Services, Fleet Management, and Customer Services.

2. Allocation: There are three steps involved in determining the Wholesale Customers' share of SFPUC Bureau costs.

a. Step One: Bureau expenses which have either been recovered separately or which provide no benefit to Wholesale Customers will be excluded. Examples of Bureau expenses recovered separately include (1) Customer Services expenses, which are recovered as provided in Section 5.05.E, and (2) Infrastructure expenses, which are assigned to individual projects and capitalized. An example of a Bureau expense that provides no benefit to Wholesale Customers is Information Technology Services expenses for support of the San Francisco Municipal Railway. In addition, the SFPUC will continue its practice of assigning City Attorney Office expenses charged to the General Manager's Office for projects or lawsuits that relate to only one enterprise directly to that enterprise. For example, costs related to a lawsuit involving the Wastewater Enterprise will not be assigned to the Water Enterprise.

b. Step Two: Bureau expenses adjusted as provided in Step One will be allocated among the Water Enterprise, the Wastewater Enterprise and the Hetch Hetchy Enterprise on the basis of the actual salaries of employees in each enterprise or department, as illustrated on Attachment N-2, Schedule 7.

c. Step Three: The amount allocated to the Water Enterprise through Step Two will be allocated between Retail Customers and Wholesale Customers on the basis of Proportional Annual Use.

C. Water Enterprise Administrative and General

1. Description: This category includes expenses incurred by the Water Enterprise that are not readily assignable to specific operating divisions. This category includes the following expenses:

a. Water Administration: This includes the costs of labor and other expenses of the administrative section of the Water Enterprise, supervision and engineering expenses, professional services, travel and training, equipment purchases, and materials and supplies not directly assignable to a specific operating unit.

b. Services Provided by Other City Departments: This includes charges of other San Francisco departments directly billed to the Water Enterprise administration by other San Francisco departments for services ordered by the Water Enterprise, such as legal services, risk management, telecommunications, employee relations, purchasing, mail services, and workers compensation claims paid.

c. Litigation and Claims Paid: This includes charges incurred for attorney services and claims and judgments paid in litigation arising from the operation of the Water Enterprise.

2. Allocation: In each of these three subcategories, expenses that benefit only Retail Customers will be excluded. For example, the cost of claims and judgments resulting from a break in or leak from pipelines or reservoirs in the Retail Service Area (with the exception of the three terminal reservoirs and pipelines delivering water to them) will be assigned to the Retail Customers. Remaining Water Enterprise Administrative and General expenses will be allocated between Retail Customers and Wholesale Customers on the basis of the composite percentage of allocated operation and maintenance expense categories described in Section 5.05.

D. Compliance Audit. The cost of the Compliance Audit described in Section 7.04 will be assigned 50 percent to the Retail Customers and 50 percent to the Wholesale Customers.

5.07 Water Enterprise Property Taxes

A. Description: This category consists of property taxes levied against property owned by San Francisco located in Alameda, San Mateo and Santa Clara counties and used and managed by the SFPUC.

B. Allocation: All property taxes paid, net of (1) reimbursements received from lessees and permit holders, and (2) refunds from the taxing authority, are Regional expenses. Net property taxes will be allocated between Retail Customers and Wholesale Customers on the basis of Proportional Annual Use.

5.08 Hetch Hetchy Enterprise Expenses

A. Introduction. There are two steps involved in determining the amount of the Wholesale Customers' share of Hetch Hetchy Enterprise expenses.

1. The first step is to determine the Water Enterprise's share of Hetch Hetchy Enterprise operation expenses, maintenance expenses, administrative and general expenses, and property taxes.

2. The second step is to determine the Wholesale Customers' share of expenses allocable to the Water Enterprise.

B. Determination of the Water-Related Portion of Hetch Hetchy Enterprise Expenses

1. Operation and Maintenance Expenses: This category consists of the cost of labor, materials and supplies, and other expenses incurred in operating and maintaining Hetch Hetchy Enterprise physical facilities.

a. Description: Expenses associated exclusively with the production and distribution of hydroelectric power (e.g., generating plants and power transmission lines and towers, transformers and associated electric equipment, purchased power, wheeling charges, rental of power lines, etc.) are categorized as Power-Only and are allocated to power. Expenses associated exclusively with the operation and maintenance of facilities that serve only the water function (e.g., water transmission pipelines and aqueducts, activities related to compliance with federal and state drinking water quality laws, etc.) are categorized as Water-Only and are allocated entirely to water. Expenses associated with the operation and maintenance of facilities that serve both the water and power functions (e.g., dams, security

programs, etc.) are categorized as Joint and are reallocated as 55 percent Power-Related and 45 percent Water-Related.

2. Administrative and General Expenses: There are three subcategories of Hetch Hetchy Enterprise Administrative and General expenses.

a. Full-Cost Countywide Cost Allocation Plan: This subcategory consists of the cost of San Francisco general government and other City central service departments which are not directly billed to operating departments but allocated through the full-cost Countywide Cost Allocation Plan described in Section 5.06.A. Costs in this subcategory are classified as Joint, and are reallocated as 55 percent Power-Related and 45 percent Water-Related.

b. SFPUC Bureau Costs: This subcategory consists of the expenses described in Section 5.06.B. One hundred percent of Customer Services expenses allocated to the Hetch Hetchy Enterprise are categorized as Power-Only. The remaining amount of Bureau expenses allocated to the Hetch Hetchy Enterprise pursuant to Section 5.06.B will be reallocated between power and water in proportion to the salaries of Hetch Hetchy Enterprise employees assigned to each function as shown on Attachment N-2, Schedule 7.1.

c. Other Administrative and General: This subcategory includes payments to the United States required by the Act, labor, supervision and engineering and other costs not readily assignable to a specific operation or maintenance function or program. Costs related to power administration (such as long range planning and policy analysis for energy development, administration of power contracts, and administration of work orders to City departments for energy services) are Power-Only costs. Costs related to water administration (such as legal and professional services for the protection of the City's water rights) are Water-Only costs and will be assigned to the Water Enterprise. Costs related to both power administration and water administration (such as general administration, office rents, office materials and supplies, and services of other City departments benefitting to both power and water are Joint administrative and general costs and are reallocated as 55 percent Power-Related and 45 percent Water-Related.

3. Property Taxes. This category consists of property taxes levied against property owned by San Francisco in Tuolumne, Stanislaus, San Joaquin, and Alameda counties and operated and managed by the Hetch Hetchy Enterprise.

Allocation: Property taxes are classified as Joint costs. They will be reallocated as 55 percent Power-Related and 45 percent Water-Related.

C. Calculation of Wholesale Customers' Share of Hetch Hetchy Enterprise Expenses. The Water Enterprise's share of Hetch Hetchy Enterprise expenses consist of 100 percent of Water-Only expenses and the Water-Related portion (45%) of Joint expenses.

The Wholesale Customers' share of the sum of the Water Enterprise's share of Hetch Hetchy Enterprise expenses determined under subsection B shall be calculated by multiplying that dollar amount by Adjusted Proportional Annual Use.

5.09 Hetch Hetchy Enterprise Capital Costs

A. Introduction. Wholesale Customers are also allocated a share of Hetch Hetchy Enterprise capital costs.

B. Components of Capital Costs. The components of Hetch Hetchy Enterprise capital costs are as follows:

1. Existing Assets Cost Recovery. The Wholesale Customers' repayment of their share of Hetch Hetchy Existing Assets (Water-Only and the Water-Related portion [45 percent] of Joint assets) is shown on Attachment K-4 accompanying Section 5.03.

2. Debt Service on New Assets. The Water Enterprise will be assigned 100 percent of Net Annual Debt Service attributable to acquisition and construction of New Hetch Hetchy Enterprise assets that are Water-Only and the Water-Related portion (45 percent) of Net Annual Debt Service on New Hetch Hetchy Enterprise Joint assets. The provisions of Section 5.04.A apply to debt service on New Hetch Hetchy Enterprise assets.

3. Revenue-Funded Capital Additions. The Water Enterprise will be assigned 100 percent of capital expenditures from revenues for New Hetch Hetchy Enterprise assets that are Water-Only and the Water-Related portion (45 percent) of such expenditures for new Hetch Hetchy Enterprise Joint assets. The provisions of Section 5.04.B apply to the payment of New revenue-funded Hetch Hetchy Enterprise assets.

C. Calculation of Wholesale Customers' Share of Hetch Hetchy Enterprise Capital Costs. The Wholesale Customers' share of the Net Annual Debt Service and revenue funded capital expenditures determined under subsections B.2 and 3 shall be calculated by multiplying that dollar amount by Adjusted Proportional Annual Use.

5.10 Additional Agreements Related to Financial Issues

A. Wholesale Customers Not Entitled to Certain Revenues. The Wholesale Customers have no entitlement to any of the following sources of revenue to the SFPUC.

1. Revenues from leases or sales of SFPUC real property.

2. Revenues from the other utility services such as the sale of electric power, natural gas and steam.

3. Revenues from the sale of water to customers and entities other than the Wholesale Customers.

4. Revenues earned from the investment of SFPUC funds other than funds contributed by the Wholesale Customers to the Wholesale Revenue Coverage Reserve described in Section 6.06 or the Wholesale Capital Fund described in Section 6.08. Wholesale Customers are also entitled to the benefit of earnings on proceeds of Indebtedness (through expenditure on New Regional Assets and /or application to Debt Service) and to interest on the Balancing Account as provided in Section 6.05.B.

5. Revenues not related to the sale of water.

B. Wholesale Customers Not Charged with Certain Expenses. The Wholesale Customers will not be charged with any of the following expenses:

1. Capital costs for assets constructed or acquired prior to July 1, 1984 other than Existing Asset costs that are repaid pursuant to Section 5.03.

2. Expenses incurred by the SFPUC for generation and distribution of electric power, including Hetch Hetchy Enterprise Power-Only expenses and the Power-Related share of Hetch Hetchy Enterprise Joint expenses. An exception to this is Regional energy costs incurred by the Water Enterprise, for which Wholesale Customers are charged on the basis of Proportional Annual Use.

3. Expenses incurred by SFPUC in providing water to Retail Customers.

4. Expenses associated with the SFPUC's accruals or allocations for uncollectible Retail Water accounts.

5. Attorneys' fees and costs incurred by the Wholesale Customers that a court of competent jurisdiction orders San Francisco to pay as part of a final, binding judgment against San Francisco as provided in Section 8.03.B.2.

6. Any expenses associated with funding any reserves (other than the required Wholesale Revenue Coverage Reserve described in Section 6.06) accrued and not anticipated to be paid within one year unless such reserve is established by mutual agreement of the SFPUC and BAWSCA.

7. Any expenses accrued in respect to pending or threatened litigation, damage or personal injury claims or other loss contingencies unless projected to be paid within one year. Otherwise, such expenses will be charged to the Wholesale Customers when actually paid.

8. Any expense associated with installing, relocating, enlarging, removing or modifying meters and service connections at the request of an individual Wholesale Customer.

9. The Retail Customers' portion of any Environmental Enhancement Surcharges imposed to enforce the Interim Supply Limitation set forth in Section 4.04.

C. <u>Revenues Not Credited to Payment of Wholesale Revenue Requirement</u>. The following payments by Wholesale Customers, individually or collectively, are not credited as Wholesale revenues for purposes of Section 6.05.B:

1. Payments by individual Wholesale Customers of the Environmental Enhancement Surcharge imposed to enforce the Interim Supply Limitation set forth in Section 4.04.

2. Payments of attorneys' fees and costs incurred by San Francisco that a court of competent jurisdiction orders the Wholesale Customers to pay as part of a final, binding judgment against the Wholesale Customers, as provided in Section 8.03.B.3.

3. Payments by individual Wholesale Customers for installation, relocation, enlargement, removal or modification of meters and service connections requested by, and charged to, a Wholesale Customer.

4. Payments applied to the amortization of the ending balance in the balancing account under the 1984 Agreement, pursuant to Section 6.05.A.

5. Payments of the Water Management Charge which are delivered to BAWSCA pursuant to Section 3.06.

6. Payments directed to the Wholesale Revenue Coverage Reserve pursuant to Section 6.06.

7. Prepayments authorized by Sections 5.03.C and 5.03.F.

D. <u>Other</u>

1. The Wholesale Customers will receive a proportional benefit from funds received by the SFPUC from (a) governmental grants, rebates, reimbursements or other subventions, (b) private-sector grants for Regional capital or operating purposes of the Water Enterprise and the Water-Only and Water-related portion of Joint Hetch Hetchy Water Enterprise expenses, or (c) a SFPUC use of taxable bonds.

2. The Wholesale Customers will receive a proportionate benefit from recovery of damages, including liquidated damages, by SFPUC from judgments against or settlements with contractors, suppliers, sureties, etc., related to Regional Water System projects and the Water-Only and Water-Related portion of Joint Hetch Hetchy Enterprise projects.

3. The SFPUC will continue to charge Wholesale Customers for assets acquired or constructed with proceeds of Indebtedness on which Wholesale Customers paid Debt Service during the Term of this Agreement on the “cash” basis (as opposed to the “utility” basis) after the expiration or earlier termination of this Agreement. The undertaking in this Section 5.10.D.3 will survive the expiration or earlier termination of this Agreement.

Article 6. Integration of Wholesale Revenue Requirement with SFPUC Budget Development and Rate Adjustments

6.01 General

A. The purpose of the allocation bases set forth in Article 5 is to determine the Wholesale Revenue Requirement for each fiscal year. The Wholesale Revenue Requirement can only be estimated in advance, based on projected costs and water deliveries. These projections are used to establish water rates applicable to the Wholesale Customers.

B. After the close of each fiscal year, the procedures described in Article 7 will be used to determine the actual Wholesale Revenue Requirement for that year, based on actual costs incurred, allocated according to the provisions of Article 5, and using actual water delivery data. The amount properly allocated to the Wholesale Customers shall be compared to the amount billed to the Wholesale Customers for the fiscal year, other than those identified in Section 5.10.C. The difference will be entered into a balancing account to be charged to, or credited to, the Wholesale Customers, as appropriate.

C. The balancing account shall be managed as described in Section 6.05.

6.02 Budget Development

The SFPUC General Manager will send a copy of the proposed SFPUC budget to BAWSCA at the same time as it is sent to the Commission. In addition, a copy of materials submitted to the Commission for consideration at meetings prior to the meeting at which the overall SFPUC budget is considered (including (a) operating budgets for the Water Enterprise and the Hetch Hetchy Enterprise, (b) budgets for SFPUC Bureaus, and (c) capital budgets for the Water Enterprise and the Hetch Hetchy Enterprise) will also be sent to BAWSCA concurrently with their submission to the Commission.

6.03 Rate Adjustments

A. Budget Coordinated Rate Adjustments. Adjustments to the rates applicable to the Wholesale Customers shall be coordinated with the budget development process described in this section except to the extent that Sections 6.03.B and 6.03.C authorize emergency rate increases and drought rate increases, respectively.

If the SFPUC intends to increase wholesale water rates during the ensuing fiscal year, it will comply with the following procedures:

1. Adjustments to the wholesale rates will be adopted by the Commission at a regularly scheduled meeting or at special meeting, properly noticed, called for the purpose of adjusting rates or for taking any other action under the jurisdiction of the Commission.

2. The SFPUC will send a written notice by mail or electronic means to each Wholesale Customer and to BAWSCA of the recommended adjustment at least thirty (30) days prior to the date of the meeting at which the Commission will consider the proposed adjustment. The notice will include the date, time and place of the Commission meeting.

3. The SFPUC shall prepare and provide to each Wholesale Customer and to BAWSCA the following materials: (a) a table illustrating how the increase or decrease in the Wholesale Revenue Requirement and wholesale rates were calculated, substantially in the form of Attachment N-1, (b) a schedule showing the projected expenses included in the Wholesale Revenue Requirement for the fiscal year for which the rates are being proposed, and supporting materials, substantially in the form of Attachment N-2, and (c) a schedule showing projected water sales, Wholesale Revenue Requirements and wholesale rates for the fiscal year for which rates are being set and the following four years, substantially in the form of Attachment N-3. These materials will be included with the notification required by Section 6.03.A.2.

4. Rate adjustments will be effective no sooner than thirty (30) days after adoption of the wholesale rate by the Commission.

5. San Francisco will use its best efforts to provide the Wholesale Customers with the information described above. San Francisco's failure to comply with the requirements set forth in this section shall not invalidate any action taken by the Commission (including, but not limited to, any rate increase or decrease adopted). In the event of such failure, the Wholesale Customers may either invoke arbitration, as set forth in Section 8.01, or seek injunctive relief, to compel San Francisco to remedy the failure as soon as is reasonably practical, and San Francisco shall be free to oppose the issuance of the requested judicial or arbitral relief on any applicable legal or equitable basis. The existence of this right to resort to arbitration shall not be deemed to preclude the right to seek injunctive relief.

6. Because delays in the budget process or other events may cause San Francisco to defer the effective date of Wholesale Customer rate adjustments until after the beginning of San Francisco's fiscal year, nothing contained in this Agreement shall require San Francisco to make any changes in the water rates charged to Wholesale Customers effective at

the start of San Francisco's fiscal year or at any other specific date. Nothing in the preceding sentence shall excuse non-compliance with the provisions of Section 6.02 and this section.

B. **Emergency Rate Increases**. The Commission may adjust the Wholesale Customers' rates without complying with the requirements of Section 6.03.A in response to an Emergency that damages the Regional Water System and disrupts San Francisco's ability to maintain normal deliveries of water to Retail and Wholesale Customers. In such an Emergency, the Commission may adopt an emergency rate surcharge applicable to Wholesale Customers without following the procedures set forth in this section, provided that any such rate surcharge imposed by the Commission shall be applicable to both Retail and Wholesale Customers and incorporate the same percentage increase for all customers. Any emergency rate surcharge adopted by the Commission shall remain in effect only until the next-budget coordinated rate-setting cycle.

C. **Drought Rates**. If the Commission declares a water shortage emergency under Water Code Section 350, implements the Tier 1 Shortage Plan (Attachment H) described in Section 3.11.C, and imposes drought rates on Retail Customers, it may concurrently adjust wholesale rates independently of coordination with the annual budget process. Those adjustments may be designed to encourage water conservation and may constitute changes to the structure of the rates within the meaning of Section 6.04. The parties agree, however, that, in adopting changes in rates in response to a declaration of water shortage emergency, the Commission shall comply with Section 6.03.A.1 and 2 but need not comply with Section 6.04.B. Drought Rate payments and payments of excess use charges levied in accordance with the Tier 1 Shortage Plan described in Section 3.11.C constitute Wholesale Customer Revenue and count towards the Wholesale Revenue Requirement. The SFPUC may use these revenues to purchase additional water for the Wholesale Customers from the State Drought Water Bank or other willing seller.

6.04 Rate Structure

A. This Agreement is not intended and shall not be construed to limit the Commission's right (a) to adjust the structure of the rate schedule applicable to the Wholesale Customers (i.e., the relationship among the several charges set out therein) or (b) to add, delete, or change the various charges which make up the rate schedule, provided that neither such charges nor the structure of the rate schedule(s) applicable to the Wholesale Customers shall be arbitrary, unreasonable, or unjustly discriminatory as among said customers. The

SFPUC will give careful consideration to proposals for changes in the rate schedule made jointly by the Wholesale Customers but, subject to the limitations set out above, shall retain the sole and exclusive right to determine the structure of the rate schedule.

B. If the SFPUC intends to recommend that the Commission adopt one or more changes to the structure of wholesale rates (currently set forth in SFPUC Rate Schedule W-25), it shall prepare and distribute to the Wholesale Customers and BAWSCA a report describing the proposed change(s), the purpose(s) for which it/they are being considered, and the estimated financial effect on individual Wholesale Customers or classes of customers. Wholesale Customers may submit comments on the report to the SFPUC for sixty (60) days after receiving the report. The SFPUC will consider these comments and, if it determines to recommend that the Commission adopt the change(s), as described in the report or as modified in response to comments, the SFPUC General Manager shall submit a report to the Commission recommending specific change(s) in the rate structure. Copies of the General Manager's report shall be sent to all Wholesale Customers and BAWSCA at least thirty (30) days prior to the Commission meeting at which the changes will be considered.

C. The SFPUC may recommend, and the Commission may adopt, changes in the structure of wholesale rates at any time. However, the new rate schedule implementing these changes will become effective at the beginning of the following fiscal year.

6.05 Balancing Account

A. Balancing Account Established Under 1984 Agreement. The amount of credit in favor of San Francisco as of the expiration of the term of 1984 Agreement (June 30, 2009) is not known with certainty as of preparation and execution of this Agreement. It will not be known with certainty until the Compliance Audit for FY 2008-09 is completed and disputes, if any, that the Wholesale Customers or the SFPUC may have with the calculation of the Suburban Revenue Requirement for that fiscal year and for previous fiscal years have been settled or decided by arbitration.

The parties anticipate that the amount of the credit in favor of San Francisco as of June 30, 2009 may be within the range of $15 million to $20 million.

In order to reduce the credit balance due San Francisco under the 1984 Agreement in an orderly manner, while avoiding unnecessary fluctuations in wholesale rates, the parties agree to implement the following procedure.

1. In setting wholesale rates for FY 2009-10, SFPUC will include a balancing account repayment of approximately $2 million.

2. In setting wholesale rates for FY 2010-11 and following years, SFPUC will include a balancing account repayment of not less than $2 million and not more than $5 million annually until the full amount of the balance due, plus interest at the rate specified in Section 6.05.B, is repaid.

3. The actual ending balance as of June 30, 2009 will be determined, by the parties' agreement or arbitral ruling, after the Compliance Audit report for FY 2008-09 is delivered to BAWSCA. That amount, once determined, will establish the principal to be amortized through subsequent years' repayments pursuant to this Section 6.05.A.

B. Balancing Account Under This Agreement

1. Operation. After the close of each fiscal year, the SFPUC will compute the costs allocable to the Wholesale Customers for that fiscal year pursuant to Article 5, based on actual costs incurred by the SFPUC and actual amounts of water used by the Wholesale Customers and the Retail Customers. That amount will be compared to the amounts billed to the Wholesale Customers for that fiscal year (including any Excess Use Charges, but excluding revenues described in Section 5.10.C). The difference will be posted to a "balancing account" as a credit to, or charge against, the Wholesale Customers. Interest shall also be posted to the balancing account calculated by multiplying the amount of the opening balance by the average net interest rate, certified by the Controller as earned in the San Francisco Treasury for the previous fiscal year on the San Francisco County Pooled Investment Account. Interest, when posted, will carry the same mathematical sign (whether positive or negative) as carried by the opening balance. The amount posted to the balancing account in each year shall be added to, or subtracted from, the balance in the account from previous years. The calculation of the amount to be posted to the balancing account shall be included in the report prepared by the SFPUC pursuant to Section 7.02.

The opening balance for fiscal year 2009-10 shall be zero.

2. Integration of Balancing Account with Wholesale Rate Setting Process. If the amount in the balancing account is owed to the Wholesale Customers (a positive balance), the SFPUC shall take it into consideration in establishing wholesale rates. However, the SFPUC need not apply the entire amount to reduce wholesale rates for the immediately ensuing

year. Instead, the SFPUC may prorate a positive ending balance over a period of up to three successive years in order to avoid fluctuating decreases and increases in wholesale rates.

a. If a positive balance is maintained for three successive years and represents 10 percent or more of the Wholesale Revenue Requirement for the most recent fiscal year, the SFPUC shall consult with BAWSCA as to the Wholesale Customers' preferred application of the balance. The Wholesale Customers shall, through BAWSCA, direct that the positive balance be applied to one or more of the following purposes: (a) transfer to the Wholesale Revenue Coverage Reserve, (b) amortization of any remaining negative balance from the ending balancing account under the 1984 Agreement, (c) prepayment of the existing asset balance under Section 5.03, (d) water conservation or water supply projects administered by or through BAWSCA, (e) immediate reduction of wholesale rates, or (f) continued retention for future rate stabilization purposes. In the absence of a direction from BAWSCA, the SFPUC shall continue to retain the balance for rate stabilization in subsequent years.

b. If the amount in the balancing account is owed to the SFPUC (a negative balance), the SFPUC shall not be obligated to apply all or any part of the negative balance in establishing wholesale rates for the immediately ensuring year. Instead, the SFPUC may prorate the negative balance in whole or in part over multiple years in order to avoid fluctuating increases and decreases in wholesale rates.

6.06 <u>Wholesale Revenue Coverage Reserve</u>

A. The SFPUC may include in wholesale rates for any fiscal year an additional dollar amount ("Wholesale Revenue Coverage"), which for any fiscal year shall equal the following:

1. The lesser of (i) 25% of the Wholesale Customers' share of Net Annual Debt Service for that fiscal year determined as described in Section 5.04.A, or (ii) the amount necessary to meet the Wholesale Customers' proportionate share of Debt Service coverage required by then-current Indebtedness for that fiscal year, minus

2. A credit for (i) the actual amounts previously deposited in the "Wholesale Revenue Coverage Reserve" (as defined in subsection B below), (ii) accrued interest on the amounts on deposit in the Wholesale Revenue Coverage Reserve, and (iii) an amount equal to any additional interest that would have accrued on the actual amounts previously deposited in

the Wholesale Revenue Coverage Reserve assuming no withdrawals had been made therefrom.

B. During each fiscal year, the SFPUC will set aside and deposit that portion of revenue equal to Wholesale Revenue Coverage into a separate account that the SFPUC will establish and maintain, to be known as the "Wholesale Revenue Coverage Reserve." Deposits into the Wholesale Revenue Coverage Reserve shall be made no less frequently than monthly. The Wholesale Revenue Coverage Reserve shall be credited with interest at the rate specified in Section 6.05.B. The SFPUC may use amounts in the Wholesale Revenue Coverage Reserve for any lawful purpose. Any balance in the Wholesale Revenue Coverage Reserve in excess of the Wholesale Revenue Coverage amount as of the end of any fiscal year (as calculated in subsection 6.06(A) above) shall be applied as a credit against wholesale rates in the immediately following fiscal year unless otherwise directed by BAWSCA.

C. Within 180 days following the later of expiration of the Term or final payment of Debt Service due on Indebtedness issued during the Term to which Wholesale Customers were contributing, SFPUC shall rebate to the Wholesale Customers an amount equal to the Wholesale Revenue Coverage amount in effect for the fiscal year during which the Term expires or the final payment of Debt Service on Indebtedness is made based on each Wholesale Customer's Proportional Annual Use in the fiscal year during which the Term expires or the final payment of debt service on Indebtedness is made.

D. SFPUC shall provide a schedule of debt issuance (with assumptions), and the Wholesale Customers' share of Net Annual Debt Service (actual and projected) expected to be included in wholesale rates starting in 2009-10 through the expected completion of the WSIP. The schedule is to be updated annually prior to rate setting. If estimated Debt Service is used in rate setting, the SFPUC must be able to demonstrate that the Water Enterprise revenues will be sufficient to meet the additional bonds test for the proposed bonds and rate covenants for the upcoming year.

E. Conditions in the municipal bond market may change from those prevailing in 2009. If, prior to expiration of the Term, the SFPUC determines that it would be in the best financial interest of both Retail Customers and Wholesale Customers of the Regional Water System for the Debt Service coverage requirement to be increased in one or more series of proposed new Indebtedness above 1.25%, or for the coverage covenant to be strengthened in

other ways, it will provide a written report to BAWSCA. The report will contain (1) a description of proposed covenant(s) in the bond indenture; (2) an explanation of how savings are expected to be achieved (e.g., increase in the SFPUC's credit rating over the then-current level; ability to obtain credit enhancement, etc.); (3) the estimated all-in true interest cost savings; (4) a comparison of the Wholesale Revenue Requirements using the Debt Service coverage limitation in subsection A and under the proposed methodology; and (5) a comparison of the respective monetary benefits expected to be received by both Retail and Wholesale Customers. The SFPUC and BAWSCA agree to meet and confer in good faith about the proposed changes.

F. Any increase in Debt Service coverage proposed by the SFPUC shall be commensurate with Proportional Water Use by Retail and Wholesale Customers. If the SFPUC demonstrates that an increase in Debt Service coverage will result in equivalent percentage reductions in total Wholesale and Retail Debt Service payments over the life of the proposed new Indebtedness, based on Proportional Water Use, BAWSCA may agree to a modification of the Wholesale Revenue Coverage requirement in subsection A. If BAWSCA does not agree to a proposed modification in coverage requirements in the covenants for new Indebtedness, SFPUC may nevertheless proceed with the modification and the issuance of new Indebtedness. Any Wholesale Customer, or BAWSCA, may challenge an increase in the Wholesale Revenue Requirement resulting from the modification in Debt Service coverage through arbitration as provided in Section 8.01.A. If the arbitrator finds that the increase in Debt Service coverage (1) did not and will not result in equivalent percentage reductions in total Wholesale and Retail Debt Service payments over the life of the proposed new Indebtedness, based on Proportional Water Use, or (2) was not commensurate with Proportional Water Use, the arbitrator may order the Wholesale Revenue Requirement to be recalculated both retrospectively and prospectively to eliminate the differential impact to Wholesale or Retail Customers, subject to the limitation in Section 8.01.C.

6.07 <u>Working Capital Requirement</u>

A. The SFPUC maintains working capital in the form of unappropriated reserves for the purpose of bridging the gap between when the SFPUC incurs operating expenses required to provide service and when it receives revenues from its Retail and Wholesale Customers. The Wholesale Customers shall fund their share of working capital as part of the annual Wholesale Revenue Requirement calculation. The amount of wholesale working capital for which the Wholesale Customers will be responsible will be determined using the 60-day standard formula approach.

B. Applying this approach, annual wholesale working capital equals one-sixth of the wholesale allocation of operation and maintenance, administrative and general, and property tax expenses for the Water and Hetch Hetchy Enterprises. Wholesale working capital shall be calculated separately for the Water and Hetch Hetchy Enterprises.

C. Each month, the sum of the Water Enterprise and Hetch Hetchy Enterprise working capital components will be compared with the ending balance in the Wholesale Revenue Coverage Reserve to determine if the Wholesale Customers provided the minimum required working capital. If the Wholesale Revenue Coverage Reserve is greater than the total Water Enterprise and Hetch Hetchy Enterprise working capital requirement, the Wholesale Customers will have provided their share of working capital. If the Wholesale Revenue Coverage Reserve is less than the total Water Enterprise and Hetch Hetchy Enterprise working capital requirement, the Wholesale Customers will be charged interest on the difference, which will be included in the adjustment to the Balancing Account under Section 6.05.B for the subsequent fiscal year.

6.08 <u>Wholesale Capital Fund</u>

A. The SFPUC currently funds revenue-funded capital projects through annual budget appropriations that are included in rates established for that fiscal year and transferred to a capital project fund from which expenditures are made. Consistent with the San Francisco Charter and Administrative Code, the SFPUC appropriates funds in advance of construction in order to maintain a positive balance in the capital project fund. The capital project fund also accrues interest and any unspent appropriations in excess of total project costs. It is the SFPUC's practice to regularly monitor the capital project fund balance to determine whether a surplus has accumulated, which can be credited against the next fiscal year's capital project appropriation.

B. The SFPUC shall establish a comparable Wholesale Revenue-Funded Capital Fund (Wholesale Capital Fund) to enable the Wholesale Customers to fund the wholesale share of revenue-funded New Regional Assets. The Wholesale Capital Fund balance is zero as of July 1, 2009. The SFPUC may include in wholesale rates for any fiscal year an amount equal to the wholesale share of the SFPUC's appropriation for revenue funded New Regional Assets for that year, which sum will be credited to the Wholesale Capital Fund. The wholesale share of other sources of funding, where legally permitted and appropriately accounted for under GAAP,

will also be credited to the Wholesale Capital Fund, together with interest earnings on the Wholesale Capital Fund balance.

C. The SFPUC will expend revenues appropriated and transferred to the Wholesale Capital Fund only on New Regional Assets. The annual capital appropriation included in each fiscal year's budget will be provided to BAWSCA in accordance with Section 6.02 and will take into account the current and projected balance in the Wholesale Capital Fund, as well as current and projected unexpended and unencumbered surplus, as shown on attachment M-1, which will be prepared by the SFPUC each year.

D. Commencing on November 30, 2010 and thereafter in each fiscal year during the Term, the SFPUC will also provide an annual report to BAWSCA on the status of individual revenue-funded New Regional Assets, substantially in the form of Attachment M-2.

E. In order to prevent the accumulation of an excessive unexpended and unencumbered surplus in the Wholesale Capital Fund, the status of the fund balance will be reviewed through the Compliance Audit at five-year intervals, commencing in FY 2014-15. Any excess fund balance (i.e., an accumulated unexpended, unencumbered amount in excess of ten percent (10%) of the wholesale share of total capital appropriations for New Regional Assets during the five preceding years) will be transferred to the credit of the Wholesale Customers to the Balancing Account described in Section 6.05. Attachment M-3 illustrates the operation of this review process, covering FY 2009-10 through FY 2013-14 and FY 2014-15 through 2018-19.

F. Three years prior to the end of the Term, the SFPUC and BAWSCA will discuss the disposition of the Wholesale Capital Fund balance at the end of the Term. Absent agreement, any balance remaining in the Wholesale Capital Fund at the end of the Term shall be transferred to the Balancing Account, to the credit of the Wholesale Customers.

Article 7. Accounting Procedures; Compliance Audit

7.01 SFPUC Accounting Principles, Practices

A. Accounting Principles. San Francisco will maintain the accounts of the SFPUC and the Water and Hetch Hetchy Enterprises in conformity with Generally Accepted Accounting Principles. San Francisco will apply all applicable pronouncements of the Governmental Accounting Standards Board (GASB) as well as statements and interpretations of the Financial Accounting Standards Board and Accounting Principles Board opinions issued on or before March 30, 1989, unless those pronouncements or opinions conflict with GASB pronouncements.

B. General Rule. San Francisco will maintain the accounting records of the SFPUC and the Water and Hetch Hetchy Enterprises in a format and level of detail sufficient to allow it to determine the annual Wholesale Revenue Requirement in compliance with this Agreement and to allow its determination of the Wholesale Revenue Requirement to be audited as provided in Section 7.04.

C. Water Enterprise. San Francisco will maintain an account structure which allows utility plant and operating and maintenance expenses to be segregated by location (inside San Francisco and outside San Francisco) and by function (Direct Retail, Regional and Direct Wholesale).

D. Hetch Hetchy Enterprise. San Francisco will maintain an account structure which allows utility plant and operating and maintenance expenses to be segregated into Water Only, Power Only and Joint categories.

E. SFPUC. San Francisco will maintain an account structure which allows any expenses of SFPUC bureaus that benefit only the Wastewater Enterprise, the Power-Only operations of the Hetch Hetchy Enterprise or Retail Customers to be excluded from the Wholesale Revenue Requirement.

F. Utility Plant Ledgers. San Francisco will maintain subsidiary plant ledgers for the Water and Hetch Hetchy Enterprises that contain unique identifying numbers for all assets included in the rate base and identify the original cost, annual depreciation, accumulated depreciation, date placed in service, useful life, salvage value if any, source of funding (e.g., bond series, revenues, grants), and classification for purposes of this Agreement.

G. **Debt.** San Francisco will maintain documentation identifying:

1. The portion of total bonded debt outstanding related to each series of each bond issue.

2. The portion of total interest expense related to each series of each bond issue.

3. The use of proceeds of each bond issue (including proceeds of commercial paper and/or other interim financial instruments redeemed or expected to be redeemed from bonds and earnings on the proceeds of financings) in sufficient detail to determine, for each bond issue, the proceeds and earnings of each (including proceeds and earnings of interim financing vehicles redeemed by a bond issue) and the total amounts expended on Direct Retail improvements and the total amounts expended on Regional improvements.

H. **Changes in Accounting.** Subject to subsections A thru G, San Francisco may change the chart of accounts and accounting practices of the SFPUC and the Water and Hetch Hetchy Enterprises. However, the allocation of any expense to the Wholesale Customers that is specified in the Agreement may not be changed merely because of a change in (1) the accounting system or chart of accounts used by SFPUC, (2) the account to which an expense is posted or (3) a change in the organizational structure of the SFPUC or the Water or Hetch Hetchy Enterprises.

I. **Audit.** San Francisco will arrange for an audit of the financial statements of Water and Hetch Hetchy Enterprises to be conducted each year by an independent certified public accountant, appointed by the Controller, in accordance with Generally Accepted Auditing Standards.

7.02 Calculation of and Report on Wholesale Revenue Requirement

A. Within five months after the close of each fiscal year, San Francisco will prepare a report showing its calculation of the Wholesale Revenue Requirement for the preceding fiscal year and the change in the balancing account as of the end of that fiscal year. The first such report will be prepared by November 30, 2010 and will cover fiscal year 2009-10 and the balancing account as of June 30, 2010.

B. The report will consist of the following items:

1. Statement of changes in the balancing account for the fiscal year being reported on, and for the immediately preceding fiscal year, substantially in the form of Attachment O.

2. Detailed supporting schedules 8.1 through 8.2 substantially in the form of Attachment N-2.

3. Description and explanation of any changes in San Francisco's accounting practices from those previously in effect.

4. Explanation of any line item of expense (shown on Attachment N-2, schedules 1 and 4) for which the amount allocated to the Wholesale Customers increased by (a) ten percent or more from the preceding fiscal year, or (b) more than $1,000,000.

5. Representation letter signed by the SFPUC General Manager and by other SFPUC financial staff shown on Attachment P, as the General Manager may direct, subject to change in position titles at the discretion of the SFPUC.

C. The report will be delivered to the BAWSCA General Manager by the date identified in Subsection A.

Once the report has been delivered to BAWSCA, San Francisco will, upon request:

1. Provide BAWSCA with access to, and copies of, all worksheets and supporting documents used or prepared by San Francisco during its calculation of the Wholesale Revenue Requirement;

2. Make available to BAWSCA all supporting documentation and calculations used by San Francisco in preparing the report; and

3. Promptly provide answers to questions from BAWSCA staff about the report.

7.03 Appointment of Compliance Auditor

A. Purpose. The purpose of this section is to provide for an annual Compliance Audit by an independent certified public accountant of the procedures followed and the underlying data used by San Francisco in calculating the Wholesale Revenue Requirement for the preceding fiscal year. The annual Compliance Audit shall also determine whether the Wholesale Revenue Requirement has been calculated in accordance with the terms of the Agreement and whether amounts paid by the Wholesale Customers in excess of or less than the Wholesale Revenue Requirement have been posted to the balancing account, together with interest as provided in Section 6.05.

B. Method of Appointment. The Controller shall select an independent certified public accountant ("Compliance Auditor") to conduct the Compliance Audit described below. The Compliance Auditor may be the same certified public accountant engaged by the Controller to audit the financial statements of the Water and Hetch Hetchy Enterprises. Subject to approval by the Controller and the General Manager of the SFPUC, the Compliance Auditor shall have the authority to engage such consultants as it deems necessary or appropriate to assist in the audit. The terms of this Article shall be incorporated into the contract between San Francisco and the Compliance Auditor, and the Wholesale Customers shall be deemed to be third-party beneficiaries of said contract.

7.04 Conduct of Compliance Audit

A. Standards. The Compliance Auditor shall perform the Compliance Audit in accordance with Generally Accepted Auditing Standards. In particular, its review shall be governed by the standards contained in Section AU 623 (Reports on Specified Elements, Accounts or Items of a Financial Statement) of the AICPA, *Professional Standards*, as amended from time to time.

B. Preliminary Meeting; Periodic Status Reports; Access to Data. Prior to commencing the audit, the Compliance Auditor shall meet with San Francisco and BAWSCA to discuss the audit plan, the procedures to be employed and the schedule to be followed. During the course of the audit, the Compliance Auditor shall keep San Francisco and BAWSCA informed of any unforeseen problems or circumstances which could cause a delay in the audit or any material expansion of the audit's scope. The Compliance Auditor shall be given full

access to all records of the SFPUC and the Water and Hetch Hetchy Enterprises that the Auditor deems necessary for the audit.

C. **Audit Procedures**. The Compliance Auditor shall review San Francisco's calculation of the Wholesale Revenue Requirement and the underlying data in order to carry out the purpose of the audit described in Section 7.03.A and to issue the report described in Section 7.05. At a minimum, the Compliance Auditor shall address the following:

1. Water Enterprise Operating and Maintenance Expenses. The Compliance Auditor shall review Water Enterprise cost ledgers to determine whether the recorded operating and maintenance expenses fairly reflect the costs incurred, were recorded on a basis consistent with applicable Generally Accepted Accounting Principles, and were allocated to the Wholesale Customers as provided in this Agreement.

2. Water Enterprise Administrative and General Expenses. The Compliance Auditor shall review Water Enterprise cost ledgers and other appropriate financial records, including those of the SFPUC, to determine whether the recorded administrative and general expenses fairly reflect the costs incurred by or allocated to the Water Enterprise, whether they were recorded on a basis consistent with applicable Generally Accepted Accounting Principles, whether SFPUC charges were allocated to the Water Enterprise in accordance with this Agreement, and whether the amount of administrative and general expenses allocated to the Wholesale Customers was determined as provided by this Agreement.

3. Property Taxes. The Compliance Auditor shall review Water Enterprise cost ledgers to determine whether the amount of property taxes shown on the report fairly reflects the property tax expense incurred by San Francisco for Water Enterprise property outside of San Francisco and whether there has been deducted from the amount to be allocated (1) all taxes actually reimbursed to San Francisco by tenants of Water Enterprise property under leases that require such reimbursement and (2) any refunds received from the taxing authority. The Compliance Auditor also shall determine whether the amount of property taxes allocated to the Wholesale Customers was determined as provided in this Agreement.

4. Debt Service. The Compliance Auditor shall review SFPUC records to determine whether debt service, and associated coverage requirements, were allocated to the Wholesale Customers as provided in this Agreement.

5. Amortization of Existing Assets in Service as of June 30, 2009. The Compliance Auditor shall review both Water and Hetch Hetchy Enterprise records to determine whether the payoff amount for Existing Assets allocated to the Wholesale Customers as shown on Attachment K-1 through K-4 was calculated as provided in Section 5.03 of this Agreement.

6. Revenue-Funded Capital Appropriations/Expenditures. The Compliance Auditor shall review San Francisco's calculation of actual expenditures on the wholesale share of revenue-funded New Regional Assets and remaining unexpended and unencumbered project balances in the "Wholesale Capital Fund" described in Section 6.08, to determine whether the procedures contained in that section were followed.

7. Hetch Hetchy Expenses. The Compliance Auditor shall determine whether Hetch Hetchy Enterprise expenses were allocated to the Wholesale Customers as provided in this Agreement.

D. Use of and Reliance on Audited Financial Statements and Water Use Data

1. In performing the audit, the Compliance Auditor shall incorporate any adjustments to the cost ledgers recommended by the independent certified public accountant, referred to in Section 7.01.I, which audited the financial statements of the Water and Hetch Hetchy Enterprises. The Compliance Auditor may rely upon the work performed by that independent certified public accountant if the Compliance Auditor reviews the work and is willing to take responsibility for it as part of the compliance audit.

2. In performing the Compliance Audit and issuing its report, the Compliance Auditor may rely on water use data furnished by the Water Enterprise, regardless of whether the Wholesale Customers contest the accuracy of such data. The Compliance Auditor shall have no obligation to independently verify the accuracy of the water use data provided by San Francisco; however, the Compliance Auditor shall disclose in its report any information which came to its attention suggesting that the water use data provided by San Francisco are inaccurate in any significant respect.

E. Exit Conference. Upon completion of the audit, the Compliance Auditor shall meet with San Francisco and BAWSCA to discuss audit findings, including (1) any material weakness in internal controls and (2) adjustments proposed by the Compliance Auditor and San Francisco's response (i.e., booked or waived).

7.05 Issuance of Compliance Auditor's Report

A. San Francisco will require the Compliance Auditor to issue its report no later than nine months after the fiscal year under audit (i.e., March 31 of the following calendar year). The Compliance Auditor's report shall be addressed and delivered to San Francisco and BAWSCA. The report shall contain:

1. A statement that the Auditor has audited the report on the calculation of the Wholesale Revenue Requirement and changes in the balancing account, and supporting documents, prepared by San Francisco as required by Section 7.02.

2. A statement that the audit was conducted in accordance with auditing standards generally accepted in the United States of America, and that the audit provides a reasonable basis for its opinion.

3. A statement that in the Compliance Auditor's opinion the Wholesale Revenue Requirement was calculated by San Francisco in accordance with this Agreement and that the change in the balancing account shown in San Francisco's report was calculated as required by this Agreement and presents fairly, in all material respects, changes in and the balance due to (or from) the Wholesale Customers as of the end of the fiscal year under audit.

7.06 Wholesale Customer Review

A. One or more Wholesale Customers, or BAWSCA, may engage an independent certified public accountant (CPA) to conduct a review (at its or their expense) of San Francisco's calculation of the annual Wholesale Revenue Requirement and a review of changes in the balancing account.

B. If a Wholesale Customer or BAWSCA wishes such a review to be conducted it will provide written notice to SFPUC within 30 days of the date the Compliance Auditor's report is issued. The notice will identify the CPA or accounting/auditing firm that will conduct the review and the specific aspects of the Compliance Auditor's report that are the subject of the review. If more than one notice of review is received by the SFPUC, the requesting Wholesale Customers shall combine and coordinate their reviews and select a lead auditor to act on their behalf for the purposes of requesting documents and conducting on-site investigations.

C. San Francisco will cooperate with the CPA appointed by a Wholesale Customer or BAWSCA. This cooperation includes making requested records promptly available, making

knowledgeable SFPUC personnel available to timely and truthfully answer the CPA's questions and directing the Compliance Auditor to cooperate with the CPA.

D. The Wholesale Customer's review shall be completed within 60 days after the date the Compliance Auditor's report is issued. At the conclusion of the review, representatives of San Francisco and BAWSCA shall meet to discuss any differences between them concerning San Francisco's compliance with Articles 5 or 6 of this Agreement during the preceding fiscal year or San Francisco's calculation of the Wholesale Revenue Requirement for the preceding fiscal year. If such differences cannot be resolved, the dispute shall be submitted to arbitration in accordance with Section 8.01.

Article 8. Other Agreements of the Parties

8.01 Arbitration and Judicial Review

A. General Principles re Scope of Arbitration. All questions or disputes arising under the following subject areas shall be subject to mandatory, binding arbitration and shall not be subject to judicial determination:

1. the determination of the Wholesale Revenue Requirement, which shall include both the calculations used in the determination and the variables used in those calculations;

2. the SFPUC's adherence to accounting practices and conduct of the Compliance Audit; and

3. the SFPUC's classification of new assets for purposes of determining the Wholesale Revenue Requirement.

All other questions or disputes arising under this Agreement shall be subject to judicial determination. Disputes about the scope of arbitrability shall be resolved by the courts.

B. Demand for Arbitration. If any arbitrable question or dispute should arise, any Wholesale Customer or the SFPUC may commence arbitration proceedings hereunder by service of a written Demand for Arbitration. Demands for arbitration shall set forth all of the issues to be arbitrated, the general contentions relating to those issues, and the relief sought by the party serving the Demand. Within 45 days after service of a Demand upon it, any Wholesale Customer or the SFPUC may serve a Notice of Election to become a party to the arbitration and a Response to the issues set forth in the Demand. The Response shall include the party's general contentions and defenses with respect to the claims made in the Demand, and may include any otherwise arbitrable claims, contentions and demands that concern the fiscal year covered by the Demand. If a timely Notice of Election and Response is not filed by any such entity, it shall not be a party to the arbitration but shall nonetheless be bound by the award of the arbitrator. If no party to this Agreement serves a timely Notice of Election and Response, the party seeking arbitration shall be entitled to the relief sought in its Demand for Arbitration without the necessity of further proceedings. Any claims not made in a Demand or Response shall be deemed waived.

If a Demand or Notice of Election is made by the SFPUC, it shall be served by personal delivery or certified mail to each Wholesale Customer at the address of such customer as set forth in the billing records of the SFPUC. If a Demand or Notice of Election is made by a Wholesale Customer, service shall be by certified mail or personal delivery to the General Manager, SFPUC, 1155 Market Street, 11th Floor, San Francisco, California 94103, and to each of the other Wholesale Customers. If arbitration is commenced, the Wholesale Customers shall use their best efforts to formulate a single, joint position with respect thereto. In any event, with respect to the appointment of arbitrators, as hereinafter provided, all Wholesale Customers that take the same position as to the issues to be arbitrated shall jointly and collectively be deemed to be a single party.

C. Limitations Period. All Demands For Arbitration shall be served within twelve months of receipt by BAWSCA of the Wholesale Revenue Requirement Compliance Auditor's Report for that year. If a party fails to file a Demand within the time period specified in this subsection, that party waives all present and future claims with respect to the fiscal year in question. If no such Demand is served within the twelve month period specified above, the SFPUC's determination of the Wholesale Revenue Requirement for that year shall be final and conclusive. Whether any particular claim is barred by the twelve month limitations period provided for herein shall be for the arbitrator to determine. Prior to the expiration of the twelve month limitations period, the parties to the dispute may agree by written stipulation to extend the period by up to six additional months.

The Arbitrator may order the alteration or recalculation of underlying Water Enterprise and/or Hetch Hetchy Enterprise accounts or asset classifications. Such changes shall be used to calculate the Wholesale Revenue Requirement for the fiscal year in dispute and shall also be used to determine future Wholesale Revenue Requirements, if otherwise applicable, even though the existing entries in such accounts or the asset classifications, in whole or in part, predate the twelve month period described above, so long as a timely arbitration Demand has been filed in accordance with this subsection.

D. Number and Appointment of Arbitrators. All arbitration proceedings under this section shall be conducted by a single arbitrator, selected by the SFPUC and a designated representative of the Wholesale Customers or each group of Wholesale Customers that take the same position with respect to the arbitration, within 75 days after service of the Demand. If the parties to the arbitration cannot agree on an arbitrator within 75 days, any party may petition

the Marin County Superior Court for the appointment of an arbitrator pursuant to Code of Civil Procedure Section 1281.6 (or any successor provision).

E. Guidelines for Qualifications of Arbitrators. The Wholesale Customers and the SFPUC acknowledge that the qualifications of the arbitrator will vary with the nature of the matter arbitrated, but, in general, agree that such qualifications may include service as a judge or expertise in one or more of the following fields: public utility law, water utility rate setting, water system and hydraulic engineering, utility accounting methods and practices, and water system operation and management. The parties to the arbitration shall use their best efforts to agree in advance upon the qualifications of any arbitrator to be appointed by the Superior Court.

F. Powers of Arbitrator; Conduct of Proceedings

1. Except as provided in this section, arbitrations under this section shall be conducted under and be governed by the provisions of California Code of Civil Procedure Sections 1282.2 through 1284.2 (hereinafter, collectively, "Code sections"), and arbitrators appointed hereunder shall have the powers and duties specified by the Code sections.

2. Within the meaning of the Code sections, the term "neutral arbitrator" shall mean the single arbitrator selected by the parties to the arbitration.

3. Unless waived in writing by the parties to the arbitration, the notice of hearing served by the arbitrator shall not be less than 90 days.

4. The lists of witnesses (including expert witnesses), and the lists of documents (including the reports of expert witnesses) referred to in Code of Civil Procedure Section 1282.2 shall be mutually exchanged, without necessity of demand therefore, no later than 60 days prior to the date of the hearing, unless otherwise agreed in writing by the parties to the arbitration. Upon application of any party, or on his or her own motion, the arbitrator may schedule one or more prehearing conferences for the purposes of narrowing and/or expediting resolution of the issues in dispute. Strict conformity to the rules of evidence is not required, except that the arbitrator shall apply applicable law relating to privileges and work product. The arbitrator shall consider evidence that he or she finds relevant and material to the dispute, giving the evidence such weight as is appropriate. The arbitrator may limit testimony to exclude evidence that would be immaterial or unduly repetitive, provided that all parties are afforded the opportunity to present material and relevant evidence.

5. Within thirty days after the close of the arbitration hearing, or such other time as the arbitrator shall determine, the parties will submit proposed findings and a proposed remedy to the arbitrator. The parties may file objections to their adversary's proposed findings and remedy within a time limit to be specified by the arbitrator. The arbitrator shall not base his or her award on information not obtained at the hearing.

6. The arbitrator shall render a written award no later than twelve months after the arbitrator is appointed, either by the parties or by the court, provided that such time may be waived or extended as provided in Code of Civil Procedure Section 1283.8.

7. The provisions for discovery set forth in Code of Civil Procedure Section 1283.05 are incorporated into and made part of this Agreement, except that: (a) leave of the arbitrator need not be obtained for the taking of depositions, including the depositions of expert witnesses; (b) the provisions of Code of Civil Procedure Section 2034.010 et seq., relating to discovery of expert witnesses, shall automatically be applicable to arbitration proceedings arising under this Agreement without the necessity for a formal demand pursuant to Section 2034.210 and the date for the exchange of expert discovery provided by Sections 2034.260 and 2034.270 shall be not later than 60 days prior to the date for the hearing; and (c) all reports, documents, and other materials prepared or reviewed by any expert designated to testify at the arbitration shall be discoverable. In appropriate circumstances, the arbitrator may order any party to this Agreement that is not a party to the arbitration to comply with any discovery request.

8. For the purposes of allocation of expenses and fees, as provided in Code of Civil Procedure Section 1284.2, if any two or more Wholesale Customers join together in a single, joint position in the arbitration, those Wholesale Customers shall be deemed to be a single party. If any Wholesale Customer or customers join together with the SFPUC in a single joint position in the arbitration, those Wholesale Customers and the SFPUC together shall be deemed to be a single party.

9. Subject to any other limitations imposed by the Agreement, the arbitrator shall have power to issue orders mandating compliance with the terms of the Agreement or enjoining violations of the Agreement. With respect to any arbitration brought to redress a claimed wholesale overpayment to the SFPUC, the arbitrator's power to award monetary relief

shall be limited to entering an order requiring that an adjustment be made in the amount posted to the balancing account for the fiscal year covered by the Demand.

10. All awards of the arbitrator shall be binding on the SFPUC and the Wholesale Customers regardless of the participation or lack thereof by any Wholesale Customer or the SFPUC as a party to the arbitration proceeding. The parties to an arbitration shall have the power to modify or amend any arbitration award by mutual consent. The arbitrator shall apply California law.

8.02 Attorneys' Fees

A. Arbitration or Litigation Between San Francisco and Wholesale Customers Arising under the Agreement or Individual Water Sales Contracts. Each party will bear its own costs, including attorneys' fees, incurred in any arbitration or litigation arising under this Agreement or the Individual Water Sales Contracts between San Francisco and the Wholesale Customers. Notwithstanding the foregoing, and subject to the limitations contained herein, the SFPUC may allocate to the Wholesale Customers as an allowable expense, utilizing the composite rate used for allocating other Water Enterprise administrative and general expenses, any attorneys' fees and costs incurred by the SFPUC in connection with arbitration and/or litigation arising under this Agreement and/or the Individual Water Sales Contracts. Attorneys' fees incurred by the SFPUC for attorneys employed in the San Francisco City Attorney's office shall be billed at the hourly rates charged for the attorneys in question by the San Francisco City Attorney's Office to the SFPUC. Attorneys' fees incurred by the SFPUC for attorneys other than those employed in the San Francisco City Attorney's Office shall be limited to the hourly rates charged to the SFPUC for attorneys and paralegals with comparable experience employed in the San Francisco City Attorney's office and in no event shall exceed the highest hourly rate charged by any attorney or paralegal employed in the City Attorney's Office to the SFPUC.

B. Arbitration or Litigation Outside of Agreement Concerning the SFPUC Water System or Reserved Issues

1. The attorneys' fees and costs incurred by the SFPUC in litigation between San Francisco and one or more of the Wholesale Customers arising from matters outside of the Agreement, including, without limitation, litigation and/or arbitration concerning the issues specifically reserved in the Agreement, shall be allocated between the Retail Customers and the

Wholesale Customers utilizing the composite rate used for allocating other Water Enterprise administrative and general expenses.

2. If, in any litigation described in subsection B.1 above, attorneys' fees and costs are awarded to one or more of the Wholesale Customers as prevailing parties, the SFPUC's payment of the Wholesale Customers' attorneys' fees and costs shall not be an allowable expense pursuant to subsection A.

3. If, in any litigation described in subsection B.1, the SFPUC obtains an award of attorneys' fees and costs as a prevailing party against one or more of the Wholesale Customers, any such award shall be reduced to offset the amount of the SFPUC's fees and costs, if any, that have already been paid by the Wholesale Customers in the current or any prior fiscal years pursuant to subsection B.1 and the provisions of Articles 5 and 6 of the Agreement.

4. Nothing contained in this Agreement, including this subsection, shall authorize a court to award attorneys' fees and costs to a prevailing party as a matter of contract and/or the provisions of Civil Code Section 1717, in litigation between San Francisco and one or more of the Wholesale Customers arising from matters outside of the Agreement, including, without limitation, litigation and/or arbitration concerning the issues specifically reserved in the Agreement.

C. <u>Attorneys Fees and Costs Incurred by the SFPUC in Connection with the Operation and Maintenance of the SFPUC Water Supply System</u>. All attorneys' fees and costs incurred by the SFPUC in connection with the operation and maintenance of the SFPUC's water supply system shall be allocated between Retail Customers and the Wholesale Customers utilizing the composite rate used for allocating other Water Enterprise administrative and general expenses.

8.03 <u>Annual Meeting and Report</u>

A. The parties wish to ensure that the Wholesale Customers may, in an orderly way, be informed of matters affecting the Regional Water System, including matters affecting the continuity and adequacy of their water supply from San Francisco.

For this purpose, the General Manager of the SFPUC shall meet annually with the Wholesale Customers and BAWSCA during the month of February, commencing

February 2010. At these annual meetings, the SFPUC shall provide the Wholesale Customers a report on the following topics:

1. Capital additions under construction or being planned for the Regional Water System, including the status of planning studies, financing plans, environmental reviews, permit applications, etc.;

2. Water use trends and projections for Retail Customers and Wholesale Customers;

3. Water supply conditions and projections;

4. The status of any administrative proceedings or litigation affecting San Francisco's water rights or the SFPUC's ability to deliver water from the watersheds which currently supply the Regional Water System;

5. Existing or anticipated problems with the maintenance and repair of the Regional Water System or with water quality;

6. Projections of Wholesale Revenue Requirements for the next five years;

7. Any other topic which the SFPUC General Manager places on the agenda for the meeting;

8. Any topic which the Wholesale Customers, through BAWSCA, request be placed on the agenda, provided that the SFPUC is notified of the request at least 10 days before the meeting.

B. The General Manager of the SFPUC, the Assistant General Manager of the Water Enterprise, and the Assistant General Manager of Business Services-CFO will use their best efforts to attend the annual meetings. If one or more of these officers are unable to attend, they will designate an appropriately informed assistant to attend in their place.

8.04 <u>Administrative Matters Delegated to BAWSCA</u>

A. The Wholesale Customers hereby delegate the authority and responsibility for performing the following administrative functions contemplated in this Agreement to BAWSCA:

1. Approval of calculations of Proportional Annual Water Use required by Section 3.14 and Attachment J, "Water Use Measurement and Tabulation";

2. Approval of amendments to Attachments J and K-3 and K-4, "25-Year Payoff Schedules for Existing Rate Base";

3. Agreement that the Water Meter and Calibration Procedures Manual to be prepared by the SFPUC may supersede some or all of the requirements in Attachment J, as described in Section 3.14;

4. Conduct of Wholesale Customer review of SFPUC's calculation of annual Wholesale Revenue Requirement/Change in Balancing Account described in Section 7.06;

5. Approval of an adjustment to Wholesale Revenue Coverage as described in Section 6.06.

B. A majority of the Wholesale Customers may, without amending this Agreement, delegate additional administrative functions to BAWSCA. To be effective, such expanded delegation must be evidenced by resolutions adopted by the governing bodies of a majority of the Wholesale Customers.

C. Unless otherwise explicitly stated, the administrative authority delegated to BAWSCA may be exercised by the General Manager/CEO of BAWSCA, rather than requiring action by the BAWSCA Board of Directors. In addition, the Wholesale Customers may, with the consent of BAWSCA, delegate to BAWSCA the initiation, defense, and settlement of arbitration proceedings provided for in Section 8.01.

8.05 <u>Preservation of Water Rights; Notice of Water Rights Proceedings</u>

A. It is the intention of San Francisco to preserve all of its water rights, irrespective of whether the water held under such water rights is allocated under this Agreement. Nothing in this Agreement shall be construed as an abandonment, or evidence of an intent to abandon, any of the water rights that San Francisco presently possesses.

B. San Francisco shall use its best efforts to give prompt notice to BAWSCA of any litigation or administrative proceedings to which San Francisco is a party involving water rights to the Regional Water System. The failure of San Francisco to provide notice as required by this section, for whatever reason, shall not give rise to any monetary liability.

8.06 SFPUC Rules and Regulations

The sale and delivery of all water under this Agreement shall be subject to such of the "Rules and Regulations Governing Water Service to Customers" of the Water Enterprise adopted by the Commission, as those rules and regulations may be amended from time to time, as are (1) applicable to the sale and delivery of water to the Wholesale Customers, (2) reasonable, and (3) not inconsistent with either this Agreement or with an Individual Water Sales Contract. The SFPUC will give the Wholesale Customers notice of any proposal to amend the Rules and Regulations in a manner that would affect the Wholesale Customers. The notice will be delivered at least thirty days in advance of the date on which the proposal is to be considered by the Commission and will be accompanied by the text of the proposed amendment.

8.07 Reservations of, and Limitations on, Claims

A. General Reservation of Raker Act Contentions. The 1984 Agreement resolved a civil action brought against San Francisco by certain of the Wholesale Customers. Plaintiffs in that action contended that they, and other Wholesale Customers that are municipalities or special districts, were "co-grantees" within the meaning of Section 8 of the Act and were entitled to certain rights, benefits and privileges by virtue of that status. San Francisco disputed those claims.

Nothing in this Agreement, or in the Individual Water Sales Contracts, shall be construed or interpreted in any way to affect the ultimate resolution of the controversy between the parties concerning whether any of the Wholesale Customers are "co-grantees" under the Act and, if so, what rights, benefits and privileges accrue to them by reason of that claimed status.

B. Claims Reserved but not Assertable During Term or Portions Thereof. The following claims, which San Francisco disputes, are reserved but may not be asserted during the Term (or portions thereof, as indicated):

1. The Wholesale Customers' claim that the Act entitles them to water at cost.

2. The Wholesale Customers' claim that San Francisco is obligated under the Act or state law to supply them with additional water in excess of the Supply Assurance. This claim may not be asserted unless and until San Francisco decides not to meet projected

water demands of Wholesale Customers in excess of the Supply Assurance pursuant to Section 4.06.

3. The claim by San Jose and Santa Clara that they are entitled under the Act, or any other federal or state law, to permanent, non-interruptible status and to be charged rates identical to those charged other Wholesale Customers. This claim may not be asserted unless and until San Francisco notifies San Jose or Santa Clara that it intends to interrupt or terminate water deliveries pursuant to Section 4.05.

4. The Wholesale Customers' claim that the SFPUC is not entitled to impose a surcharge for lost power generation revenues attributable to furnishing water in excess of the Supply Assurance. This claim may not be asserted unless and until SFPUC furnishes water in excess of the Supply Assurance during the Term and also includes such a surcharge in the price of such water.

5. Claims by Wholesale Customers (other than San Jose and Santa Clara, whose service areas are fixed) that SFPUC is obligated under the Act or state law to furnish water, within their Individual Supply Guarantee, for delivery to customers outside their existing service area and that Wholesale Customers are entitled to enlarge their service areas to supply those customers. Such claims may be asserted only after compliance with the procedure set forth in Section 3.03, followed by SFPUC's denial of, or failure for six months to act on, a written request by a Wholesale Customer to expand its service area.

C. <u>Waived Activities</u>. The Wholesale Customers (and the SFPUC, where specified) will refrain from the following activities during the Term (or portions thereof, as specified):

1. The Wholesale Customers and the SFPUC will not contend before any court, administrative agency or legislative body or committee that the methodology for determining the Wholesale Revenue Requirement (or the requirements for (a) amortization of the ending balance under the 1984 Agreement, or (b) contribution to the Wholesale Revenue Coverage) determined in accordance with this Agreement violates the Act or any other provision of federal law, state law, or San Francisco's City Charter, or is unfair, unreasonable or unlawful.

2. The Wholesale Customers will not challenge the transfer of funds by the SFPUC to any other San Francisco City department or fund, provided such transfer complies with the San Francisco City Charter. The transfer of its funds, whether or not permitted by the

City Charter, will not excuse the SFPUC from its failure to perform any obligation imposed by this Agreement.

3. The Wholesale Customers and the SFPUC will not assert monetary claims against one another based on the 1984 Agreement other than otherwise arbitrable claims arising from the three fiscal years immediately preceding the start of the Term (i.e., FYs 2006-07, 2007-08 and 2008-09). Such claims, if any, shall be governed by the dispute resolution provisions of this Agreement, except that the time within which arbitration must be commenced shall be 18 months from delivery of the Compliance Auditor's report.

D. <u>Other</u>

1. This Agreement shall determine the respective monetary rights and obligations of the parties with respect to water sold by the SFPUC to the Wholesale Customers during the Term. Such rights and obligations shall not be affected by any judgments or orders issued by any court in litigation, whether or not between parties hereto, and whether or not related to the controversy over co-grantee status, except for arbitration and/or litigation expressly permitted in this Agreement. No judicial or other resolution of issues reserved by this section will affect the Wholesale Revenue Requirement which, during the Term, will be determined exclusively as provided in Articles 5, 6 and 7 of this Agreement.

2. Because delays in the budget process or other events may cause the SFPUC to defer the effective date of changes in wholesale rates until after the beginning of the fiscal year, this Agreement does not require the SFPUC to make changes in wholesale rates effective at the start of the fiscal year or at any other specific date.

3. The Wholesale Customers do not, by executing this Agreement, concede the legality of the SFPUC's establishing Interim Supply Allocations, as provided in Article 4 or imposing Environmental Enhancement Surcharges on water use in excess of such allocations. Any Wholesale Customer may challenge such allocation when imposed and/or such surcharges if and when levied, in any court of competent jurisdiction.

4. The furnishing of water in excess of the Supply Assurance by San Francisco to the Wholesale Customers shall not be deemed or construed to be a waiver by San Francisco of its claim that it has no obligation under any provision of law to supply such water to the Wholesale Customers, nor shall it constitute a dedication by San Francisco to the Wholesale Customers of such water.

8.08 Prohibition of Assignment

A. This Agreement shall be binding on, and shall inure to the benefit of, the parties and their respective successors and permitted assigns. Each Wholesale Customer agrees that it will not transfer or assign any rights or privileges under this Agreement, either in whole or in part, or make any transfer of all or any part of its water system or allow the use thereof in any manner whereby any provision of this Agreement will not continue to be binding on it, its assignee or transferee, or such user of the system. Any assignment or transfer in violation of this covenant, and any assignment or transfer that would result in the supply of water in violation of the Act, shall be void.

B. Nothing in this section shall prevent any Wholesale Customer (except the California Water Service Company and Stanford) from entering into a joint powers agreement or a municipal or multi-party water district with any other Wholesale Customer (except the two listed above) to exercise the rights and obligations granted to and imposed upon the Wholesale Customers hereunder, nor shall this section prevent any Wholesale Customer (except the two listed above) from succeeding to the rights and obligations of another Wholesale Customer hereunder as long as the Wholesale Service Area served by the Wholesale Customers involved in the succession is not thereby enlarged.

8.09 Notices

A. All notices and other documents that San Francisco is required or permitted to send to the Wholesale Customers under this Agreement shall be sent to each and all of the Wholesale Customers by United States mail, first class postage prepaid, addressed to each Wholesale Customer at the address to which monthly water bills are mailed by the Water Enterprise.

B. All notices or other documents which the Wholesale Customers are required or permitted to send to San Francisco under this Agreement shall be sent by United States mail, first class postage prepaid, addressed as follows:

General Manager
San Francisco Public Utilities Commission
1155 Market Street, 11th Floor
San Francisco, CA 94103

C. Each Wholesale Customer is a member of BAWSCA. San Francisco shall send a copy of each notice or other document which it is required to send to all Wholesale Customers to BAWSCA addressed as follows:

General Manager/CEO
Bay Area Water Supply and Conservation Agency
155 Bovet Road, Suite 302
San Mateo, CA 94402

The failure of San Francisco to send a copy of such notices or documents to BAWSCA shall not invalidate any rate set or other action taken by San Francisco.

D. Any party (or BAWSCA) may change the address to which notice is to be sent to it under this Agreement by notice to San Francisco (in the case of a change desired by a Wholesale Customer or BAWSCA) and to the Wholesale Customer and BAWSCA (in the case of a change desired by San Francisco).

The requirements for notice set forth in Section 8.01 concerning arbitration shall prevail over this section, when they are applicable.

8.10 Incorporation of Attachments

Attachments A through Q, referred to herein, are incorporated in and made a part of this Agreement.

8.11 Interpretation

In interpreting this Agreement, or any provision thereof, it shall be deemed to have been drafted by all signatories, and no presumption pursuant to Civil Code Section 1654 may be invoked to determine the Agreement's meaning. The marginal headings and titles to the sections and paragraphs of this Agreement are not a part of this Agreement and shall have no effect upon the construction or interpretation of any part hereof.

8.12 Actions and Approvals by San Francisco

Whenever action or approval by San Francisco is required or contemplated by this Agreement, authority to act or approve shall be exercised by the Commission, except if such action is required by law to be taken, or approval required to be given, by the San Francisco Board of Supervisors. The Commission may delegate authority to the General Manager in

accordance with the San Francisco City Charter and Administrative Code, except for actions that this Agreement requires to be taken by the Commission.

8.13 Counterparts

Execution of this Agreement may be accomplished by execution of separate counterparts by each signatory. San Francisco shall deliver its executed counterpart to BAWSCA and the counterpart which each Wholesale Customer executes shall be delivered to San Francisco. The separate executed counterparts, taken together, shall constitute a single agreement.

8.14 Limitations on Damages

A. Unless otherwise prohibited by this Agreement, general or direct damages may be recovered for a breach of a party's obligations under this Agreement. No party is liable for, or may recover from any other party, special, indirect or consequential damages or incidental damages, including, but not limited to, lost profits or revenue. No damages may be awarded for a breach of Section 8.17.

B. The limitations in subsection A apply only to claims for damages for an alleged breach of this Agreement. These limitations do not apply to claims for damages for an alleged breach of a legal duty that arises independently of this Agreement, established by constitution or statute.

C. If damages would be an inadequate remedy for a breach of this Agreement, equitable relief may be awarded by a court in a case in which it is otherwise proper.

D. This section does not apply to any claim of breach for which arbitration is the exclusive remedy pursuant to Section 8.01.A.

8.15 Force Majeure

A. Excuse from Performance. No party shall be liable in damages to any other party for delay in performance of, or failure to perform, its obligations under this Agreement, including the obligations set forth in Sections 3.09 and 4.06, if such delay or failure is caused by a "Force Majeure Event."

B. Notice. The party claiming excuse shall deliver to the other parties a written notice of intent to claim excuse from performance under this Agreement by reason of a Force

Majeure Event. Notice required by this section shall be given promptly in light of the circumstances, and, in the case of events described in (c), (d) or (e) of the definition of Force Majeure Event only, not later than ten (10) days after the occurrence of the Force Majeure Event. Such notice shall describe the Force Majeure Event, the services impacted by the claimed event, the length of time that the party expects to be prevented from performing, and the steps which the party intends to take to restore its ability to perform.

C. Obligation to Restore Ability to Perform. Any suspension of performance by a party pursuant to this section shall be only to the extent, and for a period of no longer duration than, required by the nature of the Force Majeure Event, and the party claiming excuse shall use its best efforts to remedy its inability to perform as quickly as possible.

8.16 No Third-Party Beneficiaries

This Agreement is exclusively for the benefit of the parties and not for the benefit of any other Person. There are no third-party beneficiaries of this Agreement and no person not a party shall have any rights under or interests in this Agreement.

No party may assert a claim for damages on behalf of a person other than itself, including a person that is not a party.

8.17 Good Faith and Fair Dealing

San Francisco and the Wholesale Customers each acknowledge their obligation under California law to act in good faith toward, and deal fairly with, each other with respect to this Agreement.

Article 9. Implementation and Special Provisions Affecting Certain Wholesale Customers

9.01 General; Individual Water Sales Contracts

A. As described in Section 1.03, San Francisco previously entered into Individual Water Sales Contracts with each of the Wholesale Customers. The term of the majority of Individual Water Sales Contracts will expire on June 30, 2009, concurrently with the expiration of the 1984 Agreement. Except as provided below in this Article, each of the Wholesale Customers will execute a new Individual Water Sales Contract with San Francisco concurrently with its approval of the Agreement.

B. The Individual Water Sales Contracts will describe the service area of each Wholesale Customer, identify the location and size of connections between the Regional Water System and the Wholesale Customer's distribution system, provide for periodic rendering and payment of bills for water usage, and in some instances contain additional specialized provisions unique to the particular Wholesale Customer and not of general concern or applicability. A sample Individual Water Sales Contract is provided at Attachment F. The Individual Water Sales Contracts between San Francisco and the Wholesale Customers will not contain any provision inconsistent with Articles 1 through 8 of this Agreement except (1) as provided below in this Article or (2) to the extent that such provisions are not in derogation of the Fundamental Rights of other Wholesale Customers under this Agreement. Any provisions in an Individual Water Sales Contract which are in violation of this section shall be void.

9.02 California Water Service Company

A. The parties recognize that the California Water Service Company is an investor-owned utility company and, as such, has no claim to co-grantee status under the Act, which specifically bars private parties from receiving for resale any water produced by the Hetch Hetchy portion of the Regional Water System. Accordingly, the following provisions shall apply to the California Water Service Company, notwithstanding anything to the contrary elsewhere in this Agreement.

B. The total quantity of water delivered by San Francisco to the California Water Service Company shall not in any calendar year exceed 47,400 acre feet, which is the estimated average annual production of Local System Water. If San Francisco develops additional Local System Water after the Effective Date, it may (1) increase the maximum

delivery amount stated herein; and (2) increase the Supply Assurance, but not necessarily both. San Francisco has no obligation to deliver water to California Water Service Company in excess of the maximum stated herein, except as such maximum may be increased by San Francisco pursuant to this subsection. The maximum annual quantity of Local System Water set forth in this subsection is intended to be a limitation on the total quantity of water that may be allocated to California Water Service Company, and is not an Individual Supply Guarantee for purposes of Section 3.02. The maximum quantity of Local System Water set forth in this subsection is subject to reduction in response to (1) changes in long-term hydrology or (2) environmental water requirements that may be imposed by or negotiated with state and federal resource agencies in order to comply with state or federal law or to secure applicable permits for construction of Regional Water System facilities. San Francisco shall notify California Water Service Company of any anticipated reduction of the quantity of Local System Water set forth in this subsection, along with an explanation of the basis for the reduction.

C. Notwithstanding anything in Section 8.08 to the contrary, California Water Service Company shall have the right to assign to a public agency having the power of eminent domain all or a portion of the rights of California Water Service Company under any contract between it and San Francisco applicable to any individual district of California Water Service Company in connection with the acquisition by such public agency of all or a portion of the water system of California Water Service Company in such district. In the event of any such assignment of all the rights, privileges and obligations of California Water Service Company under such contract, California Water Service Company shall be relieved of all further obligations under such contract provided that the assignee public agency expressly assumes the obligations of California Water Service Company thereunder. In the event of such an assignment of a portion of the rights, privileges and obligations of California Water Service Company under such contract, California Water Service Company shall be relieved of such portion of such obligations so assigned thereunder provided that the assignee public agency shall expressly assume such obligations so assigned to it.

D. Should California Water Service Company seek to take over or otherwise acquire, in whole or in part, the service obligations of another Wholesale Customer under Section 3.03.E, it will so inform San Francisco at least six months prior to the effective date of the sale and provide information concerning the total additional demand proposed to be served, in order that San Francisco may compare the proposed additional demand to the then-current estimate of Local System Water. In this regard, California Water Service Company has notified

the SFPUC that it has reached an agreement to acquire the assets of Skyline County Water District ("Skyline") and assume the responsibility for providing water service to customers in the Skyline service area. California Water Service Company has advised the SFPUC that, on September 18, 2008, the California Public Utilities Commission approved California Water Service Company's acquisition of Skyline. The SFPUC anticipates approving the transfer of Skyline's Supply Guarantee as shown on Attachment C to California Water Service Company and the expansion of California Water Service Company's service area to include the current Skyline service area before the Effective Date of this Agreement. All parties to this Agreement authorize corresponding modifications of Attachment C, as well as any of the Agreement's other provisions, to reflect the foregoing transaction without the necessity of amending this Agreement.

E. Nothing in this Agreement shall preclude San Francisco from selling water to any county, city, town, district, political subdivision, or other public agency for resale to customers within the service area of the California Water Service Company. Nothing in this Agreement shall require or contemplate any delivery of water to California Water Service Company in violation of the Act.

F. Nothing in this Agreement shall alter, amend or modify the Findings of Fact and Conclusions of Law and the Judgment dated May 25, 1961, in that certain action entitled *City and County of San Francisco v. California Water Service Company* in the Superior Court of the State of California in and for the County of Marin, No. 23286, as modified by the Quitclaim Deed from California Water Service Company to San Francisco dated August 22, 1961. The rights and obligations of San Francisco and California Water Service Company under these documents shall continue as therein set forth.

9.03 <u>City of Hayward</u>

A. San Francisco and the City of Hayward ("Hayward") entered into a water supply contract on February 9, 1962 ("the 1962 contract") which provides, *inter alia*, that San Francisco will supply Hayward with all water supplemental to sources and supplies of water owned or controlled by Hayward as of that date, in sufficient quantity to supply the total water needs of the service area described on an exhibit to the 1962 contract "on a permanent basis." The service area map attached as Exhibit C to the 1962 contract was amended in 1974 to remove an area of land in the Hayward hills and in 2008 to make minor boundary adjustments identified in SFPUC Resolution No. 08-0035.

B. The intention of the parties is to continue the 1962 contract, as amended, in effect as the Individual Water Sales Contract between San Francisco and Hayward. Accordingly, it shall not be necessary for San Francisco and Hayward to enter into a new Individual Water Sales Contract pursuant to this Article and approval of this Agreement by Hayward shall constitute approval of both this Agreement and an Individual Water Sales Contract for purposes of Section 1.03. The 1962 contract, as amended, will continue to describe the service area of Hayward, while rates for water delivered to Hayward during the Term shall be governed by Article 5 hereof. The 1962 contract, as amended, will continue in force after the expiration of the Term.

9.04 <u>Estero Municipal Improvement District</u>

A. San Francisco and the Estero Municipal Improvement District ("Estero") entered into a water supply contract on August 24, 1961, the term of which continues until August 24, 2011 ("the 1961 Contract"). The 1961 Contract provides, *inter alia*, that San Francisco will supply Estero with all water supplemental to sources and supplies of water owned or controlled by Estero as of that date, in sufficient quantity to supply the total water needs of the service area described on an exhibit to the 1961 Contract.

B. The intention of the parties is to terminate the 1961 Contract and replace it with a new Individual Water Sales Contract which will become effective on July 1, 2009. The new Individual Water Sales Contract will describe the current service area of Estero. The Individual Supply Guarantee applicable to Estero shall be 5.9 MGD, rather than being determined as provided in the 1961 Contract.

9.05 <u>Stanford University</u>

A. The parties recognize that The Board of Trustees of The Leland Stanford Junior University ("Stanford") operates a non-profit university, and purchases water from San Francisco for redistribution to the academic and related facilities and activities of the university and to residents of Stanford, the majority of whom are either employed by or students of Stanford. Stanford agrees that all water furnished by San Francisco shall be used by Stanford only for domestic purposes and those directly connected with the academic and related facilities and activities of Stanford, and no water furnished by San Francisco shall be used in any area now or hereafter leased or otherwise used for industrial purposes or for commercial purposes other than those campus support facilities that provide direct services to Stanford faculty, students or staff such as the U.S. Post Office, the bookstore and Student Union.

Nothing in this Agreement shall preclude San Francisco from selling water to any county, city, town, political subdivision or other public agency for resale to Stanford or to customers within the service area of Stanford.

B. Notwithstanding anything in Section 8.08 to the contrary, Stanford shall have the right to assign to a public agency having the power of eminent domain all or a portion of the rights of Stanford under this Agreement or the Individual Water Sales Contract between it and San Francisco in connection with the acquisition by such public agency of all or a portion of Stanford's water system. In the event of any such assignment of all the rights, privileges, and obligations of Stanford under such contract, Stanford shall be relieved of all further obligations under such contract, provided that the assignee public agency expressly assumes Stanford's obligations thereunder. In the event of such an assignment of a portion of the rights, privileges, and obligations of Stanford under such contract, Stanford shall be relieved of such obligations so assigned thereunder, provided that the assignee public agency shall expressly assume such obligations so assigned to it.

Nothing in this Agreement shall require or contemplate any delivery of water to Stanford in violation of the Act.

9.06 <u>City of San Jose and City of Santa Clara</u>

A. <u>Continued Supply on Temporary, Interruptible Basis</u>. During the term of the 1984 Agreement, San Francisco provided water to the City of San Jose ("San Jose") and the City of Santa Clara ("Santa Clara") on a temporary, interruptible basis pursuant to SFPUC Resolution No. 85-0256. Subject to termination or reduction of supply as provided in Section 4.05 of this Agreement, San Francisco will continue to supply water to San Jose and Santa Clara on a temporary, interruptible basis pending a decision by the Commission, pursuant to Section 4.05.H, as to whether to make San Jose and Santa Clara permanent customers of the Regional Water System. San Francisco will furnish water to San Jose and Santa Clara at the same rates as those applicable to other Wholesale Customers pursuant to this Agreement. Water delivered to San Jose and Santa Clara after July 1, 2009 may be limited by the SFPUC's ability to meet the full needs of all its other Retail and Wholesale Customers. The service areas of San Jose and Santa Clara set forth in their Individual Water Sales Contracts may not be expanded using the procedure set forth in Section 3.03. The combined annual average water usage of San Jose and Santa Clara shall not exceed 9 MGD. The allocation of that total

amount between San Jose and Santa Clara shall be as set forth in their Individual Water Sales Contracts.

B. Reservation of Rights. In signing this Agreement, neither San Jose nor Santa Clara waives any of its rights to contend, in the event that San Francisco (1) elects to terminate or interrupt water deliveries to either or both of the two cities prior to 2018 using the process set forth in Section 4.05, or (2) does not elect to take either city on as a permanent customer in 2018, that it is entitled to permanent customer status, pursuant to the Act or any other federal or state law. In signing this Agreement, San Francisco does not waive its right to deny any or all such contentions.

9.07 City of Brisbane, Guadalupe Valley Municipal Improvement District, Town of Hillsborough

A. The parties acknowledge that San Francisco has heretofore provided certain quantities of water to the City of Brisbane ("Brisbane"), Guadalupe Valley Municipal Improvement District ("Guadalupe") and the Town of Hillsborough ("Hillsborough") at specified rates or without charge pursuant to obligations arising out of agreements between the predecessors of San Francisco and these parties, which agreements are referred to in judicial orders, resolutions of the SFPUC and/or the 1960 contracts between San Francisco and Brisbane, Guadalupe and Hillsborough. The parties intend to continue those arrangements and accordingly agree as follows:

1. Nothing in this Agreement is intended to alter, amend or modify the terms of SFPUC Resolution No. 74-0653 or the indenture of July 18, 1908 between the Guadalupe Development Company and the Spring Valley Water Company.

2. Nothing in this Agreement is intended to alter, amend or modify the Findings of Fact and Conclusions of Law and Judgment dated May 25, 1961 in that certain action entitled *City and County of San Francisco v. Town of Hillsborough* in the Superior Court of the State of California in and for the County of Marin, No. 23282, as modified by the Satisfaction of Judgment filed October 23, 1961 and the Compromise and Release between Hillsborough and San Francisco dated August 22, 1961. The rights and obligations of Hillsborough under these documents shall continue as therein set forth.

3. Nothing in this Agreement is intended to affect or prejudice any claims, rights or remedies of Guadalupe or of Crocker Estate Company, a corporation, or of Crocker

Land Company, a corporation, or of San Francisco, or of their successors and assigns, respectively, with respect to or arising out of that certain deed dated May 22, 1884, from Charles Crocker to Spring Valley Water Works, a corporation, recorded on May 24, 1884, in Book 37 of Deeds at page 356, Records of San Mateo County, California, as amended by that certain Deed of Exchange of Easements in Real Property and Agreement for Trade in Connection Therewith, dated July 29, 1954, recorded on August 4, 1954, in Book 2628, at page 298, Official Records of said San Mateo County, or with respect to or arising out of that certain action involving the validity or enforceability of certain provisions of said deed entitled *City and County of San Francisco v. Crocker Estate Company*, in the Superior Court of the State of California in and for the County of Marin, No. 23281.

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IN WITNESS WHEREOF the parties have executed this Agreement by their duly authorized officers.

CITY AND COUNTY OF SAN FRANCISCO
Acting by and through its Public Utilities Commission

By:_____
Edward Harrington
General Manager

Date: _____, 2009

Approved by Commission Resolution No. 09-0069,
adopted April 28, 2009

_____
Michael Housh
Secretary to Commission

Approved as to form:

DENNIS J. HERRERA
City Attorney

By:_____
Joshua D. Milstein
Deputy City Attorney

Attachment A - Definitions

"1984 Agreement" refers to the 1984 Settlement Agreement and Master Water Sales Contract between the City and County of San Francisco and certain Suburban Purchasers in San Mateo County, Santa Clara County and Alameda County, which expires on June 30, 2009.

"Act" refers to the Raker Act, 38 Stat. 242, the Act of Congress, enacted in 1913, that authorized the construction of the Hetch Hetchy system on federal lands.

"Adjusted Proportional Annual Use" means the respective percentages of annual water use, as adjusted to reflect deliveries of water by the Hetch Hetchy Enterprise to outside City Retail Customers. The adjustment is calculated each year as described in Section B of Attachment J and is shown on lines 18 and 19 of Table 1 of that Attachment.

"Agreement" refers to this Water Supply Agreement, by and among San Francisco and the Wholesale Customers who approve this Agreement in accordance with Section 1.03.

"BAWSCA" refers to the Bay Area Water Supply and Conservation Agency established pursuant to Division 31 of the California Water Code (Water Code §§81300-81461) or its successor and permitted assigns.

"CEQA" refers to the California Environmental Quality Act found at §§21000 et seq. of the Public Resources Code and the Guidelines for the California Environmental Quality Act found at §§15000 et seq. of Title 14 of the California Code of Regulations, as amended from time to time.

"Commission" means the governing board of the SFPUC, whose members, as of the date of this Agreement, are appointed by the Mayor of San Francisco and confirmed by the San Francisco Board of Supervisors.

"Compliance Audit" refers to the annual audit of the Wholesale Revenue Requirement by the Compliance Auditor required by Sections 7.03 through 7.05.

"Compliance Auditor" refers to the independent certified public accountant chosen by the San Francisco Controller to conduct each fiscal year's audit of the SFPUC's calculation of the Wholesale Revenue Requirement as provided in Section 7.03.B.

"Countywide Cost Allocation Plan" refers to the full costs of the Water and Hetch Hetchy Enterprises' prorated share of San Francisco city government expenses that are not directly billed to city departments, as determined by the Controller of the City and County of San Francisco.

"Debt Service" means principal and interest paid during a fiscal year on Indebtedness incurred by the SFPUC for the 2006 Revenue Bonds, Series A, and subsequently issued Indebtedness (exclusive of 2006 Revenue Bonds Series B and C), the proceeds of which are used or are scheduled to be used for the acquisition or construction of New Regional Assets or to refund such Indebtedness.

"Direct Retail" refers to Regional Water System capital or operating expenditures that are incurred to provide water service solely to Retail Customers.

"Direct Wholesale" refers to Regional Water System capital or operating expenditures that are incurred to provide water service solely to one or more Wholesale Customers.

"Drought" means a water shortage caused by lack of precipitation, as reflected in resolutions of the Commission calling for voluntary or mandatory water rationing based on evaluation of water stored or otherwise available to the Regional Water System, whether or not the Commission declares a water shortage emergency pursuant to Water Code §§ 350 et seq., as amended from time to time.

"Effective Date" refers to the date this Agreement will become effective in accordance with the terms of Section 1.03.

"Emergency" means a sudden, non-drought event, such as an earthquake, failure of Regional Water System infrastructure or other catastrophic event or natural disaster that results in an insufficient supply of water available to the Retail or Wholesale Service Areas for basic human consumption, firefighting, sanitation, and fire protection.

"Encumbrance" or **"Encumber"** refers to the process by which the City Controller certifies the availability of amounts previously appropriated by the Commission for specifically identified SFPUC capital projects performed either by third parties or through work orders to other City departments.

"Environmental Enhancement Surcharge" means the surcharge to be imposed by the SFPUC on individual parties to this Agreement whose use exceeds their Interim Supply Allocation when the collective use of water by all parties to this Agreement is in excess of the Interim Supply Limitation.

"ERRP" refers to a SFPUC document entitled *Emergency Response and Recovery Plan: Regional Water System* ("ERRP") dated August 23, 2003, and updated November 2006.

"Excess Use Charges" are monthly charges set by the SFPUC, in the form of multipliers, that are applied to the Wholesale Customer water rates during times of mandatory rationing if a Wholesale Customer's water usage is greater than its shortage allocation. Excess Use Charges are further described in Section 4 of the Tier 1 Shortage Plan (Attachment H).

"Existing Assets" refers to Regional and Hetch Hetchy Water-Only and Water-Related capital assets plant in service as of June 30, 2009.

"Force Majeure Event" means an event not the fault of, and beyond the reasonable control of, the party claiming excuse which makes it impossible or extremely impracticable for such party to perform obligations imposed on it by this Agreement, by virtue of its effect on physical facilities and their operation or employees essential to such performance. Force Majeure Events include (a) an "act of God" such as an earthquake, flood, earth movement, or similar catastrophic event, (b) an act of the public enemy, terrorism, sabotage, civil disturbance or similar event, (c) a strike, work stoppage, picketing or similar concerted labor action, (d) delays in construction caused by unanticipated negligence or breach of contract by a third party or inability to obtain essential materials after diligent and timely efforts; or (e) an order or regulation issued by a federal or state regulatory agency after the Effective Date or a judgment or order entered by a federal or state court after the Effective Date.

"Fundamental Rights" of Wholesale Customers are their status as parties to this Agreement, their allocation of water recognized in Section 3.02, their protection against arbitrary, unreasonable, or unjustly discriminatory rates provided in Section 6.04, and any specific rights described in Article 9.

"Hetch Hetchy Enterprise" refers to Hetch Hetchy Water and Power Enterprise, a SFPUC operating department.

"Include" and its variants mean "including but not limited to" whenever used in this Agreement, regardless of whether or not it is capitalized.

"Indebtedness" includes revenue bonds, bond anticipation notes, certificates of participation (excluding certificates of participation towards which SFPUC contributes debt service as an operating expense), and commercial paper.

"Individual Water Sales Contract" refers to the contracts between each Wholesale Customer and San Francisco contemplated in Section 9.01 that details customer-specific matters such as location of service connections, service area maps and other matters specific to that customer.

"Individual Supply Guarantee" refers to each Wholesale Customer's share of the Supply Assurance, as shown in Attachment C.

"Interim Supply Allocation" refers to each Wholesale Customer's share, to be established by the SFPUC pursuant to Section 4.02, of the Interim Supply Limitation.

"Interim Supply Limitation" refers to the 265 MGD annual average limitation on water deliveries until December 31, 2018 from Regional Water System watersheds imposed by the SFPUC in its approval of the WSIP in Resolution Number 08-0200 dated October 30, 2008.

"Joint," when used in connection with Hetch Hetchy Enterprise assets or expenses, refers to assets used or expenses incurred in providing both water supply ("Water-Related") and in the generation and transmission of electrical energy ("Power-Related").

"Local System Water" refers to Regional Water System water supplies developed in San Mateo, Alameda and Santa Clara Counties or otherwise not produced by the Hetch Hetchy Enterprise under rights of way granted by the Raker Act.

"MGD" refers to an average flow rate of one million gallons per day over a specific time period, often a year. For example, one MGD is equal to 365 million gallons per year or 1,120 acre feet per year.

"Net Annual Debt Service" refers to debt service less payments made from proceeds of Indebtedness (e.g., capitalized interest), earnings on bond proceeds (e.g., reserve fund earnings) used to pay Debt Service, and interest paid from renewed commercial paper, or from reserve fund liquidation.

"New Assets" refers to Regional and Hetch Hetchy Water-Only and Water-Related capital assets added to Regional Water System plant in service after June 30, 2009.

"New Regional Assets" refers to New Assets placed in service on or after July 1, 2009 that are used and useful in delivering water to Wholesale Customers. The following four categories comprise New Regional Assets:

1. Water Enterprise Regional Assets
2. Water Enterprise Direct Wholesale Assets
3. Hetch Hetchy Water Only Assets
4. Water-Related portion (45 percent) of Hetch Hetchy Joint Assets

"Power-Only," when used with reference to Hetch Hetchy Enterprise capital costs and operating and maintenance expenses, means capital costs and expenses that are incurred solely for the construction and operation of assets used to generate and transmit electrical energy.

"Power-Related" refers to the power related portion (55%) of Joint Hetch Hetchy Enterprise assets or expenses.

"Prepayment" refers to payments of principal and interest amounts not due in the year the prepayment is made, as described in Section 5.03.

"Proportional Annual Use" means the shares of deliveries from the Regional Water System used by City Retail Customers and by the Wholesale Customers in a fiscal year, expressed as a percentage. The percentages of annual use are calculated each year as described in Section B of Attachment J and are shown on lines 10 and 11 of Table 1 of that Attachment.

"Proportional Water Use" refers the general principle of allocating Regional Water System costs based on the relative purchases of water by Retail and Wholesale Customers.

"Regional," when used with reference to Water Enterprise capital assets and operating expenses, refers to assets and expenses that benefit Wholesale and Regional Customers.

"Regional Water System" means the water storage, transmission and treatment system operated by the SFPUC in Tuolumne, Stanislaus, San Joaquin, Alameda, Santa Clara, San Mateo and San Francisco counties, including projects constructed under the WSIP, but excluding Direct Retail and Direct Wholesale assets.

"Retail Customers" means any customer that purchases water from San Francisco that is not a Wholesale Customer, whether located inside or outside of San Francisco.

"Retail Service Area" means the areas where SFPUC sells water to Retail Customers.

"Retail Water" means water sold by the SFPUC to its Retail Customers within and outside San Francisco.

"San Francisco" refers to the City and County of San Francisco.

"SFPUC" refers to the San Francisco Public Utilities Commission as an operating department of San Francisco, the General Manager of which reports to the Commission.

"SFPUC Bureaus" refers to the portions of the SFPUC that provide support services to the SFPUC Operating Departments. These presently consist of the General Manager's Office, Business Services, and External Affairs.

"SFPUC Operating Departments" refers to the Water, Hetch Hetchy and Wastewater Program Enterprises under the control and management of the SFPUC pursuant to the San Francisco Charter.

"Substantially Expended": A bond issue series is substantially expended when 98% of the proceeds and investment earnings contributed to the project fund have been expended.

"Supply Assurance" means the 184 MGD maximum annual average metered supply of water dedicated by San Francisco to public use in the Wholesale Service Area (not including San Jose and Santa Clara) in the 1984 Agreement and Section 3.01 of this Agreement.

"Term" means the 25-year term commencing July 1, 2009, including one or both 5-year extensions authorized by Section 2.02.A and B.

"Tier 1 Shortage Plan" refers to the Water Shortage Allocation Plan (Attachment H) adopted by the SFPUC and the Wholesale Customers in conjunction with this Agreement describing the method for allocating water between the SFPUC and the Wholesale Customers collectively for shortages of up to 20% of deliveries from the Regional Water System, as amended from time-to-time.

“Water Enterprise” refers to the San Francisco Water Department (SFWD), an SFPUC Operating Department.

“Water Management Charge” refers to the charge collected by San Francisco on behalf of BAWSCA for local water resource development in the Wholesale Service Area pursuant to Section 3.06 of this Agreement.

“Water-Only,” when used with reference to Hetch Hetchy Enterprise capital costs and operating and maintenance expenses, means capital costs and expenses that are incurred solely for the construction and operation of assets used to protect water quality or to provide for the delivery of water for consumptive purposes.

“Water-Related” refers to the water related portion (45%) of Joint Hetch Hetchy Enterprise assets or expenses.

“Water Supply Development Report” refers to the annual report prepared pursuant to Section 4.05, and submitted to the Commission for purposes of estimating whether Regional Water System demand will be within the Interim Supply Limitation by June 30, 2018.

“Wheeling Statute” refers to Article 4 of Chapter 11 of the California Water Code, as amended from time to time.

“Wholesale Capital Fund” is the account established by the SFPUC for deposit of Wholesale Customer revenue that is used to fund the wholesale share of revenue-funded New Regional Assets, as described in Section 6.08.

“Wholesale Customer” or “Customers” means one or more of the 27 water customers identified in Section 1.01 that are contracting for purchase of water from San Francisco pursuant to this Agreement.

“Wholesale Revenue Coverage” refers to the additional dollar amount included in wholesale rates each fiscal year that is charged to Wholesale Customers by the SFPUC for their proportionate share of Debt Service coverage under Section 6.06.A.

“Wholesale Revenue Coverage Reserve” refers to the account established by the SFPUC for deposit of Wholesale Revenue Coverage under Section 6.06.B.

“Wholesale Revenue Requirement” means the calculated Wholesale Customer portion of SFPUC Regional Water System capital and operating costs as determined in accordance with the provisions of Article 5 of this Agreement, formerly called the “Suburban Revenue Requirement” in the 1984 Agreement.

“Wholesale Service Area” means the combined service areas of the Wholesale Customers, as delineated on the service area maps attached to each Individual Water Sales Contract.

“WSIP” refers to the Water System Improvement Program approved by the Commission in Resolution No. 08-0200 on October 30, 2008, as amended from time to time.

ATTACHMENT B

WHOLESALE CUSTOMER REGIONAL WATER SYSTEM PURCHASES FY 2007-2008*

(To determine 75% approval process for Section 1.02)

WHOLESALE CUSTOMER	*MGD*
Alameda County Water District	12.90
California Water Service Company	37.72
City of Brisbane	0.23
City of Burlingame	4.50
City of Daly City	4.49
City of East Palo Alto	2.16
City of Hayward	19.33
City of Menlo Park	3.69
City of Millbrae	2.46
City of Milpitas	6.95
City of Mountain View	10.51
City of Palo Alto	12.72
City of Redwood City	11.01
City of San Bruno	1.86
City of San Jose	4.80
City of Santa Clara	3.49
City of Sunnyvale	10.52
Coastside County Water District	2.08
Estero Municipal Improvement District	5.51
Guadalupe Valley Municipal Improvement District	0.40
Mid-Peninsula Water District	3.25
North Coast County Water District	3.25
Purissima Hills Water District	2.31
Skyline County Water District	0.16
Stanford University	2.31
Town of Hillsborough	3.83
Westborough Water District	0.95
Total	173.39

*Source: SFPUC Commercial Division Records
Note: FY 2007-2008 was a Leap Year with 366 days.

ATTACHMENT C
INDIVIDUAL SUPPLY GUARANTEES

WHOLESALE CUSTOMER	(1) 100 Cubic Feet *	(2) MGD
Alameda County Water District	6,714,439	13.760
California Water Service Company**	17,320,807	35.499
City of Brisbane	224,435	0.460
City of Burlingame	2,553,753	5.234
City of Daly City	2,094,386	4.292
City of East Palo Alto	957,813	1.963
City of Menlo Park	2,174,231	4.456
City of Millbrae	1,538,120	3.152
City of Milpitas	4,504,533	9.232
City of Mountain View	6,567,648	13.460
City of Palo Alto	8,331,697	17.075
City of Redwood City	5,333,115	10.930
City of San Bruno	1,583,899	3.246
City of Sunnyvale	6,138,122	12.580
Coastside County Water District	1,061,453	2.175
Estero Municipal Improvement District	2,878,807	5.900
Guadalupe Valley Municipal Improvement District	254,436	0.521
Mid-Peninsula Water District	1,898,707	3.891
North Coast County Water District	1,872,928	3.838
Purissima Hills Water District	792,832	1.625
Skyline County Water District	88,537	0.181
Stanford University	1,479,764	3.033
Town of Hillsborough	1,995,644	4.090
Westborough Water District	644,172	1.320
Total:***	79,004,278	161.913

* 100 Cubic feet equals MGD divided by 0.00000204946. Figures in this column are calculated using unrounded MGD values and are more precise than the figures listed in column (2).

** Includes quantities from Los Trancos County Water District and Palomar Park Water District.

*** Total does not equal sum of MGD figures due to rounding. Total is not 184 MGD because table does not include the City of Hayward.

**** Cordilleras Mutual Water Association is not a party to this Agreement, but it has its own Supply Assurance of 3,007 hundred cubic feet (CCF).

ATTACHMENT D

PROCEDURE FOR PRO-RATA REDUCTION OF WHOLESALE CUSTOMERS' INDIVIDUAL SUPPLY GUARANTEES (SECTION 3.02).

The 23 wholesale customers listed on Attachment C have individual Supply Guarantees that total approximately 161.9 MGD.

If the amount of water purchased from SFPUC by Hayward exceeds 22.1 MGD for three consecutive fiscal years, the individual Supply Guarantees of each of those 23 wholesale customers will be reduced as described below.

STEP ONE:

Obtain the average annual excess purchases during the three fiscal year period. For example, assume Hayward uses 25.0 MGD, 24.2 MGD and 26.0 MGD in three consecutive years. The average annual excess use for that period is 2.9 MGD; calculated as follows:

$$\frac{[25.0\ \text{MGD} + 24.2\ \text{MGD} + 26.0\ \text{MGD}]}{3} + 161.9\ \text{MGD} = 186.9\ \text{MGD}$$

186.9 MGD – 184.0 MGD = 2.9 MGD

STEP TWO:

Allocate the excess purchases among the 23 Wholesale Customers in proportion to each customer's Supply Guarantee as a percentage of the total Supply Guarantees (161.9 MGD as of FY 2009-10).

For example, assume that Wholesale Customer A's Supply Guarantee is 12.0 MGD. Wholesale Customer A's percentage share of the total individual supply guarantees is 0.074, calculated as follows:

$$\frac{12.0\ \text{MGD}}{161.9\ \text{MGD}} = 0.074$$

and its share of the excess use is 0.22 MGD, calculated as follows:

2.9 MGD x 0.074 = 0.22 MGD

STEP THREE:

Determine Wholesale Customer's adjusted Supply Guarantee by subtracting the result of Step Two from the Wholesale Customer's Supply Guarantee:

12 MGD - 0.22 MGD = 11.78 MGD

* * * * * * * * * * *

Adjustments will be made at intervals comprised of distinct three-year periods of use by Hayward in excess of 22.1 MGD rather than overlapping periods. For example, assuming that the first adjustment were to occur in FY 2014-15 (based on use during FY 2011-12, FY 2012-13 and FY 2013-14), a second adjustment will not occur earlier than three full fiscal years thereafter (i.e., FY 2017-18, based on use by Hayward in FY 2014-15, FY 2015-16 and FY 2016-17). The figures used in the second and subsequent adjustments will reflect previous adjustments. For example, a second adjustment will use 158.9 MGD as the total of individual Supply Guarantees (161.6 MGD - 2.7 MGD = 158.9 MGD).

For purposes of simplicity, the volumetric units used in the foregoing example are MGD. For actual adjustment calculations, the unit employed will be hundreds of cubic feet ("ccf"), the unit by which the SFPUC measures water deliveries for billing purposes.

The procedure described and illustrated above is independent of and unrelated to the establishment by the SFPUC of Interim Supply Limitations described in Article 4.

ATTACHMENT E

MINIMUM ANNUAL PURCHASE QUANTITIES

(Section 3.07.C)

AGENCY	MINIMUM ANNUAL PURCHASE QUANTITY (IN MGD)
Alameda County Water District	7.648
City of Milpitas	5.341
City of Mountain View	8.930
City of Sunnyvale	8.930

ATTACHMENT F

WATER SALES CONTRACT

This Contract, dated as of _____, 2009, is entered into by and between the City and County of San Francisco ("San Francisco") and

_____

_____ ("Customer").

RECITALS

San Francisco and the Customer have entered into a Water Supply Agreement ("WSA"), which sets forth the terms and conditions under which San Francisco will continue to furnish water for domestic and other municipal purposes to Customer and to other Wholesale Customers. The WSA contemplates that San Francisco and each individual Wholesale Customer will enter into an individual contract describing the location or locations at which water will be delivered to each customer by the San Francisco Public Utilities Commission ("SFPUC"), the customer's service area within which water so delivered is to be sold, and other provisions unique to the individual purchaser. This Water Sales Contract is the individual contract contemplated by the WSA.

AGREEMENTS OF THE PARTIES

1. Incorporation of the WSA

The terms and conditions of the WSA are incorporated into this Contract as if set forth in full herein.

2. Term

Unless explicitly provided to the contrary in Article 9 of the WSA, the term of this Contract shall be identical to that provided in Section ___ of the WSA.

3. Service Area

Water delivered by San Francisco to the Customer may be used or sold within the service area shown on the map designated Exhibit A attached hereto. Except as provided in Section ___ of the WSA, Customer shall not deliver or sell any water provided by San Francisco outside of this area without the prior written consent of the General Manager of the SFPUC.

4. Location and Description of Service Connections

Sale and delivery of water to Customer will be made through a connection or connections to the SFPUC Regional Water System at the location or locations shown on Exhibit A attached hereto and with the applicable present account number, description, connection size, and meter size shown on Exhibit B attached hereto.

5. Interties With Other Systems.

Customer maintains interties with neighboring water systems at the location or locations shown on Exhibit A attached hereto and with the connection size(s) as shown on Exhibit C attached hereto.

6. Billing and Payment

San Francisco shall compute the amounts of water delivered and bill Customer therefor on a monthly basis. The bill shall show the separate components of the charge (e.g., service, consumption, demand). Customer shall pay the amount due within thirty (30) days after receipt of the bill.

If Customer disputes the accuracy of any portion of the water bill it shall (a) notify the General Manager of the SFPUC in writing of the specific nature of the dispute and (b) pay the undisputed portion of the bill within thirty (30) days after receipt. Customer shall meet with the General Manager of the SFPUC or a delegate to discuss the disputed portion of the bill.

7., 8., 9... Other Specialized Provisions

[Certain Wholesale Customers will require additional provisions in their individual contracts addressed to issues such as minimum and/or maximum water delivery quantities, prior authorized wheeling arrangements, maximum expansion of the service area, etc. These and other provisions addressing issues unique to the particular Wholesale Customer may be added here, subject to the provisions of Section 9.01 of the WSA.]

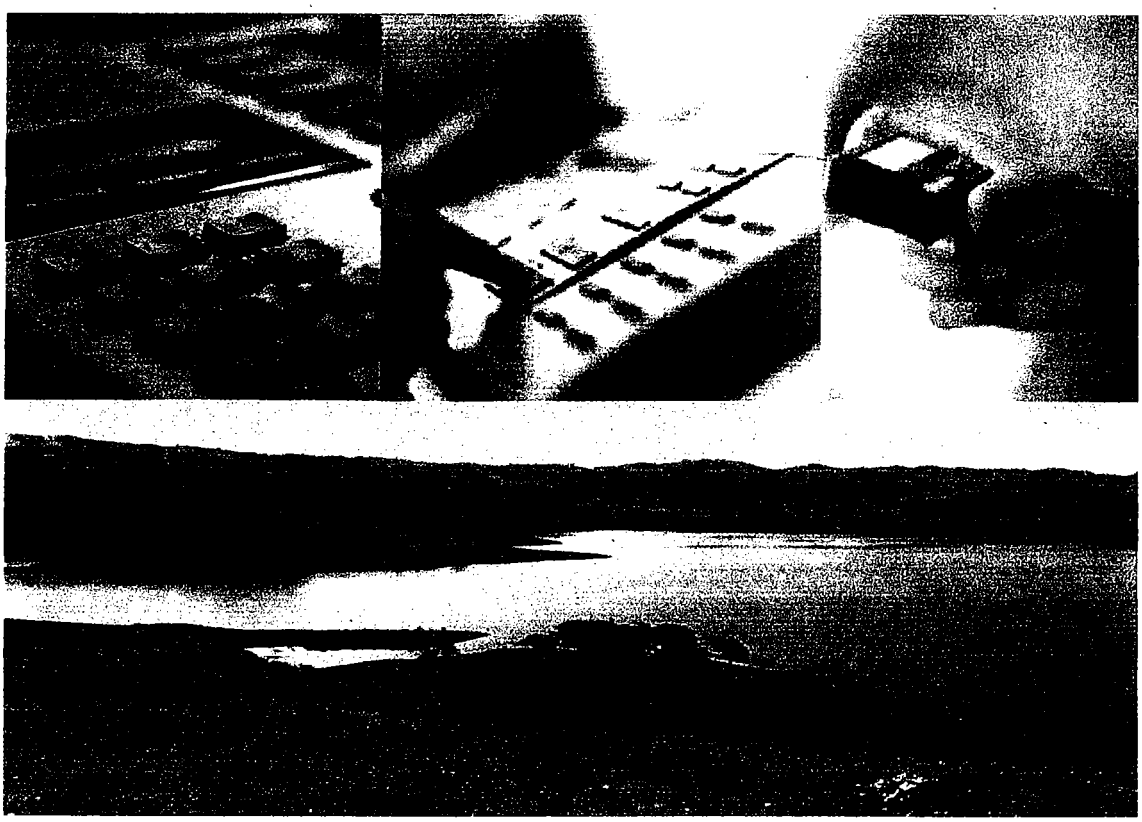
IN WITNESS WHEREOF, the parties hereto have executed this Contract, to become effective upon the effectiveness of the WSA, by their duly authorized representatives.

CITY AND COUNTY OF SAN FRANCISCO Acting by and through its Public Utilities Commission BY _____ Edward Harrington General Manager	Date: _____, 2009
NAME OF WHOLESALE CUSTOMER BY _____ Name: Title:	Date: _____, 2009

Note: This attachment is provided for the convenience of the prospective parties to the Water Supply Agreement and associated individual contracts. The format may be modified as desired by San Francisco and Wholesale Customer, subject to Section 9.01 of the WSA.

ATTACHMENT G

Water Quality Notification and Communications Plan Revision 4 January 2006



Updated by:
Water Quality Engineering
Olivia Chen Consultants, Inc.

ATTACHMENT H

WATER SHORTAGE ALLOCATION PLAN

This Interim Water Shortage Allocation Plan ("Plan") describes the method for allocating water between the San Francisco Public Utilities Commission ("SFPUC") and the Wholesale Customers collectively during shortages caused by drought. The Plan implements a method for allocating water among the individual Wholesale Customers which has been adopted by the Wholesale Customers. The Plan includes provisions for transfers, banking, and excess use charges. The Plan applies only when the SFPUC determines that a system-wide water shortage due to drought exists, and all references to "shortages" and "water shortages" are to be so understood. This Plan was adopted pursuant to Section 7.03(a) of the 1984 Settlement Agreement and Master Water Sales Contract and has been updated to correspond to the terminology used in the June 2009 Water Supply Agreement between the City and County of San Francisco and Wholesale Customers in Alameda County, San Mateo County and Santa Clara County ("Agreement").

SECTION 1. SHORTAGE CONDITIONS

1.1. Projected Available SFPUC Water Supply. The SFPUC shall make an annual determination as to whether or not a shortage condition exists. The determination of projected available water supply shall consider, among other things, stored water, projected runoff, water acquired by the SFPUC from non-SFPUC sources, inactive storage, reservoir losses, allowance for carryover storage, and water bank balances, if any, described in Section 3.

1.2 Projected SFPUC Purchases. The SFPUC will utilize purchase data, including volumes of water purchased by the Wholesale Customers and by Retail Customers (as those terms are used in the Agreement) in the year immediately prior to the drought, along with other available relevant information, as a basis for determining projected system-wide water purchases from the SFPUC for the upcoming year.

1.3. Shortage Conditions. The SFPUC will compare the available water supply (Section 1.1) with projected system-wide water purchases (Section 1.2). A shortage condition exists if the SFPUC determines that the projected available water supply is less than projected system-wide water purchases in the upcoming Supply Year (defined as the period from July 1 through June 30). When a shortage condition exists, SFPUC will determine whether voluntary or mandatory actions will be required to reduce purchases of SFPUC water to required levels.

1.3.1 Voluntary Response. If the SFPUC determines that voluntary actions will be sufficient to accomplish the necessary reduction in water use throughout its service area, the SFPUC and the Wholesale Customers will make good faith efforts to reduce their water purchases to stay within their annual shortage allocations and associated monthly water use budgets. The SFPUC will not impose excess use charges during periods of voluntary rationing, but may suspend the prospective accumulation of water bank credits, or impose a ceiling on further accumulation of bank credits, consistent with Section 3.2.1 of this Plan.

1.3.2 Mandatory Response. If the SFPUC determines that mandatory actions will be required to accomplish the necessary reduction in water use in the SFPUC service area, the SFPUC may implement excess use charges as set forth in Section 4 of this Plan.

1.4. Period of Shortage. A shortage period commences when the SFPUC determines that a water shortage exists, as set forth in a declaration of water shortage emergency issued by the SFPUC pursuant to California Water Code Sections 350 et seq. Termination of the water shortage emergency will be declared by resolution of the SFPUC.

SECTION 2. SHORTAGE ALLOCATIONS

2.1. Annual Allocations between the SFPUC and the Wholesale Customers. The annual water supply available during shortages will be allocated between the SFPUC and the collective Wholesale Customers as follows:

Level of System Wide Reduction in Water Use Required	Share of Available Water	
	SFPUC Share	Wholesale Customers Share
5% or less	35.5%	64.5%
6% through 10%	36.0%	64.0%
11% through 15%	37.0%	63.0%
16% through 20%	37.5%	62.5%

The water allocated to the SFPUC shall correspond to the total allocation for all Retail Customers.

2.2 Annual Allocations among the Wholesale Customers. The annual water supply allocated to the Wholesale Customers collectively during system wide shortages of 20 percent or less will be apportioned among them based on a methodology adopted by all of the Wholesale Customers, as described in Section 3.11(C) of the Agreement. In any year for which the methodology must be applied, the Bay Area Water Supply and Conservation Agency ("BAWSCA") will calculate each Wholesale Customer's individual percentage share of the amount of water allocated to the Wholesale Customers collectively pursuant to Section 2.1. Following the declaration or reconfirmation of a water shortage emergency by the SFPUC, BAWSCA will deliver to the SFPUC General Manager a list, signed by the President of BAWSCA's Board of Directors and its General Manager, showing each Wholesale Customer together with its percentage share and stating that the list has been prepared in accordance with the methodology adopted by the Wholesale Customers. The SFPUC shall allocate water to each Wholesale Customer, as specified in the list. The shortage allocations so established may be transferred as provided in Section 2.5 of this Plan. If BAWSCA or all Wholesale Customers do not provide the SFPUC with individual allocations, the SFPUC may make a final allocation decision after first meeting and discussing allocations with BAWSCA and the Wholesale Customers.

The methodology adopted by the Wholesale Customers utilizes the rolling average of each individual Wholesale Customer's purchases from the SFPUC during the three immediately

preceding Supply Years. The SFPUC agrees to provide BAWSCA by November 1 of each year a list showing the amount of water purchased by each Wholesale Customer during the immediately preceding Supply Year. The list will be prepared using Customer Service Bureau report MGT440 (or comparable official record in use at the time), adjusted as required for any reporting errors or omissions, and will be transmitted by the SFPUC General Manager or his designee.

2.3. Limited Applicability of Plan to System Wide Shortages Greater Than Twenty Percent. The allocations of water between the SFPUC and the Wholesale Customers collectively, provided for in Section 2.1, apply only to shortages of 20 percent or less. The SFPUC and Wholesale Customers recognize the possibility of a drought occurring which could create system-wide shortages greater than 20 percent despite actions taken by the SFPUC aimed at reducing the probability and severity of water shortages in the SFPUC service area. If the SFPUC determines that a system wide water shortage greater than 20 percent exists, the SFPUC and the Wholesale Customers agree to meet within 10 days and discuss whether a change is required to the allocation set forth in Section 2.1 in order to mitigate undue hardships that might otherwise be experienced by individual Wholesale Customers or Retail Customers. Following these discussions, the Tier 1 water allocations set forth in Section 2.1 of this Plan, or a modified version thereof, may be adopted by mutual written consent of the SFPUC and the Wholesale Customers. If the SFPUC and Wholesale Customers meet and cannot agree on an appropriate Tier 1 allocation within 30 days of the SFPUC's determination of water shortage greater than 20 percent, then (1) the provisions of Section 3.11(C) of the Agreement will apply, unless (2) all of the Wholesale Customers direct in writing that a Tier 2 allocation methodology agreed to by them be used to apportion the water to be made available to the Wholesale Customers collectively, in lieu of the provisions of Section 3.11(C).

The provisions of this Plan relating to transfers (in Section 2.5), banking (in Section 3), and excess use charges (in Section 4) shall continue to apply during system-wide shortages greater than 20 percent.

2.4. Monthly Water Budgets. Within 10 days after adopting a declaration of water shortage emergency, the SFPUC will determine the amount of Tier 1 water allocated to the Wholesale Customers collectively pursuant to Section 2.1. The SFPUC General Manager, using the Tier 2 allocation percentages shown on the list delivered by BAWSCA pursuant to Section 2.2, will calculate each Wholesale Customer's individual annual allocation. The SFPUC General Manager, or his designee, will then provide each Wholesale Customer with a proposed schedule of monthly water budgets based on the pattern of monthly water purchases during the Supply Year immediately preceding the declaration of shortage (the "Default Schedule"). Each Wholesale Customer may, within two weeks of receiving its Default Schedule, provide the SFPUC with an alternative monthly water budget that reschedules its annual Tier 2 shortage allocation over the course of the succeeding Supply Year. If a Wholesale Customer does not deliver an alternative monthly water budget to the SFPUC within two weeks of its receipt of the Default Schedule, then its monthly budget for the ensuing Supply Year shall be the Default Schedule proposed by the SFPUC.

Monthly Wholesale Customer water budgets will be derived from annual Tier 2 allocations for purposes of accounting for excess use. Monthly Wholesale Customer water budgets shall be adjusted during the year to account for transfers of shortage allocation under Section 2.5 and

transfers of banked water under Section 3.4.

2.5. Transfers of Shortage Allocations. Voluntary transfers of shortage allocations between the SFPUC and any Wholesale Customers, and between any Wholesale Customers, will be permitted using the same procedure as that for transfers of banked water set forth in Section 3.4. The SFPUC and BAWSCA shall be notified of each transfer. Transfers of shortage allocations shall be deemed to be an emergency transfer and shall become effective on the third business day after notice of the transfer has been delivered to the SFPUC. Transfers of shortage allocations shall be in compliance with Section 3.05 of the Agreement. The transferring parties will meet with the SFPUC, if requested, to discuss any effect the transfer may have on its operations.

SECTION 3. SHORTAGE WATER BANKING

3.1. Water Bank Accounts. The SFPUC shall create a water bank account for itself and each Wholesale Customer during shortages in conjunction with its resale customer billing process. Bank accounts will account for amounts of water that are either saved or used in excess of the shortage allocation for each agency; the accounts are not used for tracking billings and payments. When a shortage period is in effect (as defined in Section 1.4), the following provisions for bank credits, debits, and transfers shall be in force. A statement of bank balance for each Wholesale Customer will be included with the SFPUC's monthly water bills.

3.2. Bank Account Credits. Each month, monthly purchases will be compared to the monthly budget for that month. Any unused shortage allocation by an agency will be credited to that agency's water bank account. Credits will accumulate during the entire shortage period, subject to potential restrictions imposed pursuant to Section 3.2.1. Credits remaining at the end of the shortage period will be zeroed out; no financial or other credit shall be granted for banked water.

3.2.1. Maximum Balances. The SFPUC may suspend the prospective accumulation of credits in all accounts. Alternatively, the SFPUC may impose a ceiling on further accumulation of credits in water bank balances based on a uniform ratio of the bank balance to the annual water allocation. In making a decision to suspend the prospective accumulation of water bank credits, the SFPUC shall consider the available water supply as set forth in Section 1.1 of this Plan and other reasonable, relevant factors.

3.3. Account Debits. Each month, monthly purchases will be compared to the budget for that month. Purchases in excess of monthly budgets will be debited against an agency's water bank account. Bank debits remaining at the end of the fiscal year will be subject to excess use charges (see Section 4).

3.4. Transfers of Banked Water. In addition to the transfers of shortage allocations provided for in Section 2.5, voluntary transfers of banked water will also be permitted between the SFPUC and any Wholesale Customer, and among the Wholesale Customers. The volume of transferred water will be credited to the transferee's water bank account and debited against the transferor's water bank account. The transferring parties must notify the SFPUC and BAWSCA of each transfer in writing (so that adjustments can be made to bank accounts), and will meet with the SFPUC, if requested, to discuss any affect the transfer may have on SFPUC operations. Transfers of banked water shall be deemed to be an emergency transfer and shall become effective on the third business day after notice of the transfer has been delivered to the SFPUC.

If the SFPUC incurs extraordinary costs in implementing transfers, it will give written notice to the transferring parties within ten (10) business days after receipt of notice of the transfer. Extraordinary costs means additional costs directly attributable to accommodating transfers and which are not incurred in non-drought years nor simply as a result of the shortage condition itself. Extraordinary costs shall be calculated in accordance with the procedures in the Agreement and shall be subject to the disclosure and auditing requirements in the Agreement. In the case of transfers between Wholesale Customers, such extraordinary costs shall be considered to be expenses chargeable solely to individual Wholesale Customers and shall be borne equally by the parties to the transfer. In the case of transfers between the SFPUC and a Wholesale Customer, the SFPUC's share of any extraordinary transfer costs shall not be added to the Wholesale Revenue Requirement.

3.4.1. Transfer Limitations. The agency transferring banked water will be allowed to transfer no more than the accumulated balance in its bank. Transfers of estimated prospective banked credits and the "overdrafting" of accounts shall not be permitted. The price of transfer water originally derived from the SFPUC system is to be determined by the transferring parties and is not specified herein. Transfers of banked water shall be in compliance with Section 3.05 of the Agreement.

SECTION 4. WHOLESALE EXCESS USE CHARGES

4.1. Amount of Excess Use Charges. Monthly excess use charges shall be determined by the SFPUC at the time of the declared water shortage consistent with the calendar in Section 6 and in accordance with Section 6.03 of the Agreement. The excess use charges will be in the form of multipliers applied to the rate in effect at the time the excess use occurs. The same excess use charge multipliers shall apply to the Wholesale Customers and all Retail Customers. The excess use charge multipliers apply only to the charges for water delivered at the rate in effect at the time the excess use occurred.

4.2 Monitoring Suburban Water Use. During periods of voluntary rationing, water usage greater than a customer's allocation (as determined in Section 2) will be indicated on each SFPUC monthly water bill. During periods of mandatory rationing, monthly and cumulative water usage greater than a Wholesale Customer's shortage allocation and the associated excess use charges will be indicated on each SFPUC monthly water bill.

4.3. Suburban Excess Use Charge Payments. An annual reconciliation will be made of monthly excess use charges according to the calendar in Section 6. Annual excess use charges will be calculated by comparing total annual purchases for each Wholesale Customer with its annual shortage allocation (as adjusted for transfers of shortage allocations and banked water, if any). Excess use charge payments by those Wholesale Customers with net excess use will be paid according to the calendar in Section 6. The SFPUC may dedicate excess use charges paid by Wholesale Customers toward the purchase of water from the State Drought Water Bank or other willing sellers in order to provide additional water to the Wholesale Customers. Excess use charges paid by the Wholesale Customers constitute Wholesale Customer revenue and shall be included within the SFPUC's annual Wholesale Revenue Requirement calculation.

SECTION 5. GENERAL PROVISIONS GOVERNING WATER SHORTAGE ALLOCATION PLAN

5.1. Construction of Terms. This Plan is for the sole benefit of the parties and shall not be construed as granting rights to any person other than the parties or imposing obligations on a party to any person other than another party.

5.2. Governing Law. This Plan is made under and shall be governed by the laws of the State of California.

5.3. Effect on Agreement. This Plan describes the method for allocating water between the SFPUC and the collective Wholesale Customers during system-wide water shortages of 20 percent or less. This Plan also provides for the SFPUC to allocate water among the Wholesale Customers in accordance with directions provided by the Wholesale Customers through BAWSCA under Section 2.2, and to implement a program by which such allocations may be voluntarily transferred among the Wholesale Customers. The provisions of this Plan are intended to implement Section 3.11(C) of the Agreement and do not affect, change or modify any other section, term or condition of the Agreement.

5.4. Inapplicability of Plan to Allocation of SFPUC System Water During Non-Shortage Periods. The SFPUC's agreement in this Plan to a respective share of SFPUC system water during years of shortage shall not be construed to provide a basis for the allocation of water between the SFPUC and the Wholesale Customers when no water shortage emergency exists.

5.5. Termination. This Plan shall expire at the end of the Term of the Agreement.. The SFPUC and the Wholesale Customers can mutually agree to revise or terminate this Plan prior to that date due to changes in the water delivery capability of the SFPUC system, the acquisition of new water supplies, and other factors affecting the availability of water from the SFPUC system during times of shortage.

SECTION 6. ALLOCATION CALENDAR

6.1. Annual Schedule. The annual schedule for the shortage allocation process is shown below. This schedule may be changed by the SFPUC to facilitate implementation.

6.1.1

In All Years	Target Dates
1. SFPUC delivers list of annual purchases by each Wholesale Customer during the immediately preceding Supply Year	November 1
2. SFPUC meets with the Wholesale Customers and presents water supply forecast for the following Supply Year	February
3. SFPUC issues initial estimate of available water supply	February 1
4. SFPUC announces potential first year of drought (if applicable)	February 1
5. SFPUC and Wholesale Customers meet upon request to exchange information concerning water availability and projected system-wide purchases	February 1-May 31
6. SFPUC issues revised estimate of available water supply, and confirms continued potential shortage conditions, if applicable	March 1
7. SFPUC issues final estimate of available water supply	April 15th or sooner if adequate snow course measurement data is available to form a robust estimate on available water supply for the coming year.
8. SFPUC determines amount of water available to Wholesale Customers collectively	April 15th or sooner if adequate snow course measurement data is available to form a robust estimate on available water supply for the coming year.

In Drought Years	Target Dates
9. SFPUC formally declares the existence of water shortage emergency (or end of water shortage emergency, if applicable) under Water Code Sections 350 et. seq.	April 15-31
10. SFPUC declares the need for a voluntary or mandatory response	April 15-31
11. BAWSCA submits calculation to SFPUC of individual Wholesale Customers' percentage shares of water allocated to Wholesale Customers collectively	April 15- 31
12. SFPUC determines individual shortage allocations, based on BAWSCA's submittal of individual agency percentage shares to SFPUC, and monthly water budgets (Default Schedule)	April 25—May 10
13. Wholesale Customers submit alternative monthly water budgets (optional)	May 8-May 24
14. Final drought shortage allocations are issued for the Supply Year beginning July 1 through June 30	June 1
15. Monthly water budgets become effective	July 1
16. Excess use charges indicated on monthly Suburban bills	August 1 (of the beginning year) through June 30 (of the succeeding year)
17. Excess use charges paid by Wholesale Customers for prior year	August of the succeeding year

ATTACHMENT I

NOT USED

ATTACHMENT J

DEFINITIONS AND FORMULAS FOR CALCULATING PROPORTIONAL ANNUAL WATER USE

TABLE OF CONTENTS

This Attachment contains four sections, three figures, and five tables.

Section A:	Water Meters
Section B:	Calculation of Proportional Annual Water Use
Section C:	Data Requirements and Schedule
Section D:	County Line and In-City Terminal Reservoir Meter Calibration and Maintenance
Figure 1:	Locations of SFPUC County-Line Meters and In-City Terminal Reservoirs
Figure 2:	Generalized Schematic of Lake Merced Pump Station
Figure 3:	Locations of System Input and In-Line Meters
Table 1:	Base Usage and Allocation Rates
Table 2:	Locations of SFPUC County-line Meters and In-City Terminal Reservoirs
Table 3:	Locations of SFPUC System Input and In-line Meters
Table 4:	County-line Meters, In-City Terminal Reservoirs and Associated Metering Equipment
Table 5:	Meter Calibration and Maintenance Frequency

Table 1 presents the format for the water usage and allocation rate calculations for reference and to illustrate the definitions and formulas described in Sections A through C. Tables 2 and 3 list the meters whose locations are shown on Figures 1 and 3, respectively. Table

4 identifies the type of meter and associated metering equipment for the County-line Meters and Terminal Reservoirs. Table 5 identifies the meter calibration and maintenance frequency for the meters and equipment listed in Table 4.

SECTION A. WATER METERS

1. General

The Agreement provides that certain operating and maintenance expenses and the capital cost of certain categories of utility plant in service are to be allocated between San Francisco and the Wholesale Customers on the basis of proportionate annual usage of the Regional Water System. The purpose of this Attachment is to describe the meters and illustrate the method by which proportionate annual usage will be calculated.

2. Units of Measurement, Rounding, Conversion

The SFPUC will compile the usage data required to complete Table 1 annually. The units of measurement and conventions for converting and rounding will be as follows.

The data in the Table 1 will be presented, and the calculations contemplated by this Attachment shown, in units of millions of gallons per day (mgd), rounded to the nearest tenth of an mgd. Percentages (e.g., the City and Wholesale usage rates) shall be carried to two digits to the right of the decimal point and reduction factors shall be carried to four digits to the right of the decimal point. Data compiled by the SFPUC in units of hundreds of cubic feet per year (ccf) shall be converted to mgd by multiplying hundreds of cubic feet per year by 0.0000020493 (or 2.0493×10^{-6}) for non-leap years and 0.0000020437 (or 2.0437×10^{-6}) for leap years.

In rounding, if the rightmost digit dropped is 0 through 4, the preceding digit shall be left unchanged; if the rightmost digit dropped is 5 through 9, the preceding digit shall be increased by 1.

3. Location of Meters/Gauges

The SFPUC presently maintains meters and gauges that have been used to determine the proportionate usage of the Regional Water System, in accordance with the methods and calculations described in Exhibit J to the 1984 contract between San Francisco and the Wholesale Customers. These meters consist of "County-Line Meters," "In-City Terminal Reservoir Meters" and "System Input and In-line Meters" as described in the following subsections. As new capital improvement projects are designed and constructed by the SFPUC, it may be necessary for new meters to be installed to ensure continued accurate determinations of the proportionate usage of the Regional Water System. "Planned meters" are included in the following subsections where planned capital improvement projects are likely to require the installation of additional meters.

a. County-line Meters

The SFPUC presently maintains meters at or near the San Mateo-San Francisco County line to measure flow through all transmission pipelines entering the City ("County-line Meters"). The existing and planned County-line Meters are listed in Table 2 and shown on Figures 1 and 2. Additional details pertaining to the County-line meters located at the Lake Merced Pump Station, and specifically to water deliveries from the pump station to Sunset Reservoir, Sutro Reservoir, and Lake Merced are provided below.

(1) County-Line deliveries to Sunset and Sutro Reservoirs

Water delivered to the City through the Sunset Supply Pipeline may be pumped from the Lake Merced Pump Station to either Sunset Reservoir or Sutro Reservoir located within the City. When water is pumped from the Lake Merced Pump Station to both Sunset and Sutro reservoirs simultaneously, the recording instrumentation on the Sunset and Sutro venturi meters are designed to record flows through both meters. When water is pumped to Sutro Reservoir only (typically utilizing Pump No. 4 at the

Lake Merced Pump Station), the source water is from the Sunset Reservoir (not the County-line), and the direction of flow through the Sunset venturi meter is reversed. Under this pumping scenario, the recording instrumentation on the Sunset and Sutro venturi meters are designed to not record flow on their respective recorders such that the in-City transfer of water between Sunset and Sutro Reservoirs is not included as a County-line delivery to the City. Figure 2 provides a generalized schematic of the Lake Merced Pump Station and the typical direction of flow from the County-line, through the pump station.

(2) County-line deliveries to Lake Merced

In order to raise and maintain water levels in Lake Merced, the SFPUC occasionally delivers water directly from the Regional Water System to Lake Merced. Deliveries from the Regional Water System to Lake Merced are accomplished at the Lake Merced Pump Station. The procedure involves operating valves on the suction side of Sunset Pump No. 2 such that water may flow by gravity in the Sunset Supply Pipeline, from San Mateo County, across the County-line and into San Francisco, through Lake Merced Pump Station and into the Lake Merced wet well. A 16-inch pipeline connection on the suction side of Sunset Pump No. 2 allows for deliveries of water to the wet well (see Figure 2). Water deliveries from the Regional Water System to Lake Merced are considered County-line deliveries and an in-City usage in the calculation of water allocation rates.

b. In-City Terminal Reservoirs

Water usage by the City includes water deliveries from the SFPUC's "terminal reservoirs." The terminal reservoirs are: 1) Sunset Reservoir, 2) University Mound Reservoir, and 3) Merced Manor Reservoir. The terminal reservoirs are shown on Figure 1.

c. System Input and In-Line Meters

The SFPUC presently measures water flow into and through the Regional System utilizing "System Input and In-Line Meters." The existing and planned System Input and In-Line Meters are listed in Table 3 and shown on Figure 3.

d. Wholesale Customer Meters and City Retail Customer Meters Located Outside the Boundaries of the City

The SFPUC presently measures water deliveries from the Regional Water System to its Wholesale Customers at various locations where the water delivery systems of the individual Wholesale Customers tie into the Regional Water System. The meters at these locations are referred to as the Wholesale Customers' "master meters." The SFPUC also measures water deliveries from the Regional Water System to other customers located outside of the boundaries of the City that are not Wholesale Customers. Water deliveries to the Wholesale Customers and Retail Customers outside the City's boundaries that receive water from the Regional Water System are accounted for by the SFPUC's Customer Service Division as described in Section B.

4. Replacement and Relocation of Meters, Gauges, and Recording Devices.

The SFPUC presently equips all of its large venturi meters with differential pressure transmitters. The smaller meters utilize other methods and equipment to register and record flows. The SFPUC will maintain the meters, gauges, and recording devices described above in subsections (a), (b), (c), and (d) unless and until such meters, gauges, and recording devices are replaced.

The SFPUC may replace the meters, gauges, and recording devices described above in subsections (a), (b), (c), and (d) or install new meters, gauges, and recording devices at new locations, provided that such changes do not diminish the accuracy of the water flow measurements or impair the ability of the SFPUC to separate direct City water use from water use by the wholesale customers. Maintenance and calibration procedures for new or replaced equipment may change. Modified maintenance and calibration procedures for new or replaced equipment will conform to industry standards set forth in AWWA Manual M33, the applicable

standards in the International Society of Automation, and will implement the manufacturer's instructions for maintenance and calibration. The SFPUC will provide BAWSCA with advance written notice of any such changes, together with a brief explanation of the reasons therefor and a description of the type and location of the replacement. Such notice shall automatically amend the list of meters, gauges, and recording devices set forth above in subsections (a), (b), (c), and (d).

5. Recording of Water Flow Data

a. Flow Data

The City shall record and maintain data measuring base water flow throughout the SFPUC Regional Water System as necessary to determine proportional annual water usage.

b. Reservoir Data

The SFPUC shall record and maintain data measuring the levels of the terminal reservoirs described above in subsection A.3.b and shown on Figure 1 on an hourly basis. Flow values derived from reservoir level readings for all reservoirs in the SFPUC wholesale system shall be calculated using the tables contained in the SFPUC publication "Reservoir Data" (aka "The Weir Book"), which set forth the relationship between reservoir levels and water volumes, as such tables may be amended from time to time to reflect changes in the volumes of the various reservoirs. The tables to be used initially shall be those from the current edition of The Weir Book.

SECTION B. CALCULATION OF PROPORTIONAL ANNUAL USAGE

"Base rates" means the percentages of annual SFPUC deliveries attributed to the Wholesale Customers and to City Retail Customers.

The percentage of annual SFPUC metered deliveries attributed to the Wholesale Customers (i.e., the wholesale base rate) shall be calculated for each fiscal year as described below and illustrated in Table 1. The item numbers listed below correspond to the item numbers listed in Table 1.

(1) "Gross San Francisco County line base deliveries" shall equal the total amount of water flowing into the City's distribution system through transmission pipelines entering the City, as measured by the County-Line Meters described in Section A.3.a. and shown on Figures 1 and 2.

(2) "Daly City base deliveries" shall equal the water flowing to Daly City through meter accounts provided downstream of the County-Line meters or through SFPUC's City Distribution Division. At present these accounts are:

(a) CSPL1/Macdonald Avenue Service (Account number 010084-01-0)

(b) Guttenberg Street Service (Account number 010013-01-3)

(c) Carter Street Service (Account numbers 284070-01-8 and 284071-01-6)

These accounts represent a portion of the total deliveries to Daly City. The quantities of water delivered to these four Daly City accounts are reported monthly in Form MGT441 by the SFPUC's Customer Service Division. These connections to meters are presently located within the City, and thus record water which has already been recorded by the SFPUC's master meters at the County line. So long as this condition continues, Daly City base deliveries shall be subtracted from "Gross San Francisco County line base deliveries."

(3) "Net San Francisco base deliveries" shall equal the result of subtracting "Daly City base deliveries" from "Gross San Francisco County line base deliveries."

(4) "Other suburban raw water base deliveries" shall equal the sum of all deliveries of raw (untreated) water to customers of the SFPUC located outside the City other than deliveries to the Wholesale Customers. "Other suburban raw water base deliveries" include deliveries of raw water in Alameda and San Mateo Counties to SFPUC Retail Customers, City departments and commissions, and other users affiliated with San Francisco.

(5) "Other suburban treated water base deliveries" shall equal the sum of all deliveries of treated water to customers of the SFPUC located outside the City other than deliveries to the Wholesale Customers. Other suburban treated water base deliveries include deliveries of treated water to the SFPUC's Retail Customers in San Mateo, Santa Clara and Alameda Counties (such as NASA Ames Research Center and LLNL), to City departments and commissions and other users affiliated with San Francisco (such as the San Francisco International Airport, the San Francisco County Jail, and tenants of land owned by the City Recreation and Park Department).

(6) "Other suburban base deliveries" shall equal the sum of "Other suburban raw water deliveries" and "Other suburban treated water deliveries." The combined amount of raw and treated water delivered to suburban entities other than the Wholesale Customers is reported monthly in Form MGT440 by the SFPUC's Customer Service Division.

(7) "Total City base usage" shall equal "Net San Francisco base deliveries" plus "Other suburban base deliveries."

(8) "Total wholesale base usage" shall equal the sum of all metered deliveries to the Wholesale Customers measured at their SFPUC master meters (including all deliveries to Daly City which are comprised of deliveries through meters located outside San Francisco and meters located inside San Francisco, deliveries through the latter of which are designated above in paragraph B.1.2 as "Daly City base

deliveries"). The quantity of water delivered to the individual Wholesale Customers, and the combined amount of water delivered to all Wholesale Customers is reported monthly in Form MGT440 by the SFPUC's Customer Service Division.

(9) "Total system base usage" shall equal "City base usage" plus "Wholesale base usage."

(10) "Wholesale base rate" shall equal the percentage obtained by dividing "Wholesale base usage" by "Total system base usage."

(11) "City base rate" shall equal the percentage obtained by subtracting "Wholesale base rate" from 100 percent.

(12) "Base system input" shall equal all amounts of water supplied to the SFPUC Regional Water System, which presently comes from the following sources:

(a) Hetch Hetchy water as measured at the venturi meters on the 58–inch, 61-inch, and 78.5-inch San Joaquin Pipeline Nos. 1, 2, and 3 near Oakdale.

(b) Water supplied by HHWPD to LLNL as measured at the customer meter. Water delivered from the system to LLNL shall be deemed negative in sign for the purpose of determining "Base system input."

(c) Hetch Hetchy water pumped from the Alameda siphons to San Antonio Reservoir as measured at the venturi meter on the 60-inch San Antonio pipeline. Water delivered from the system to San Antonio Reservoir shall be deemed negative in sign for the purpose of determining "Base system input."

(d) Sunol Valley Water Treatment Plant as measured at the meter on the 78-inch effluent pipeline.

(e) Harry Tracy Water Treatment Plant as measured at the venturi meters on the 60-inch and 78-inch effluent pipelines.

(f) Raw water deliveries to all SFPUC Retail Customers outside the City boundaries as measured at the customer meter. These deliveries are considered positive for the purposes of Table 1. Currently, raw water deliveries to the system are represented by the following account numbers contained in Form MGT440 prepared by the SFPUC's Customer Service Division:

266081-01-7 (Calaveras Nursery)
266081-02-5 (Calaveras Nursery)
264355-01-7 (Caltrans)
266084-02-9 (Color Spot Nursery)
272701-02-0 (Color Spot Nursery)
266069-02-0 (Crystal Springs Golf Course)
266078-02-1 (Dell Franklin)
266078-01-3 (Dells Nursery)
266084-01-1 (Hi-C Nursery)
272701-01-2 (Hi-C Nursery)
284112-01-8 (Hansen Aggregates)
266084-03-7 (Jeff Anhorn Nursery)
272701-03-8 (Jeff Anhorn Nursery)
266079-02-9 (Mission Valley Rock)
281043-01-8 (Mission Valley Rock)
267618-02-3 (Nagata Farms)
267618-01-5 (Nagata Farms)
266090-01-8 (Naka Nursery)

266091-01-6 (Naka Nursery)
266090-02-6 (Naka Nursery)
266091-02-4 (Naka Nursery)
264315-02-9 (Pacific Nurseries)
266076-01-7 (Sunol Christmas Tree Farm)
266076-02-5 (Sunol Tree Farm)
276095-01-5 (Sunol Valley Golf & Recreation)
266077-02-3 (Ura Farm)
264352-01-4 (Ura, John)
266075-01-9 (Valley Crest)
268276-01-1 (Valley Crest Nursery)
266093-01-2 (Valley Crest Tree Company)
268426-02-0 (Valley Crest Tree Company)
266075-02-7 (Valley Crest Tree Company)
266093-02-0 (Valley Crest Tree Company)
268276-02-9 (Valley Crest Tree Company)
266082-01-5 (Western Star Nursery)
266089-01-0 (Western Star Nursery)
267254-02-7 (Western Star Nursery)
266082-02-3 (Western Star)
266089-02-8 (Western Star)
267254-03-5 (Western Star)

(g) Raw water deliveries from Pilarcitos Reservoir and Crystal Springs Reservoir to Coastside County Water District as measured at the customer meters. These deliveries are considered positive for the purposes of Table 1. Currently, raw water deliveries to Coastside County Water District from both reservoirs are represented under account number 010027-01-9 contained in Form MGT441 prepared by the SFPUC's Customer Service Division:

(h) Crystal Springs Balancing Reservoir. The flow into or out of the Crystal Springs Balancing Reservoir shall be calculated based on the changes in the amounts of water stored in the reservoir. The amounts of water stored shall be determined by the use of water level sensors, and the application of water level readings to a water level-storage capacity table. Decreases in storage, which indicate a flow from the Balancing Reservoir into the system, shall be deemed positive in sign. Increases in storage, which indicate a flow into the Balancing Reservoir from the system, shall be deemed negative in sign. Over the period of a year, the total flows into and out of Crystal Springs Balancing Reservoir are nearly equivalent. As such, total system input from Crystal Springs Reservoir shall be deemed zero for calculating current base rates.

(i) Deliveries to Crystal Springs Reservoir as measured by the overflow weir at the Pulgas Pump Station. Deliveries from the system to Crystal Springs Reservoir ("spills") shall be deemed negative in sign for the purpose of determining "Base system input."

(j) Terminal Reservoirs. The "terminal reservoirs" consist of Sunset Reservoir, University Mound Reservoir, and Merced Manor Reservoir, each located within the City of San Francisco. The flow into or out of the terminal reservoirs shall be calculated based on the changes in the amounts of water stored in them. The amounts of water stored shall be determined by the use of water level sensors, and the application of water levels to water level-storage capacity tables. Over the period of a year, the total flows into and out of terminal reservoirs are nearly equivalent. As such, total system input from the terminal reservoirs shall be deemed zero for calculating base rates.

(k) Other Sources. Other sources of flow into, or from, the Regional Water System, shall be accounted for as "other sources." Examples of other

sources of system input would include intertie water deliveries between the Regional System and the Santa Clara Valley Water District, and between the Regional System and the East Bay Municipal Utilities District, and deliveries of raw water from Crystal Springs Reservoir in the event of an emergency. Flows from the system shall be deemed negative in sign for the purpose of determining "Base system input."

(13) "Total base system input" shall equal the sum of the system inputs from the sources described in paragraph B.1.12.

(14) "Joint system loss reduction factor" shall equal "Total system base usage" divided by "Total base system input." "Joint system loss reduction factor" shall not exceed 1.0.

(15) "Daly City reduction factor" shall equal "Net San Francisco base deliveries" divided by "Gross San Francisco County line base deliveries." "Daly City reduction factor" shall not exceed 1.0.

(16) "Total suburban base deliveries" shall equal "Other suburban base deliveries" plus "Total wholesale base usage."

(17) "Suburban reduction factor" shall equal "Wholesale base usage" divided by "Total suburban base deliveries." "Suburban reduction factor" shall not exceed 1.0.

(18) "HHWPD Deliveries above Oakdale" shall equal the total amount of water delivered by the HHWPD to users located above the system input meters in Oakdale. Water users located above the system input meters in Oakdale are currently represented by Groveland Community Services District and the HHWPD facility at Moccasin.

(19) "HH Reduction Factor" is calculated for the purpose of determining the Wholesale Customers' share of the Hetch Hetchy Assessment. The factor shall equal a fraction, the numerator of which is the total system input measured at the Oakdale meters (Table 1, line 12.a) and the denominator of which is the sum of the total system input measured at the Oakdale meters (Table 1, line 12.a) plus the total "HHWPD deliveries above Oakdale" (Table 1, line 18).

SECTION C. DATA REQUIREMENTS AND SCHEDULE

1. Collection and Dissemination of Data

The SFPUC presently compiles daily flow data for the County-line meters, System Input and In-Line Meters, and daily reservoir water level data, and provides copies of that data to the Wholesale Customers (through BAWSCA) on a monthly basis. The SFPUC also provides copies of wholesale "Suburban Resale" and City Retail water usage data to BAWSCA on a monthly basis. Additionally, the SFPUC provides BAWSCA access to flow data for the meters as reported and recorded by the SFPUC's SCADA system.

The SFPUC shall continue to provide the flow and water usage data described above to BAWSCA on a monthly basis, and shall continue to allow BAWSCA access to the SCADA system data, so that a coordinated effort between the SFPUC and BAWSCA will allow for updating Table 1 of this Attachment annually on a timely basis.

It shall continue to be the SFPUC's responsibility to compile the data necessary to update Table 1 of this Attachment annually and the City shall deliver to BAWSCA, for review and approval, copies of the updated Table 1 by September 15 for the fiscal year ending the preceding June 30, as shown by the schedule contained in Section C.3.

Upon reasonable notice to the General Manager of the SFPUC, BAWSCA shall be given access to all water flow and usage records compiled by the SFPUC, including raw data, at reasonable times during business hours and shall have the right to copy such records and data at its expense.

2. Lack of Data

The parties recognize that, because of human error, mechanical failure, or other unplanned events, portions of the data required for the calculation of the usage rates and ratios described in Sections B and C of this Attachment occasionally may be unavailable or incorrect. In the event that such data are unavailable or inaccurate, the SFPUC shall make a reasonable estimate of the unavailable or incorrect data or use the most accurate alternative data that are available, and substitute the estimate therefor.

If the SFPUC uses an estimate of the unavailable or inaccurate data or alternative data, it shall provide BAWSCA with the following:

(1) a description of the unavailable or inaccurate data and the estimation or substitution of data used therefor;

(2) an explanation of the cause of the missing or inaccurate data and the reasons underlying the SFPUC's estimation or substitution of alternate data; and

(3) a statement of how the error or malfunction that caused the unavailability or inaccuracy of the data will be avoided in the future.

The SFPUC shall provide this information to BAWSCA upon calculation by the SFPUC of the usage rates and ratios described in this Attachment for the fiscal year in question.

3. Schedule for Completing the Annual Calculations of Water Usage Rates

The parties recognize the importance of updating Table 1 of this Attachment annually in a timely manner, and that historically, doing so has required a coordinated effort between the SFPUC and BAWSCA. To assure timely completion of the annual calculations of water usage rates and ratios, the parties agree to adhere to the following schedule.

(1) By August 15: The SFPUC shall forward to BAWSCA all data for the fiscal year ending the preceding June 30, necessary to make a determination of the base water usage and base allocation rates for the Wholesale Customers and the City.

(2) By September 15. The City shall deliver to BAWSCA, for review and approval, draft copies of the updated Table 1 for the fiscal year ending the preceding June 30.

(3) Between September 15 and October 15. The SFPUC and BAWSCA shall reconcile any discrepancies or inaccuracies in the draft calculations of water usage rates and shall reach agreement on a final updated Table 1 for the fiscal year ending the preceding June 30.

(4) By November 1. The SFPUC shall deliver to BAWSCA a finalized updated Table 1, signed by the SFPUC General Manager, or appropriate designee, representing the water usage rates agreed upon by the SFPUC and BAWSCA, for the fiscal year ended June 30.

(5) By November 15. BAWSCA shall return the finalized Table 1 to the SFPUC, counter-signed by the BAWSCA General Manager/CEO. If the SFPUC does not receive the countersigned Table 1 from BAWSCA by November 15, it may use the water use data as contained in the Table 1 delivered pursuant to paragraph (4) above, subject to arbitration as provided in section 8.01 of the Agreement.

SECTION D. COUNTY LINE AND IN-CITY TERMINAL RESERVOIR METER CALIBRATION AND MAINTENANCE

1. General

This section refers only to the County-Line and In-City Terminal Reservoir Meters. The term "meter(s)" includes the primary meter itself (most of the primary meters in the SFPUC's water system are Venturi-type flow meters) as well as any and all of the associated equipment used to measure, record, and transmit flow and water level data. The metering equipment associated with the primary metering device (also referred to as the secondary metering equipment) includes differential pressure transmitters, recorders, telecommunications equipment and the portion of the SFPUC's Supervisory Control and Data Acquisition (SCADA) System that is used to transmit flow and water level measurements from the water meter to the computer terminal that records the measured data.

The County-Line and In-City Terminal Reservoir meters, their general locations, and their associated metering equipment are listed in Table 4.

2. Frequency and Type of Work to be Performed

The meters, water level sensors, and associated metering equipment are to be inspected, tested, calibrated, and maintained according to the applicable meter calibration and maintenance frequency specified in Table 5.

3. Components of the Calibration and Maintenance Work

The SFPUC will contract with an independent metering consultant to perform periodic inspections, testing, servicing and calibrations of the meters and metering equipment for the County-line meters and In-City Terminal Reservoirs. The metering consultant's calibration and maintenance work will include the following components:

- Annual Pitot Tube Tests: Pitot tube flow tests shall be performed once a year on all Venturi-type flow meters. See Sections 4.b and 4.c for further detail.

- Quarterly Secondary Meter Equipment Testing and Calibration: The secondary metering equipment shall be tested for accuracy and calibrated quarterly at five input levels (0%, 25%, 50%, 75% and 100% of the full range of flow). See Section 4.a for further detail.

- Cleaning: Clean and remove dust, oils, dirt, etc. from all instruments.

- Flushing: Flush and clean Venturi tube differential pressure (D/P) sensing lines.

- Inspecting: Inspections for mechanical fatigue, leaky pipes and fittings, worn parts, and improper operation of electrical/electronic equipment.

- Lubrication: Mechanical parts shall be lubricated as needed.

4. Calibration Procedures

The metering consultant shall continue to calibrate and maintain the County-line meters and metering equipment listed in Table 4 in accordance with the frequency of work specified in Table 5. The work includes documenting meter readings and accuracy before and after calibration. Specific tasks to be completed by the metering consultant are as follows:

a) Quarterly testing and calibration. The secondary metering equipment shall be tested and calibrated quarterly using NIST Traceable test equipment, and a "dead weight tester."

The system loop error for the secondary metering equipment is determined by connecting its output to the differential pressure transmitter and adjusting the dead weight tester to 5 places over the full range of flow: 0%, 25%, 50%, 75% and 100%, while all instruments in the loop are connected. For water level transmitters, provide simulated test head equal to full range of the transmitter being calibrated, comparing the simulated test head to its 4-20 milliamp output signal to determine transmitter error and calibration requirements. The system loop error for the secondary metering equipment may not exceed +/-2%. The individual components of the secondary metering equipment shall also be tested at the same 5 input levels and calibrated as necessary to ensure the error of the system and individual components does not exceed +/- 2%.

b) Annual Pitot Tube Testing and Calibration. Annual Pitot tube testing shall be conducted for a comparison of flow totalized by the Pitot tube test equipment and the totalizer used by the SFPUC for water measurement and billing purposes. Annual Pitot tube flow testing shall be performed on all flow meters for assessment of Venturi error using the Annubar continuous flow method at 22% of the pipe radius. Pitot tube flow testing must be conducted continuously for a minimum of 30 minutes per test.

The Pitot tube flow tests are first performed before any of the secondary metering instruments are calibrated to determine the total system error (system consisting of the primary metering device and secondary metering equipment). Once the total system loop error has been established, perform secondary loop instrument testing and calibration as per the quarterly testing and calibration procedures described in 4.a above. If the total system error exceeds +/- 2% after calibration of the secondary metering equipment, minor adjustments to the differential pressure transmitter shall be made to correct (calibrate) the error in the Venturi meter. Repeat Pitot tube testing must be performed after the individual instrument calibration and differential pressure transmitter adjustments have been performed to establish that total system loop error is within +/- 2%.

c) Pitot tube testing shall be conducted at a flow rate representing the typical flow for the meter (and, if operationally possible, at three different flows ranging from a minimum to near maximum capacity flow).

d) The metering consultant shall perform the meter testing and calibration procedures utilizing the meter characteristic curves (for example, the pressure drop vs. flow for a Venturi meter) that have been obtained during previous meter calibration and maintenance work.

e) During each quarterly site visit, the metering consultant shall inspect, assess and document the condition of all metering equipment, including meter, gauges, indicators, recorders, transmitters and other instrumentation, used in the measurement and recording of flow rates and cumulative flow totals and shall document all operational problems with the calibration instruments and meters during the calibration process. Problems may include air entrainment, leakage, flow disturbance and unstable meter readings.

f) Prior to each quarterly site visit, the metering consultant shall review prior calibration records and reports for each meter to determine if previously-identified errors or equipment deficiencies were corrected as previously recommended.

g) Each quarter, the metering consultant shall submit a final report (See Section 6) containing all of the calibration results for each meter tested and calibrated during the quarter. The metering consultant's report shall include a narrative description of the work conducted on each meter and meter calibration reports for the individual metering equipment. The quarterly report shall also address deficiencies that were not previously corrected according to the recommendations made in the prior report.

5. Calibration Instruments

The instrument used for flow testing of the primary meter (Venturi) must meet the accuracy standards required by the American Water Works Association (AWWA), and be

capable of measuring actual flows with an error of less than +/- 2%. If a particular calibration instrument is not rated for accuracy by the AWWA, its accuracy will be determined by reference to its manufacturer's representations as to accuracy.

6. Calibration Reports

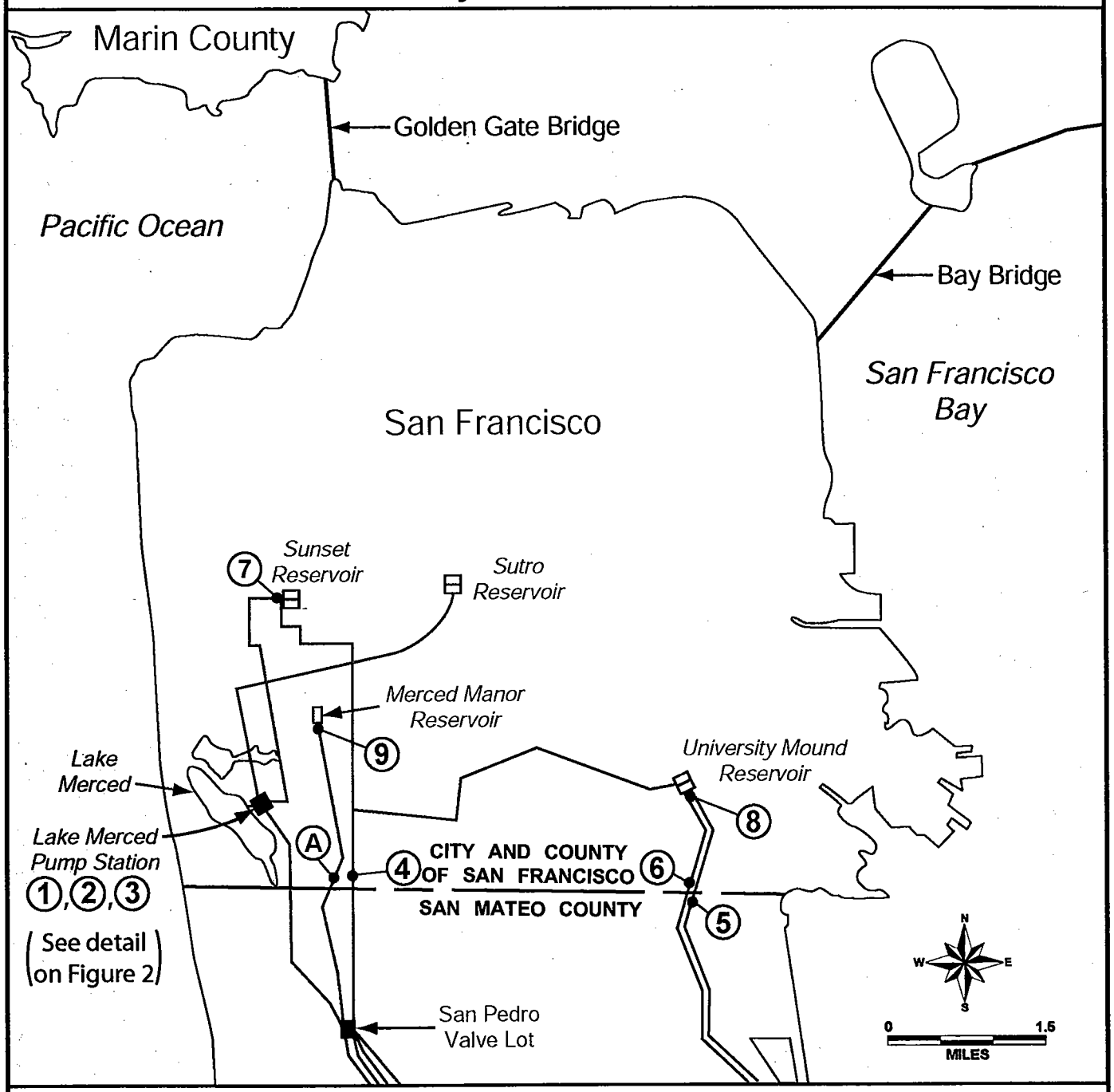
Within fourteen (14) working days after the beginning of each quarter, the metering consultant shall submit a written progress report of the work performed during the previous quarter. Each quarterly report will describe the results of the meter calibrations and any other tasks performed. The report will also include comments regarding any observations of abnormal conditions and any recommendations regarding these meters and their related equipment.

The reports must include complete descriptions and status of meters and related equipment, dates and times of service, all calibration specifics, pipeline dimensions, range of flow rates and totalized volumes, before and after error analysis and accuracy levels achieved, testing equipment used, and the name(s) of the person(s) that performed the work.

When appropriate and necessary, the metering consultant shall provide recommendations for improving the accuracy and reliability of the equipment and/or the methods of data collection. If, in the opinion of the metering consultant, the condition of a meter or its associated metering equipment is found to be defective, damaged, or otherwise in need of immediate repair or replacement, the metering consultant shall: 1) promptly notify the appropriate SFPUC personnel of the problem and recommend a solution to the problem so that the SFPUC can determine how to address it and, 2) include the problem description in its quarterly report.

FIGURE 1

Locations of SFPUC County-Line Meters and In-City Terminal Reservoirs



METER	PIPELINE	LOCATION
1	Sunset	Lake Merced Pump Station
2	Sutro	Lake Merced Pump Station
3	Lake Merced Outfall	Lake Merced Pump Station
4	San Andreas No. 2	Junipero Serra (Hwy. 280) South of Belle Ave.
5	Crystal Springs No. 1	PG&E Martin Service Center Yard
6	Crystal Springs No. 2	Tamasco Ct. South of Sunnydale Ave.
A	San Andreas No. 3 (Planned)	To be determined

METER	RESERVOIR	LOCATION
7	Sunset Reservoir	26th Avenue and Ortega
8	University Mound Reservoir	University Avenue and Bacon
9	Merced Manor Reservoir	23rd Avenue and Ocean

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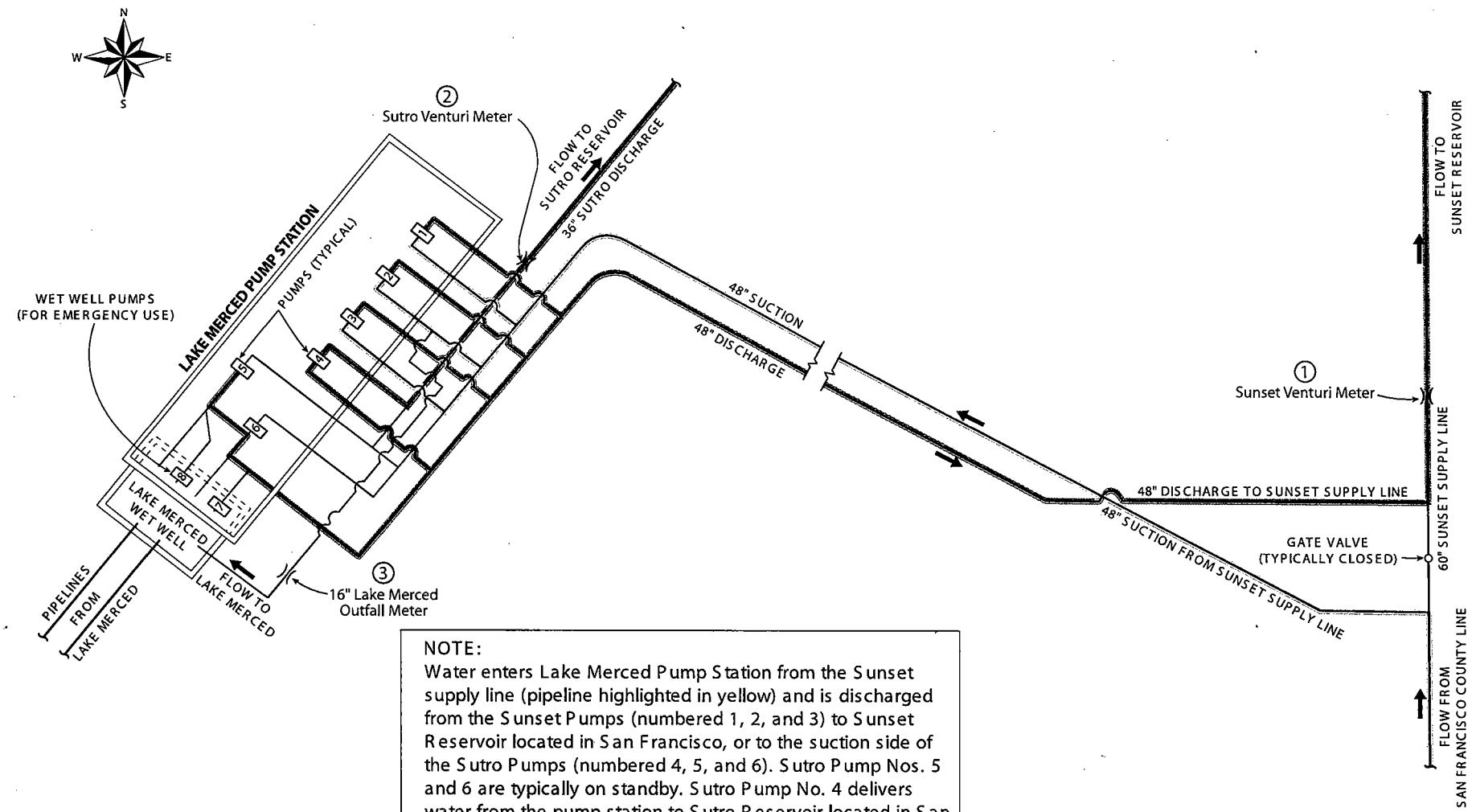


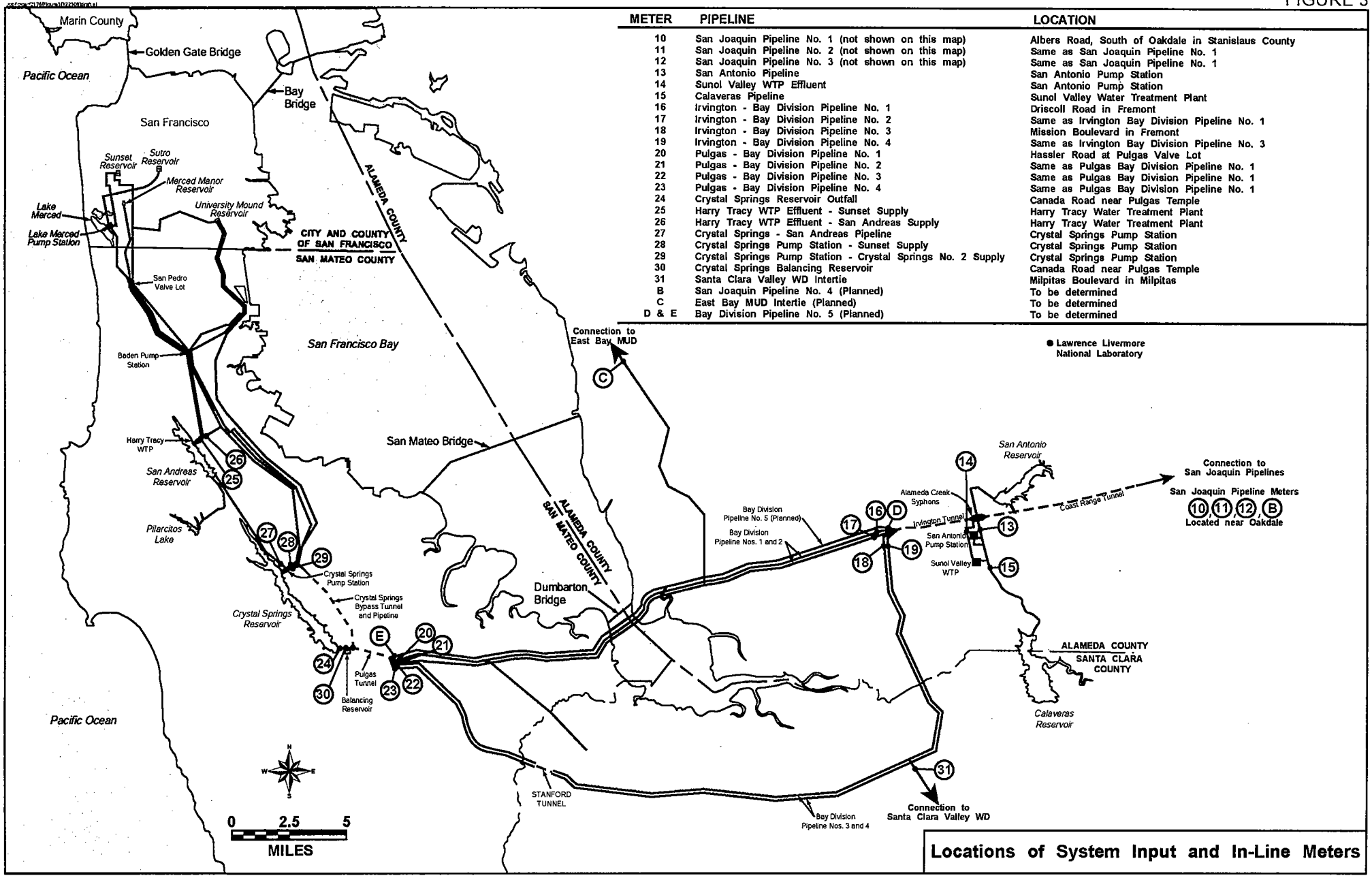
NOTE:
Water enters Lake Merced Pump Station from the Sunset supply line (pipeline highlighted in yellow) and is discharged from the Sunset Pumps (numbered 1, 2, and 3) to Sunset Reservoir located in San Francisco, or to the suction side of the Sutro Pumps (numbered 4, 5, and 6). Sutro Pump Nos. 5 and 6 are typically on standby. Sutro Pump No. 4 delivers water from the pump station to Sutro Reservoir located in San Francisco. Deliveries from the SFPUC water system to Lake Merced are accomplished by gravity through the 16-inch pipeline that connects to the suction side of Sunset Pump No. 2.

Generalized Schematic of Lake Merced Pump Station

FIGURE 2

FIGURE 3

METER	PIPELINE	LOCATION
10	San Joaquin Pipeline No. 1 (not shown on this map)	Albers Road, South of Oakdale in Stanislaus County
11	San Joaquin Pipeline No. 2 (not shown on this map)	Same as San Joaquin Pipeline No. 1
12	San Joaquin Pipeline No. 3 (not shown on this map)	Same as San Joaquin Pipeline No. 1
13	San Antonio Pipeline	San Antonio Pump Station
14	Sunol Valley WTP Effluent	San Antonio Pump Station
15	Calaveras Pipeline	Sunol Valley Water Treatment Plant
16	Irvington - Bay Division Pipeline No. 1	Driscoll Road in Fremont
17	Irvington - Bay Division Pipeline No. 2	Same as Irvington Bay Division Pipeline No. 1
18	Irvington - Bay Division Pipeline No. 3	Mission Boulevard in Fremont
19	Irvington - Bay Division Pipeline No. 4	Same as Irvington Bay Division Pipeline No. 3
20	Pulgas - Bay Division Pipeline No. 1	Hassler Road at Pulgas Valve Lot
21	Pulgas - Bay Division Pipeline No. 2	Same as Pulgas Bay Division Pipeline No. 1
22	Pulgas - Bay Division Pipeline No. 3	Same as Pulgas Bay Division Pipeline No. 1
23	Pulgas - Bay Division Pipeline No. 4	Same as Pulgas Bay Division Pipeline No. 1
24	Crystal Springs Reservoir Outfall	Canada Road near Pulgas Temple
25	Harry Tracy WTP Effluent - Sunset Supply	Harry Tracy Water Treatment Plant
26	Harry Tracy WTP Effluent - San Andreas Supply	Harry Tracy Water Treatment Plant
27	Crystal Springs - San Andreas Pipeline	Crystal Springs Pump Station
28	Crystal Springs Pump Station - Sunset Supply	Crystal Springs Pump Station
29	Crystal Springs Pump Station - Crystal Springs No. 2 Supply	Crystal Springs Pump Station
30	Crystal Springs Balancing Reservoir	Canada Road near Pulgas Temple
31	Santa Clara Valley WD Intertie	Milpitas Boulevard in Milpitas
B	San Joaquin Pipeline No. 4 (Planned)	To be determined
C	East Bay MUD Intertie (Planned)	To be determined
D & E	Bay Division Pipeline No. 5 (Planned)	To be determined



Locations of System Input and In-Line Meters

Table 1
Base Usage (mgd) and Allocation Rates

(1) Usage	(2) Definition	(3) 2004-05	(4) 2005-06	(5) 2006-07	(6) 2007-08	(7) 2008-09	(8) 2009-10
1. Gross S.F. Co. line	B.1	79.5	78.3	75.7			
2. Daly City portion	B.2	0.2	0.2	0.2			
3. Net S.F.	(1-2)	79.3	78.1	75.5			
4. Other suburban raw water	B.4	0.4	0.5	0.7			
5. Other suburban treated water	B.5	4.1	3.4	3.9			
6. Total other suburban	(4+5)	4.5	3.9	4.6			
7. Total City usage	(3+6)	83.8	82.0	80.1			
8. Total wholesale usage	B.8	167.4	164.4	175.8			
9. Total system usage	(7+8)	251.2	246.4	255.9			
10. Wholesale alloc. rate	(8/9)	66.63%	66.72%	68.70%			
11. City alloc. rate	(100%-10)	33.37%	33.28%	31.30%			
12a. HHWPD input (Oakdale)	B.12	194.7	202.6	227.3			
12b. Deliveries to LLNL	B.12	-0.4	-0.9	-0.9			
12c. HH to San Ant. Res.	B.12	-3.8	-1.8	-11.6			
12d. Sunol Valley WTP	B.12	28.5	29.4	17.6			
12e. Harry Tracy WTP	B.12	45.2	40.4	41.2			
12f. Raw water deliveries	B.12	0.4	0.4	0.7			
12g. Deliveries to Coastside Co. WD	B.12	1.8	1.6	2.1			
12h. Crys. Sprs. Bal. Res.	B.12	0.0	0.0	0.0			
12i. Spill to CS Res.	B.12	-19.9	-42.6	-37.1			
12j. Terminal Reservoirs	B.12	0.0	0.0	0.0			
12k. Other sources	B.12	0.0	1.9	3.8			
13. Total system input	B.13	246.5	231.0	243.1			
14. Jt. sys. loss red. fact.	(9/13)	1.0000	1.0000	1.0000			
15. Daly City red. factor	(3/1)	0.9975	0.9974	0.9974			
16. Total suburban	(6+8)	171.9	168.3	180.4			
17. Suburban red. factor	(8/16)	0.9736	0.9768	0.9745			
18. HHWPD Deliveries above Oakdale	B.18						
19. HH Reduction Factor	B.19	99.56%					

Table 2
Locations of SFPUC County-Line Meters and In-City Terminal Reservoirs

County-Line Meters

Meter	Pipeline	Location
1	Sunset	Lake Merced Pump Station
2	Sutro	Lake Merced Pump Station
3	Lake Merced Outfall	Lake Merced Pump Station
4	San Andreas No. 2	Junipero Serra (Hwy. 280) South of Belle Ave.
5	Crystal Springs No. 1	PG&E Martin Service Center Yard
6	Crystal Springs No. 2	Tamasco Ct. South of Sunnydale Ave.
A	San Andreas No. 3 (Planned)	To be determined

In-City Terminal Reservoirs

Meter	Reservoir	Location
7	Sunset Reservoir	26th Avenue and Ortega
8	University Mound Reservoir	University Avenue and Bacon
9	Merced Manor Reservoir	23rd Avenue and Ocean

Table 3
Locations of SFPUC System Input and In-Line Meters

Meter	Pipeline	Location
10	San Joaquin Pipeline No. 1	Albers Road, South of Oakdale in Stanislaus County
11	San Joaquin Pipeline No. 2	Same as San Joaquin Pipeline No. 1
12	San Joaquin Pipeline No. 3	Same as San Joaquin Pipeline No. 1
13	San Antonio Pipeline	San Antonio Pump Station
14	Sunol Valley WTP Effluent	San Antonio Pump Station
15	Calaveras Pipeline	Sunol Valley Water Treatment Plant
16	Irvington – Bay Division Pipeline No. 1	Driscoll Road in Fremont
17	Irvington – Bay Division Pipeline No. 2	Same as Irvington Bay Division Pipeline No.1
18	Irvington – Bay Division Pipeline No. 3	Mission Boulevard in Fremont
19	Irvington – Bay Division Pipeline No. 4	Same as Irvington Bay Division Pipeline No.3
20	Pulgas – Bay Division Pipeline No. 1	Hassler Road at Pulgas Valve Lot
21	Pulgas – Bay Division Pipeline No. 2	Same as Pulgas Bay Division Pipeline No. 1
22	Pulgas – Bay Division Pipeline No. 3	Same as Pulgas Bay Division Pipeline No. 1
23	Pulgas – Bay Division Pipeline No. 4	Same as Pulgas Bay Division Pipeline No. 1
24	Crystal Springs Reservoir Outfall	Canada Road near Pulgas Temple
25	Harry Tracy WTP Effluent – Sunset Supply	Harry Tracy Water Treatment Plant
26	Harry Tracy WTP Effluent – San Andreas Supply	Harry Tracy Water Treatment Plant
27	Crystal Springs – San Andreas Pipeline	Crystal Springs Pump Station
28	Crystal Springs Pump Station – Sunset Supply	Crystal Springs Pump Station
29	Crystal Springs Pump Station – Crystal Springs No. 2 Supply	Crystal Springs Pump Station
30	Crystal Springs Balancing Reservoir	Canada Road near Pulgas Temple
31	Santa Clara Valley WD Intertie	Milpitas Boulevard in Milpitas
B	San Joaquin Pipeline No. 4 (Planned)	To be determined
C	East Bay MUD Intertie (Planned)	To be determined
D&E	Bay Division Pipeline No. 5 (Planned)	To be determined

TABLE 4
SFPUC COUNTY-LINE METERS, IN-CITY TERMINAL RESERVOIRS, AND ASSOCIATED METERING EQUIPMENT

County-Line Meter	Meter Type	Location
1. **Sunset**	60" Venturi	Lake Merced Pump Station
Associated Metering Equipment:	• Rosemount D/P transmitter • Honeywell recorder • SCADA	
2. **Sutro**	36" Venturi	Lake Merced Pump Station
Associated Metering Equipment:	• Rosemount D/P transmitter • Honeywell recorder • SCADA	
3. **Lake Merced Outfall**	16" Mag. Meter	Lake Merced Pump Station
Associated Metering Equipment:	• Honeywell recorder • SCADA	
4. **San Andreas No. 2**	36" Venturi	Junipero Serra (Hwy. 280) south of Belle Avenue
Associated Metering Equipment:	• Yokogawa D/P transmitter • NLS display • AGM electronics • Honeywell recorder • SCADA	
5. **Crystal Springs No. 1**	44" Venturi	PG&E Martin Service Center Yard
Associated Metering Equipment:	• Yokogawa D/P transmitter • NLS display • AGM electronics • Honeywell recorder • SCADA	
6. **Crystal Springs No. 2**	60" Venturi	Tamasco Ct. south of Sunnydale Avenue
Associated Metering Equipment:	• Yokogawa D/P transmitter • NLS display • AGM electronics • SCADA	
In-City Terminal Reservoirs		
1. **Sunset**	Pressure Transducer	26th Avenue and Ortega
Associated Metering Equipment:	• Honeywell recorder • SCADA	
2. **Merced-Manor**	Pressure Transducer	23rd Avenue and Ocean
Associated Metering Equipment:	• Honeywell recorder • SCADA	
3. **University Mound**	Pressure Transducer	University Avenue and Bacon
Associated Metering Equipment:	• Honeywell recorder • SCADA	

TABLE 5
METER CALIBRATION AND MAINTENANCE FREQUENCY

METER/ EQUIPMENT	FREQUENCY			WORK TO BE PERFORMED (See Work Codes Listed Below)					
	Quarterly	Semi-Annual	Annual	CA	CL	FL	IN	LU	PT
Venturi Meters			X	X		X (1)	X (1)		X
Magnetic Meters		X		X (2)	X (2)		X (2)		
Yokagowa D/P Transmitters	X			X	X	X	X		
Rosemount D/P Transmitters	X			X	X	X	X		
Honeywell Recorders	X			X	X		X		
Water Level Sensors (Pressure Transducers)	X			X	X		X		
SCADA Electronics	X			X					
AGM Electronics	X			X					
NLS Digital Displays	X			X					
Electrostatic 24V DC Power Supplies			X				X (3)		
ASCO Solenoids			X		X		X (4)	X	

WORK CODES:
CA = CALIBRATE; CL = CLEAN; FL = FLUSH; IN = INSPECT; LU = LUBRICATE; PT = PITOT TUBE TEST.

NOTES:
(1) Inspection and flushing requirements for Venturi meters refer to the pressure tubing from the meter to the differential pressure transmitter.

(2) May calibrate using clamp-on meter where conditions allow. Inspection and cleaning requirements for magnetic meters refer to the sensors or probes that are inserted through the pipe wall.

(3) Adjust voltage if necessary.

(4) Replace rubber ware as needed.

ATTACHMENT K-1
WHOLESALE CUSTOMERS' SHARE OF NET BOOK VALUE OF EXISTING ASSETS
****PRELIMINARY - TO BE SUBSTITUTED WITH FINAL 6/30/09 VALUES****
(Section 5.03)

	Notes	Projected Value		
		Water	Hetch Hetchy	Total
Regional System Net Plant as of 6/30/08 (Actual)	1	$ 435,639,907	$ 66,135,724	
Less: Projected Depreciation on Regional Assets	2	$ (32,526,143)	$ (3,598,189)	
Plus: Projected FY 2008-09 Capital Additions	3	$ 62,771,153	$ -	
Projected Regional System Net Plant as of 6/30/09		$ 465,884,917	$ 62,537,535	
Plus: Projected Construction Work In Progress (CWIP) as of 6/30/09	4	$ 16,928,503	$ 5,807,023	
Projected Regional System Net Plant and CWIP as of 6/30/09		$ 482,813,420	$ 68,344,558	$ 551,157,978
Allocation Factor:	5	70.1%	64.2%	
Wholesale Share of Projected Regional System Net Plant as of 6/30/09		$ 326,585,327	$ 40,149,098	$ 366,734,424
Plus: Wholesale Share of Projected CWIP as of 6/30/09	6	$ 11,866,881	$ 3,728,109	$ 15,594,989
Wholesale Share of Projected Net Plant and CWIP as 6/30/09		$ 338,452,207	$ 43,877,206	$ 382,329,414
Interest Rate:		5.13%	5.13%	
Term (Yrs):		25	25	
Monthly Principal & Interest		$ 2,004,277	$ 259,836	$ 2,264,113
Annual Wholesale Revenue Requirement Amount		$ 24,051,326	$ 3,118,033	$ 27,169,359

Notes

1 FAACS 120A Report as of 6/30/08
2 SFPUC Estimate
3 SFPUC Estimate based on projects and amounts as follows:

	Water Assets
CUW358 Sunset Reservoir (North Basin)	$ 57,382,744
CUW 365 Cross Connection Controls	$ 3,679,415
CUW 394 Watershed Land Acqusition	$ 1,708,994
Total Additions	$ 62,771,153

4 CWIP based on balance as 6/30/08 plus YTD expenditures (see Attachment K-2)
5 Fixed allocation factors based on dollar weighted 5-year average of J-Table allocation factors (2003-04 through 2007-08)
6 Wholesale share CWIP based on balance as 6/30/08 plus YTD expenditures (see Attachment K-2)

ATTACHMENT K-2
WHOLESALE CUSTOMERS' SHARE OF THE BOOK VALUE OF REVENUE FUNDED CAPITAL EXPENDITURES
****PRELIMINARY - TO BE SUBSTITUTED WITH FINAL 6/30/09 VALUES****
(Section 5.03)

[1] Project No.	[2] Project Description	[3] Rate Class	[4] CWIP as of 6/30/08	[5] FY 2008-09 Expenditures	[6] Reduction for 02A Funding	[7] CWIP as 6/30/09	[8] Water Related CWIP	[9] Wholesale Share	
A.	Water Enterprise								
1	Regional Projects								
CUW352	Alameda Creek Fishery	Joint	$ 2,007,607	$ 224,582	$ 2,232,189	$ -		$ -	
CUW353	Seismic Upgrade @ Hayward Fault	Joint	$ 3,129,234	$ 1,967,625	$ 5,096,859	$ -		$ -	
CUW354	LOWER CRYSTAL SPRINGS DAM-REV-SFWD	Joint	$ 7,046,944	$ 1,086,262	$ 8,133,206	$ -		$ -	
CUW355	STANDBY POWER FACILITIES	Joint	$ 3,715,276	$ 6,596,849	$ 10,312,125	$ -		$ -	
CUW357	Adit Leak Repairs	Joint	$ 783	$ 1,129	$ 1,912	$ -		$ -	
CUW359	Irvington Tunnel	Joint	$ 21,391,129	$ 5,176,713	$ 26,567,842	$ -		$ -	
CUW359	Irvington Tunnel	Joint	$ 7,837,176	$ -	$ 7,837,176	$ -		$ -	
CUW361	Pulgas Balancing Reservoir	Joint	$ 368,057	$ 1,383,959	$ 1,752,016	$ -		$ -	
CUW361	Pulgas Balancing Reservoir	Joint	$ 1,255,545	$ -	$ 1,255,545	$ -		$ -	
CUW361	Pulgas Balancing Reservoir	Joint	$ 1,248,002	$ -	$ 1,248,002	$ -		$ -	
CUW361	Pulgas Balancing Reservoir	Joint	$ 570,179	$ -	$ 570,179	$ -		$ -	
CUW361	Pulgas Balancing Reservoir	Joint	$ 712,921	$ -	$ 712,921	$ -		$ -	
CUW363	SCADA Phase II	Joint	$ 1,335,371	$ 1,738,045	$ 3,073,416	$ -		$ -	
CUW363	SCADA Phase II	Joint	$ 1,062,050	$ -	$ 1,062,050	$ -		$ -	
CUW365	Cross Connection Control	Joint	$ 3,635,172	$ 547,801	$ 4,182,973	$ -		$ -	Capitalized in FY 2008-09
CUW367	HTWTP LT Impr	Joint	$ 8,011,348	$ 2,479,731	$ 10,491,079	$ -		$ -	
CUW368	BDPL Hydraulic Capacity	Joint	$ 23,640,601	$ -	$ 23,640,601	$ -		$ -	
CUW368	BDPL Hydraulic Capacity	Joint	$ 17,556,905	$ 4,200,442	$ 21,757,347	$ -		$ -	
CUW368	BDPL Hydraulic Capacity	Joint	$ 2,579,847	$ -	$ 2,579,847	$ -		$ -	
CUW370	Pipeline Readiness	Joint	$ 5,320,934	$ 328,070	$ 5,649,004	$ -		$ -	
CUW371	CSPS and Pipeline	Joint	$ 11,420,770	$ 3,872,779	$ 15,293,549	$ -		$ -	
CUW372	University Mound (N)	Joint	$ 4,624,981	$ 1,068,147	$ 5,693,128	$ -		$ -	
CUW373	SJPL	Joint	$ 19,479,341	$ 6,023,849	$ 25,503,190	$ -		$ -	
CUW373	SJPL	Joint	$ 7,199,051	$ -	$ 7,199,051	$ -		$ -	
CUW374	Calaveras Dam	Joint	$ 31,171,669	$ 4,314,430	$ 35,486,099	$ -		$ -	
CUW374	Calaveras Dam	Joint	$ 2,366,343	$ -	$ 2,366,343	$ -		$ -	
CUW378	CSPL #2	Joint	$ 7,453,098	$ 913,369	$ 8,366,467	$ -		$ -	
CUW379	SAPL #3	Joint	$ 5,728,934	$ 588,346	$ 6,317,280	$ -		$ -	
CUW380	BDPK #3&4 Crossovers	Joint	$ 3,855,357	$ 1,083,888	$ 4,939,245	$ -		$ -	
CUW381	SVWTP Expansion	Joint	$ 5,450,995	$ -	$ 5,450,995	$ -		$ -	
CUW381	SVWTP Expansion	Joint	$ 53,222	$ 3,090,520	$ 3,143,742	$ -		$ -	
CUW381	SVWTP Expansion	Joint	$ 97,373	$ -	$ 97,373	$ -		$ -	
CUW382	SVWTP Treated Water Reservoir	Joint	$ 5,799,505	$ 575	$ 5,800,080	$ -		$ -	
CUW384	Tesla	Joint	$ 6,102,621	$ 7,444,942	$ 13,547,563	$ -		$ -	
CUW386	SAPS X-CONNECT & PUMP IMP 96A UEB	Joint	$ 1,374,491	$ 971,625	$ 2,346,116	$ -		$ -	
CUW388	PEIR	Joint	$ 896,476	$ 1,641,717	$ 2,538,193	$ -		$ -	
CUW388	PEIR	Joint	$ 1,331,676	$ -	$ 1,331,676	$ -		$ -	
CUW390	Desalination Pilot	Joint	$ 175,165	$ -	$ 175,165	$ -		$ -	
CUW391	Baden/San Pedro Valve Lots	Joint	$ 3,964,642	$ 948,589	$ 4,913,231	$ -		$ -	
CUW392	Program Management	Joint	$ 2,452,297	$ 5,081,444	$ 7,533,741	$ -		$ -	
CUW393	BDPL #4 Condition Assessment	Joint	$ 25,071	$ 294,634	$ 319,705	$ -		$ -	
CUW394	Watershed Enviroment Improvement	Joint	$ 142,924	$ 96,027	$ 238,951	$ -		$ -	Capitalized in FY 2008-09
CUW101	SAN ANDREAS PLANT EXPANSION #1	Joint	$ 182	$ 96,027		$ 96,209		$ 67,443	
CUW111	LOWER CRYSTAL SPRINGS DAM-REV-SFWD	Joint	$ 40,436	$ -		$ 40,436		$ 28,346	
CUW151	Baden PS	Joint	$ 921	$ 26,760		$ 27,681		$ 19,404	
CUW161	Water Treatment Facilities	Joint	$ 75,801	$ 605		$ 76,406		$ 53,561	
CUW178	SAPS X-CONNECT & PUMP IMP 96A UEB	Joint	$ 104,902	$ -		$ 104,902		$ 73,536	
CUW202	Replace PCCP	Joint	$ 50,808	$ -		$ 50,808		$ 35,616	
CUW202	Replace PCCP	Joint	$ 285,003	$ 64,256		$ 349,259		$ 244,831	
CUW202	Replace PCCP	Joint	$ 2,365	$ -		$ 2,365		$ 1,658	
CUW127	SCADA	Joint	$ 50,029	$ 2,481,274		$ 2,531,303		$ 1,774,443	
CUW356	New Crystal Springs Bypass Tunnel	Joint	$ 13,992,264	$ 5,560,862	$ 16,028,397	$ 3,524,729		$ 2,470,835	
CUW358	Sunset (N)	Joint	$ 52,494,764	$ 4,887,980	$ 55,806,081	$ 1,576,663		$ 1,105,241	Capitalized in FY 2008-09
CUW387	Tesla Portal Disinfection	Joint	$ 2,377,262	$ (1,996)	$ 1,223,945	$ 1,151,321		$ 807,076	
CUW135	New Lines and Bypass Valves	Joint	$ 45,413	$ -		$ 45,413		$ 31,835	
CUW135	New Lines and Bypass Valves	Joint	$ 153,983	$ 620,156		$ 774,139		$ 542,671	
CUW135	New Lines and Bypass Valves	Joint	$ 8,860	$ -		$ 8,860		$ 6,211	
CUW143	HH Water Treatment Plan	Joint	$ 5,656	$ -		$ 5,656		$ 3,965	
CUW143	HH Water Treatment Plan	Joint	$ 709,972	$ 8,817		$ 718,789		$ 503,871	
CUW143	HH Water Treatment Plan	Joint	$ 96,292	$ -		$ 96,292		$ 67,501	
CUW186	SVWTP IMPROVEMENT PROJECT-CPB-SFWD	Joint	$ 3,604	$ -		$ 3,604		$ 2,526	
CUW206	Tesla Portal/Thomas Shaft Emergency Disinfection	Joint	$ 4,365	$ -		$ 4,365		$ 3,060	
CUW206	Tesla Portal/Thomas Shaft Emergency Disinfection	Joint	$ 283,620	$ 5,665		$ 289,285		$ 202,789	
CUW206	Tesla Portal/Thomas Shaft Emergency Disinfection	Joint	$ 227,004	$ -		$ 227,004		$ 159,130	
CUW231	Millbrae Labs	Joint	$ 81,856	$ 34,685		$ 116,541		$ 81,695	
CUW236	TELSA/SJVH WQ MONITORING IMPR	Joint	$ 152,963	$ -		$ 152,963		$ 107,227	
CUW366	HTWTP ST Improvements	Joint	$ 16,523	$ -		$ 16,523		$ 11,583	
CUW366	HTWTP ST Improvements	Joint	$ 1,398,798	$ 5,732,626	$ 7,131,424	$ -		$ -	
CUW366	HTWTP ST Improvements	Joint	$ 1,452,901	$ -	$ 1,452,901	$ -		$ -	
CUW120	WATER QUALITY PLANNING STUDY	Joint	$ 577	$ -		$ 577		$ 404	
CUW164	WATER VULNERABILITY STUDY-UEB	Joint	$ 479	$ -		$ 479		$ 336	
CUW181	STANDBY POWER FACILITIES	Joint	$ 5,905	$ -		$ 5,905		$ 4,139	
CUW210	Millbrae Administrative Bldg Remodel	Joint	$ 7,803	$ 321,553		$ 329,356		$ 230,879	
CUW220	Calaveras Dam Evaluation	Joint	$ 308,971	$ -		$ 308,971		$ 216,589	
CUW227	Watershed Facilities and Fencing	Joint	$ 190,552	$ 206,448		$ 397,000		$ 278,297	
CUW228	Watershed Roads	Joint	$ 358,434	$ 85,337		$ 443,771		$ 311,083	
CUW232	Crystal Springs Dam Discharge	Joint	$ 363,823	$ -		$ 363,823		$ 255,040	
CUW242	Demolition of Unsafe Structures	Joint	$ 311,548	$ 22,741		$ 334,289		$ 234,337	
CUW242	Demolition of Unsafe Structures	Joint	$ 315	$ -		$ 315		$ 221	
CUW261	Regional R&R - Storage	Joint	$ 275,694	$ 277,958		$ 553,652		$ 388,110	
CUW262	Regional R&R - Treatement	Joint	$ 1,236,895	$ 409,282		$ 1,646,177		$ 1,153,970	
CUW262	Regional R&R - Treatement	Joint	$ 277,383	$ -		$ 277,383		$ 194,445	

ATTACHMENT K-2
WHOLESALE CUSTOMERS' SHARE OF THE BOOK VALUE OF REVENUE FUNDED CAPITAL EXPENDITURES
****PRELIMINARY - TO BE SUBSTITUTED WITH FINAL 6/30/09 VALUES****
(Section 5.03)

[1] Project No.	[2] Project Description	[3] Rate Class	[4] CWIP as of 6/30/08	[5] FY 2008-09 Expenditures	[6] Reduction for 02A Funding	[7] CWIP as 6/30/09	[8] Water Related CWIP	[9] Wholesale Share
CUW263	Regional R&R - Transmission	Joint	$ 768,422	$ 797,659		$ 1,566,081		$ 1,097,823
CUW263		Joint	$ 1,224,094	$ -		$ 1,224,094		$ 858,090
CUW360	PLANNING - WSTD Sunol Quarry Reservoirs	Joint	$ 2,513	$ -		$ 2,513		$ 1,762
CUW934	BOA/BAW/13/F2/SFWD-CONT PROJ-OPER FD	Joint	$ 59,479	$ (2,210)	$ 998,005	$ (940,736)		$ (659,456)
	TOTAL REGIONAL WATER PROJECTS		$ 313,100,517	$ 84,802,574	$379,397,925	$ 18,505,166		$ 12,972,121
	Less Projects to be Capitalized in FY 2008-09					$ 1,576,663		$ 1,105,241
	ADJUSTED TOTAL REGIONAL WATER PROJECTS					$ 16,928,503		$ 11,866,881
2	Wholesale Direct							
	None							
B.	Hetch Hetchy Water & Power							
CUH703	Priest Reservoir By-pass	Joint	-	47,164		$ 47,164	$ 21,224	$ 13,626
CUH762	SJPL Reparis	Water	53,616	255,011		$ 308,627	$ 308,627	$ 198,139
CUH766	HH Security Improvements	Joint	164,478	261,601		$ 426,079	$ 191,736	$ 123,094
CUH767	Power Transformers	Power	-	-		$ -	$ -	$ -
CUH803	Street Lights	Power	-	40,506		$ 40,506	$ -	$ -
CUH804	HH Roads	Joint	-	341,240		$ 341,240	$ 153,558	$ 98,584
CUH829	HH SCADA	Joint	-	-		$ -	$ -	$ -
CUH842	Moccasin Cottages Renovations	Joint	-	-		$ -	$ -	$ -
CUH846	New Moccasin Penstock	Power	543,073	-		$ 543,073	$ -	$ -
CUH851	Turbine Generator Renovations	Power	111,755	926,254		$ 1,038,009	$ -	$ -
CUH868	Moccasin Energy Absorber	Power	-	-		$ -	$ -	$ -
CUH876	Moccasin Phone System	Joint	-	15,677		$ 15,677	$ 7,055	$ 4,529
CUH878	O'Shaugnessy Discharge/Toulumne River Channel Impr.	Joint	31,953	168,076		$ 200,029	$ 90,013	$ 57,788
CUH891	Metering Muni Load	Power	18	4,361		$ 4,379	$ -	$ -
CUH893	Cherry/Eleanor Pump Upgrade	Power	-	17,012		$ 17,012	$ -	$ -
CUH896	Street Lights	Power	9,294	568,794		$ 578,088	$ -	$ -
CUH899	Canyon Tunnel Penstock	Power	6,210	21,804		$ 28,014	$ -	$ -
CUH915	UG Assessment/Hunters Point	Power	961,755	1,668,663		$ 2,630,418	$ -	$ -
CUH926	Pipe Purchase	Water	-	13,667		$ 13,667	$ 13,667	$ 8,774
CUH931	Microwave Replacement	Joint	3,157,491	156,270		$ 3,313,761	$ 1,491,192	$ 957,346
CUH932	HH SCADA	Joint	-	-		$ -	$ -	$ -
CUH825	Distribution System	Power	446,419	109,797		$ 556,216	$ -	$ -
CUH941	HHP SCADA Security & Control, East/O'Shaugnessy	Joint	1,433,974	246,948		$ 1,680,922	$ 756,415	$ 485,618
CUH942	O'Shaugnessy Dam Discharge Needle Valves	Joint	-	-		$ -	$ -	$ -
CUH943	Renewable Energy	Power	-	-		$ -	$ -	$ -
CUH945	SJPL Crossovers	Water	-	-		$ -	$ -	$ -
CUH946	Facility Maintenance	Joint	-	239		$ 239	$ 108	$ 69
CUH947	Sustainable Energy Account	Power	441,226	1,838,396		$ 2,279,622	$ -	$ -
CUH948	Facility Maintenance - Transmission Lines	Power	70,631	101,295		$ 171,926	$ -	$ -
CUH949	POW Maintenance	Power	-	-		$ -	$ -	$ -
CUH950	HPH/KPH/MPH	Power	1,236,853	1,167,621		$ 2,404,474	$ -	$ -
CUH955	Solar Monitoring	Power	222	-		$ 222	$ -	$ -
CUH956	Facility Maintenance - Gate Valves	Water	275,213	-		$ 275,213	$ 275,213	$ 176,687
CUH957	Moccasin Corrison Control	Joint	48,023	110,986		$ 159,009	$ 71,554	$ 45,938
CUH958	Generation Metering	Power	-	18,811		$ 18,811	$ -	$ -
CUH959	Moccasin Reservoir Water Quality	Water	109,379	-		$ 109,379	$ 109,379	$ 70,221
CUH960	Solar Power Project	Power	6,480	(5,333)		$ 1,147	$ -	$ -
CUH861	MECA Solar	Power	-	26,369		$ 26,369	$ -	$ -
CUH962	SF Electrical Reliability	Power	9,672,565	2,653		$ 9,675,218	$ -	$ -
CUH964	Watershed Lan Purchase	Water	-	75,756		$ 75,756	$ 75,756	$ 48,635
CUH966	MECA - Demand Reduction	Power	-	-		$ -	$ -	$ -
CUH969	SFIA SCADA	Power	-	-		$ -	$ -	$ -
CUH971	Neward - CCSF Tranmission Project	Power	235,120	54,602		$ 289,722	$ -	$ -
CUH972	Load Metering	Power	145,039	1,274		$ 146,313	$ -	$ -
CUH973	Distribution Assessment	Power	-	-		$ -	$ -	$ -
CUH975	Hetch Hetchy Water R&R	Power	-	130,100		$ 130,100	$ -	$ -
CUH975	Hetch Hetchy Water R&R	Water	52,613	516,524		$ 569,137	$ 569,137	$ 365,386
CUH975	Hetch Hetchy Water R&R	Joint	999,854	887,864		$ 1,887,718	$ 849,473	$ 545,362
CUH976	KPH Rewind	Power	1,053,295	1,417,914		$ 2,471,209	$ -	$ -
CUH977	Facilities Maintenance - Water	Joint	770,839	1,049,878		$ 1,820,717	$ 819,323	$ 526,005
CUH978	Community Choice Aggregation	Power	5,571	101,075		$ 106,646	$ -	$ -
CUH979	Hunters Point Distribution	Power	1,926,977	532,011		$ 2,458,988	$ -	$ -
CUH981	Shore Power for Cruise Ships	Power	2,690	-		$ 2,690	$ -	$ -
CUH986	SEA - Energy Efficiency	Power	15,262	-		$ 15,262	$ -	$ -
CUW687	525 Golden Gate	Joint	-	4,105		$ 4,105	$ 1,847	$ 1,186
IUH004	Auto Maintenance	Joint	-	3,882		$ 3,882	$ 1,747	$ 1,122
PUH501	SF Environment Energy/Green Power	Power	-	66,107		$ 66,107	$ -	$ -
PYEAES	Youth Employment	Joint	-	-		$ -	$ -	$ -
	TOTAL HHWP PROJECTS		23,987,888	12,964,974	-	36,952,862	5,807,023	$ 3,728,109
C	TOTAL COMBINED WATER AND HHWP		$ 337,088,405	$ 97,767,548	$379,397,925	$ 55,458,028		**$ 15,594,990**

Notes
1. 6/30/08 CWIP per FAMIS
2. FY 2008-09 Expenditures posted through 3/20/09 per FAMIS
3. Wholesale share of CWIP 70.1% (see Note 5 Attachment K-1)
4. Water Related HHWP CWIP includes 100% of Water and 45% of Joint
5. Wholesale share of CWIP 64.2% (see Note 5 Attachment K-1)
6. Fund 2A expenditures are funded by Series 2006A bond proceeds, proceeds of commercial paper redeemed from 2006A proceeds and earnings on such proceeds, as applicable.

ATTACHMENT K-3
25 YEAR PAYOFF SCHEDULE FOR EXISITING RATE BASE
WATER ENTERPRISE REGIONAL ASSETS AND ONE DIRECT WHOLESALE ASSET
****PRELIMINARY - TO BE SUBSTITUTED WITH FINAL 6/30/09 VALUES****
(Section 5.03)

	Water Assets
6/30/09 Wholesale Share of Net Plant & CWIP (Attachment K-1)	338,452,207
Interest Rate:	5.13%
Term:	25
Monthly Principal & Interest Calculation:	2,004,277
Annual Wholesale Revenue Requirement:	24,051,326

Fiscal Yr Ending	Principal	Interest	**Annual Payment (Wtr)**	Year End Balance
Jun-10	6,848,259	17,203,067	**24,051,326**	331,603,948
Jun-11	7,207,954	16,843,372	**24,051,326**	324,395,994
Jun-12	7,586,541	16,464,785	**24,051,326**	316,809,453
Jun-13	7,985,013	16,066,313	**24,051,326**	308,824,439
Jun-14	8,404,415	15,646,911	**24,051,326**	300,420,024
Jun-15	8,845,844	15,205,482	**24,051,326**	291,574,180
Jun-16	9,310,459	14,740,867	**24,051,326**	282,263,721
Jun-17	9,799,478	14,251,848	**24,051,326**	272,464,243
Jun-18	10,314,181	13,737,145	**24,051,326**	262,150,062
Jun-19	10,855,919	13,195,407	**24,051,326**	251,294,143
Jun-20	11,426,110	12,625,216	**24,051,326**	239,868,033
Jun-21	12,026,250	12,025,076	**24,051,326**	227,841,784
Jun-22	12,657,911	11,393,415	**24,051,326**	215,183,873
Jun-23	13,322,749	10,728,577	**24,051,326**	201,861,123
Jun-24	14,022,507	10,028,819	**24,051,326**	187,838,616
Jun-25	14,759,019	9,292,307	**24,051,326**	173,079,597
Jun-26	15,534,215	8,517,111	**24,051,326**	157,545,382
Jun-27	16,350,127	7,701,199	**24,051,326**	141,195,254
Jun-28	17,208,894	6,842,432	**24,051,326**	123,986,361
Jun-29	18,112,766	5,938,560	**24,051,326**	105,873,594
Jun-30	19,064,113	4,987,213	**24,051,326**	86,809,482
Jun-31	20,065,428	3,985,898	**24,051,326**	66,744,054
Jun-32	21,119,335	2,931,991	**24,051,326**	45,624,719
Jun-33	22,228,597	1,822,729	**24,051,326**	23,396,122
Jun-34	23,396,122	655,204	**24,051,326**	0
Totals:	338,452,207	262,830,943	601,283,150	

ATTACHMENT K-4
25 YEAR PAYOFF SCHEDULE FOR EXISTING RATE BASE
HETCH HETCHY WATER ASSETS AND WATER-RELATED PORTION OF JOINT ASSETS
****PRELIMINARY - TO BE SUBSTITUTED WITH FINAL 6/30/09 VALUES****
(Section 5.03)

	Hetch Hetchy
6/30/09 Wholesale Share of Net Plant & CWIP (Attachment K-1)	43,877,206
Interest Rate:	5.13%
Term:	25
Monthly Principal & Interest Calculation:	259,836
Annual Wholesale Revenue Requirement:	3,118,033

Fiscal Yr Ending	Principal	Interest	**Annual Payment (HH)**	Year End Balance
Jun-10	887,814	2,230,219	**3,118,033**	42,989,393
Jun-11	934,445	2,183,588	**3,118,033**	42,054,948
Jun-12	983,525	2,134,507	**3,118,033**	41,071,423
Jun-13	1,035,183	2,082,849	**3,118,033**	40,036,239
Jun-14	1,089,555	2,028,478	**3,118,033**	38,946,685
Jun-15	1,146,782	1,971,250	**3,118,033**	37,799,903
Jun-16	1,207,015	1,911,017	**3,118,033**	36,592,887
Jun-17	1,270,412	1,847,621	**3,118,033**	35,322,475
Jun-18	1,337,138	1,780,894	**3,118,033**	33,985,337
Jun-19	1,407,370	1,710,663	**3,118,033**	32,577,967
Jun-20	1,481,290	1,636,743	**3,118,033**	31,096,678
Jun-21	1,559,092	1,558,940	**3,118,033**	29,537,585
Jun-22	1,640,981	1,477,051	**3,118,033**	27,896,604
Jun-23	1,727,172	1,390,861	**3,118,033**	26,169,432
Jun-24	1,817,889	1,300,144	**3,118,033**	24,351,544
Jun-25	1,913,371	1,204,662	**3,118,033**	22,438,173
Jun-26	2,013,868	1,104,165	**3,118,033**	20,424,305
Jun-27	2,119,643	998,389	**3,118,033**	18,304,662
Jun-28	2,230,974	887,058	**3,118,033**	16,073,688
Jun-29	2,348,153	769,880	**3,118,033**	13,725,535
Jun-30	2,471,486	646,546	**3,118,033**	11,254,048
Jun-31	2,601,298	516,735	**3,118,033**	8,652,751
Jun-32	2,737,927	380,106	**3,118,033**	5,914,824
Jun-33	2,881,733	236,300	**3,118,033**	3,033,091
Jun-34	3,033,091	84,941	**3,118,033**	0
	43,877,206	34,073,607	77,950,813	

ATTACHMENT K-5
UNEXPENDED APPROPRIATIONS FOR REVENUE-FUNDED REGIONAL ASSETS
CONSTRUCTION WORK IN PROGRESS AS OF MARCH 30, 2009
(Section 5.04)

Project	Project Title	Fund Type	Subfund	Classification	Appropriation	YTD Expenditures	PTD Expenditures	Encumbrances	Available Balances	Notes
				Water Assets						
CUW257	WATERSHED PROTECTION	5W	AAAACP	REGIONAL	1,448,720	29,653	413,529	141,643	893,548	
CUW250	WATERSHED TRAILS&RECREATION IMPRO	5W	AAAACP	REGIONAL	387,639	9,431	112,689	6,675	268,275	
CUW261	REGIONAL WATER STORAGE RNR -BUDGET	5W	AAAACP	REGIONAL	1,750,000	250,970	526,664	26,687	1,196,648	Annual R&R
CUW242	DEMOLITION UNSAFE STRUCTURES	5W	AAAACP	REGIONAL	1,000,000	22,647	407,820	21,524	570,656	
CUW263	CONVEYANCE/TRANSMISSION - BUDGET	5W	AAAACP	REGIONAL	7,825,000	763,603	3,378,543	125,990	4,320,466	Annual R&R
CUW264	WATERSHED ROADS - BUDGET	5W	AAAACP	REGIONAL	3,000,000	77,074	1,391,500	162,401	1,446,099	Annual R&R
CUW262	TREATMENT FACS/WQ IMPROVE-BUDGET	5W	AAAACP	REGIONAL	4,801,000	399,073	2,704,204	349,016	1,747,780	Annual R&R
CUW168	ALAMEDA CREEK FISH RELEASE	5W	AAAACP	REGIONAL	1,537,398	46,624	1,040,919	152,647	343,832	
CUW231	MILLBRAE LAB CAPITAL IMPROVEMENTS	5W	AAAACP	REGIONAL	770,000	19,119	532,135	0	237,865	
CUW227	WATERSHED FENCES/FACILITES	5W	AAAACP	REGIONAL	3,000,000	206,222	2,223,776	581,926	194,298	
CUW253	FACILITIES SECURITY PROJECT	5W	AAAACP	REGIONAL	5,300,000	73,048	4,146,944	113,124	1,039,931	
CUW210	MILLBRAE ADMIN BLDG INTERIM REMODEL	5W	AAAACP	REGIONAL	2,407,700	284,902	1,935,204	160	472,337	
CUW228	WATERSHED ROADS RECONSTRUCTION	5W	AAAACP	REGIONAL	5,170,000	82,992	4,413,061	18,598	738,340	
CUW202	SAN ANTONIO PIPELINE EMERGENCY REPA	5W	AAAACP	REGIONAL	1,400,000	6,012	1,269,190	61,727	69,083	
CUW148	ENVIRONMENTAL & REGULATORY COMP	5W	AAAACP	REGIONAL	3,241,279	0	3,014,995	184,774	41,510	
CUW135	NEW LINE & BYPASS VALVES	5W	AAAACP	REGIONAL	4,829,680	2,103	4,689,067	0	140,613	
CUW143	HETCH HETCHY WATER TREATMENT PLAN	5W	AAAACP	REGIONAL	18,821,529	0	18,452,053	47,947	321,529	
CUW161	TREATMENT FACILITIES IMPROVEMENTS	5W	AAAACP	REGIONAL	15,028,319	334	14,747,873	0	280,446	
CUW241	FACILITIES MAINT SUPPORT STRUCTURES	5W	AAAACP	REGIONAL	5,000,000	8,390	4,988,882	0	11,118	
CUW392	PROGRAM MANAGEMENT SERVICES - WSIF	5W	AAAACP	LOCAL/REGIONAL	1,837,000	(98,519)	751,659	71,973	1,013,368	
CUW127	INST SCADA SYSTEM	5W	AAAACP	LOCAL/REGIONAL	13,156,681	2,481,274	8,653,641	0	4,503,040	
CUW710	OCIP PROJECT CONTROL	5W	AAAACP	LOCAL/REGIONAL	2,497,881	235,706	2,496,959	0	922	
	TOTAL ALL PROJECTS				104,209,826	4,900,661	82,291,307	2,066,813	19,851,706	
	LOCAL PROJECTS			LOCAL	0	0	0	0	0	
	JOINT LOCAL AND REGIONAL PROJECTS			LOCAL/REGIONAL	17,491,562	2,618,462	11,902,259	71,973	5,517,330	
	REGIONAL PROJECTS			REGIONAL	86,718,264	2,282,199	70,389,048	1,994,840	14,334,376	
	TOTAL ALL PROJECTS				104,209,826	4,900,661	82,291,307	2,066,813	19,851,706	
				Hetchy Hetchy Assets						
CUH975	WATER INFRASTRUCTURE - BUDGET	5T	AAAACP	WATER	9,000,000	1,534,488	2,806,592	3,565,023	2,628,385	
CUH964	WATERSHED PROPERTY PURCHASES	5T	AAAACP	WATER	800,000	75,756	454,756	0	345,244	
CUH957	FAC MAINTENANCE-WATER TRANSPORTAT	5T	AAAACP	WATER	3,400,000	110,986	2,885,394	209,138	305,469	
CUH703	PRIEST RESERVOIR DIVERSION CHANNEL	5T	AAAACP	WATER	21,210,344	47,164	20,166,993	0	1,043,351	
CUH926	PIPELINE PURCHASE REPLACEMENT PIPE	5T	AAAACP	WATER	159,860	13,667	157,489	0	2,371	
CUH762	SAN JOAQUIN PIPELINE REPAIRS	5T	AAAACP	WATER	41,469,206	255,011	41,215,761	134,652	118,792	
CUW687	525 GOLDEN GATE	5T	AAAACP	JOINT	280,600	4,105	26,437	0	254,163	
CUH977	FACILITIES MAINTENANCE - BUDGET	5T	AAAACP	JOINT	9,300,000	1,049,878	3,578,478	803,231	4,918,290	
CUH931	HH MICROWAVE REPLACEMENT	5T	AAAACP	JOINT	4,767,000	156,270	3,313,761	1,227,242	225,997	
CUH941	HH SCADA SECURITY & CONTROL, EAST	5T	AAAACP	JOINT	2,068,180	246,948	1,680,922	256,198	131,060	
CUH804	HETCH-HETCHY ROADS REBUILDING	5T	AAAACP	JOINT	4,175,027	341,240	3,544,483	113,314	517,230	
CUH766	HETCHY FACILITIES SECURITY IMPROV.	5T	AAAACP	JOINT	2,086,692	261,601	1,960,386	62,470	63,836	
CUH876	MOCCASIN PHONE SYSTEM	5T	AAAACP	JOINT	1,610,000	15,677	1,528,780	0	81,220	
CUH878	O'SHAUGENESSY DIS.REPAIRS	5T	AAAACP	JOINT	7,179,009	33,750	7,101,644	9,297	68,068	
CUH810	VARIOUS OLD JOB	5T	AAAACP	JOINT	7,613,638	18,690	7,538,034	1,561	74,044	
CUH946	FAC MAINTENANCE-SUPPORT STRUCTURE	5T	AAAACP	JOINT	2,281,454	239	2,273,485	0	7,969	
CUH949	RIGHT OF WAY MAINTENANCE	5T	AAAACP	JOINT	815,000	0	814,208	166	626	
	TOTAL ALL PROJECTS				118,216,010	4,165,470	101,047,602	6,382,292	10,786,117	
	POWER PROJECTS			POWER	0	0	0	0	0	
	WATER PROJECTS			WATER	76,039,410	2,037,072	67,686,985	3,908,812	4,443,613	
	JOINT PROJECTS			JOINT	42,176,600	2,128,397	33,360,617	2,473,480	6,342,504	
	TOTAL ALL PROJECTS				118,216,010	4,165,470	101,047,602	6,382,292	10,786,117	

ATTACHMENT L-1
IDENTIFICATION OF WSIP PROJECTS AS REGIONAL/RETAIL
(Section 5.04)

Project Number		Project Description
REGIONAL		
		San Joaquin Region
CUW373	Regional	San Joaquin Pipeline System Rehabilitation
CUW384	Regional	Tesla Advance Disinfection
CUW387	Regional	Tesla Portal Disinfection
		Sunol Valley Region
CUW352	Regional	Alameda Creek Fishery Enhancement
CUW355	Regional	Stand-by Power - Various Locations
CUW359	Regional	New Irvington Tunnel/Alameda Siphon No. 4
CUW370	Regional	Pipeline Readiness Improvements
CUW374	Regional	Calaveras Dam Replacement
CUW381	Regional	SVWTP 40 mgd Addition
CUW382	Regional	SVWTP Finished Water Reservoir
CUW386	Regional	San Antonio Pump Station Upgrade
		Bay Division Region
CUW353	Regional	Seismic Upgrade BDPL 3 & 4
CUW363	Regional	SCADA Phase II/Security Upgrades
CUW368	Regional	BDPL Reliability Upgrades
CUW380	Regional	BDPL 3 & 4 Crossover
CUW389	Regional	EBMUD Intertie
CUW393	Regional	BDPL 4 Slipline
		Peninsula Region
CUW354	Regional	Lower Crystal Springs Dam Improvement
CUW356	Regional	Crystal Springs Bypass Tunnel
CUW357	Regional	Adit Leak Repairs
CUW361	Regional	Pulgas Balancing Reservoir Rehabilitation and Improvements
CUW365	Regional	Cross Connection Control
CUW366	Regional	HTWTP Short Term Improvemetns
CUW367	Regional	HTWTP Long Term Improvements
CUW369	Regional	Capuchino Valve Lot Improvements
CUW371	Regional	Crystal Springs/San Andreas Transmission
CUW378	Regional	Crystal Springs Pipleine 2 Replacement
CUW379	Regional	San Andreas Pipeline 3 Installation
CUW390	Regional	Desalination
CUW391	Regional	Baden & San Pedro Valve Lots Improvements

ATTACHMENT L-1
IDENTIFICATION OF WSIP PROJECTS AS REGIONAL/RETAIL
(Section 5.04)

Project Number		Project Description
		San Francisco Region
CUW358	Regional	Sunset Reservoir Upgrades - North Basin
CUW372	Regional	University Mound Reservoir Upgrades - North Basin
		System-Wide
CUW388	Regional	PEIR
CUW392	Regional	Program Management Services
CUW394	Regional	Watershed Land Acquisition

RETAIL

		Reservoirs
CUW307	Local	Summit Reservoir Rehabilitation
CUW310	Local	New Northwest Reservoir
CUW319	Local	Hunters Point Reservoir Rehabilitation
CUW334	Local	Stanford Heights Reservoir Rehabilitation
CUW335	Local	Potrero Heights Reservoir Rehabiliation
CUW337	Local	Sutro Reservoir Rehabilitation
		Pump Stations/Tanks
CUW306	Local	Crocker Amazon Pump Station Upgrade
CUW309	Local	Lake Merced Pump Station Upgrade
CUW314	Local	La Grande Tank Upgrade
CUW318	Local	Forest Hill Tank Rehabilitation
CUW320	Local	Forest Hilll Pump Station Upgrade
CUW321	Local	Forest Knoll Pump Station Upgrade
CUW322	Local	Lincoln Park Pump Station Upgrade
CUW323	Local	Alemany Pump Station Upgrade
CUW324	Local	Mount Davidson Pump Station Upgrade
CUW326	Local	Palo Alto Pump Station Upgrade
CUW326	Local	Sktview-AquaVista Pump Station Upgrade
CUW327	Local	Summit Pump Station Upgrade
CUW328	Local	McLaren #1 Tank Rehabilitation
CUW329	Local	Potrero Heights Tank Seismic Upgrade
CUW330	Local	Forest Knoll Tank Seismic Upgrade
CUW331	Local	Lincoln Park Tank Seismic Upgrade
CUW332	Local	McLaren #2 Tank Rehabilitation
CUW333	Local	Mount Davidson Tank Seismic Upgrade
CUW338	Local	La Grande Pump Station Upgrade
CUW339	Local	Potrero Heights Pump Station Upgrade
CUW340	Local	Vista Francisco Pump Station Upgrade

ATTACHMENT L-1
IDENTIFICATION OF WSIP PROJECTS AS REGIONAL/RETAIL
(Section 5.04)

Project Number		Project Description
		Pipelines/Valves
CUW304	Local	North University Mound System Upgrade
CUW308	Local	Motorize Key Valves
CUW311	Local	Sunset Circulation Improvements
CUW312	Local	Lincoln Way Transmission Line
CUW313	Local	Noe Valley Transmission Main, Phase 2
CUW315	Local	East/West Transmission Main
CUW316	Local	Fulton @ Sixthe Ave Main Replacement
		Water Supply/Water Quality
CUW301	Local	Groundwater
CUW302	Local	Recycled Water
CUW364	Local	Lawrence-Livermore National Laboratory Water Quality Improvements
		Miscellaneous
CUW303	Local	Vehicle Service Facility Upgrade
CUW305	Local	Fire Protection at CCD

03/13/06

$507,815,000
PUBLIC UTILITIES COMMISSION
OF THE CITY AND COUNTY OF SAN FRANCISCO
SAN FRANCISCO WATER REVENUE BONDS, 2006 SERIES A

$110,065,000
PUBLIC UTILITIES COMMISSION
OF THE CITY AND COUNTY OF SAN FRANCISCO
SAN FRANCISCO WATER REVENUE BONDS, 2006 REFUNDING SERIES B

CERTIFICATE REGARDING USE OF PROCEEDS

The undersigned hereby states and certifies as follows:

(i) The undersigned is the General Manager of the Public Utilities Commission of the City and County of San Francisco (the "Commission"), and is authorized to execute this certificate on behalf of the Commission and is knowledgeable with respect to the matters set forth herein.

(ii) On the date hereof, the Commission is issuing the two series of bonds captioned above (the "2006 Series A Bonds," the "2006 Refunding Series B Bonds" and, together, the "Bonds") pursuant to an Amended and Restated Indenture dated as of August 1, 2002 and the First Supplemental Indenture dated as of March 1, 2006 (collectively, the "Indenture"), both by and between the Commission and U.S. Bank National Association, as trustee (the "Trustee").

(iii) The Trustee will transfer and deposit the proceeds of the 2006 Series A Bonds received by the Trustee on the date hereof as follows:

(1) $48,212,528.32 will be deposited in the 2006 Series A Capitalized Interest Account established within the Interest Fund;

(2) $15,958,031.25 will be deposited in the 2006 Series A Reserve Account of the Bond Reserve Fund;

(3) $623,906.09 will be deposited in the 2006 Series A Costs of Issuance Fund;

(4) $120,622,352.19 will be deposited in the 2006 Series A Refunding Fund and transferred pursuant to Irrevocable Refunding Instructions of the Commission dated the date hereof; and

(5) the remaining $338,600,816.86 will be transferred to the Treasurer for deposit to the 2006 Series A Project Fund.

(iv) The proceeds of the 2006 Series A Bonds transferred pursuant to the Irrevocable Refunding Instructions of the Commission will be used to defease and refund the Commission's Commercial Paper Notes (Water Series) on a current basis. The Notes were issued to finance a portion of the facilities described in Exhibit A hereto.

(v) The proceeds of the Bonds deposited in the 2006 Series A Project Fund will be used to finance a portion of the facilities described in Exhibit A hereto.

(vi) The Trustee will transfer and deposit the proceeds of the 2006 Refunding Series B Bonds received by the Trustee on the date hereof as follows:

(1) $192,498.04 will be deposited in the 2006 Refunding Series B Costs of Issuance Fund; and

(2) $111,178,241.95 will be deposited in the 2006 Refunding Series B Refunding Fund.

(vii) The proceeds of the Bonds deposited in the 2006 Refunding Series B Refunding Fund, together with amounts on deposit in the funds and accounts established under the Indenture for the Commission's San Francisco Water Revenue Bonds, 1996 Series A (the "1996 Series A Bonds") and its San Francisco Water Revenue Bonds, 2001 Series A (the "2001 Series A Bonds"), will be used to refund on an advance basis a portion of the outstanding 1996 Series A Bonds and a portion of the outstanding 2001 Series A Bonds. The portion of the 1996 Series A Bonds being refunded were issued to finance the facilities (the "1996 Project") described in Exhibit B hereto, and the portion of the 2001 Series A Bonds being refunded were used to finance the facilities (the "2001 Project") described in Exhibit B hereto.

(viii) Exhibit C hereto attached describes (A) each use to be made by any person of the Project, the 1996 Project and the 2001 Project other than use by the Commission and other non-federal governmental units and other than use by members of the public generally, and (B) payments (if any) directly or indirectly in respect of such use which are to be made after the date hereof;

(ix) Other than as set forth in Exhibit A and Exhibit B, no portion of the proceeds of the Bonds will be used, directly or indirectly, to make or finance a loan to any person (other than a State or local government unit) or to acquire property which will be sold or leased to any person (other than a State or local government unit) on an installment a sale basis except as referenced in Exhibit C.

(x) The Commission expects to use the Project for the purposes referenced and discussed in Exhibit A, Exhibit B, Exhibit C and Exhibit D or for other governmental purposes of the Commission during the entire term of the Bonds.

(xi) Set forth on Exhibit D is the Commission's methodology for determining governmental use and private use with respect to the water enterprise.

(xii) To the best knowledge of the undersigned, the above statements are reasonable and there are no other facts, estimates or circumstances, other than those set forth herein, that would materially affect the statements made herein.

Capitalized terms used but not defined herein have the meanings set forth in the Indenture.

IN WITNESS WHEREOF, I have hereunto set my name this 15th day of March, 2006.

PUBLIC UTILITIES COMMISSION OF THE
CITY AND COUNTY OF SAN FRANCISCO

By:_____
General Manager

ATTACHMENT L-2 (CONTINUED)
WATER ENTERPRISE REVENUE BOND 2006 SERIES A
SUMMARY OF SOURCES AND USES OF FUNDS
(Section 5.04)

Source: Closing Documents (Certificate Regarding Use of Proceeds)

Proceeds		
Principal	507,815,000.00	
Plus Premium	19,109,138.35	
Minus Underwriter's Discount	(932,940.06)	
Minus Insurance	(1,973,563.58)	
Net Proceeds	524,017,634.71	
Use of Proceeds		
Capitalized Interest Fund	48,212,528.32	
Bond Reserve Fund	15,958,031.25	
Insurance Fund	623,906.09	
Series A Refunding Fund	120,622,352.19	459,223,169.05
Series A Project Fund	338,600,816.86	
Total Uses	524,017,634.71	

	Commercial Paper	Project Fund	Total
Hetch Hetchy			
Tesla Portal Disinfection	251,262.58	1,147,302.42	1,398,565.00
Advance Disinfection	429,714.76	5,611,554.24	6,041,269.00
SJPL	4,737,937.28	17,784,667.72	22,522,605.00
Total Hetch Hetchy	5,418,914.62	24,543,524.38	29,962,439.00
SF Regional			
University Mound - North	55,728.10	5,964,279.90	6,020,008.00
Sunset - North	7,525,896.84	28,782,094.16	36,307,991.00
Groundwater	3,400,973.67	2,963,110.33	6,364,084.00
Recycled Water	1,548,036.76	11,316,958.24	12,864,995.00
Total SF Regiona1	12,530,635.37	49,026,442.63	61,557,078.00
SF Local	45,405,787.71	106,407,313.30	151,813,101.01
Sunol Valley Subregional			
Calaveras Dam	9,065,945.51	15,993,818.49	25,059,764.00
Stand-by Power	556,398.67	1,207,319.33	1,763,718.00
Pipeline Readiness	649,566.31	4,942,205.69	5,591,772.00
SAPS Upgrade	213,423.44	1,748,134.56	1,961,558.00
SVWTP Finished Water Res	3,317,203.82	7,838,383.18	11,155,587.00
Irvington Tunnel	4,084,139.65	18,247,176.35	22,331,316.00
Alameda Creek Fishery	656,765.00	1,327,119.00	1,983,884.00
SVWTP 40 mgd Addition	25,378.75	3,474,585.25	3,499,964.00
Total Sunol Valley Subregional	18,568,821.15	54,778,741.85	73,347,563.00

ATTACHMENT L-2 (CONTINUED)
WATER ENTERPRISE REVENUE BOND 2006 SERIES A
SUMMARY OF SOURCES AND USES OF FUNDS
(Section 5.04)

Miscellaneous				
PEIR	3,204,177.44	5,103,872.56	8,308,050.00	
PPPCMS Services	2,964,786.31	10,358,811.69	13,323,598.00	
Watershed Land Acquisition	-	502,660.00	502,660.00	
Total Miscellaneous	6,168,963.75	15,965,344.25	22,134,308.00	
LLNL	133,156.60	282,702.40	415,859.00	
Bay Division Subregional				
Seismic Upgrade BDPL 3 & 4	4,758,306.54	16,481,539.46	21,239,846.00	
BDPL Reliability	4,360,664.44	40,874,800.56	45,235,465.00	
BDPL 3 & 4 Crossover	802,494.94	493,817.06	1,296,312.00	
SCADA Phase II	65,497.37	1,247,963.63	1,313,461.00	
EBMUD Intertie	6,668,906.37	4,075,015.63	10,743,922.00	
BDPL 4 Slipline	-	1,219,251.00	1,219,251.00	
Total Bay Division Subregional	16,655,869.66	64,392,387.34	81,048,257.00	
Peninsula Subregional				
Capuchino Valve Lot	162,584.69	753,779.31	916,364.00	
CS/SA Transmission	2,288,853.10	3,448,975.90	5,737,829.00	
Adit Leak Repair	255,334.99	1,650,368.01	1,905,703.00	
HTWTP Short Term	2,874,763.69	3,582,860.31	6,457,624.00	
Cross Connection Control	1,150,559.48	324,549.52	1,475,109.00	
CS Bypass Tunnel	2,873,475.22	15,532,584.78	18,406,060.00	
LCS Dam Improvement	931,587.07	3,278,932.93	4,210,520.00	
Pulgas Balancing Reservoir	1,218,341.39	2,706,284.61	3,924,626.00	
HTWTP Long Term	1,107,185.77	2,549,793.23	3,656,979.00	
Baden & San Pedro Valve Lots	60,203.48	2,963,540.52	3,023,744.00	
Total Peninsula Subregional	12,922,888.88	36,791,669.12	49,714,558.00	
San Francisco Subregional				
CSPL 2 Replacement	1,269,111.95	5,019,824.05	6,288,936.00	
SAPL 3	1,492,584.40	1,942,479.60	3,435,064.00	
Desalination	55,618.10	596,473.90	652,092.00	
Total San Francisco Subregional	2,817,314.45	7,558,777.55	10,376,092.00	
Grand Total	120,622,352.19	359,746,902.82	480,369,255.01	
Regional			328,140,295.00	68.31%
Local			152,228,960.01	31.69%
			480,369,255.01	

This certificate is for illustration only. It was prepared in 2006 and shown groundwater and recycled water projects as regional instead of local. In addition, it does not reflect expenditures for the portions of regional assets which in rate base as of June 30, 2008 nor what is expected to be added to rate base through June 30, 2009. For these reasons, the percentages shown for regional and local projects are not accurate.

ATTACHMENT L-3
WATER ENTERPRISE REVENUE BOND 2006 SERIES A
ANNUAL REPORT ON EXPENDITURES OF AND EARNINGS ON PROCEEDS
AS OF JUNE 30, 2009
(Section 5.04 A)

Project Number		Project Description	Net Financing Proceeds[1]	Appropriated Interest Earnings[2]	Adjusted Project Funding	Expenditures Thru 6/30/09[3]	Remaining Balance
REGIONAL PROGRAM							
		San Joaquin Region					
CUW373	Regional	San Joaquin Pipeline System Rehabilitation	1,398,565				
CUW384	Regional	Tesla Advance Disinfection	6,041,269				
CUW387	Regional	Tesla Portal Disinfection	22,522,605				
		Total San Joaquin Region	29,962,439				
		Sunol Valley Region					
CUW352	Regional	Alameda Creek Fishery Enhancement	1,983,884				
CUW355	Regional	Stand-by Power - Various Locations	1,763,718				
CUW359	Regional	New Irvington Tunnel/Alameda Siphon No. 4	22,331,316				
CUW370	Regional	Pipeline Readiness Improvements	5,591,772				
CUW374	Regional	Calaveras Dam Replacement	25,059,764				
CUW381	Regional	SVWTP 40 mgd Addition	3,499,964				
CUW382	Regional	SVWTP Finished Water Reservoir	11,155,587				
CUW386	Regional	San Antonio Pump Station Upgrade	1,961,558				
		Total Sunol Valley Region	73,347,563				
		Bay Division Region					
CUW353	Regional	Seismic Upgrade BDPL 3 & 4	21,234,846				
CUW363	Regional	SCADA Phase II/Security Upgrades	1,313,461				
CUW368	Regional	BDPL Reliability Upgrades	45,235,465				
CUW380	Regional	BDPL 3 & 4 Crossover	21,239,846				
CUW389	Regional	EBMUD Intertie	10,743,922				
CUW393	Regional	BDPL 4 Slipline	1,219,251				
		Total Bay Division Region	100,986,791				
		Peninsula Region					
CUW354	Regional	Lower Crystal Springs Dam Improvement	4,210,520				
CUW356	Regional	Crystal Springs Bypass Tunnel	18,406,050				
CUW357	Regional	Adit Leak Repairs	1,905,703				
CUW361	Regional	Pulgas Balancing Reservoir Rehabilitation and Improvements	3,924,626				
CUW365	Regional	Cross Connection Control	1,475,109				
CUW366	Regional	HTWTP Short Term Improvemetns	6,457,624				
CUW367	Regional	HTWTP Long Term Improvements	3,656,979				
CUW369	Regional	Capuchino Valve Lot Improvements	916,364				
CUW371	Regional	Crystal Springs/San Andreas Transmission	5,737,829				
CUW378	Regional	Crystal Springs Pipleine 2 Replacement	6,288,936				
CUW379	Regional	San Andreas Pipeline 3 Installation	3,435,064				
CUW390	Regional	Desalination	652,092				
CUW391	Regional	Baden & San Pedro Valve Lots Improvements	3,023,744				
		Total Peninsula Region	60,090,650				
		San Francisco Region					
CUW358	Regional	Sunset Reservoir Upgrades - North Basin	6,020,008				
CUW372	Regional	University Mound Reservoir Upgrades - North Basin	36,307,991				
		Total San Francisco Region	42,327,999				
		System-Wide					
CUW388	Regional	PEIR	8,308,050				
CUW392	Regional	Program Management Services	13,323,598				
CUW394	Regional	Watershed Land Acquisition	502,660				
		Total System-Wide	22,134,308				
		Total Regional Program	328,849,750				
LOCAL PROGRAM							
		Reservoirs					
CUW307	Local	Summit Reservoir Rehabilitation					
CUW310	Local	New Northwest Reservoir					
CUW319	Local	Hunters Point Reservoir Rehabilitation					
CUW334	Local	Stanford Heights Reservoir Rehabilitation					
CUW335	Local	Potrero Heights Reservoir Rehabilitation					
CUW337	Local	Sutro Reservoir Rehabilitation					
		Total Reservoirs					
		Pump Stations/Tanks					
CUW306	Local	Crocker Amazon Pump Station Upgrade					
CUW309	Local	Lake Merced Pump Station Upgrade					
CUW314	Local	La Grande Tank Upgrade					
CUW318	Local	Forest Hill Tank Rehabilitation					
CUW320	Local	Forest Hilll Pump Station Upgrade					
CUW321	Local	Forest Knoll Pump Station Upgrade					
CUW322	Local	Lincoln Park Pump Station Upgrade					
CUW323	Local	Alemany Pump Station Upgrade					
CUW324	Local	Mount Davidson Pump Station Upgrade					

ILLUSTRATION ONLY DRAFT

WATER ENTERPRISE REVENUE BOND 2006 SERIES A
ANNUAL REPORT ON EXPENDITURES OF AND EARNINGS ON PROCEEDS
AS OF JUNE 30, 2009
(Section 5.04 A)

Project Number		Project Description	Net Financing Proceeds[1]	Appropriated Interest Earnings[2]	Adjusted Project Funding	Expenditures Thru 6/30/09[3]	Remaining Balance
CUW326	Local	Palo Alto Pump Station Upgrade					
CUW326	Local	Sktview-AquaVista Pump Station Upgrade					
CUW327	Local	Summit Pump Station Upgrade					
CUW328	Local	McLaren #1 Tank Rehabilitation					
CUW329	Local	Potrero Heights Tank Seismic Upgrade					
CUW330	Local	Forest Knoll Tank Seismic Upgrade					
CUW331	Local	Lincoln Park Tank Seismic Upgrade					
CUW332	Local	McLaren #2 Tank Rehabilitation					
CUW333	Local	Mount Davidson Tank Seismic Upgrade					
CUW338	Local	La Grande Pump Station Upgrade					
CUW339	Local	Potrero Heights Pump Station Upgrade					
CUW340	Local	Vista Francisco Pump Station Upgrade					
		Total Pump Stations/Tanks					
		Pipelines/Valves					
CUW304	Local	North University Mound System Upgrade					
CUW308	Local	Motorize Key Valves					
CUW311	Local	Sunset Circulation Improvements					
CUW312	Local	Lincoln Way Transmission Line					
CUW313	Local	Noe Valley Transmission Main, Phase 2					
CUW315	Local	East/West Transmission Main					
CUW316	Local	Fulton @ Sixth Ave Main Replacement					
		TtoalPipelines/Valves					
		Water Supply/Water Quality					
CUW301	Local	Groundwater					
CUW302	Local	Recycled Water					
CUW364	Local	Lawrence-Livermore National Laboratory Water Quality Improvements					
		Total Water Supply/Water Quality					
		Miscellaneous					
CUW303	Local	Vehicle Service Facility Upgrade					
CUW305	Local	Fire Protection at CCD					
		Total Miscellaneous					
		Total Local Program					
		Grand Total Regional and Local Programs					
		Unappropriated Interest Earnings					
		Percent of Net Proceeds[4]					
		Percent of Net Proceeds and Earnings[4]					

ILLUSTRATION ONLY DRAFT

[1]Net financing proceeds available on date of issue (i.e. deposit to project fund)
[2]Cumulative net of arbitrage rebate liability
[3]Cumulative
[4]If financing sources Substantially Expended, proceed allocations are then fixed

REVENUE-FUNDED CAPITAL ADDITIONS (Section 5.04.B)
Subfund: 5W CPF WCF - Wholesale Customer Capital Fund (Water)

Projected FAMIS as of July 1, 2009 (Day 1 of New Budget Year)

Wholesale Customer Capital Fund (5W CPF WCF)

Based on Proportionate Annual Water Deliveries of ... 68.7%

Project	Title	A FY 2009-10 Approved Budget* - Total Regional	B FY 2009-10 Approved Budget - WHOLESALE SHARE	C Total Appropriation - All Years^	D All Years Actual Expenditures^	E Fiscal Year 2009-10 Actual Expenditures^	F Encumbered But Not Expended^	G=C-D-F Appropriated, Unencumbered Balance^	H Projected Expended & Encumbered through 6/30/2010	I=G-H Projected Surplus / (Shortfall)
CUW262	Regional Water RnR - Treatment Facilities	$ 1,000,000	$ 687,000	$ 687,000	$ -	$ -	$ -	$ 687,000	$ 229,000	$ 458,000
CUW263	Regional Water RnR - Conveyance/Transmission Systems	$ 7,000,000	$ 4,809,000	$ 4,809,000	$ -	$ -	$ -	$ 4,809,000	$ 1,603,000	$ 3,206,000
CUW264	Regional Water - Watersheds / ROW Management	$ 500,000	$ 343,500	$ 343,500	$ -	$ -	$ -	$ 343,500	$ 114,000	$ 229,500
FUW100	Regional Water - Facilities Maintenance	$ 3,700,000	$ 2,541,900	$ 2,541,900	$ -	$ -	$ -	$ 2,541,900	$ 847,000	$ 1,694,900
CUW261	Regional Water - Storage									
	Regional Total	**$ 12,200,000**	**$ 8,381,400**	**$ 8,381,400**	**$ -**	**$ -**	**$ -**	**$ 8,381,400**	**$ 2,793,000**	**$ 5,588,400**

Source: * SFPUC Commission Approved Budget, February 2009, Same Format
^ FAMIS - City's Official Financial System of Record

Ties to Budget Hearing Materials

REVENUE-FUNDED CAPITAL ADDITIONS (Section 5.04.B)
Subfund: 5W CPF WCF - Wholesale Customer Capital Fund (Water)

Projected FAMIS as of June 30, 2010 (Last Day of Budget Year)

Wholesale Customer Capital Fund (5W CPF WCF)

Based on Proportionate Annual Water Deliveries of ... 68.7%

Project	Title	FY 2009-10 Approved Budget* - Total Regional	FY 2009-10 Approved Budget - WHOLESALE SHARE	Total Appropriation - All Years^	All Years Actual Expenditures^	Fiscal Year 2009-10 Actual Expenditures^	Encumbered But Not Expended^	Appropriated, Unencumbered Balance^	Projected Expended & Encumbered through 6/30/2011	Projected Surplus / (Shortfall)
CUW262	Regional Water RnR - Treatment Facilities	$ 1,000,000	$ 687,000	$ 687,000	$ 235,000	$ 235,000	$ -	$ 452,000	$ 409,000	$ 43,000
CUW263	Regional Water RnR - Conveyance/Transmission Systems	$ 7,000,000	$ 4,809,000	$ 4,809,000	$ 1,395,000	$ 1,395,000	$ 25,000	$ 3,389,000	$ 1,589,000	$ 1,800,000
CUW264	Regional Water - Watersheds / ROW Management	$ 500,000	$ 343,500	$ 343,500	$ 115,000	$ 115,000	$ 50,000	$ 178,500	$ 35,500	$ 143,000
FUW100	Regional Water - Facilities Maintenance	$ 3,700,000	$ 2,541,900	$ 2,541,900	$ 850,000	$ 850,000	$ 123,000	$ 1,568,900	$ 768,900	$ 800,000
CUW261	Regional Water - Storage	$ -	$ -							
	Regional Total	**$ 12,200,000**	**$ 8,381,400**	**$ 8,381,400**	**$ 2,595,000**	**$ 2,595,000**	**$ 198,000**	**$ 5,588,400**	**$ 2,802,400**	**$ 2,786,000**

Source: * SFPUC Commission Approved Budget, February 2009, Same Format
^ FAMIS - City's Official Financial System of Record

Ties to Budget Hearing Materials
Shown on Attachment N-2, Schedule 3

Shown On Attachment N-2, Schedule 3
Revenue Capital - Actual Expenditures

Shown on Attachement N-2, Schedule 3
Continuing Appropriation
Needed for Mulit-Year
Revenue Funded Capital

REVENUE-FUNDED CAPTIAL ADDITIONS (Section 5.04.B)
Subfund: 5T CPF WCF - Wholesale Customer Capital Fund (Hetch Hetchy)

Projected FAMIS as of July 1, 2009 (Day 1 of New Budget Year)

Based on Proportionate Annual Water Deliveries of ... 68.1%

		A		B	C	D	E	F	G=C-D-F	H	I=G-H
				Wholesale Customer Capital Fund (5W CPF WCF)							
Project	Title	FY 2009-10 Approved Budget* - Total Regional		FY 2009-10 Approved Budget - WHOLESALE SHARE	Total Appropriation - All Years^	All Years Actual Expenditures^	Fiscal Year 2009-10 Actual Expenditures^	Encumbered But Not Expended^	Appropriated, Unencumbered Balance^	Projected Expended & Encumbered through 6/30/2010	Projected Surplus / (Shortfall)
CUH931	HH Microwave Replacement	$ 4,000,000	J	$ 1,224,900	$ 1,224,900	$ -	$ -	$ -	$ 1,224,900	$ 408,000	$ 816,900
CUH977	HH Water R&R - Facilities Maintenance	$ 3,500,000	J	$ 1,071,788	$ 1,071,788	$ -	$ -	$ -	$ 1,071,788	$ 357,000	$ 714,788
CUH947	SEA - Go Solar Incentive Porject	$ 4,000,000	P	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
CUH971	Alternative Transmission Studies	$ 1,000,000	P	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
CUH976	HH Water R&R - Power Infrastructure	$ 16,700,000	P	$ -	$ -					$ -	
CUH979	Hunters Point Municipal Power	$ -	P	$ -	$ -					$ -	
CUH983	Civic Center Sustainability District	$ 1,090,000	P	$ -	$ -					$ -	
CUH986	General Fund Dept - Energy Efficiency	$ 7,365,158	P	$ -	$ -					$ -	
	Renewable/Generation	$ 3,501,307	P	$ -	$ -					$ -	
	Treasure Island Improvement Project	$ 2,700,000	P	$ -	$ -					$ -	
	Enterprise Fund Dept - Energy Efficiency	$ 325,722	P	$ -	$ -					$ -	
CUH975	HH Water R&R - Water Infrastructure	$ 6,000,000	W	$ 4,083,000	$ 4,083,000					$ 1,361,000	
	Toulumne River Watershed Protection	$ 2,000,000	W	$ 1,361,000	$ 1,361,000					$ 454,000	
	Regional Total	$ 52,182,187		$ 7,740,688	$ 7,740,688	$ -	$ -	$ -	$ 2,296,688	$ 2,580,000	$ 1,531,688

Source: * SFPUC Commission Approved Budget, February 2009, Same Format
^ FAMIS - City's Official Financial System of Record

Ties to Budget Hearing Materials

REVENUE-FUNDED CAPTIAL ADDITIONS (Section 5.04.B)
Subfund: 5T CPF WCF - Wholesale Customer Capital Fund (Hetch Hetchy)

Projected FAMIS as of June 30, 2010 (Last Day of Budget Year)

Based on Proportionate Annual Water Deliveries of ... 68.1%

				Wholesale Customer Capital Fund (5W CPF WCF)							
Project	Title	FY 2009-10 Approved Budget* - Total Regional		FY 2009-10 Approved Budget - WHOLESALE SHARE	Total Appropriation - All Years^	All Years Actual Expenditures^	Fiscal Year 2009-10 Actual Expenditures^	Encumbered But Not Expended^	Appropriated, Unencumbered Balance^	Projected Expended & Encumbered through 6/30/2011	Projected Surplus / (Shortfall)
CUH931	HH Microwave Replacement	$ 4,000,000	J	$ 1,224,900	$ 1,224,900	$ 1,224,900	$ 1,224,900	$ -	$ -	$ -	$ -
CUH977	HH Water R&R - Facilities Maintenance	$ 3,500,000	J	$ 1,071,788	$ 1,071,788	$ 1,071,788	$ 1,071,788	$ -	$ (1)	$ (1)	$ -
CUH947	SEA - Go Solar Incentive Porject	$ 4,000,000	P	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
CUH971	Alternative Transmission Studies	$ 1,000,000	P	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
CUH976	HH Water R&R - Power Infrastructure	$ 16,700,000	P	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
CUH979	Hunters Point Municipal Power	$ -	P	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
CUH983	Civic Center Sustainability District	$ 1,090,000	P	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
CUH986	General Fund Dept - Energy Efficiency	$ 7,365,158	P	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Renewable/Generation	$ 3,501,307	P	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Treasure Island Improvement Project	$ 2,700,000	P	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Enterprise Fund Dept - Energy Efficiency	$ 325,722	P	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
CUH975	HH Water R&R - Water Infrastructure	$ 6,000,000	W	$ 4,083,000	$ 4,083,000	$ 4,083,000	$ 4,083,000	$ -	$ -	$ -	$ -
	Toulumne River Watershed Protection	$ 2,000,000	W	$ 1,361,000	$ 1,361,000	$ 1,361,000	$ 1,361,000	$ -	$ -	$ -	$ -
	Regional Total	$ 52,182,187		$ 7,740,688	$ 7,740,688	$ 7,740,688	$ 7,740,688	$ -	$ (1)	$ (1)	$ -

Source: * SFPUC Commission Approved Budget, February 2009, Same Format
^ FAMIS - City's Official Financial System of Record

Ties to Budget Hearing Materials
Shown on Attachment N-2, Schedule 6

Shown On Attachment N-2, Schedule 6
Revenue Capital - Actual Expenditures

Show on Attachment N-2, Schedule 6
Continuing Appropriation
Needed for Mulit-Year
Revenue Funded Capital

ATTACHMENT M-2

REVENUE FUNDED CAPITAL
ANNUAL REPORTING REQUIREMENTS
(Section 5.04B)

Part A. Updated Actual Information Through Most Recent Fiscal Year (Due in November)

Each year, the SFPUC will provide a report on the status of the regional revenue funded projects with the following information:

Project-level information (through close-out)

1 Scope of project
2 Current cost estimate/budget.
3 Expected milestone dates (ie, design, environmental, construction period, close-out, etc.)
4 Contract status
5 Reasons for status changes from prior report.
6 Other information relevant to whether project is on time/on budget.
7 For most recently completed fiscal year and estimated for current year:
8 Total expenditures (capital and operating); amounts paid from other sources.
9 Amount of encumbered and unencumbered appropriations
10 Application of any unused appropriations

Wholesale Capital Fund

11 Beginning balance, deposits, capital expenditures (by project), earnings, ending balance.
12 Components of ending balance; wholesale portion of:
13 Appropriated and encumbered
14 Appropriated but unencumbered

Part B. Proposed Appropriations for Upcoming Year (Due in March)

15 Project information, to the extent not provided in Part A
16 Expected funding needs for regional projects
17 Unused or excess appropropriations carried over.
18 Proposed appropriation for upcoming fiscal year.

ATTACHMENT M-3
WHOLESALE REVENUE-FUNDED CAPITAL FUND - BALANCING ACCOUNT ADJUSTMENT
**** EXAMPLE REPORTING FORMAT ****
(Section 6.08)

		(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)	(1)
		FY 2009-10	FY 2010-11	FY 2011-12	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20
a.	Beginning balance	$0	$5,671,414	$8,960,834	$9,669,194	$10,420,781	$11,217,991	$5,498,801	$6,198,022	$6,944,933	$7,742,299	$8,593,037
b.	Transfer to Balancing Account	$0					($6,467,533)					($2,574,995)
	Year 1											
c.	Budgeted appropriation	$8,381,400					$10,697,026					$13,652,417
d.	Encumbrance/Expenditure	($2,793,800)	($2,793,800)	($2,793,800)			($3,565,675)	($3,565,675)	($3,565,675)			($4,550,806)
	Year 2											
e.	Budgeted appropriation		$8,800,470					$11,231,878				
f.	Encumbrance/Expenditure		($2,933,490)	($2,933,490)	($2,933,490)			($3,743,959)	($3,743,959)	($3,743,959)		
	Year 3											
g.	Budgeted appropriation			$9,240,494					$11,793,471			
h.	Encumbrance/Expenditure			($3,080,165)	($3,080,165)	($3,080,165)			($3,931,157)	($3,931,157)	($3,931,157)	
	Year 4											
i.	Budgeted appropriation				$9,702,518					$12,383,145		
j.	Encumbrance/Expenditure				($3,234,173)	($3,234,173)	($3,234,173)			($4,127,715)	($4,127,715)	($4,127,715)
	Year 5											
k.	Budgeted appropriation					$10,187,644					$13,002,302	
l.	Encumbrance/Expenditure					($3,395,881)	($3,395,881)	($3,395,881)			($4,334,101)	($4,334,101)
m.	Subtotal	$5,587,600	$8,744,594	$9,393,873	$10,123,885	$10,898,206	$5,251,755	$6,025,163	$6,750,702	$7,525,246	$8,351,628	$6,657,838
n.	Interest earnings (e.g., 3%)	$83,814	$216,240	$275,321	$296,896	$319,785	$247,046	$172,859	$194,231	$217,053	$241,409	$228,763
o.	Ending fund balance (unencumbered, unexpende	$5,671,414	$8,960,834	$9,669,194	$10,420,781	$11,217,991	$5,498,801	$6,198,022	$6,944,933	$7,742,299	$8,593,037	$6,886,601
p.	Five Year Cumulative Appropriations w/ interest					$47,504,581					$60,180,421	
q.	10% of Cumulative Appropriations w/ interest					$4,750,458					$6,018,042	
r.	Ending fund balance					$11,217,991					$8,593,037	
s.	Excess balance transferred to Balancing Account*					($6,467,533)					($2,574,995)	

*Test: Any balance in excess of 10% of the cumulative five-year appropriation total is credited to the balancing account.

BALANCING ACCOUNT / RATE SETTING CALCULATION
REFERENCE SECTION 6.03.A.3.a

ILLUSTRATION ONLY DRAFT

	FY 2007-08	FY 2008-09	FY 2009-10
Step 1:			
A. Balancing Account as of June 30, 2007	$12,882,000		
B. Interest on Balancing Account at Pooled Investment Rate for Fiscal Year	$554,000		
C. Wholesale Revenues for Fiscal Year	($113,932,000)		
D. Wholesale Revenue Requirement for Fiscal Year	$119,224,000		
E. Settlement Credits or Other Adjustments	$2,448,614		
F. 1984 Agreement Balancing Account Credits	$0		
G. Balancing Account as of June 30, 2008	$21,176,614		
Step 2:			
A. Balancing Account as of June 30, 2008		$21,176,614	
B. Interest on Balancing Account at Pooled Investment Rate for Fiscal Year		$529,000	
C. Wholesale Revenues for Fiscal Year		-$123,604,000	
D. Wholesale Revenue Requirement for Fiscal Year		$120,562,000	
E. Settlement Credits or Other Adjustments		$21,000	
F. 1984 Agreement Balancing Account Credits		$0	
G. Balancing Account as of June 30, 2009		$18,684,614	
Step 3:			
A. Balancing Account as of June 30, 2009			$0
B. Interest on Balancing Account at Pooled Investment Rate for Fiscal Year			$0
C. Wholesale Revenues for Fiscal Year			-$127,485,900
D. Wholesale Revenue Requirement for Fiscal Year			$140,994,733
E. Settlement Credits or Other Adjustments			$21,000
F. 1984 Agreement Balancing Account Credits			$1,997,220
G. Balancing Account as of June 30, 2010			$15,527,053
H. Net Change in Wholesale Revenue Coverage			$4,488,233
I. Total Revenue Deficiency or Surplus			$20,015,286
J. Projected Water Sales in Ccf	84,621,240	83,205,600	85,920,000
K. Deficiency or (Surplus) $/Ccf			$0.23
L. Deficiency or (Surplus) Ccf as a Percentage of Revenues			15.7%

Note: Dollar amounts are for illustrative purposes only. The Parties have not agreed on the amount of the balancing account as of June 30, 2007, revenue requirement for FY 2007-08, settlement credits for FY 2007-08, and the amount of the balancing account as of June 30, 2009.

BALANCING ACCOUNT / RATE SETTING CALCULATION
METHOD OF CALCULATION
REFERENCE SECTION 6.03.A.3.a

N = The year for which rates are being set

N-1 = The current year

N-2 = The most recently completed year for which actual results are available

Calculation Method:

Step 1 Determine the actual revenue differential for year N-2
- A. Enter the beginning amount of the Balancing Account
- B. Calculate the interest earned at the Pooled Investment Account Rate for (A)
- C. Enter the actual Wholesale revenues billed
- D. Enter the Wholesale Revenue Requirement
- E. Enter settlement credits or adjustments, if any
- F. Enter carry-over 1984 Agreement credits owed the City, if any
- G. Calculate the ending amount of the Balancing Account

Step 2 Determine the projected revenue differential for year N-1
- A. Enter the beginning amount of the Balancing Account; this is the same amount as G in Step 1
- B. Calculate the interest earned at the Pooled Investment Account Rate for (A)
- C. Enter the actual Wholesale revenues billed
- D. Enter the Wholesale Revenue Requirement
- E. Enter settlement credits or adjustments, if any
- F. Enter carry-over 1984 Agreement credits owed the City, if any
- G. Calculate the ending amount of the Balancing Account

Step 3 Determine the projected revenue differential for year N
- A. Enter the beginning amount of the Balancing Account; this is the same amount as G in Step 2
- B. Calculate the interest earned at the Pooled Investment Account Rate for (A)
- C. Enter the actual Wholesale revenues billed
- D. Enter the Wholesale Revenue Requirement
- E. Enter settlement credits or adjustments, if any
- F. Enter carry-over 1984 Agreement credits owed the City, if any
- G. Calculate the ending amount of the Balancing Account
- H. Enter the net change in the Wholesale Revenue Coverage, if applicable
- I. Calculate the total revenue deficiency or surplus (G) + (H)
- J. Enter the projected water sales to Wholesale Customers in Ccf
- K. Calculate the required increase in the commodity portion of the rate by dividing (I) by (J)
- L. Calculate the required increase in revenues by dividing (I) by (C)

WHOLESALE REVENUE REQUIREMENT SCHEDULES
CALCULATION OF WHOLESALE REVENUE REQUIREMENT
FISCAL YEAR 2009-10
REFERENCE ARTICLE 5

ATTACHMENT N-2
SCHEDULE 1

EXPENSE CATEGORY	CONTRACT REFERENCE	SCHEDULE REFERENCE	TOTAL	DIRECT RETAIL	DIRECT WHOLESALE	REGIONAL	JOINT EXPENSE ALLOCATION FACTOR	WHOLESALE SHARE
OPERATING AND MAINTENANCE EXPENSE:								
SOURCE OF SUPPLY	5.05 (A)	SCH 8.1	$ 14,943,953	$ 1,251,062	$ -	$ 13,692,891	ANNUAL USE[1]	$ 9,364,568
PUMPING	5.05 (B)	SCH 8.1	$ 4,342,682	$ 3,854,000	$ -	$ 488,682	ANNUAL USE[1]	$ 334,210
TREATMENT	5.05 (C)	SCH 8.1	$ 30,445,053	$ -	$ -	$ 30,445,053	ANNUAL USE[1]	$ 20,821,372
TRANSMISSION & DISTRIBUTION	5.05 (D)	SCH 8.1	$ 53,416,232	$ 30,163,286	$ -	$ 23,252,946	ANNUAL USE[1]	$ 15,902,690
CUSTOMER ACCOUNTS[2]	5.05 (E)	SCH 8.1	$ 7,552,213	$ 7,401,169	$ 151,044	$ -	2%	$ 151,044
TOTAL O&M			$ 110,700,133	$ 42,669,517	$ 151,044	$ 67,879,572		46,573,883
COMPOSITE % (WHOLESALE SHARE / TOTAL O&M)	5.06 (C)							42.07%
ADMINISTRATIVE AND GENERAL EXPENSES:								
COWCAP	5.06 (A)	SCH 8.1	$ 1,238,009	$ -	$ -	$ 1,238,009	COMPOSITE O&M	$ 520,857
SERVICES OF SFPUC BUREAUS	5.06 (B)	SCH 7	$ 22,465,291	$ 8,178,424	$ -	$ 14,286,867	ANNUAL USE[1]	$ 9,770,788
OTHER A&G	5.06 (C)	SCH 8.1	$ 12,972,477	$ 4,009,891	$ -	$ 8,962,586	COMPOSITE O&M	$ 3,770,749
COMPLIANCE AUDIT	5.06 (D)	SCH 8.1	$ 200,000	$ -	$ -	$ 200,000	50%	$ 100,000
TOTAL A&G			$ 36,875,777	$ 12,188,315	$ -	$ 24,687,462		$ 14,162,394
PROPERTY TAXES	5.07	SCH 8.1	$ 1,417,293	$ -	$ -	$ 1,417,293	ANNUAL USE[1]	$ 969,287
CAPITAL COST RECOVERY								
PRE-2009 ASSETS	5.03	ATT K						$ 24,051,326
DEBT SERVICE ON NEW ASSETS	5.04 (A)	SCH 2						$ 17,952,931
REVENUE FUNDED ASSETS - APPROPRIATED TO WHOLESALE CAPITAL FUND	5.04 (B)	SCH 3						$ 8,381,400
TOTAL CAPITAL COST RECOVERY								$ 50,385,657
WHOLESALE SHARE HETCH HETCHY WATER & POWER	5.04	SCH 4						$ 28,903,512
WHOLESALE REVENUE REQUIREMENT								$ 140,994,733
WHOLESALE REVENUE COVERAGE[3]								$ 4,488,233

[1]Proportional Annual Use (68.39%)
[2]Water Enterprise Share of Customer Accounts Expenses (62% of Total Customer Accounts Expenses)
[3]25% of Wholesale Share of Debt Service

ILLUSTRATION ONLY DRAFT

WHOLESALE REVENUE REQUIREMENT SCHEDULES
WATER ENTERPRISE CAPITAL COST RECOVERY - ANNUAL DEBT SERVICE
FISCAL YEAR 2009-10
REFERENCE SECTION 5.04.A

ATTACHMENT N-2
SCHEDULE 2

	2006 BOND ISSUE SERIES A	2008 BOND ISSUE ALL SERIES	2009 BOND ISSUE ALL SERIES	XXXX BOND ISSUE ALL SERIES	XXXX BOND ISSUE ALL SERIES	XXXX BOND ISSUE ALL SERIES	XXXX BOND ISSUE ALL SERIES	TOTAL ALL OUTSTANDING BONDS
USE OF BOND PROCEEDS								
RETAIL PROJECTS	31.61%	22.95%	19.42%	XX.XX%	XX.XX%	XX.XX%	XX.XX%	
REGIONAL PROJECTS	68.39%	77.05%	80.58%	YY.YY%	YY.YY%	YY.YY%	YY.YY%	
PRINCIPAL PAYMENT	$ 8,765,000	-	-	-	-	-	-	$ 8,765,000
RETAIL PROJECTS	$ 2,770,617	-	-	-	-	-	-	$ 2,770,617
REGIONAL PROJECTS	$ 5,994,384	-	-	-	-	-	-	$ 5,994,384
INTEREST PAYMENT (GROSS)	$ 23,353,388	$ 5,561,386	$ 56,181,932	-	-	-	-	$ 85,096,706
RETAIL PROJECTS	$ 7,382,006	$ 1,276,338	$ 10,910,531	-	-	-	-	$ 19,568,875
REGIONAL PROJECTS	$ 15,971,382	$ 4,285,048	$ 45,271,401	-	-	-	-	$ 65,527,831
INTEREST PAYMENT (CAPITALIZED)	-	-	$ 56,181,932					
RETAIL PROJECTS	-	-	$ 10,910,531					
REGIONAL PROJECTS	-	-	$ 45,271,401					
INTEREST PAYMENT (NET)	$ 23,353,388	$ 5,561,386	-					
RETAIL PROJECTS	$ 7,382,006	$ 1,276,338	-					
REGIONAL PROJECTS	$ 15,971,382	$ 4,285,048	-					
TOTAL PRINCIPAL AND INTEREST PAYMENT	32,118,388	5,561,386	-	-	-	-	-	$ 37,679,774
RETAIL PROJECTS	10,152,622	1,276,338	-	-	-	-	-	$ 11,428,961
REGIONAL PROJECTS	21,965,766	4,285,048	-	-	-	-	-	$ 26,250,813
PROPORTIONAL ANNUAL USE	68.39%	68.39%	68.39%	ZZ.ZZ%	ZZ.ZZ%	ZZ.ZZ%	ZZ.ZZ%	
WHOLESALE SHARE	$ 15,022,387	$ 2,930,544	-	-	-	-	-	$ 17,952,931 (TO SCHEDULE 1)

ILLUSTRATION ONLY DRAFT

Note: Allocation of bond proceeds shown are for illustrative purposes only. Regional projects will not include bond proceeds used to construct or acquire assets capitalized prior to 7/1/09. Regional projects also will not include in-city groundwater or in-city recycled water projects.

WHOLESALE REVENUE REQUIREMENT SCHEDULES
WATER ENTERPRISE CAPITAL COST RECOVERY - REVENUE FUNDED CAPITAL PROJECTS
FISCAL YEAR 2009-10
REFERENCE SECTION 5.04.B

ATTACHMENT N-2
SCHEDULE 3

		PROJECT APPROPRIATION	CLASSIFICATION	ALLOCATION FACTOR	WHOLESALE SHARE	TOTAL APPROPRIATION ALL YEARS	ALL YEARS ACTUAL EXPENDITURES	FY 2009-10 ACTUAL EXPENDITURES	ENCUMBERED, NOT EXPENDED	APPROPRIATED, UNENCUMBERED BALANCE
CUH980	Treasure Island Improvement Project	3,800,000	RETAIL	0.0%	$ -	$ -	$ -	$ -	$ -	$ -
CUW253	Facilities Security	500,000	RETAIL	0.0%	$ -	$ -	$ -	$ -	$ -	$ -
CUW260	Local Water R&R	22,347,520	RETAIL	0.0%	$ -	$ -	$ -	$ -	$ -	$ -
CUW686	Automated Meter Reading System	36,001,000	RETAIL	0.0%	$ -	$ -	$ -	$ -	$ -	$ -
	Total Local	62,648,520			$ -	$ -	$ -	$ -	$ -	$ -
CUW202	Replace Prestressed Concrete Cylr Pipe	-	REGIONAL	68.7%	$ -	$ -	$ -	$ -	$ -	$ -
CUW261	Regional Water R&R - Storage	-	REGIONAL	68.7%	$ -	$ -	$ -	$ -	$ -	$ -
CUW262	Regional Water R&R -Treatment Facilities	1,000,000	REGIONAL	68.7%	$ 687,000	$ 687,000	$ 235,000	$ 235,000	$ -	$ 452,000
CUW263	Regional Water R&R Conveyance/Transmission	7,000,000	REGIONAL	68.7%	$ 4,809,000	$ 4,809,000	$ 1,395,000	$ 1,395,000	$ 25,000	$ 3,389,000
CUW264	Regional Watersheds/ROW Management	500,000	REGIONAL	68.7%	$ 343,500	$ 343,500	$ 115,000	$ 115,000	$ 50,000	$ 178,500
FUW100	Regional Facilities Maintenance	3,700,000	REGIONAL	68.7%	$ 2,541,900	$ 2,541,900	$ 850,000	$ 850,000	$ 123,000	$ 1,568,900
	Total Regional	12,200,000			$ 8,381,400	$ 8,381,400	$ 2,595,000	$ 2,595,000	$ 198,000	$ 5,588,400
	TOTAL ALL PROJECTS	74,848,520			$ 8,381,400	$ 8,381,400	$ 2,595,000	$ 2,595,000 (TO SCHEDULE 1)	$ 198,000 (TO SCHEDULE 1)	$ 5,588,400 (TO SCHEDULE 1)

ILLUSTRATION ONLY DRAFT

WHOLESALE REVENUE REQUIREMENT SCHEDULES
CALCULATION OF WHOLESALE SHARE OF HETCH HETCHY WATER & POWER
FISCAL YEAR 2009-10
REFERENCE ARTICLE 5

ATTACHMENT N-2
SCHEDULE 4

EXPENSE CATEGORY	CONTRACT REFERENCE	SCHEDULE REFERENCE	TOTAL	POWER SPECIFIC	WATER SPECIFIC	JOINT	JOINT ALLOCATION PERCENTAGE	WATER-RELATED TOTAL	WHOLESALE ALLOCATION FACTOR	WHOLESALE SHARE
OPERATION AND MAINTENANCE										
OPERATION	5.08 B 1	SCH 8.2	$ 44,612,220	$ 31,853,965	$ 9,557,861	$ 3,200,394	45%	$ 10,998,038	ADJUSTED PROPORTIONAL ANNUAL USE	$ 7,484,165
MAINTENANCE	5.08 B 1	SCH 8.2	$ 16,868,612	$ 5,048,039	$ 3,238,622	$ 8,581,951	45%	$ 7,100,500	ADJUSTED PROPORTIONAL ANNUAL USE	$ 4,831,890
TOTAL OPERATION AND MAINTENANCE			$ 61,480,832	$ 36,902,004	$ 12,796,483	$ 11,782,345		$ 18,098,538		$ 12,316,055
ADMINISTRATIVE AND GENERAL										$ -
COWCAP	5.08 B 2	SCH 8.2	$ 1,139,579	$ -	$ -	$ 1,139,579	45%	$ 512,811	ADJUSTED PROPORTIONAL ANNUAL USE	$ 348,968
SERVICES OF SFPUC BUREAUS	5.08 B 2	SCH 7	$ 8,255,307	$ 5,375,656	$ 2,879,651	$ -	45%	$ 2,879,651	ADJUSTED PROPORTIONAL ANNUAL USE	$ 1,959,603
OTHER A&G	5.08 B 2	SCH 8.2	$ 25,581,481	$ 14,913,071	$ 36,070	$ 10,632,340	45%	$ 4,820,623	ADJUSTED PROPORTIONAL ANNUAL USE	$ 3,280,434
CUSTOMER ACCOUNTS	5.08 B 2	SCH 8.2	$ 347,403	$ 347,403	$ -	$ -	45%	$ -	ADJUSTED PROPORTIONAL ANNUAL USE	$ -
TOTAL ADMINISTRATIVE AND GENERAL			$ 35,323,770	$ 20,636,130	$ 2,915,721	$ 11,771,919		$ 8,213,085		$ 5,589,004
PROPERTY TAXES	5.08 B 3	SCH 8.2	$ 452,000	$ -	$ -	$ 456,305	45%	$ 205,337	ADJUSTED PROPORTIONAL ANNUAL USE	$ 139,732
CAPITAL COST RECOVERY										
PRE-2009 ASSETS	5.09 B 1	ATT K-4								$ 3,118,033
DEBT SERVICE ON NEW ASSETS	5.09 B 2	SCH 5								$ -
REVENUE FUNDED ASSETS-APPROPRIATIONS TO WHOLESALE CAPITAL FUND	5.09 B 3	SCH 6								$ 7,740,688
TOTAL CAPITAL COST RECOVERY										$ 10,858,721
WHOLESALE SHARE OF HETCH HETCHY WATER & POWER										$ 28,903,512 (TO SCHEDULE 1)
WHOLESALE REVENUE COVERAGE[1]										$ -

[1]Adjusted Proportional Annual Use (68.39% X 99.50% = 68.05%)
[2]25% of Wholesale Share of Debt Service

ILLUSTRATION ONLY DRAFT

WHOLESALE REVENUE REQUIREMENT SCHEDULES
HETCH HETCHY CAPITAL COST RECOVERY - ANNUAL DEBT SERVICE
FISCAL YEAR 2009-10
REFERENCE SECTION 5.09.B.1

ATTACHMENT N-2
SCHEDULE 5

	XXXX BOND ISSUE ALL SERIES	XXXX BOND ISSUE ALL SERIES	XXXX BOND ISSUE ALL SERIES	XXXX BOND ISSUE ALL SERIES	XXXX BOND ISSUE ALL SERIES	XXXX BOND ISSUE ALL SERIES	XXXX BOND ISSUE ALL SERIES	TOTAL ALL OUTSTANDIN G BONDS
USE OF BOND PROCEEDS								
POWER PROJECTS	XX.XX%	XX.XX%	XX.XX%	XX.XX%	XX.XX%	XX.XX%	XX.XX%	[redacted]
WATER PROJECTS	YY.YY%	YY.YY%	YY.YY%	YY.YY%	YY.YY%	YY.YY%	YY.YY%	
JOINT PROJECTS	ZZ.ZZ%	ZZ.ZZ%	ZZ.ZZ%	ZZ.ZZ%	ZZ.ZZ%	ZZ.ZZ%	ZZ.ZZ%	
PRINCIPAL PAYMENT	-	-	-	-	-	-	-	-
POWER SHARE	-	-	-	-	-	-	-	-
WATER SHARE	-	-	-	-	-	-	-	-
JOINT SHARE	-	-	-	-	-	-	-	
INTEREST PAYMENT (NET)	-	-	-	-	-	-	-	-
POWER SHARE	-	-	-	-	-	-	-	-
WATER SHARE	-	-	-	-	-	-	-	-
JOINT SHARE								
TOTAL PRINCIPAL AND INTEREST PAYMENT	-	-	-	-	-	-	-	-
POWER SHARE	-	-	-	-	-	-	-	-
WATER SHARE	-	-	-	-	-	-	-	-
JOINT SHARE								
WATER RELATED PRINCIPAL AND INTEREST PAYMENT[1]								
ADJUSTED PROPORTIONAL ANNUAL USE	68.05%	68.05%	68.05%	68.05%	68.05%	68.05%	68.05%	[redacted]
WHOLESALE SHARE	-	-	-	-	-	-	-	-

(TO SCHEDULE 4)

[1]Water Related = 100% of Water Share + 45% of Joint Share

ILLUSTRATION ONLY DRAFT

WHOLESALE REVENUE REQUIREMENT SCHEDULES
HETCH HETCHY CAPITAL COST RECOVERY - REVENUE FUNDED CAPITAL PROJECTS
FISCAL YEAR 2009-10
REFERENCE SECTION 5.04.B

ATTACHMENT N-2
SCHEDULE 6

		PROJECT APPROPRIATION	CLASSIFICATION	WATER RELATED PERCENTAGE	WATER RELATED SHARE	ALLOCATION FACTOR	WHOLESALE SHARE	TOTAL APPROPRIATION ALL YEARS	ALL YEARS ACTUAL EXPENDITURES	FY 2009-10 ACTUAL EXPENDITURES	ENCUMBERED, NOT EXPENDED	APPROPRIATED. UNENCUMBERED BALANCE
CUH931	HH Microwave Replacement	$ 4,000,000	JOINT	45%	$ 1,800,000	ADJUSTED PROPORTIONAL ANNUAL USE	$ 1,224,900	$ 1,224,900	$ 1,224,900	$ 1,224,900	$ -	$
CUH977	HH Water R&R - Facilities Maintenance	$ 3,500,000	JOINT	45%	$ 1,575,000	ADJUSTED PROPORTIONAL ANNUAL USE	$ 1,071,788	$ 1,071,788	$ 1,071,788	$ 1,071,788	$ -	$
	Total Joint	$ 7,500,000			$ 3,375,000		$ 2,296,688	$ 2,296,688	$ 2,296,688	$ 2,296,688	$ -	$
CUH947	SEA - Go Solar Incentive Project	$ 4,000,000	POWER	0%	$ -	ADJUSTED PROPORTIONAL ANNUAL USE	$ -					
CUH971	Alternative Transmission Studies	$ 1,000,000	POWER	0%	$ -	ADJUSTED PROPORTIONAL ANNUAL USE	$ -					
CUH976	HH Water R&R - Power Infrastructure	$ 16,700,000	POWER	0%	$ -	ADJUSTED PROPORTIONAL ANNUAL USE	$ -					
CUH979	Hunters Point Municipal Power	$ -	POWER	0%	$ -	ADJUSTED PROPORTIONAL ANNUAL USE	$ -					
CUH983	Civic Center Sustainability District	$ 1,090,000	POWER	0%	$ -	ADJUSTED PROPORTIONAL ANNUAL USE	$ -					
CUH986	General Fund Dept - Energy Efficiency	$ 7,365,158	POWER	0%	$ -	ADJUSTED PROPORTIONAL ANNUAL USE	$ -					
	Renewable/Generation	$ 3,501,307	POWER	0%	$ -	ADJUSTED PROPORTIONAL ANNUAL USE	$ -					
	Treasure Island Improvement Project	$ 2,700,000	POWER	0%	$ -	ADJUSTED PROPORTIONAL ANNUAL USE	$ -					
	Enterprise Fund Dept - Energy Efficiency	$ 325,722	POWER	0%	$ -	ADJUSTED PROPORTIONAL ANNUAL USE	$ -					
	Total Power	$ 36,682,187			$ -		$ -					
CUH975	HH Water R&R - Water Infrastructure	$ 6,000,000	WATER	100%	$ 6,000,000	ADJUSTED PROPORTIONAL ANNUAL USE	$ 4,083,000	$ 4,083,000	$ 4,083,000	$ 4,083,000	$ -	$
	Toulumne River Watershed Protection	$ 2,000,000	WATER	100%	$ 2,000,000	ADJUSTED PROPORTIONAL ANNUAL USE	$ 1,361,000	$ 1,361,000	$ 1,361,000	$ 1,361,000	$ -	$
	Total Water	$ 8,000,000			$ 8,000,000		$ 5,444,000	$ 5,444,000	$ 5,444,000	$ 5,444,000	$ -	$
	TOTAL ALL WATER RELATED PROJECTS	$ 96,364,374			$ 11,375,000		$ 7,740,688	$ 7,740,688	$ 7,740,688	$ 7,740,688 (TO SCHEDULE 4)	$ - (TO SCHEDULE 4)	$ - (TO SCHEDULE 4)

ILLUSTRATIVE ONLY DRAFT

WHOLESALE REVENUE REQUIREMENT SCHEDULES
SERVICES OF SFPUC BUREAUS - ALLOCATION TO ENTERPRISES
FISCAL YEAR 2009-10
REFERENCE SECTION 5.05.B

ATTACHMENT N-2
SCHEDULE 7

		EXPENDITURES	ADJUSTMENTS	ADJUSTED EXPENDITURES	HETCH HETCHY POWER	HETCH HETCHY WATER	WATER RETAIL	WATER REGIONAL	WASTEWATER	TOTAL
ALLOCATION FACTORS (SCHEDULE N-7.1)					11.13%	5.96%	16.94%	29.59%	36.37%	
PUC01	General Manager	$ 7,609,114	$ -	$ 7,609,114	$ 847,180	$ 453,820	$ 1,288,884	$ 2,251,548	$ 2,767,682	$ 7,609,114
PUC1101	BizServ-Administration	$ 4,081,981	$ -	$ 4,081,981	$ 454,478	$ 243,456	$ 691,434	$ 1,207,864	$ 1,484,749	$ 4,081,981
PUC1102	Finance	$ 8,817,687	$ -	$ 8,817,687	$ 981,739	$ 525,902	$ 1,493,600	$ 2,609,166	$ 3,207,280	$ 8,817,687
PUC1103	ITS[1]	$ 18,048,158	$ (1,835,357)	$ 16,212,801	$ 1,805,093	$ 966,959	$ 2,746,235	$ 4,797,391	$ 5,897,123	$ 16,212,801
PUC1106	Human Resources	$ 7,678,483	$ -	$ 7,678,483	$ 854,903	$ 457,958	$ 1,300,634	$ 2,272,074	$ 2,792,914	$ 7,678,483
PUC1108	Customer Services	$ 12,262,428	$ (12,262,428)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
PUC12	External Affairs	$ 3,882,455	$ -	$ 3,882,455	$ 432,263	$ 231,556	$ 657,637	$ 1,148,824	$ 1,412,175	$ 3,882,455
	TOTAL	$ 34,752,000	$ (12,731,000)	$ 48,282,521	$ 5,375,656 (TO SCHEDULE 4)	$ 2,879,651 (TO SCHEDULE 4)	$ 8,178,424 (TO SCHEDULE 1)	$ 14,286,867 (TO SCHEDULE 1)	$ 17,561,923	$ 48,282,521

[1]Adjustment for Transfer of SCADA Expenditures to T&D Joint ($1,730,000)

ILLUSTRATION ONLY DRAFT

WHOLESALE REVENUE REQUIREMENT SCHEDULES
SERVICES OF SFPUC BUREAUS - ANNUAL SALARIES
FISCAL YEAR 2009-10
REFERENCE SECTION 5.05.B

ATTACHMENT N-2
SCHEDULE 7.1

DEPARTMENT/DIVISION	ALLOCATION FACTOR	GROUP CODE	SALARIES	PERCENTAGE	
HETCH HETCHY					
POWER		1	$ 6,677,939	6.27%	
WATER		2	$ 1,775,910	1.67%	
JOINT			$ 9,428,450		
WATER SHARE	45%	2	$ 4,242,803	3.98%	
POWER SHARE	55%	1	$ 5,185,648	4.87%	
WATER					
ADMINISTRATION (WTR01)			$ 1,009,246		
RETAIL SHARE	33.4%	3	$ 336,415	0.32%	
REGIONAL SHARE	33.3%	4	$ 336,415	0.32%	
HETCH HETCHY WATER SHARE	33.3%	2	$ 336,416	0.32%	
CDD (WTR03)		3	$ 17,356,922	16.29%	
WATER QUALITY (WTR04)		4	$ 7,282,589	6.83%	
WATER SUPPLY & TREATMENT (WTR05)		4	$ 18,184,689	17.05%	
NATURAL RESOURCES (WTR06)		4	$ 4,682,073	4.39%	
WATER RESOURCE PLANNING			$ 1,419,760		
WATER CONSERVATION		3	$ 355,703	0.33%	
RETAIL WATER RESOURCE PLANNING		3	$ -		
REGIONAL SHARE (NET SALARIES)		4	$ 1,064,057	1.00%	
WASTEWATER		5	$ 38,757,578	36.37%	
SALARIES BY GROUP CODE					
HETCH HETCHY - POWER		1	$ 11,863,587	11.13%	(TO SCHEDULE 7)
HETCH HETCHY - WATER		2	$ 6,355,129	5.96%	(TO SCHEDULE 7)
WATER - RETAIL		3	$ 18,049,040	16.94%	(TO SCHEDULE 7)
WATER- REGIONAL		4	$ 31,529,823	29.59%	(TO SCHEDULE 7)
WASTEWATER		5	$ 38,757,578	36.37%	(TO SCHEDULE 7)
TOTAL SALARIES			$ 106,555,156	100.00%	

ADMINISTRATION ONLY DRAFT

WHOLESALE REVENUE REQUIREMENT SCHEDULES
CALCULATION OF THE WHOLESALE REVENUE REQUIREMENT
FISCAL YEAR 2009-10
WATER ENTERPRISE SUMMARY OF OPERATING EXPENSES

ATTACHMENT N-2
SCHEDULE 8.1

	Retail	Wholesale	Regional	Total
Operating Expenses				
Transmission & Distributions	$ 30,163,286	$ -	$ 23,252,946	$ 53,416,232
Adjustments to Transmission & Distribution	$ -	$ -	$ -	$ -
Adjusted Transmission & Distribution	$ 30,163,286	$ -	$ 23,252,946	$ 53,416,232
Source of Supply	$ 1,251,062	$ -	$ 13,692,891	$ 14,943,953
Adjustments to Source of Supply	$ -	$ -	$ -	$ -
Adjusted Source of Supply	$ 1,251,062	$ -	$ 13,692,891	$ 14,943,953
Pumping	$ 3,854,000	$ -	$ 488,682	$ 4,342,682
Adjustments to Pumping	$ -	$ -	$ -	$ -
Adjusted Pumping	$ 3,854,000	$ -	$ 488,682	$ 4,342,682
Treatment	$ -	$ -	$ 30,445,053	$ 30,445,053
Adjustments to Treatment	$ -	$ -	$ -	$ -
Adjusted Treatment	$ -	$ -	$ 30,445,053	$ 30,445,053
Customer Accounts	$ 7,401,169	$ 151,044	$ -	$ 7,552,213
Adjustments to Customer Accounts	$ -	$ -	$ -	$ -
Adjusted Customer Accounts	$ 7,401,169	$ 151,044	$ -	$ 7,552,213
Total Adjusted Operating Expense	$ 42,669,517	$ 151,044	$ 67,879,572	$ 110,700,133
General & Administrative Expense				
COWCAP	$ -	$ -	$ 1,238,009	$ 1,238,009
Services of SFPUC Bureaus	$ 8,178,424	$ -	$ 14,286,867	$ 22,465,291
Other General & Administrative	$ 4,009,891	$ -	$ 8,962,586	$ 12,972,477
Adjustments to General & Administrative	$ -	$ -	$ -	$ -
Adjusted General & Administrative	$ 4,009,891	$ -	$ 8,962,586	$ 12,972,477
Compliance Audit	$ 100,000	$ 100,000	$ -	$ 200,000
Total General & Administrative	$ 12,288,315	$ 100,000	$ 24,487,462	$ 36,875,777
Property Taxes	$ -	$ -	$ 1,417,293	$ 1,417,293
Total	$ 54,957,832	$ 251,044	$ 93,784,327	$ 148,993,203

Source: FAMIS/EIS
Note: All adjustments to be separately identified above

ILLUSTRATION ONLY DRAFT

WHOLESALE REVENUE REQUIREMENT SCHEDULES
CALCULATION OF THE WHOLESALE REVENUE REQUIREMENT
FISCAL YEAR 2009-10
HETCHY HETCHY WATER & POWER SUMMARY OF OPERATING EXPENSES

ATTACHMENT N-2
SCHEDULE 8.2

	Power	Water	Joint	Total
Operating Expenses				
Purchased Power & Wheeling	$ 28,953,676			$ 28,953,676
Adjustments to Purchased Power & Wheeling	$ -			$ -
Adjusted Purchased Power & Wheeling	$ 28,953,676			$ 28,953,676
Operations				
Hydraulic Generation	$ 2,900,291	$ -	$ 3,200,394	$ 6,100,685
Transmission & Distribution	$ -	$ -	$	$
Water Quality Expense	$ -	$ 9,557,862	$	$ 9,557,862
Adjustments to Operations	$ -	$ -	$ -	$ -
Adjusted Operations	$ 2,900,291	$ 9,557,862	$ 3,200,394	$ 15,658,547
Maintenance				
Hydraulic Generation	$ 1,840,096	$ 3,238,622	$ 8,581,952	$ 13,660,670
Transmission & Distribution	$ 3,359,385	$	$ -	$ 3,359,385
Water Quality Expense	$	$	$ -	$ -
Adjustments to Maintenance	$ (151,442)	$ -	$ -	$ (151,442)
Adjusted Maintenance	$ 5,048,039	$ 3,238,622	$ 8,581,952	$ 16,868,613
Total Adjusted Operating Expense	$ 36,902,006	$ 12,796,484	$ 11,782,346	$ 61,480,836
General & Administrative Expense				
COWCAP	$ -	$ -	$ 1,139,579	$ 1,139,579
Services of SFPUC Bureaus	$ 5,375,656	$ 2,879,651	$ -	$ 8,255,307
Customer Accounts	$ 347,403	$ -	$ -	$ 347,403
Adjustments to Customer Accounts	$ -	$ -	$ -	$ -
Adjusted Customer Accounts	$ 347,403	$ -	$ -	$ 347,403
Other General & Administrative	$ 14,913,071	$ 36,070	$ 10,632,340	$ 25,581,481
Adjustments to General & Administrative	$ -	$ -	$ -	$ -
Adjusted General & Administrative	$ 14,913,071	$ 36,070	$ 10,632,340	$ 25,581,481
Total General & Administrative	$ 20,636,130	$ 2,915,721	$ 11,771,919	$ 35,323,770
Property Taxes	$ -	$ -	$ 452,000	$ 452,000
Total	$ 57,538,136	$ 15,712,205	$ 24,006,265	$ 97,256,606

Source: FAMIS/EIS
Note: All adjustments to be separately identified above

ILLUSTRATION ONLY DRAFT

SCHEDULE OF PROJECTED WATER SALES, WHOLESALE REVENUE REQUIREMENTS, AND WHOLESALE RATES
CONTRACT REFERENCE: ARTICLE 6.03.A.3

ATTACHMENT N-3

	FISCAL YEAR				
	N	N+1	N+2	N+3	N+4
OPERATION AND MAINTENANCE EXPENSES					
SOURCE OF SUPPLY	$ 9,364,568	$ -	$ -	$ -	$ -
PUMPING	$ 334,210	$ -	$ -	$ -	$ -
TREATMENT	$ 20,821,372	$ -	$ -	$ -	$ -
TRANSMISSION & DISTRIBUTION	$ 15,902,690	$ -	$ -	$ -	$ -
CUSTOMER ACCOUNTS	$ 151,044	$ -	$ -	$ -	$ -
TOTAL OPERATION AND MAINTENANCE EXPENSES	$ 46,573,884	$ -	$ -	$ -	$ -
ADMINISTRATIVE AND GENERAL EXPENSES					
COWCAP	$ 520,857	$ -	$ -	$ -	$ -
SF PUBLIC UTILITIES COMMISSION	$ 9,770,788	$ -	$ -	$ -	$ -
OTHER A&G	$ 3,770,749	$ -	$ -	$ -	$ -
COMPLIANCE AUDIT	$ 100,000	$ -	$ -	$ -	$ -
TOTAL ADMINISTRATIVE AND GENERAL EXPENSES	$ 14,162,394	$ -	$ -	$ -	$ -
PROPERTY TAXES	$ 969,287	$ -	$ -	$ -	$ -
CAPITAL COST RECOVERY					
PRE 2009 ASSETS	$ 24,051,326	$ -	$ -	$ -	$ -
DEBT SERVICE ON NEW ASSETS	$ 17,952,931	$ -	$ -	$ -	$ -
REVENUE FUNDED CAPITAL	$ 8,381,400	$ -	$ -	$ -	$ -
TOTAL CAPITAL COST RECOVERY	$ 50,385,657	$ -	$ -	$ -	$ -
WHOLESALE SHARE HHW&P	$ 28,903,512	$ -	$ -	$ -	$ -
WHOLESALE REVENUE REQUIREMENT	$ 140,994,734	$ -	$ -	$ -	$ -
BALANCING ACCOUNT AS OF JUNE 30	$ -	$ -	$ -	$ -	$ -
INTEREST ON BALANCING ACCOUNT	$ -	$ -	$ -	$ -	$ -
WHOLESALE REVENUES AT EXSITING RATE	$ (127,485,900)	$ -	$ -	$ -	$ -
WHOLESALE EXCESS USE CHARGES	$ -	$ -	$ -	$ -	$ -
SETTLEMENT CREDITS AND OTHER ADJUSTMENTS	$ 21,000	$ -	$ -	$ -	$ -
1984 AGREEMENT BALANCING ACCOUNT CREDITS	$ 1,997,220	$ -	$ -	$ -	$ -
WHOLESALE DEBIT SERVICE COVERAGE RESERVE	$ 4,488,233	$ -	$ -	$ -	$ -
WHOLESALE DEFICIENCY OR CREDIT	$ 20,015,287	$ -	$ -	$ -	$ -
PERCENT WHOLESALE DEFICIENCY OR CREDIT OF REVENUES AND EXCESS USE CHARGES	15.7%				
PROJECTED WATER SALES (CCF)	85,920,000	0	0	0	0
WHOLESALE DEFICIENCY OR CREDIT ($/CCF)	0.23	0	0	0	0
PROJECTED WHOLESALE RATE (UNIT COST ($/CCF)	1.66	0	0	0	0
PROJECTED SERVICE CHARGE REVENUES	$ 4,620,300				
PROJECTED VOLUME CHARGE REVENUES	$ 142,627,200				
TOTAL WHOLESALE REVENUES	$ 147,247,500				

ILLUSTRATION ONLY DRAFT

ATTACHMENT O
STATEMENT OF WHOLESALE REVENUE REQUIREMENT/ CHANGES IN BALANCING ACCOUNT
YEAR ENDED JUNE 30
(Section 7.02.B)

	FY 2008-09 Allocation to Wholesale Customers	FY 2009-10 Allocation to Wholesale Customers	Difference
Wholesale Revenue Requirement Calculation:			
Operating and maintenance (O&M) expense:			
San Francisco Water Enterprise:			
Source of supply	$ 9,133,025	$ 9,364,568	$ 231,543
Pumping	$ 325,946	$ 334,210	$ 8,264
Purification	$ 20,437,460	$ 20,821,372	$ 383,912
Transmission and distribution	$ 9,350,279	$ 15,902,690	$ 6,552,411
Customer Accounts	$ 224,255	$ 151,044	$ (73,211)
Total SFWE operating and maintenance	$ 39,470,965	$ 46,573,884	$ 7,102,919
Hetch Hetchy Water and Power (HHWP):			
Operating expenses	$ 10,359,786	$ 7,484,165	$ (2,875,621)
Maintenance expenses	$ 4,526,240	$ 4,831,890	$ 305,650
Total HHWP operating and maintenance	$ 14,886,026	$ 12,316,055	$ (2,569,971)
Administrative and general (A&G) expenses:			
COWCAP			
SFWE	$ 512,438	$ 520,857	$ 8,419
HHWP	$ 162,364	$ 348,968	$ 186,604
SF Public Utilities Commission:			
SFWE	$ 7,461,835	$ 9,770,788	$ 2,308,953
HHWP	$ 2,357,622	$ 1,959,603	$ (398,019)
Other A&G – SFWE	$ 8,234,799	$ 3,770,749	$ (4,464,050)
Other A&G – HHWP	$ -	$ 3,280,434	$ 3,280,434
Compliance audit	$ 95,338	$ 100,000	$ 4,662
Total administrative and general expenses	$ 18,824,396	$ 19,751,399	$ 927,003
Property taxes (outside city only):			
SFWE	$ 964,040	$ 969,287	$ 5,247
HHWP	$ 120,923	$ 139,732	$ 18,809
Total property taxes	$ 1,084,963	$ 1,109,019	$ 24,056
Capital Cost Recovery			
Pre-2009 Assets			
SFWE		$ 24,051,326	
HHWP		$ 3,118,033	
Debt Service on New Assets			
SFWE		$ 17,952,931	
HHWP		$ -	
Revenue Funded Assets			
SFWE		$ 8,381,400	
HHWP		$ 7,740,688	
Total Capital Cost Recovery	$ 46,378,941	$ 61,244,378	$14,865,437
Total Wholesale Revenue Requirement	$ 120,645,291	$ 140,994,735	$20,349,444
Balancing Account July 1	$ 21,176,614	$ -	
Interest on adjusted beginning balance	$ 529,415	$ -	
Wholesale revenues billed	$ (123,604,000)	$ (147,247,500)	
Excess use charges billed	$ -	$ -	
Wholesale Revenue Coverage Reserve	$ -	$ 4,488,233	
Other adjustments	$ -	$ -	
Settlement adjustments	$ 21,006	$ 21,006	
1984 Agreement Balancing Account Credits	$ -	$ 1,997,220	
Balancing Account June 30	$ 18,768,326	$ 253,694	

ILLUSTRATION ONLY DRAFT

Attachment P

REPRESENTATION LETTER

Certification Pursuant to Water Sales Agreement (the Agreement) between the City and County of San Francisco (San Francisco) and certain wholesale customers in the counties of San Mateo, Santa Clara, and Alameda (the Wholesale Customers) effective July 1, 2009.

Each of the undersigned certifies that:

1. I have reviewed San Francisco Water Department and Hetch Hetchy Water & Power Department Report on the Calculation of the Wholesale Revenue Requirement and Statement of Changes in the Balancing Account (the Statement) for the year ended June 30, 200X;

Based on my knowledge, this report and Statement do not contain any untrue statements of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by the report;

Based on my knowledge, the Statement and other financial information included in the report, fairly presents in all material respects the proper costs incurred and allocated to the Wholesale Customers in accordance with the provisions of the Agreement.

The below certifying officers and I are responsible for establishing and maintaining internal control over financial reporting and have:

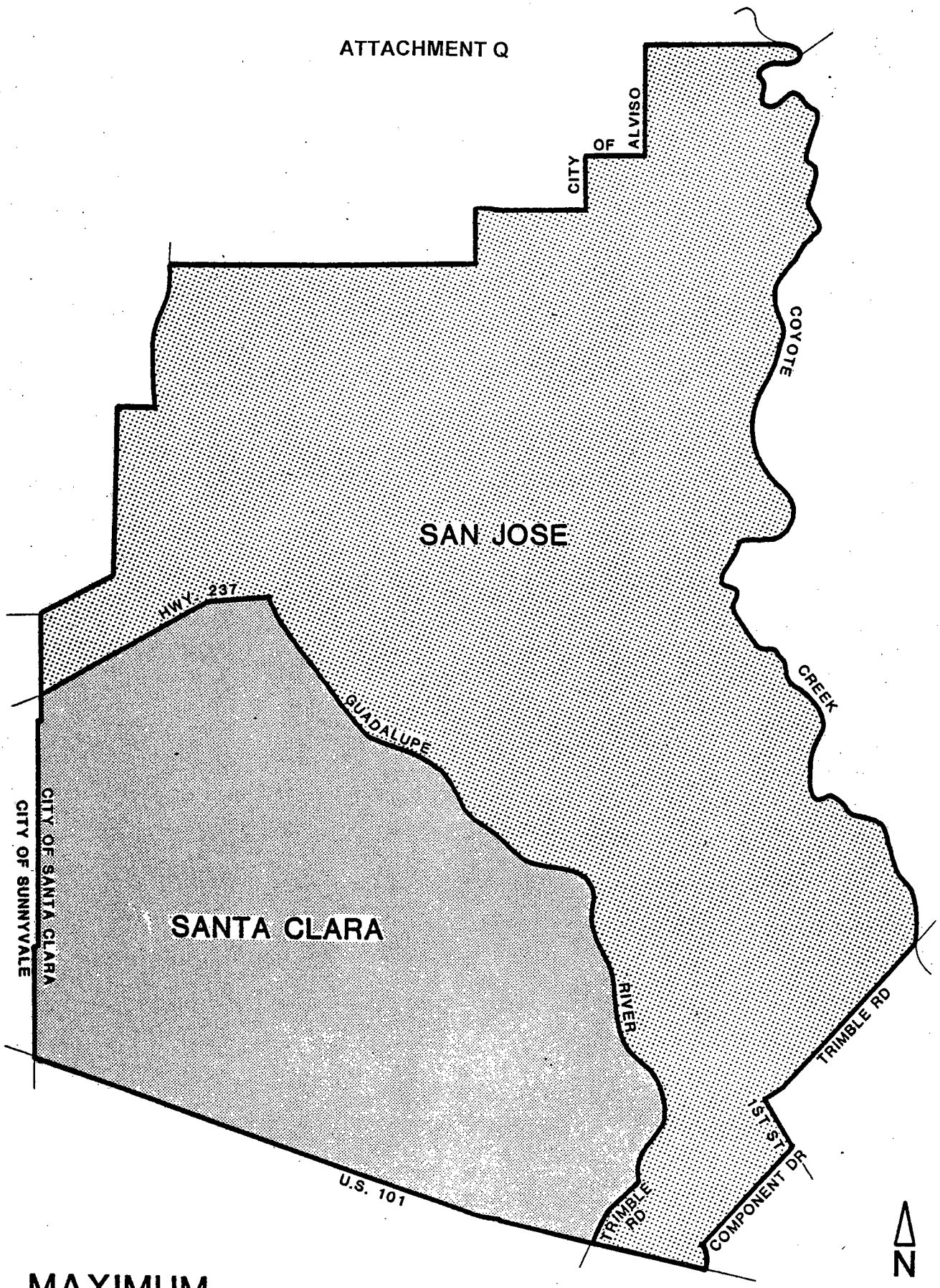
Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting for purposes of the preparation of the Statement.

Evaluated the effectiveness of the allocation procedures to ensure compliance with the terms of the Agreement.

The Statement fully complies with the contractual requirements of the Agreement and fairly presents, in all material respects, the allocation of costs to the Wholesale Customers in accordance with the Agreement.

General Manager, SFPUC	Date
Assistant General Manager & Chief Financial Officer, SFPUC	Date
Finance Director, SFPUC	Date
Accounting Manager, SFPUC	Date
Financial Planning Manager, SFPUC	Date
Senior Rates Administrator, SFPUC	Date

ATTACHMENT Q



MAXIMUM SERVICE AREAS

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APPENDIX F:
WESTSIDE PARTNERS GROUNDWATER MANAGEMENT PLAN, MARCH 1999

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DOUBLE-SIDED PRINTING

WESTSIDE BASIN PROPOSED GROUNDWATER MANAGEMENT PLAN

PREPARED FOR

WESTSIDE BASIN PARTNERS

PREPARED BY

BOOKMAN-EDMONSTON
ENGINEERING, INC.

AND

HYDROFOCUS, INC.

IN ASSOCIATION WITH

PUBLIC AFFAIRS MANAGEMENT

Unpublished Work © March 1999

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WESTSIDE BASIN PROPOSED GROUNDWATER MANAGEMENT PLAN

PREPARED FOR

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FIGURE 1 Location of Westside Basin 4

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APPENDIX B Technical Memorandum No. 2, *Westside Basin Groundwater Management Plan: Hydrologic Conditions in the Westside Basin Relating to Stakeholder Issues of Concern*

APPENDIX C Basin-wide Monitoring Program

EXECUTIVE SUMMARY

The Westside Groundwater Basin (Westside Basin), which extends from Golden Gate Park southeastward to the San Francisco Airport, provides essential water supply to several municipalities and numerous private water users. Working in partnership, the cities of Daly City and San Bruno, the San Francisco Public Utilities Commission (SFPUC), and the California Water Service Company have developed this plan for managing groundwater resources in the Westside Basin, following guidelines set forth in the Groundwater Management Act of 1992 (California Water Code Section 10750 et seq.). The goals of the plan are to protect water quality and to enhance water supply reliability in the Westside Basin. Five plan elements, consistent with existing law, have been developed for meeting these management goals:

GROUNDWATER STORAGE AND QUALITY MONITORING

Changes in the quantity and quality of groundwater will be measured using a basin-wide monitoring program. The key implementation activities include (1) data collection, compilation and storage, (2) data analysis, and (3) data reporting and public dissemination.

SALINE WATER INTRUSION

Basin-wide groundwater storage and quality monitoring will be used to indicate any occurrence of saltwater intrusion into the groundwater basin from the Pacific Ocean or San Francisco Bay. Monitoring data will provide the technical information needed to develop the appropriate management response if intrusion is occurring.

CONJUNCTIVE USE

Conjunctive use of surface water and groundwater supplies provides an approach to increase the reliability of water supply, particularly during droughts. Conjunctive use activities will be most effective with cooperation among many water users in the basin. The key implementation efforts in the plan include (1) development of a model conjunctive use agreement among cooperating agencies, (2) development of plans for joint facilities needed to implement the conjunctive use agreement, and (3) implementation of the groundwater-monitoring program.

RECYCLED WATER

Wastewater that is currently discharged to the ocean or the bay provides an opportunity for a recycled water program where wastewater would be treated and recycled for turf and

landscape irrigation and other non-potable uses. By providing a substitute for water that is otherwise consumed by non-potable uses, a recycled water program will increase the availability of potable supplies and enhance supply reliability for the entire region. The key implementation activities include development of (1) a model recycled water agreement, (2) market mechanisms to encourage golf courses and cemeteries to participate in a recycled water program, and (3) plans for the facilities and infrastructure needed to implement the program.

SOURCE WATER AND WELLHEAD PROTECTION

A wellhead protection program will protect the quality of groundwater sources in the basin from potential contamination by methyl tertiary butyl ether (MTBE) and other contaminants. A key implementation activity is the completion of a source water assessment for the Westside Basin using statewide source water assessment methodologies, modified to account for specific hydrologic conditions in the basin.

TIERED IMPLEMENTATION

The plan elements are structured in a tiered approach. Tier I activities are those that can be implemented individually by local agencies at moderate or no cost. Tier I activities will, however, require agreements among participating agencies on consistent methods, protocols, and reporting. Examples of Tier I components include data collection, data analysis, preparation of summary reports, and public education programs to build support for the management plan. Agencies that coordinate and combine their individual efforts will minimize implementation costs and prevent the duplication of work. Implementation of Tier I activities will provide a basis for more challenging and longer-term efforts.

The Tier II activities of each plan element are long-term planning and implementation efforts that require more financial and institutional resources to execute. These activities require collaboration between local, county, state, and federal agencies and stakeholders to achieve successful implementation. The Tier II elements require higher levels of commitment in both time and funding. Examples of Tier II elements include constructing new wells for monitoring basin-wide groundwater-storage and quality, reconnaissance and mapping of contamination sites, developing a joint approach for market mechanisms to implement water recycling programs, and developing agreements for the storage, extraction, and marketing of surface water in the basin as part of a conjunctive use program.

INTRODUCTION

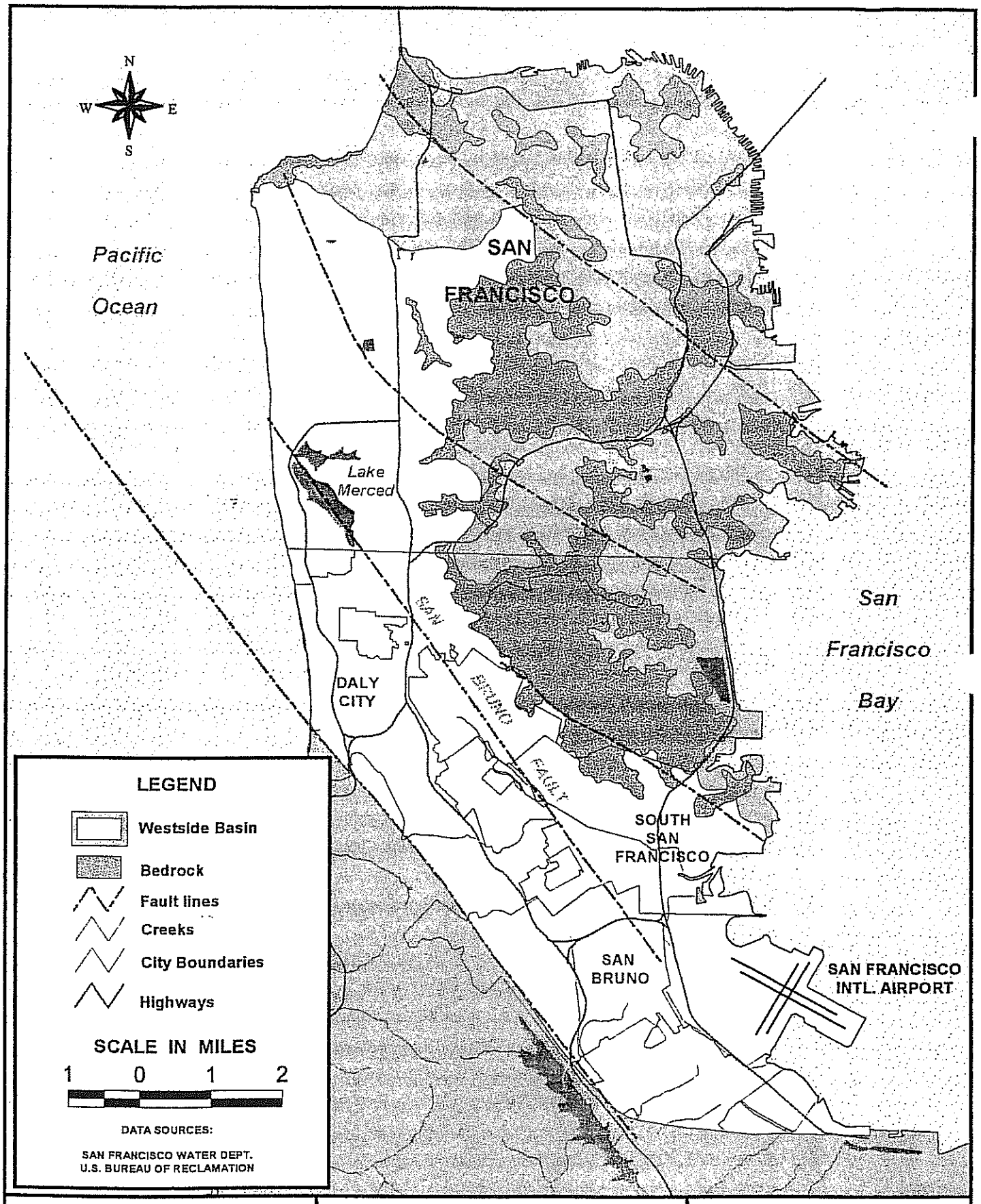
The Westside Basin has provided a reliable source of water for municipal and irrigation uses for more than a century. The Westside Basin underlies parts of San Francisco and northern San Mateo Counties and extends from Golden Gate Park in the north and past the San Francisco International Airport in the south (Figure 1). The cities of San Francisco, Daly City, South San Francisco, Colma, San Bruno, and Millbrae and parts of Burlingame and Hillsborough lie on top of the basin.

Groundwater is a valuable natural resource and should be managed to ensure both its safe production and its quality. Stakeholders and the basin itself will benefit from monitoring to track groundwater storage, protect groundwater quality, and improve the overall supply and reliability of water resources in the Westside Basin. The cities of Daly City and San Bruno, the San Francisco Public Utilities Commission (SFPUC), and the California Water Service Company have developed this plan for managing groundwater resources in the Westside Basin, following guidelines set forth in the Groundwater Management Act of 1992 (California Water Code Section 10750 et seq.), commonly referred to as AB 3030. The Groundwater Management Act authorizes local agencies and water service providers to adopt and implement by ordinance or resolution a groundwater management plan.

The primary goals of this plan are to protect water quality and ensure water supply reliability. Of the 12 potential plan elements described in the law, five plan elements were identified for meeting these management goals:

- Monitoring of groundwater storage and groundwater quality;
- Identification of saline water intrusion;
- Conjunctive use of surface and groundwater supplies;
- Recycled water projects; and,
- Identification and management of wellhead protection areas.

These five plan elements provide the framework for coordinating management efforts in the Westside Basin. Stakeholder interviews, workshops, and hydrogeological analyses completed during plan development identified the public and technical opportunities and constraints associated with each plan element. The purposes of this document are to briefly summarize the key findings from the Public Outreach and Technical Analysis and to provide a scoped work plan of activities for implementing a groundwater management plan. The activities are structured in tiered approach based on the level of effort and cost required to successfully implement each plan element.



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BOOKMAN-EDMONSTON
ENGINEERING, INC.

WESTSIDE BASIN
GROUNDWATER MANAGEMENT PLAN

LOCATION OF WESTSIDE BASIN

WESTSIDE BASIN PARTNERS

FIGURE 1

A key component of the Westside Basin Groundwater Management Plan is the involvement of area elected officials, stakeholders, municipalities, and other interested parties. A public outreach effort was conducted during plan development to identify stakeholders and their key issues and to determine opportunities and constraints associated with each of the five plan elements. The public outreach effort included interviews with representatives of Daly City, the City of San Bruno, California Water Service Company, and the SFPUC, and other stakeholders in the basin. The public outreach effort also included five public workshops. A detailed description of the stakeholder interviews and the first workshop is reported in Technical Memorandum No. 1, *Westside Basin Groundwater Management Plan: Stakeholder Issues of Concern,* which is attached as Appendix A to this document.

The public outreach effort identified nine areas of concern for consideration in the plan. Most of these concerns are general and do not exclusively fall under any single plan element. Rather, there is considerable overlap between the areas of concern and two or more of the plan elements. The areas of concern identified for consideration in the management plan are summarized in alphabetical order below.

ADJUDICATION

In adjudicated basins, the landowners or other parties turn to the courts to allocate how much groundwater each party can rightfully extract. This is not a course of action the partners or the public wish to engage in. It is recognized, however, that some of the procedural actions within adjudicated basins may be useful for application within the AB 3030 Management Plan for the Westside Basin. As part of this effort, the actions that take place in an adjudicated basin were examined to determine their viability and applicability.

CONJUNCTIVE USE

The coordinated use of surface and groundwater (conjunctive use) is a strategy for using water efficiently. Concerns were expressed about the feasibility and economics of storing surface water in the basin for extraction during dry years. There is also the need for assurances that water stored in the basin will be available when needed, so that local investments are protected and benefits derived.

COST OF WATER

All parties want to ensure that water remains affordable and that management costs are apportioned among users according to the benefits derived.

ENVIRONMENT AND NATURAL SYSTEMS

Some stakeholders were concerned that environmental issues are not addressed adequately in the five plan elements. There was concern that how the plan interacts with natural systems (e.g., lakes, parks) within the basin's boundaries is not sufficiently emphasized, or that an environmental representative was afforded an opportunity to directly participate in the management structure of the project.

GENERAL WATER SUPPLY INFORMATION AND EDUCATION

Stakeholders requested more information about the local water supply, including the yield of the SFPUC system, the responsibility for treating drinking water, and the opportunities and constraints affecting future water supply and use. The general public lacks education on how the groundwater system works and how it interacts with other natural and engineered water systems.

COMPREHENSIVE GROUNDWATER DATA

Routine, basin-wide data collection and analysis are also needed. Stakeholders need more information about the Westside Basin hydrology including its operational yield, storage volume, groundwater levels, and water quality. Easily understandable, fact-based information is needed that assesses the effect of groundwater pumping on groundwater storage and surface water bodies such as Lake Merced. Basin-wide data will also be needed to judge the effectiveness of future management actions.

GROUNDWATER RIGHTS AND MANAGEMENT

There is a concern that a groundwater management plan may affect stakeholders' ability to extract and use groundwater. There are questions regarding who pays and shares in the benefits of managing the basin. There was also concern about the possible land use and development implications of wellhead and recharge area protection.

LAKE MERCED

Stakeholders expressed concern over water level declines in Lake Merced. The partners agree on the need for a regional commitment to data collection and monitoring efforts to manage the basin, identify changes in groundwater quality, and clarify the relationship between deep well pumping and water levels in Lake Merced. Stakeholders also asked whether recycled water is a potential source of additional recharge to Lake Merced.

RECYCLED WATER

Stakeholders are familiar with the use of recycled water in southern California and many are interested in exploring the possibilities of using recycled water to supplement Bay Area water supplies. However, some potential users have concerns about its quality, particularly about high sodium levels and the public perception of recycled water representing a human health hazard. Other concerns are the expense to treat and deliver recycled water, which may limit its current marketability.

WATER QUALITY

Stakeholders want to protect groundwater quality and recognize that saltwater and other contaminants represent potential water quality problems in the basin.

Continued public outreach and educational efforts can address most of the concerns expressed by the stakeholders and summarized above. A work plan for continuing these efforts is included as public outreach activities in each element of the Groundwater Management Plan.

A technical analysis was conducted that merged the issues of concern identified by the Public Outreach effort with the technical considerations of each plan element. An important aspect of this analysis was the identification of gaps in the available data and the uncertainties these data limitations impose on water management decisions. A detailed description of these efforts and their results is reported in Technical Memorandum No. 2, *Westside Basin Groundwater Management Plan: Hydrologic Conditions in the Westside Basin Relating to Stakeholder Issues of Concern,* which is attached as Appendix B to this document.

MONITORING OF GROUNDWATER STORAGE AND GROUNDWATER QUALITY

A considerable amount of data is collected, compiled, and analyzed for public supply wells in the Westside Basin. Data are lacking, however, for upslope portions of the basin that can be important locations of groundwater recharge, for areas served by private wells (or where wells are currently absent), and for critical boundaries like the Pacific Ocean and south San Francisco Bay. Data limitations can be addressed with the addition of new monitoring locations, improved coordination between data collection agencies, and uniform and accessible data storage and reporting protocols. A basin-wide monitoring program is needed and can be implemented by integrating local data collection activities and expanding efforts to improve the distribution of data points across the basin. This information is needed to understand groundwater flow rates and directions, the sources of water extracted by pumping wells, and changes in groundwater storage and groundwater quality over time.

IDENTIFICATION OF SALTWATER INTRUSION

Saltwater intrusion is a potential concern in the Westside Basin because the Pacific Ocean and south San Francisco Bay are located at the western and southeastern boundaries of the basin. Chemical data for samples from most municipal supply wells in the Westside Basin do not show clear trends indicating saltwater contamination. Because groundwater moves slowly in the basin, decades may be required for salt-affected groundwater to reach pumping wells in the Westside Basin. Continued monitoring of groundwater levels and groundwater quality is needed to ensure that saltwater intrusion does not become a problem in the future.

CONJUNCTIVE USE OF SURFACE AND GROUNDWATER SUPPLIES

Physical conditions in the Westside Basin provide opportunities for conjunctive use, which is the coordinated use of surface water and groundwater to ensure a reliable water supply.

For example, during wet years, when surface supplies are plentiful, surface water would be delivered to water users that otherwise rely on groundwater, allowing the aquifers to naturally recharge. During dry years, when runoff is reduced and surface water supplies are scarce, greater reliance would be placed on groundwater storage.

The aquifers within the Westside Basin represent a potential means for storing imported surface water and, therefore, could be used to increase the reliability of water supply within the basin. Conjunctive use can also be used to increase the long-term yield of the SFPUC system. Groundwater storage monitoring must be continued, yield analyses conducted, cooperative agreements established, and facilities developed for resource storage, recovery, and delivery.

RECYCLED WATER

Under a water recycling program, water that is otherwise discharged to the Pacific Ocean or south San Francisco Bay would be used for turf and landscape irrigation and other non-potable uses. The groundwater that would have been used to irrigate these areas would become available for municipal and industrial use or remain within the basin for future use. Recycled water thereby would become an additional supply of water that would enhance the long-term water reliability for the basin. The potential supply of recycled water from just four cities (Daly City, City of San Bruno, City of South San Francisco and Colma) could be used as a substitute for the annual groundwater pumpage used to irrigate parks, golf courses, schools, and cemeteries in the Westside Basin. The necessary hydrologic conditions, therefore, exist to develop a recycled water program in the basin. To implement and use this potential source of water, specific projects must be identified, market mechanisms developed, and project facilities designed and constructed.

SOURCE WATER ASSESSMENT AND WELLHEAD PROTECTION

Wellhead protection programs are designed to reduce or eliminate contamination, provide for alternative sources of emergency drinking water, and plan for new wells and their protection areas. Changes in land use may be necessary to minimize the risk of contamination to water supply wells in the basin. Public education is needed to communicate the results of these analyses and explain the implications for land use decisions and drinking water quality. A wellhead protection program will, therefore, require both public support and technical input. Components of a program may include a source water assessment, determination of recharge areas and groundwater flow paths to extraction wells, and continuation of efforts to identify and map potential contaminant sources.

MTBE (methyl tertiary-butyl ether) is an oxygenate added to gasoline with the intent of reducing air pollution. Of concern is the impact of MTBE on groundwater supplies where its contamination has forced cities to shut down impacted water supply wells. At this writing, Cal EPA is holding two public hearings on research conducted by the University of California to study the health and environmental effects of MTBE. After completion of the public hearings, the Governor must issue a written certification as to the human health and environmental risks of using MTBE as a gasoline additive in California.

The plan elements are structured in a tiered approach. The two tiers are labeled Tier I and Tier II.

Plan elements that can be completed individually by local agencies are designated as Tier I plan elements. The agencies are encouraged to coordinate and combine their individual efforts to minimize implementation costs and prevent the duplication of work. In general, the Tier I elements can be readily implemented at moderate cost, but will require agreements on consistent methods, protocols, and reporting. Examples of Tier I components include data collection, data analysis, preparation of summary reports, and public education programs to build support for the management plan. Implementation of the Tier I components provides a basis for more challenging and longer-term efforts.

The Tier II elements are long-term planning and implementation efforts that require more financial and institutional resources to execute. These elements require collaboration between local, county, state, and federal agencies and stakeholders to achieve successful implementation. The Tier II elements require higher levels of commitment in both time and funding. Examples of Tier II elements include constructing new wells for monitoring basin-wide groundwater storage and quality, reconnaissance and mapping of contamination sites, developing a joint approach for financial incentives to implement water recycling programs, and developing agreements for the storage, extraction, and marketing of surface water in the basin as part of a conjunctive use program.

This section summarizes the objectives and goals of the five plan elements and describes their proposed Tier I and Tier II implementation activities. The implementation activities provide the work plan for decision-makers, municipalities, and other stakeholders to manage groundwater resources in the Westside Basin. The implementation actions are separated into Tier I and Tier II levels for both Public Outreach and Technical categories, and include potential work tasks, possible timeframes, and estimated costs.

GROUNDWATER STORAGE AND QUALITY MONITORING

Changes in the quantity and quality of groundwater stored within the Westside Basin will be tracked using a basin-wide monitoring program, as set forth in Appendix C. The monitoring program will record changes in water levels in wells, dissolved constituents in well water, weather conditions, and water use. The program can be implemented at the Tier I level by coordinating existing data collection activities; existing gaps in the location and types of data being collected can be addressed by expanding data collection activities as part of the Tier II implementation activities. Public outreach activities are, therefore, recommended to educate water users in the basin on the need for monitoring and soliciting their cooperation and support for a basin-wide data collection program.

Daly City, City of San Bruno, and California Water Service Company routinely measure water levels in production wells to estimate changes in groundwater storage, collect water samples from wells for the analysis of chemical constituents in the groundwater, and record groundwater production and water use information. The SFPUC Groundwater Master Plan has preliminary plans to collect similar data in the portion of the Westside Basin located within the City and County of San Francisco, and the draft Lake Merced Comprehensive Management Plan recommends the installation of lake level gages to further the understanding of the relationship between Lake Merced and the Westside Basin. Coordinating these existing and planned data collection activities will provide information for a substantial portion of the Westside Basin. Additional data will be needed from areas where existing data collection activities do not exist. These include areas where private wells are located or other key areas where data are needed but wells are currently absent. Public outreach activities will be needed to obtain the participation of private well owners and develop support for constructing monitoring wells in areas where wells currently do not exist.

TIER I ACTIVITIES

Technical

Semiannual groundwater storage and quality monitoring will be conducted. The implementation activities include (1) data collection, compilation and storage, (2) data analysis, and (3) data reporting. The Tier 1 activities will coordinate existing monitoring activities. A significant effort will be needed initially, but in the long run, this approach should be the most efficient and cost-effective means of collecting basin-wide data.

Data Collection, Compilation, and Storage

Summarized below are key data needs and a brief description of data collection and archiving protocols. Additional information can be found in Groundwater Monitoring Plan for the Westside Basin – Draft Annotated Outline (attached as Appendix C to this planning document) and several other useful references:

- City and County of San Francisco Groundwater Monitoring Program - Technical Memorandum 19 for the San Francisco Groundwater Master Plan.
- Guidelines and Techniques for Obtaining Water Samples that Accurately Represent the Water Chemistry of an Aquifer (U.S. Geological Survey Open-File Report 82-1024).

The key data needs and archiving protocols are as follows:

- Monthly deliveries of surface water and groundwater pumping will be reported to provide semiannual inflow and outflow data for the basin. Groundwater pumping rates will be measured or estimated for public wells and accessible private wells. Monthly outflows from wastewater treatment plants will also be reported. These data are already collected by various entities and, therefore, are available for no new net cost. Some staff time will be necessary initially to identify the sources of these data, develop protocols for obtaining it, and routinely compile the collected data.
- A groundwater monitoring well network will be established. The network will use existing shallow (less than 100 feet deep) and deeper wells (greater than 200 feet deep); additional wells will be needed to improve the geographic distribution of data points in the Westside Groundwater Basin and are discussed in the Tier II implementation activities. The existing wells that are monitored will be located using a Global Positioning System (GPS), and a map will be produced that shows the well identification number and responsible reporting agency. Some of this work has already been completed by San Francisco State University, and most of the

mapping information is available electronically from the SFPUC Groundwater Master Plan, the U.S. Geological Survey, San Mateo County, and various state agencies.

- Static water levels will be collected semiannually. The water level measurements should be collected by the participating agencies on the same day and will require temporary shutdown of all production wells before measurement. The effort will be coordinated between the SFPUC, Daly City, San Bruno, and California Water Service Company. A standard field sheet and reporting protocol will be used by all agencies. Example field sheets and data collection protocols can be found in Technical Memorandum 19 for the San Francisco Groundwater Master Plan, *City and County of San Francisco Groundwater Monitoring Program*. Some effort will be needed coordinating activities and ensuring uniform protocols, but the collection of semiannual water levels should result in no significant new costs because most of the participating agencies already collect the data.

- Monitoring wells will be sampled semiannually, and at a minimum, the water samples will be analyzed for pH, dissolved solids, alkalinity, chloride, sulfate, calcium, magnesium, sodium, iodide, bromide, nitrate, iron, and manganese. Standardized data collection procedures, laboratory methods, and reporting protocols will be used. Example field sheets and data collection protocols can be found in Technical Memorandum 19 for the San Francisco Groundwater Master Plan, *City and County of San Francisco Groundwater Monitoring Program*. Well-water samples are generally collected and analyzed for most of these constituents by the participating agencies on an annual basis. The collection of this data semiannually should approximately double current agency costs.

- Monitoring activities will be integrated with data collection efforts to preserve the integrity of Lake Merced and understand its relationship with the underlying shallow aquifer. This includes support for the installation of lake level gages on North and Impound Lakes and monitoring of groundwater conditions in the shallow and deeper aquifers in areas next to Lake Merced. This data will be included in the analysis and reporting of basin-wide conditions.

- Participating agencies will organize and archive their own data. Water use, groundwater level, and analytical results will be stored using commercially available software. Some effort will be needed to develop a system for efficiently archiving the data that is easily accommodated by all the participating agencies. After the format of the system has been completed, the data entry, quality assurance, and quality control efforts should not result in significant new costs.

Portions of the data collection, compilation, and storage activities will result in a significant work effort that will be distributed between participating agencies. The total combined increase in effort is approximately 0.5 FTE the first year and 0.3 FTE in subsequent years.

Data Analysis

The data should be collated and summarized as follows:

- Compile and compute monthly water inflows and outflows to and from the basin (precipitation, surface water deliveries, pumping, potential evapotranspiration, measured and estimated runoff in creeks, and wastewater discharge).
- Time-series plots showing historical water levels in wells.
- Maps showing lines of equal groundwater elevations in the water table and deep aquifer system.
- Maps showing the change in groundwater elevations from the previous monitoring event.
- Time-series plot showing historical changes in groundwater storage and pumpage.
- Time-series plots showing historical chloride ion concentrations in well-water samples.
- Maps showing chloride ion concentrations in well-water samples in the water table and deep aquifer system.
- Time-series plots showing historical chloride-to-boron and chloride-to-bromide ratios in well-water samples.

Completing the above analysis will result in a significant new work effort by the participating agencies. It would be most efficient to have one entity assume the responsibility of acquiring the data from each agency and compiling it for a basin-wide analysis. A staff member from one of the participating agencies, a staff member for San Mateo County, or a private contractor could perform the work. The estimated cost for staff time to conduct this analysis twice a year is approximately 0.15 FTE the first year and 0.10 FTE during subsequent years.

Reporting

Understandable text and graphics that describe the above analysis will be needed and made available to all stakeholders in the basin. Copies of this report should be distributed

semiannually to all of the participating agencies, local libraries, San Mateo County, and other interested stakeholders. The effort to complete the reports and coordinate their distribution twice a year is approximately equivalent to 0.20 FTE. The production and mailing costs for 60 reports per annum (30 reports for each semiannual event) is about $1,000 per year.

Public Outreach

The recommended action steps in Tier I include two main components: (1) communication with the private well owners derived from permits on file with San Francisco and San Mateo Counties and (2) development of a presentation package and a coordinated speaker's bureau schedule. The primary objective of this outreach effort is to educate well owners on the need to monitor all wells to ensure a clean reliable supply of water. This work can be done internally by existing city or agency staff and should be coordinated by the partners. Alternatively, a regional agency like San Mateo County could act as the lead or a contractor could be retained to assist in coordinating these efforts.

Communication with Private Well Owners

Soliciting the participation of private well owners is important to the ultimate success of a monitoring program. The partners will conduct a joint basin-wide education effort to explain the need to routinely collect data from wells. The education efforts will also help solicit the participation of private well owners in the monitoring program. Activities will include:

- Development of a database listing all private well owners within the basin. This can be accomplished by working with the respective planning departments and San Mateo County.

- Development of a mailer for distribution to well owners alerting them of the importance and need to monitor wells. The material available to develop the mailer includes the Westside Basin Groundwater Management Plan fact sheet and information gathered during the five Westside Basin workshops.

- Telephone calls and/or visits depending on the size and/or annual water usage of the well owner may be conducted to follow up on potential measures and actions to ensure proper management and monitoring. There are more than 25 known active private wells in the basin and a similar number of privately owned wells believed to be currently inactive.

- A second mailer may be prepared discussing some of the positive measures various well owners have taken or are taking to influence those who are not participating.

Presentation Package and Speaker's Bureau Coordination

Developing a joint-use presentation package for local talks on the basin will help obtain stakeholder input. The package would include information on the hydrology of the basin and the need for a monitoring program. Representatives of the participating agencies will conduct presentations on a regular basis.

- Provide education on the basin hydrology, including its relationship to water bodies.
- Integrate with existing City and agency speaker's bureau programs and maintain a rotating schedule of presentations on the basin.
- Use existing mailer text for publication in City and local agency newsletters to explain the basin and the groundwater storage and monitoring program.
- Include an insert to water bills that reports the relative quantity of groundwater and surface water comprising the local drinking water supply.

Costs

The cost to complete the Tier I education program is approximately 0.20 full-time equivalent (FTE) of mid-level staff time and approximately $4,000 in mailing, telephone, printing, and design costs. The time commitment includes developing the database, designing and writing the mailer and newsletter articles, developing a presentation package, and coordinating speaking engagements.

TIER II ACTIVITIES

Technical

The Tier II implementation activities are designed to expand monitoring into areas having private wells and key areas where data are needed but wells are currently absent. Tier II activities will also include a groundwater investigation with the objective of developing a better understanding of groundwater flow directions, sources and rates of groundwater recharge, and the sources of water extracted by wells using specialized analyses of well-water samples. The installation of new wells for monitoring purposes will require a significant capital investment, and the expansion of data collection activities into new areas will increase work levels for each participating agency proportional to the number of new monitoring sites they undertake. The groundwater investigation will require a one-time investment in time and resources to collect the samples, contract with a specialized laboratory to conduct the analyses, and analyze and interpret the results.

Expand Monitoring Activities

- Identify specific locations and install dedicated wells in key areas of the Westside Basin to monitor groundwater levels and groundwater quality where wells and data are currently lacking. Initial target areas are near the Pacific Ocean and south San Francisco Bay, near upland areas next to the surrounding foothills, and in other general areas where data are lacking. A combination of shallow (less than 100 feet) and deep (greater than 200 feet) wells are needed. Approximately 10 new monitoring wells are recommended for the Daly City area (7 shallow and 3 deep), five new monitoring wells are recommended for the San Bruno area (3 shallow and 2 deep), and four monitoring wells are recommended in California Water Service Company service area (1 shallow and 3 deep). The typical capital investment for new wells of this type are approximately $6,500 for each shallow well and about $18,000 for each deep well.

- Establish a formal program and protocol for the monitoring of private wells and inclusion in the semiannual analysis and reports.

Groundwater Investigation

Production and monitoring wells will be sampled and the water used for specialized isotopic and age-dating analyses. The results will be evaluated to characterize recharge rates, map recharge areas, and estimate the sources of water produced by pumping wells in the basin. Sampling costs will be about 0.10 FTE of technician time. The laboratory analyses will cost from $15,000 to $20,000. Analysis and interpretation of the results and completing a summary report will be equivalent to about 0.15 FTE of senior-level staff time. The sampling can be completed by agency staff members and analyses conducted by a contracted laboratory that provides these types of specialized analyses. The analysis and interpretation of the data will most likely need to be completed by a trained individual at a government agency, college, or university or by a private consultant.

Public Outreach

The Tier II implementation activities are designed to increase cooperation from private well owners and solicit their participation in the monitoring program. The Tier II activities are also designed to educate elected officials, business leaders, and voters on the need for investing resources in the expansion of the monitoring program.

Private Well Owner Cooperation

A task force of domestic and business well owners could be established to act as a liaison between the participating agencies and private well owners in the basin. The task force

could assume the lead for collecting data for private wells. Alternatively, the task force could provide education to well owners on data collection protocols, provide instrumentation and training for collecting data, and integrate data collection activities into the regional monitoring program. At a minimum, the task force would help the participating agencies obtain access to private wells for inclusion in their monitoring efforts. This activity would include the following:

- Use the existing private well owner database to hold a targeted briefing to identify stakeholders and develop the well owner's task force. This could include a centrally located meeting to discuss the need and value of a well owner task force to establish a leadership role in monitoring private wells. Well owner task force members should include representatives from cemeteries, nurseries, and golf courses.

- Meet with communities like Colma (cemeteries) and South San Francisco (nurseries) to obtain support for the program.

- The task force could assume responsibility for collecting and compiling water level, water quality, and well production data for inclusion in the semiannual reports.

Education on the Need and Value of a Monitoring Program

Gaining consensus from public agencies, the business community, and voters is necessary to obtain the needed resources for expanding data collection and reporting efforts. This could include:

- Writing and disseminating feature articles that target the need and value of the monitoring program by sharing successful efforts in other parts of the basin. This could include efforts to obtain press coverage and sample stories.

- Providing educational mailers for City and agency water bills.

- Targeting speaking engagements to educate constituents and obtain feedback for an expanded monitoring program.

CONTROL OF SALTWATER INTRUSION

Saltwater intrusion is a potential concern in the Westside Basin because the Pacific Ocean and San Francisco Bay are located at the western and southeastern boundaries of the basin. Saltwater intrusion can increase the salinity of water produced by pumping wells. Historical data suggest landward flow from beneath the ocean and bay, but most pumping wells do not show substantial increases in the salinity of the well water. Basin-wide groundwater storage and quality monitoring are needed to identify saltwater intrusion and provide the technical information needed to develop the appropriate response if intrusion is occurring.

TIER I ACTIVITIES

Technical

The Tier I implementation activities are related to groundwater storage and quality monitoring:

- Establish a groundwater storage and quality-monitoring network.
- Prepare semiannual summary reports for the basin.
- Determine sites needed for salt-water monitoring wells.

These activities will not create significant new costs other than those identified as part of the groundwater storage and quality monitoring planning element.

TIER II ACTIVITIES

Technical

The Tier II implementation activities are related to groundwater storage and quality monitoring:

- Install dedicated monitoring wells in key areas near the Pacific Ocean and south San Francisco Bay where data are needed and wells are currently absent.
- Include private wells into the monitoring network.

If monitoring activities identify a saltwater intrusion problem, efforts will be needed to identify the problem scope and alternative responses.

Public Outreach

Communication on monitoring efforts to detect saltwater intrusion is useful information but not a high priority. It becomes a priority and a required action when and if an actual saltwater intrusion problem occurs. At that time, the following actions may occur.

- Compile research on saltwater intrusion monitoring efforts in the basin and other saltwater intrusion problems within the state.
- Communicate directly with large property well owners on the potential for problems and the importance of proactive management.
- Develop newsletter articles and press contingency statements outlining the monitoring efforts, previous and current remediation work in the state and the efforts currently under way to remediate problems in the basin.
- Develop a media relations plan to work with press during remediation efforts.

CONJUNCTIVE USE

Conjunctive use is a water management technique that is gaining recognition throughout California as a cost-effective alternative for increasing reliability of the water supply, particularly during droughts. Conjunctive use in the Westside Basin can provide water supply benefits to all users in the basin who participate in an agreement to coordinate the use of groundwater and surface water supplies.

While the operational details have yet to be developed by the participating parties, the principles of a conjunctive use plan can be stated here. During wet years, imported water and local runoff can be stored in the Westside Basin using passive methods to increase groundwater replenishment. Passive groundwater replenishment, or "in-lieu recharge," occurs when increased surface water use replaces groundwater extraction. Reduced pumpage and greater deep percolation of imported surface water causes groundwater storage to increase.

The water stored in the groundwater basin is then available for use during dry years, when imported water and local runoff are reduced. Increased reliance on groundwater during droughts reduces demand on the available surface water supply, which can be redistributed to users with limited access to groundwater facilities. All users enjoy higher supply reliability during droughts.

Approximately 30 percent of total water use in the basin is currently from local groundwater. Therefore, in-lieu recharge can be used to store 30 percent of annual water demand in the basin, although facility upgrades may be needed to integrate this storage into an operational conjunctive use system. In addition, since groundwater must be blended with a minimum amount of surface water to meet water quality criteria for municipal treatment systems, the practical rate of in-lieu recharge will be somewhat less than 30 percent of annual water use. Nevertheless, the potential for conjunctive use to increase water supply reliability during droughts is substantial. The following activities are designed to transform that potential into a reality.

TIER I ACTIVITIES

Technical

The following activities will comprise Tier I.

- Develop a model conjunctive use agreement. A model agreement will describe operational concepts, including the voluntary nature of the agreement, identification of participants, recharge and extraction mechanisms, and the distribution of water supply benefits. Numerical values, such as caps on water use

and cost sharing for new facilities, will be negotiated among the participants outside of the model agreement.

- Pursue agreements with participating agencies and other groundwater users to enhance in-lieu recharge. Examples include routing of storm water into Lake Merced and water conservation efforts that enhance recharge from deep percolation and seepage from creeks.

- Implement the groundwater storage and quality monitoring element in this plan.

- Using data from the monitoring program, conduct an analysis to determine the operational storage capacity of the Westside Basin.

Public Outreach

Public outreach for conjunctive use includes developing a public education and outreach program that targets messages to policy makers, public agencies, and the public. This task would include education to familiarize all audiences with conjunctive use efforts currently under way and its value to preserve existing water resources. The education and outreach task include the following:

- Meet with other potential partners (jurisdictions) to discuss opportunities (Burlingame, Colma, Millbrae, and South San Francisco).

- Develop educational materials that focus on the need to protect the water supply through conjunctive use. Materials may include a quarterly newsletter, a speaker's bureau presentation (adult and children), and educational posters.

- Explore the availability of funds to implement or supplement public outreach programs on conjunctive use.

TIER II ACTIVITIES

Technical

The following activities will comprise Tier II.

- Complete a conjunctive use agreement. The agreement will include establishment of a joint cooperative venture that qualifies for funding from outside sources.

- Explore funding sources for joint collaborative projects. Potential sources include CalFed and individual federal and state programs.

- Develop joint facilities needed to implement the conjunctive use agreement.
- Develop a system for an ongoing audit of storage and yield of the basin.

Public Outreach

Tier II public outreach activities include a targeted outreach program to promote the value of a joint collaborative conjunctive use program among the partners. This work includes the following:

- Developing talking points and issues papers outlining the value to jurisdictions of a joint collaborative program. These tools will be used to obtain support from elected officials and policy makers for a collaborative conjunctive use program.
- Continue outreach and education on the costs and benefits of a conjunctive use program given a possible bond measure or water user rate increase for elected officials, policy makers, and the public. This can include one-on-one meetings with policy makers, continued presentations to businesses and community groups, media briefings, and question and answer sheets on the topic.

RECYCLED WATER

Recycled water is another water management technique for increasing the reliability of the regional water supply. Like conjunctive use, recycled water can provide water supply benefits to all users in the basin who participate in an agreement to integrate recycled water into the regional water supply.

Under a recycled water program, wastewater from one or more of the treatment plants in the Westside Basin would undergo tertiary treatment and then be distributed for turf and landscape irrigation. The groundwater that would have otherwise been used for irrigation becomes available for municipal and industrial use or can be stored in the groundwater basin for future droughts. By utilizing water that otherwise would be discharged to the Pacific Ocean or San Francisco Bay, a recycled water program would create a new supply that enhances water supply reliability for the region.

TIER I ACTIVITIES

Technical

The following activities will comprise Tier I.

- Develop a model recycled water agreement. The model agreement will describe operational and financial concepts, but will not specify numerical values on water usage or prices.

- Develop financial incentives to encourage golf courses and cemeteries to participate in a recycled water program. Potential financial incentives will include funding from the U.S. Bureau of Reclamation, the California State Water Resources Control Board, and the CalFed program for the Bay-Delta. The incentives will recognize that a diversification of financing sources (e.g., loans and grants, recycled water sales revenues, fixed revenues such as standby charges) is the key to developing a fiscally sound recycled water project.

- Develop a model agreement for the use of recycled water in Lake Merced.

- Upon completion of the draft plan for the Bay Area Regional Recycling Program, identify opportunities for integration with recycled water projects in the Westside Basin.

Public Outreach

Developing a public education and outreach program that targets messages to policy makers, public agencies, and the general public is key to acceptance of a recycled water program. The Tier I tasks include educating audiences on recycled water use to help preserve existing water sources. This effort will include:

- Education on the value of a recycled use program, existing programs, and possible uses of recycled water.
- Targeted messages for policy makers, elected officials, public agencies, and the general public are recommended. The messages should address concerns about health and safety, the need to replenish existing sources, and future projected water shortfalls.
- Education on the need for a recycled use program given the projected future shortfalls and the need to manage the Westside Basin.
- Investigations into the availability of funds to implement public outreach programs and piggyback on existing outreach efforts.

TIER II ACTIVITIES

Technical

The following activities will comprise Tier II.

- Complete a water recycling agreement. The agreement will include establishment of a joint cooperative venture that qualifies for funding from outside sources.
- Develop facilities and infrastructure needed to implement the program described in the agreement.

Public Outreach

The public outreach efforts in Tier II include a targeted outreach program to promote the value of a joint collaborative recycled water program. This includes continued outreach and education on the costs and water supply gains of a recycled use program, given a possible bond measure or water rate increase.

SOURCE WATER PROTECTION

Stakeholders have expressed concern about potential contamination of the groundwater supply by methyl tertiary butyl ether (MTBE). Wellhead protection programs can reduce potential groundwater contamination by MTBE as well as other constituents of concern in the Westside Basin.

TIER I ACTIVITIES

Technical

The following activities will comprise Tier I.

- Complete a source water assessment for the Westside Basin using statewide source water assessment methodologies, modified to account for specific hydrologic conditions in the basin. The modifications will include explicit recognition of the depth to well screens and the associated vertical travel times for potential contaminants. The assessment will include identification of potential contamination sites and determination of recharge areas and approximate groundwater-flow paths to the well screens.

- Establish protocols for remediation efforts in conjunction with County offices.

- Develop an agreement with the San Mateo County Department of Health to maintain source water assessment data.

Public Outreach

Public outreach at the Tier I level includes collaboration with other agencies moving toward the start of source water protection education and outreach program. This includes:

- Targeted education and outreach on the need for a program and the potential impacts on businesses and individuals because of land use and zoning restrictions. Targeted education can include information dissemination through existing city and county storm water programs.

- Collaborative education efforts with existing storm water and hazardous waste protection programs. This includes collaboration with existing programs in each city and with County efforts.

- Work with statewide source water assessment program to provide education and outreach.

TIER II ACTIVITIES

Technical

The following activities will comprise Tier II.

- Complete a one-time sampling and analysis of water samples from monitoring and production wells using age-dating and isotopic techniques. The information will be used to determine recharge rates and potential contaminant travel times to production wells.

- Implement a source water protection program. The program will include developing land use and zoning recommendations for various planning authorities, and establishing mitigation programs to protect source water sites.

Public Outreach

Tier II work tasks include starting a source water education program. It could begin up to one year before the start of a source water protection program. It can include:

- Posters on source water protection for distribution at public sites within the basin (schools, offices)

- Public service announcements explaining the value and need for source water protection programs.

- Targeted outreach to decision makers and business leaders on the need for a source water program. This includes developing talking points and presentations for individual presentations.

- Develop outreach program that includes speaker's bureau presentations outlining the need for the program and its potential affects on businesses and individual in the source water protection zones.

The following list summarizes the Tier I tasks for each plan element.

TECHNICAL TASKS

GROUNDWATER STORAGE AND QUALITY MONITORING

- Data Collection
  - Collect data on monthly deliveries of surface water and groundwater.
  - Establish a groundwater monitoring well network, using existing shallow and deep wells.
  - Collect static water levels semiannually, using a standard field sheet and data collection protocols.
  - Sample monitoring wells semiannually for pH, dissolved solids, alkalinity, chloride, sulfate, calcium, magnesium, sodium, iodide, bromide, nitrate, iron, and manganese.
  - Integrate monitoring activities with data collection efforts to preserve the integrity of Lake Merced and understand its relationship with the underlying shallow aquifer. Support the installation of lake level gauges on North and Impound Lakes and monitoring of groundwater conditions in the shallow and deeper aquifers in areas next to Lake Merced.
- Data Analysis
  - Compile and compute monthly water inflows and outflows to and from the basin (precipitation, surface water deliveries, pumping, potential evapotranspiration, measured and estimate runoff in creeks, and wastewater discharge).
  - Construct time-series plots showing historical water levels in wells.
  - Develop maps showing lines of equal groundwater elevations in the water table and deep aquifer system.
  - Develop maps showing the change in groundwater elevations from the previous monitoring event.

- Construct time-series plot showing historical changes in groundwater storage and pumpage.
- Construct time-series plots showing historical chloride ion concentrations in well-water samples.
- Develop maps showing chloride ion concentrations in well-water samples in the water table and deep aquifer system.
- Construct time-series plots showing historical chloride-to-boron and chloride-to-bromide ratios in well-water samples.

- Data Reporting
  - Develop brief data reports in the form of understandable text and graphics that describe the above analysis.
  - Distribute report copies semiannually to all of the participating agencies, local libraries, San Mateo County, and other interested stakeholders.

SALINE WATER INTRUSION

- Establish a groundwater storage and quality monitoring network.
- Prepare semiannual summary reports for the basin.
- Determine sites needed for saltwater monitoring wells.

CONJUNCTIVE USE

- Develop a model conjunctive use agreement.
- Pursue agreements with participating agencies and other groundwater users to enhance in-lieu recharge.
- Implement the groundwater storage and quality monitoring element in this plan.
- Using data from the monitoring program, conduct an analysis to determine the operational storage capacity of the Westside Basin.

RECYCLED WATER

- Develop a model recycled water agreement.

- Develop financial incentives to encourage golf courses and cemeteries to participate in a recycled water program.
- Develop a model agreement for the use of recycled water in Lake Merced.
- Upon completion of the draft plan for the Bay Area Regional Recycling Program, identify opportunities for integration with recycled water projects in the Westside Basin.

SOURCE WATER PROTECTION

- Complete a source water assessment for the Westside Basin using statewide source water assessment methodologies, modified to account for specific hydrologic conditions in the basin.
- Establish protocols for remediation efforts in conjunction with County offices.
- Develop an agreement with the San Mateo County Department of Health to maintain source water assessment data.

PUBLIC OUTREACH TASKS

GROUNDWATER STORAGE AND QUALITY MONITORING

- Communicate with private well owners
- Develop a database listing of all private well owners within the basin.
- Develop a mailer for distribution to well owners, alerting them of the importance and need to monitor wells.
- Conduct telephone calls or visits, depending on the water usage of the well owner to follow up on potential monitoring activities.
- Prepare a second mailer that discusses some of the positive measures various well owners have taken or are taking to influence those who are not participating.
- Develop presentation package for speakers bureau.
- Provide education on hydrology of the basin, including its relationship to surface water bodies and the need for monitoring.

- Integrate with existing agency speaker's bureau programs and actively maintain a rotating schedule of presentations.

- Use existing mailer text for publication in local agency newsletters to explain the basin and the groundwater storage and monitoring program.

- Include an insert to water bills that reports the relative quantity of groundwater and surface water comprising the local drinking water supply.

CONJUNCTIVE USE

- Meet with other potential partners (jurisdictions) to discuss opportunities (Burlingame, Colma, Millbrae and South San Francisco).

- Conduct an education effort on the value of a conjunctive use program and actions currently in progress.

- Explore the availability of funds to implement or supplement public outreach programs on conjunctive use.

RECYCLED WATER

- Develop educational materials, such as a newsletter, a speaker's bureau presentation, and educational posters, on the value of a recycled use program. Borrow information from the statewide WateReuse program and other successful efforts in southern California and in Santa Clara County.

- Explore the availability of funds to implement public outreach programs and piggyback on existing outreach efforts.

SOURCE WATER PROTECTION

- Develop targeted education and outreach on the need for a program and the potential impacts on businesses and individuals because of land-use and zoning restrictions. Targeted education can include information dissemination through existing city and county storm water programs.

- Collaborate education efforts with existing storm water and hazardous waste protection programs. This includes collaboration with existing programs in each city and with County efforts.

- Work with statewide source water assessment program to provide education and outreach.

The following list summarizes the Tier II tasks for each plan element.

TECHNICAL TASKS

GROUNDWATER STORAGE AND QUALITY MONITORING

- Expand Monitoring Activities
  - Install new monitoring wells.
  - Establish program and protocol for monitoring private wells.
- Groundwater Investigation
  - Sample monitoring wells for isotopic and age-dating analysis
  - Characterize recharge rates and sources.

SALINE WATER INTRUSION

- Install dedicated monitoring wells in key areas.
- Include private wells into monitoring network.

CONJUNCTIVE USE

- Complete a conjunctive use agreement.
- Explore funding sources for joint projects.
- Develop joint facilities needed for conjunctive use.
- Develop an ongoing audit system.

RECYCLED WATER

- Complete a recycled water agreement.
- Develop facilities and infrastructure.

SOURCE WATER PROTECTION

- Complete a one-time sampling of monitoring wells to determine potential contaminant travel times to production wells.
- Implement a source water protection program, including recommendations for land use and zoning.

PUBLIC OUTREACH TASKS

GROUNDWATER STORAGE AND QUALITY MONITORING

- Establish a task force to coordinate activities with private well owners.
  - Use private well owner database to develop task force.
  - Meet with affected communities.
  - Evaluate responsibilities of task force.
- Develop educational materials on monitoring program.
  - Write feature articles.
  - Provide educational mailers for water bills.
  - Arrange for speaking engagements.

SALINE WATER INTRUSION

- If saltwater intrusion is detected by the monitoring program, develop informational materials for public determination.

CONJUNCTIVE USE

- Develop talking points and issue papers on joint collaboration efforts.
- Continue outreach and education.

RECYCLED WATER

- Continue outreach and education collaborative efforts.

SOURCE WATER PROTECTION

- Develop a source water education program, including posters, public service announcements, and public presentations.

The following table provides estimates of staff resources and monetary costs needed to implement the Tier I and Tier II tasks for groundwater storage and quality monitoring. Estimates are preliminary at this time.

Resources Needed to Implement Groundwater Storage and Quality Monitoring			
	Full-Time Equivalent Staff		Direct Costs ($)
	Year 1	Subsequent Years	
Tier I			
Technical			
Data Collection	0.50	0.30	
Data Analysis	0.15	0.10	
Semi-Annual Reporting	0.20	0.20	1,000
Public Outreach	0.20	0.20	4,000
Subtotal	1.05	0.80	5,000
Tier II			
Technical			
New Wells for Expanded Monitoring	N/A	N/A	216,000
Groundwater Investigation	0.25	N/A	20,000
Public Outreach	0.25	0.10	2,000
Subtotal	0.50	0.10	238,000

TECHNICAL MEMORANDUM NO. 2

HYDROLOGIC CONDITIONS IN THE WESTSIDE BASIN RELATING TO STAKEHOLDER ISSUES OF CONCERN

PREPARED FOR

WESTSIDE BASIN PARTNERS

PREPARED BY

BOOKMAN-EDMONSTON
ENGINEERING, INC.

AND

HYDROFOCUS, INC.

IN ASSOCIATION WITH

PUBLIC AFFAIRS MANAGEMENT

November 1998

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SECTION 1 INTRODUCTION

In July 1996, the cities of Daly City and San Bruno, the San Francisco Public Utilities Commission, and the California Water Service Company agreed to develop a groundwater management plan for the Westside Groundwater Basin following AB 3030 guidelines. The partnership agreed that groundwater users in the basin would benefit from a management plan aimed at protecting water quality and improving water supply reliability. Consultants were hired to assist in the development of the plan by conducting two simultaneous processes: public involvement to identify stakeholder concerns and technical analysis of the physical conditions in the Westside Groundwater Basin (herein referred to as the "Westside Basin"). This memorandum describes the results of the technical analysis.

The analysis merges the results of the public involvement effort and the available technical information for the Westside Basin. Results are presented that address important stakeholder concerns and provide the technical information needed on key elements of the groundwater management plan. The memorandum also identifies gaps in the available technical data and the associated uncertainties created for water management decisions. Strategies for filling the data gaps and increasing our understanding of physical conditions in the basin will be key elements of the groundwater management plan.

The plan document will incorporate information and analyses presented in this memorandum and will contain recommendations for implementing each element of the groundwater management plan. Recommendations will be based, in part, on the technical information presented here.

The information summarized in this memorandum is based on existing data and reports that have been developed as part of other on-going activities in the basin. A complete bibliography of the sources of data, electronic databases, published and unpublished reports, and maps used for this analysis is provided at the end of this memorandum.

SECTION 2 HYDROLOGY OF THE WESTSIDE BASIN

The Westside Basin underlies parts of San Francisco and northern San Mateo counties (Figure 2.1). The basin extends from Golden Gate Park in the north and past the San Francisco International Airport in the south. The basin extends to the west beneath the Pacific Ocean at least as far as the San Andreas fault and to the east an unknown distance beneath south San Francisco Bay. The cities of San Francisco, Daly City, South San Francisco, Colma, San Bruno, Millbrae, and parts of Burlingame and Hillsborough lie on top of the basin.

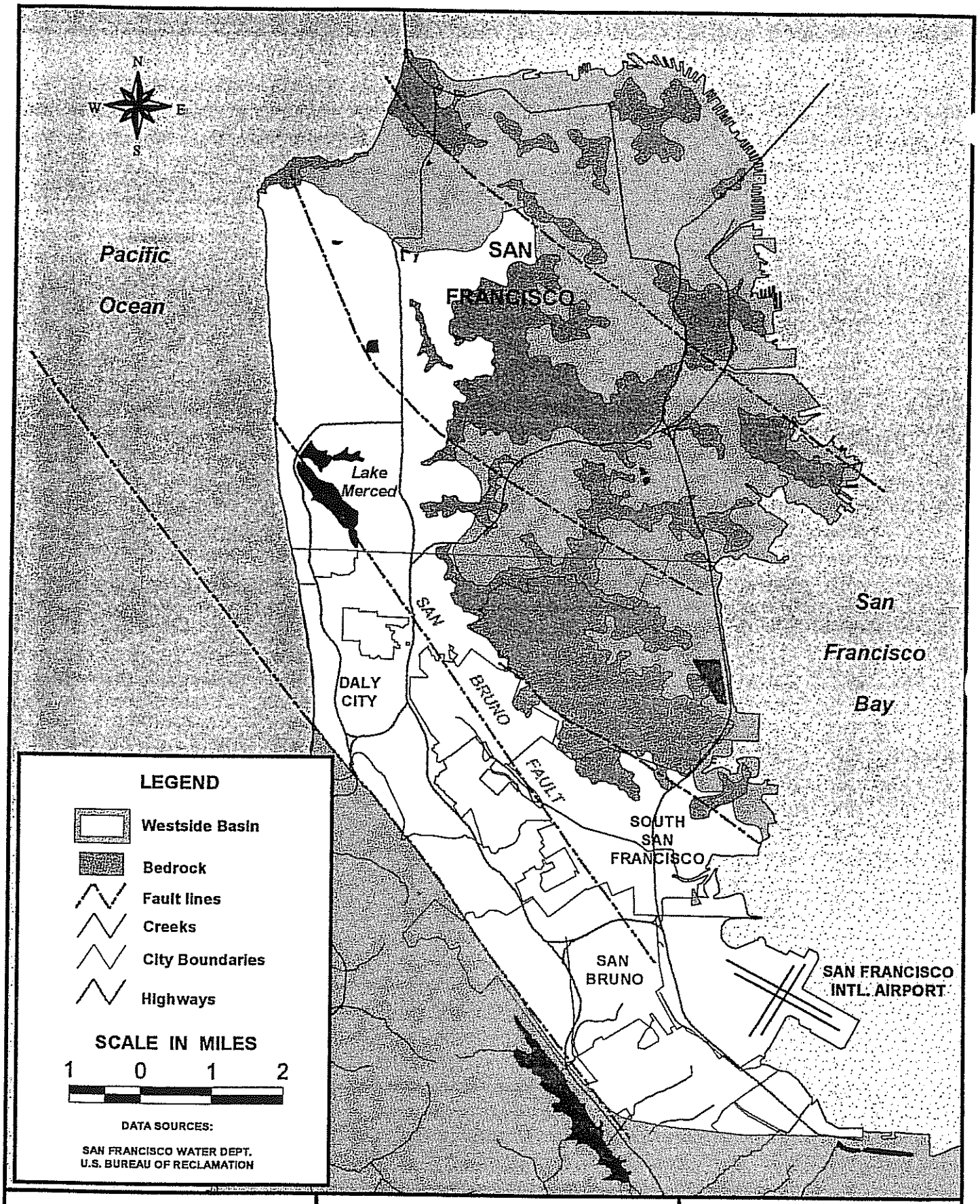
The Westside Basin can be conceptualized as a buried valley, where the walls and floor of the valley are formed by rock. This rock-bordered valley is filled with a mixture of coarse- and fine-grained sediments that can be as much as 3,700 feet thick in parts of the basin. The coarse-grained sediments consist of sand and gravel, and the fine-grained sediments consist of silt and clay. Sand and gravel can transmit substantial quantities of water to wells; whereas, silt and clay impede the movement of groundwater. Where silt and clay deposits form semi-continuous beds, they can effectively isolate the water table from underlying aquifers. Groundwater in the shallow water table aquifer is referred to as "unconfined", and the underlying aquifers separated from the water table by continuous and semi-continuous fine-grained beds is referred to as "confined." Both unconfined and confined conditions are found in the Westside Basin.

WATER USE

Groundwater pumping in the Westside Basin has provided a reliable water supply for municipal and irrigation uses for more than a century. Approximately 30 percent of the total water use in the basin is currently met by groundwater pumping (Table 2.1). Most of the pumpage in the basin occurs in San Mateo County (Figure 2.2), where groundwater is used to meet municipal demands for water. Pumped groundwater can supply as much as 50 percent of the drinking water to residents of some cities in the basin.

VOLUMETRIC GROUNDWATER BUDGET

A volumetric groundwater budget is an accounting of water additions and subtractions to the groundwater basin. The difference between the water added and subtracted is balanced by a change in groundwater storage. CH2M Hill (1997) estimated the water inflows, outflows, and storage changes in the Westside Basin during the period 1976-1995. The primary sources of inflow were precipitation and irrigation water moving downwards from the land surface into the groundwater system. Precipitation and irrigation contributed an average recharge of 8,600 and 4,300 acre-feet per year (ac-ft/yr), respectively. Additional sources of water added to the basin include leakage from Lake Merced and small lakes, streams, pipes, sewers, and subsurface inflows from upslope areas and the Pacific Ocean.



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WESTSIDE BASIN
GROUNDWATER MANAGEMENT PLAN

LOCATION OF WESTSIDE BASIN

WESTSIDE BASIN PARTNERS

FIGURE 2.1

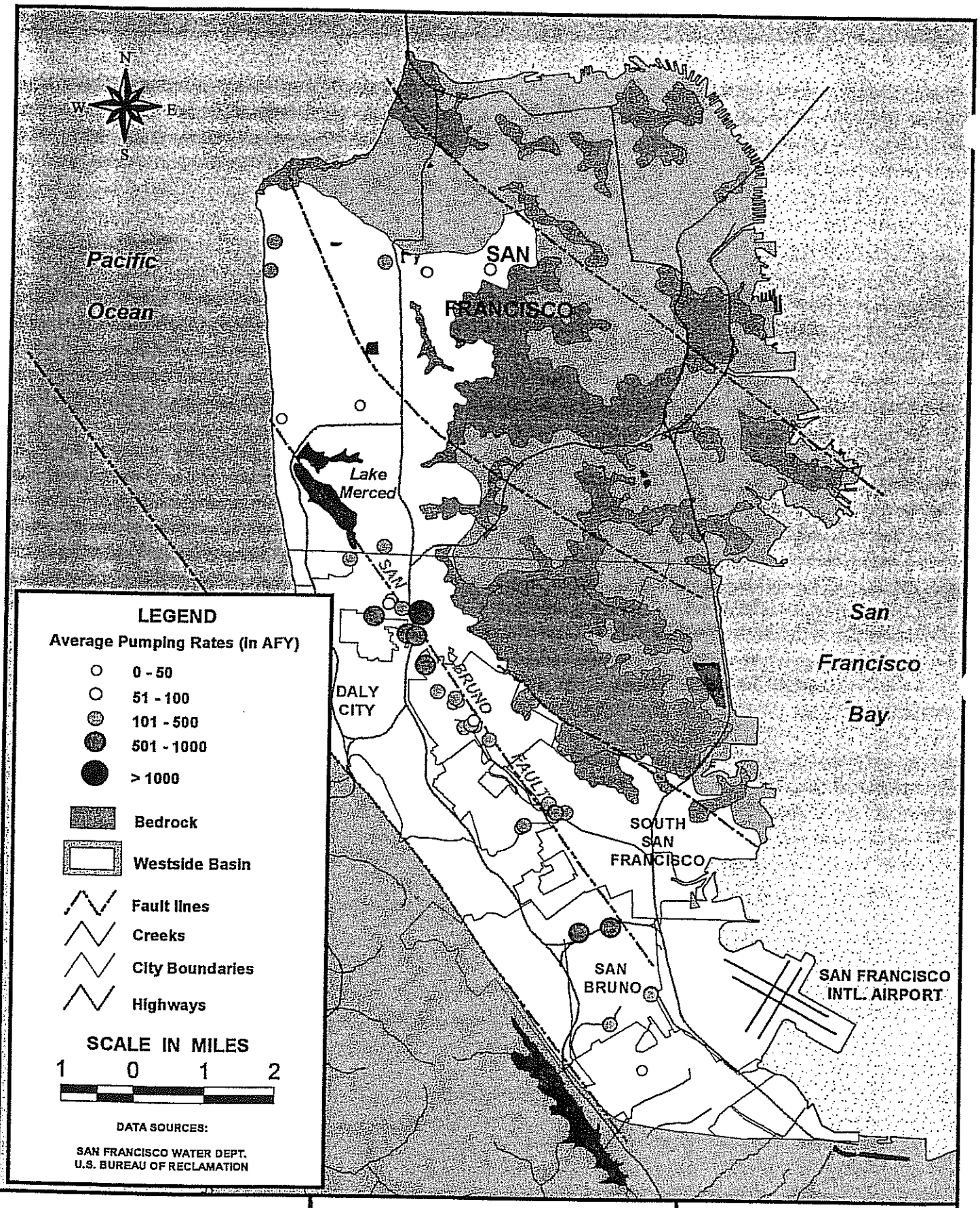
Table 2.1
Annual Water Use in the Westside Basin (1991-95)
(Acre-Feet per Year)

Well Owner	Groundwater	Surface Water	Total
Municipal			
California Water Service Company	1,375	6,270	7,645
Daly City	4,045	3,977	8,022
San Bruno	1,914	2,253	4,167
San Francisco		15,065	15,065
Subtotal	**7,334**	**27,565**	**34,899**
Irrigation and Parks			
Alvord Park	70		70
California Golf Club	264		264
Cypress Lawn	316		316
Edgewood School	10		10
Elk Glen	365		365
Eternal Home	90		90
Golden Gate Park	881		881
Green Hills	48		48
Hills of Eternity	115		115
Holy Cross	268		268
Home of Peace	96		96
Italian Cem.	76		76
Lake Merced Golf Club	454		454
Olivet	191		191
Olympic Club	401		401
Fleishacker Zoo	18		18
San Francisco Golf Club	192		192
Woodlawn	182		182
Subtotal	**4,036**		**4,036**
TOTAL	**11,370**	**27,565**	**38,935**

Sources: San Francisco Water Department (1996); California Water Service Company, Daly City, and City of San Bruno (written communication).

Pumpage is the primary outflow from the Westside Basin, averaging 11,100 ac-ft/yr during the period 1976-1995. Water subtractions also include seepage to lakes and streams and subsurface outflow to the Pacific Ocean and south San Francisco Bay.

The difference between water inflows and outflows is balanced by a change in the amount of water stored in the basin. Similar to a reservoir or lake, if more water is added than is subtracted the amount of water in the lake increases. Conversely, if more water is subtracted than is added the amount of water in the lake decreases. During the period 1976-1995, groundwater storage in the Westside Basin increased in some years and



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ENGINEERING, INC.

WESTSIDE BASIN
GROUNDWATER MANAGEMENT PLAN
AVERAGE ANNUAL
PUMPING RATES, 1991-1995
WESTSIDE BASIN PARTNERS

FIGURE 2.2

decreased in others. On the average, storage decreased by about 250 ac-ft/yr, equal to a cumulative net storage decrease of 5,000 acre-feet over the 20-year period. CH2M Hill (1997) estimated total groundwater storage in the Westside Basin at about one million acre-feet. Thus, the cumulative net decrease in groundwater storage during the 1976-1995 period is about 0.5 percent of total storage in the basin.

GROUNDWATER LEVELS IN WELLS

Groundwater levels in wells are used to determine groundwater flow directions and storage volumes. A change in water level from one location to another will generally induce groundwater movement from areas of high groundwater levels towards areas of lower groundwater levels. A change in groundwater levels over time is an indication of a change in groundwater storage. Increasing groundwater levels indicate increasing storage, while decreasing levels indicate decreasing storage.

Water levels measured in wells in the Westside Basin show the patterns of groundwater movement in the deep parts of the basin (Figure 2.3). In the north, groundwater moves from east to west, and most of the water added to the basin discharges to the Pacific Ocean. In the south, groundwater moves toward pumping centers within Daly City, San Bruno, and South San Francisco. The water levels also suggest that groundwater beneath the Pacific Ocean and South San Francisco Bay is moving in a landward direction. Landward flows from beneath these saltwater bodies suggest saltwater intrusion may be occurring within the Westside Basin. Chloride data from municipal supply wells, however, do not indicate any significant impact from intrusion on groundwater supply, as described in Section 3 of this report.

Water levels in the deep aquifer have been fairly steady since 1965 (Figure 2.4). The annual and seasonal variations in water levels parallel the annual and seasonal variations in weather. For example, Phillips and others (1993) reported declining trends in water levels in the City of San Francisco and the Lake Merced area during the period 1987-92. They attributed the decline in water levels to reduced groundwater recharge during the concurrent drought. Seasonal variations in water levels also reflect seasonal changes in pumping.

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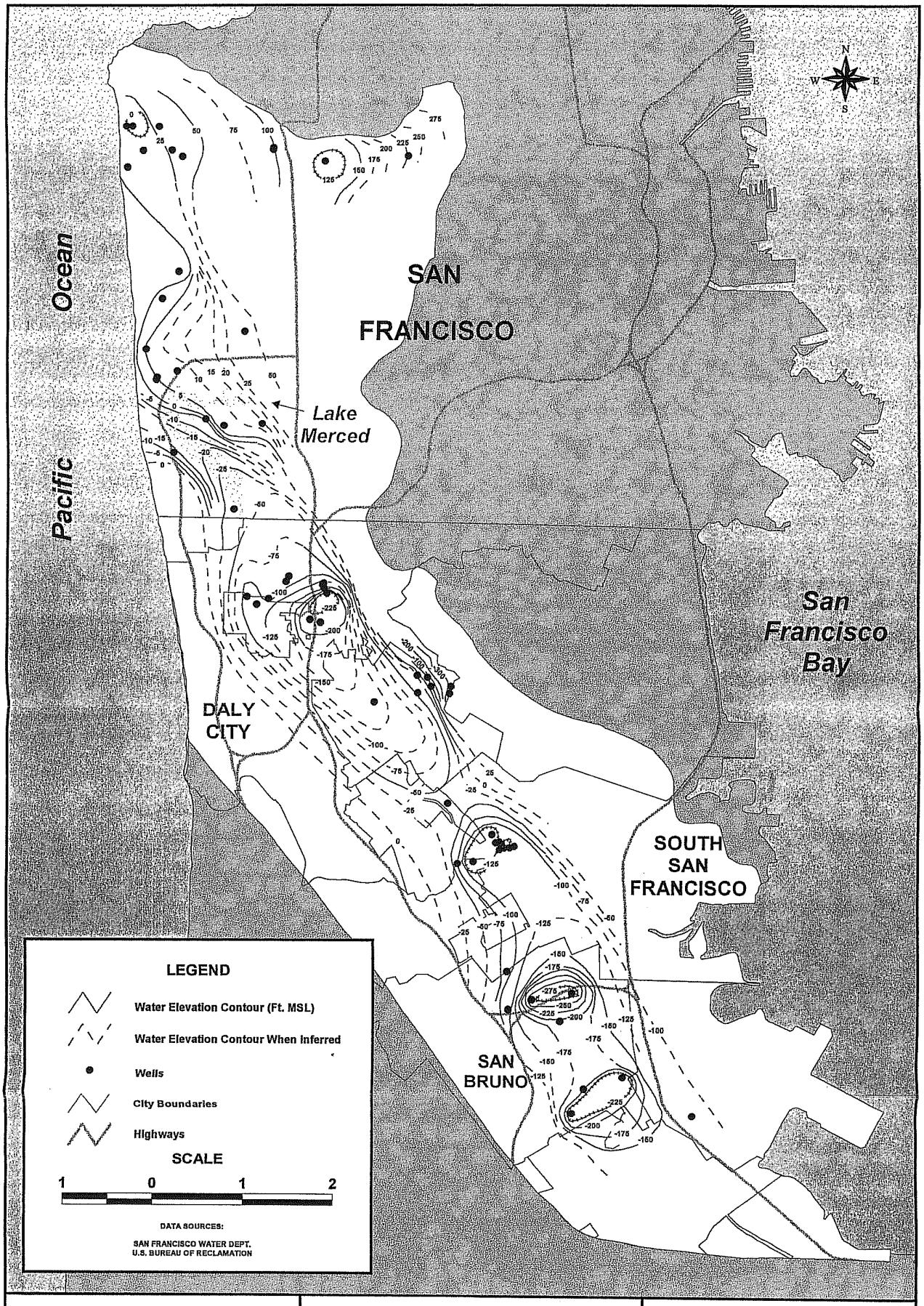

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WESTSIDE BASIN
GROUNDWATER MANAGEMENT PLAN

LINES OF EQUAL GROUNDWATER ELEVATIONS, SPRING 1996

WESTSIDE BASIN PARTNERS

FIGURE 2.3

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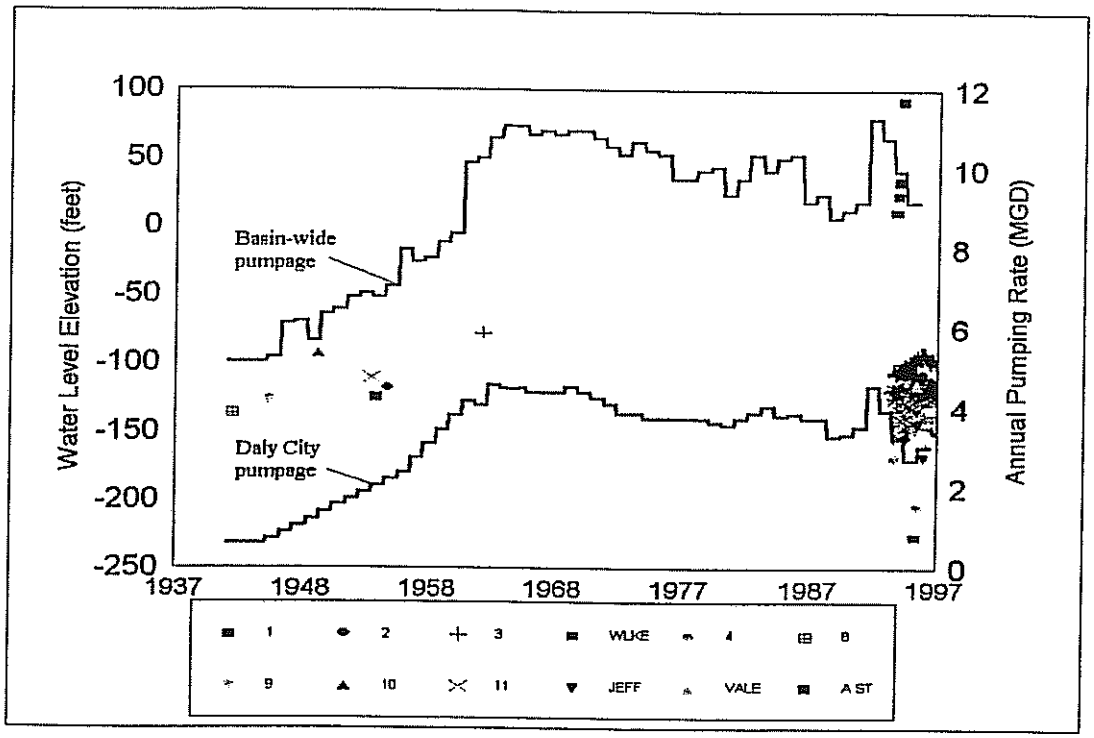


Figure 2.4a Groundwater Levels in Deep Wells Located in Daly City (1937-1997)

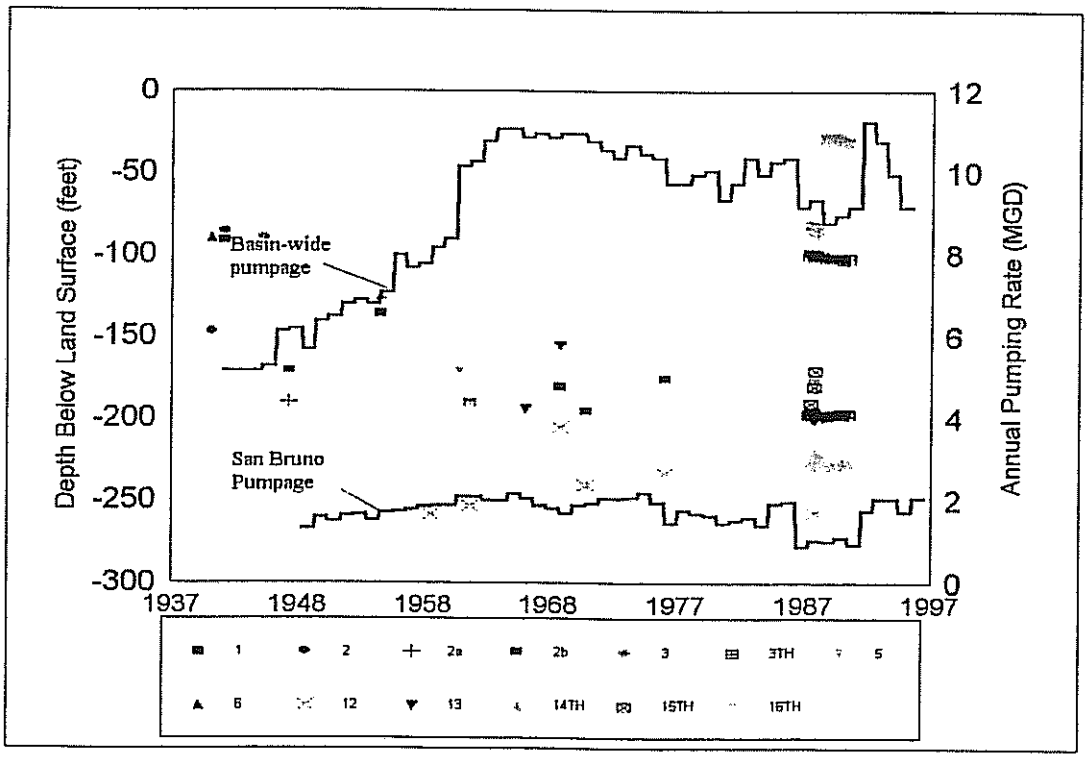


Figure 2.4b Groundwater Levels in Deep Wells Located in San Bruno (1937-1997)

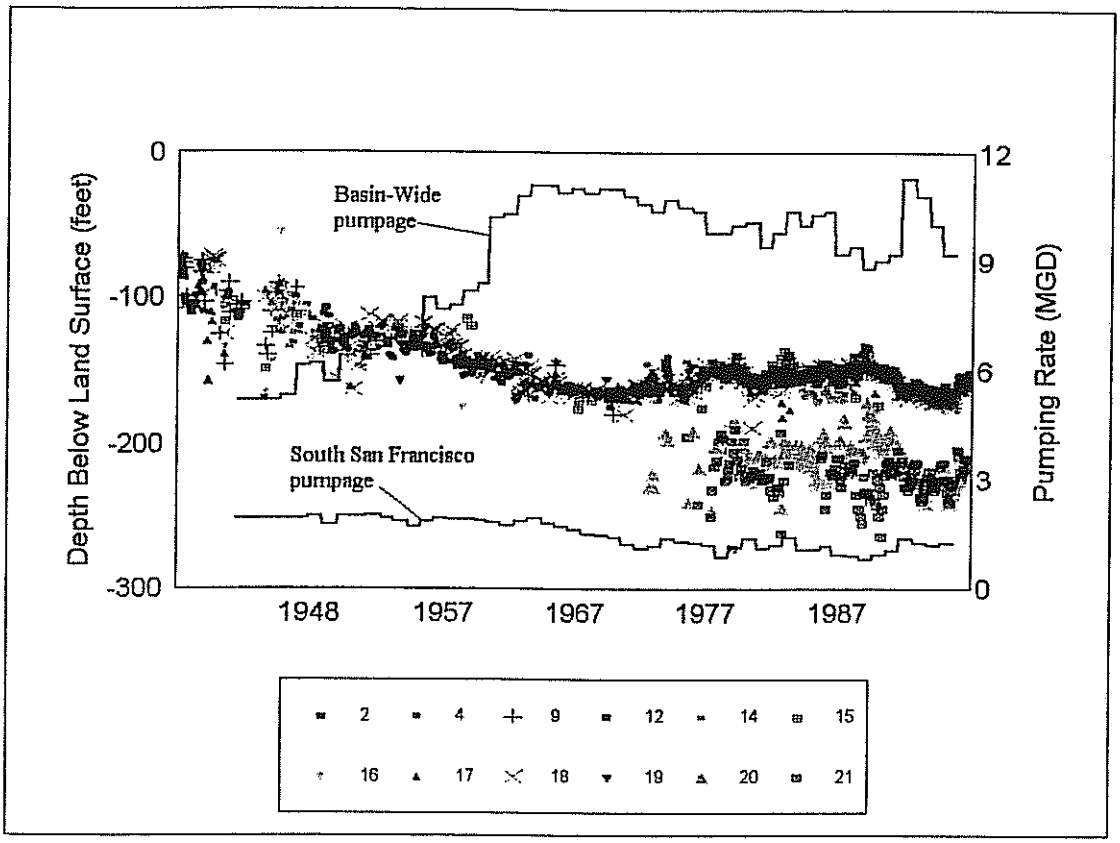


Figure 2.4c Static Depth to Water in Deep Wells Located in South San Francisco (California Water Service Company) (1937-1997)

SECTION 3 PUMPING EFFECTS ON THE HYDROLOGY OF THE WESTSIDE BASIN

GENERAL PRINCIPLES

Initially, the water in any well is in equilibrium with the groundwater in the adjacent aquifer. When the well pump is activated, water is removed from the well and the water level within the well declines. The lower water level induces the inflow of water from the adjacent aquifer, causing a reduction of water levels within the aquifer. The lowering of water levels in the well and aquifer is referred to as the cone of depression (Figure 3.1). The cone of depression can extend from a few feet to several thousand feet from the well, depending upon the pumping rate and the hydrogeologic properties of the aquifer. Where multiple wells are pumping, their pumping effects on groundwater levels are additive (Figure 3.2).

Pumping from a well perforated in an unconfined water table aquifer results in a lowering of the water table. The water extracted by the well comes from the dewatering of the aquifer (Figure 3.1a), where the void space between solid aquifer particles empties of water and fills with air. Because the pumping results in a direct lowering of the water table, wells perforated in the water table aquifer have a direct impact on the water table.

In contrast, pumping from a well perforated in a confined aquifer does not normally cause a dewatering of the aquifer (Figure 3.1b). Pumping decreases the hydraulic pressures within the aquifer near the well, inducing groundwater movement into the well. Most of the water extracted by the well is from groundwater moving horizontally toward the well. The effects of de-pressuring spread throughout the groundwater system, where the direction and the rate of the effects depend upon the pumping rate and the hydrogeologic properties of the aquifer. The effects are generally greatest in horizontal directions and smallest in vertical directions. Additionally, the effects on an overlying water table aquifer will be attenuated by the fine-grained sediments that separate the aquifers. Because the pumping does not result in a direct lowering of the water table, wells perforated in a confined aquifer have an indirect impact on the shallow water table.

In San Mateo County, groundwater elevations measured in wells show large cones of depression as a result of decades of pumping from numerous municipal and private wells (Figure 2.3). These wells are pumping from deep aquifers, which are separated from the overlying water table by beds of silt and clay. Pumping from these deep wells can increase downward leakage from the water table, but most of the extracted water comes from horizontal movement within the deep aquifers. Hence, pumping from most wells in the Westside Basin has an indirect impact on the water table.

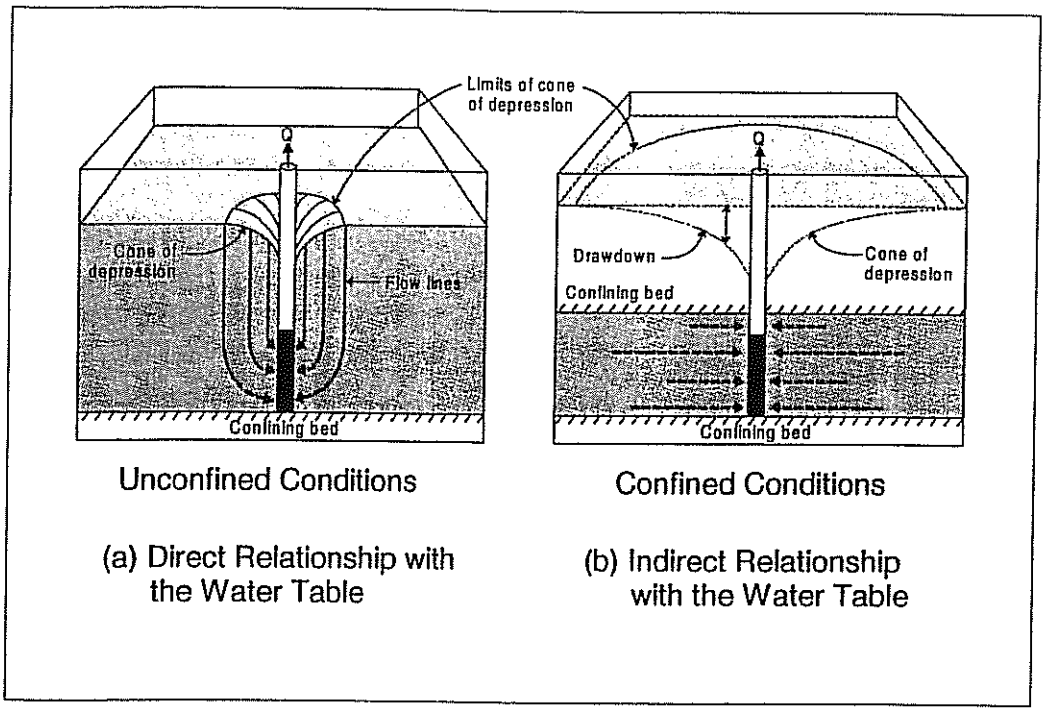


Figure 3.1 Sources of Water to a Pumping Well Under Unconfined and Confined Conditions

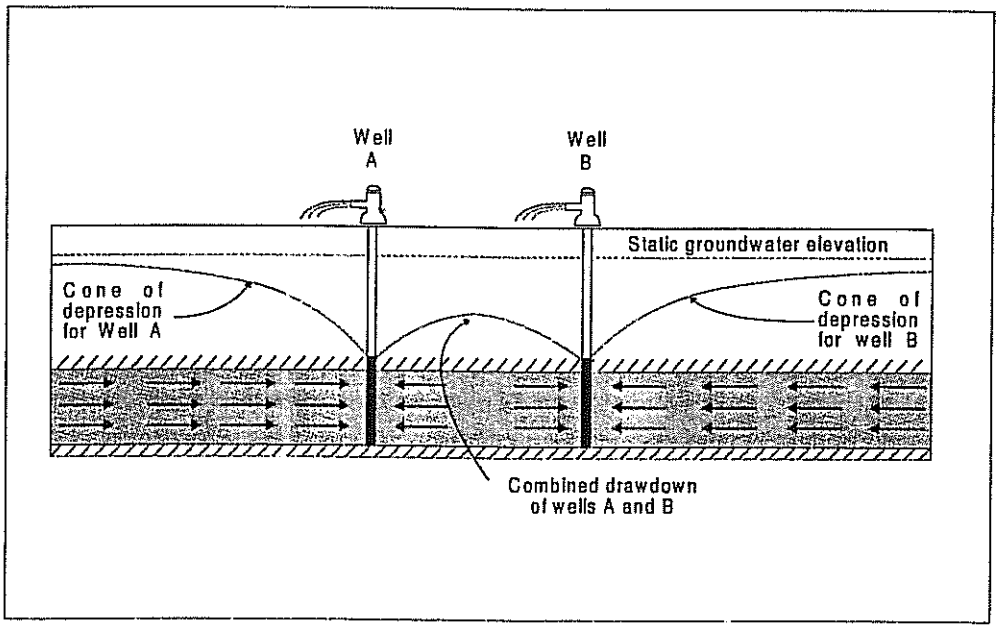


Figure 3.2 Hydraulic Interference Between Pumping Wells

LAKE MERCED

Lake Merced was originally developed as a potable water supply for San Francisco in the 1870s by the Spring Valley Water Company. Since 1950, under a memorandum of understanding between the San Francisco Public Utilities Commission and the San Francisco Recreation and Parks Department, the lake has been developed for beneficial recreational uses and has maintained its status as an emergency water supply (Geo/Resources Consultants, Inc., 1993). Lake Merced is hydraulically connected to the shallow water table system. Historically, the natural movement of groundwater in the Lake Merced area was westward and toward the Pacific Ocean (Bartel, 1913). Groundwater seeped into the lake from the east and leaked out from the west and into the Pacific Ocean.

Seasonal and annual water levels in Lake Merced have shown a net decline and recovery of about seven feet during the last decade (Figure 3.3). Long-term declines in lake levels have coincided with several droughts, the most severe occurring during 1977-78 and 1987-92 (San Francisco Water Department, 1996). Reduced surface water inflows from precipitation and diversion of stormwater runoff that formerly entered the lake have contributed to the net decline in lake levels. In contrast, during the wet period 1994-1997, greater rainfall and approximately 400 acre-feet of surface water added to the lake contributed to a net increase of more than 6 feet in lake levels (San Francisco Water Department, 1996).

Figure 3.3 shows that lake levels respond consistently to changes in precipitation and that lake levels exhibit a weak or zero response to changes in pumpage. Figure 3.3a compares lake levels to the annual precipitation change from the long-term annual average. The zero line and a wet year plots above. Figure 3.3b shows annual basin-wide pumpage and surface water additions to the lake. Lake levels declined about six feet during the period 1987-1991, when precipitation was very low. In contrast, pumpage was about average during this period. Lake levels increased during 1994-1997, when precipitation was high and pumpage was slightly above average. During 1992-1993, the lake level went up and then down, consistent with precipitation. Pumpage was high during this period.

The effect of pumping from deep wells on water levels in Lake Merced is determined by the magnitude of two distinct hydraulic connections: the connection between the deep aquifer and the shallow water table, and the connection between the water table and Lake Merced. Like water flowing through a pipe with two valves, the relationship between pumping and Lake Merced is controlled by the two distinct connections. The connection between the deep aquifer and the water table is known to be indirect, while the connection between the water table and Lake Merced is uncertain. The uncertainty derives from insufficient data. Whatever the degree of connection between the water table and Lake Merced, the effect of pumping from deep wells on water levels in Lake Merced is indirect.

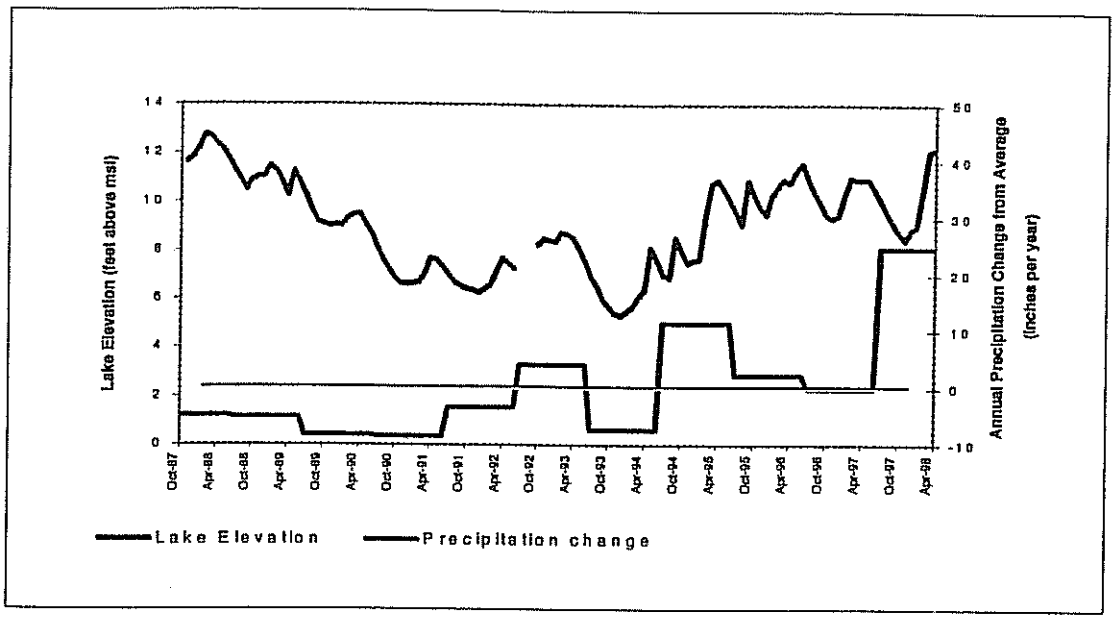


Figure 3.3a Lake Merced Water Levels and Annual Precipitation (1987-1998)

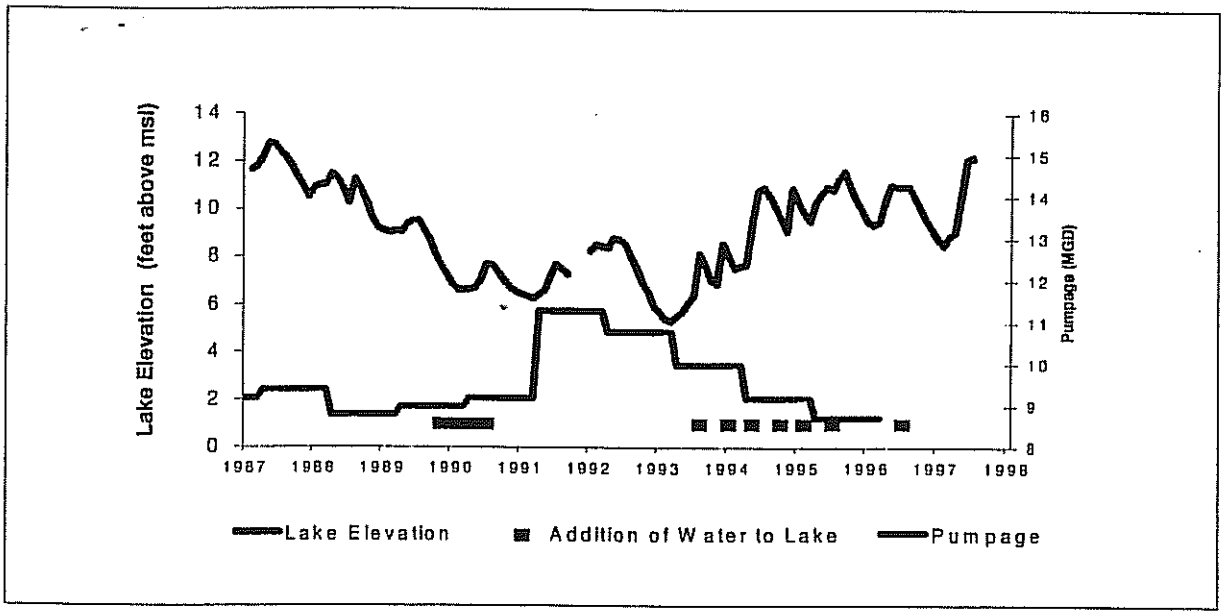


Figure 3.3b Water Levels, Annual Basin-Wide Pumpage, and Surface Water Additions to Lake Merced (1987-1998)

The indirect relationship between deep pumping wells and Lake Merced explains why leakage rates from the lake are small relative to pumpage in the Westside Basin. For example, previous studies by the U.S. Geological Survey (Yates and others, 1990) and CH2M Hill (1997) suggest that leakage from Lake Merced represents 0.2 to 3.8 percent of the pumpage in the Westside Basin. Volumetric water budgets calculated for Lake Merced conclude that evaporation is the primary water subtraction from the lake, comprising between 49 and 85 percent of the total lake outflows (Yates and others, 1990; CH2M Hill, 1997). Accordingly, increasing surface water inflows is a more effective strategy for increasing and managing lake levels than is curtailing pumpage in the Westside Basin (Geo/Resource Consultants, Inc., 1993).

SALTWATER INTRUSION

Saltwater intrusion is a potential concern in the Westside Basin because the Pacific Ocean and south San Francisco Bay are located at the western and southeastern boundaries of the basin. Drawdowns from pumping can induce the movement of saltwater into the aquifer and increase the salinity of water produced by wells. The potential for saltwater intrusion can be identified from maps showing lines of equal groundwater levels. Groundwater levels measured in wells tapping the deep aquifer suggest that groundwater beneath the Pacific Ocean is moving inland (Figure 2.3). For example, CH2M Hill (1997) reported modeling results indicating that approximately 1,300 ac-ft/yr of subsurface inflow to the basin originates in the Pacific Ocean. Similarly, groundwater levels in the deep aquifer near the San Francisco International Airport were more than 40 feet below mean sea level (Guidetti and Schaefer, 1995), suggesting that bay water is moving downward and toward inland pumping centers located northwest of the bay.

Because groundwater moves slowly, decades may be required for salt-affected groundwater to reach pumping wells in the Westside Basin. For example, Guidetti and Schaefer (1995) reported tritium data for well water samples from nine wells located in the cities of San Bruno and South San Francisco. The tritium data indicated that the water pumped by these wells entered the groundwater system more than 40 years ago. Tritium data from a deep well located at the San Francisco International Airport also indicated that the groundwater was "old" water. Trends of increasing salinity in groundwater could be gradual over time and therefore difficult to detect without relatively long-term records.

Chloride is the major anion in ocean and bay waters, and increasing chloride ion concentrations in groundwater may be the first indication of saltwater contamination. Chemical data for samples from most municipal supply wells in the Westside Basin do not show clear trends or substantial increases in chloride ion concentrations (Figure 3.4). In some wells, however, chloride ion concentrations have been increasing gradually. For example, several wells in Daly City indicate an average increase in chloride of between 0.5 and 1.0 milligrams per liter (mg/L) per year (Figure 3.4a). For example, chloride concentrations in well number 4 have increased approximately 15 mg/L over a 20-year period. Similarly, chloride ion concentrations in water produced by California Water

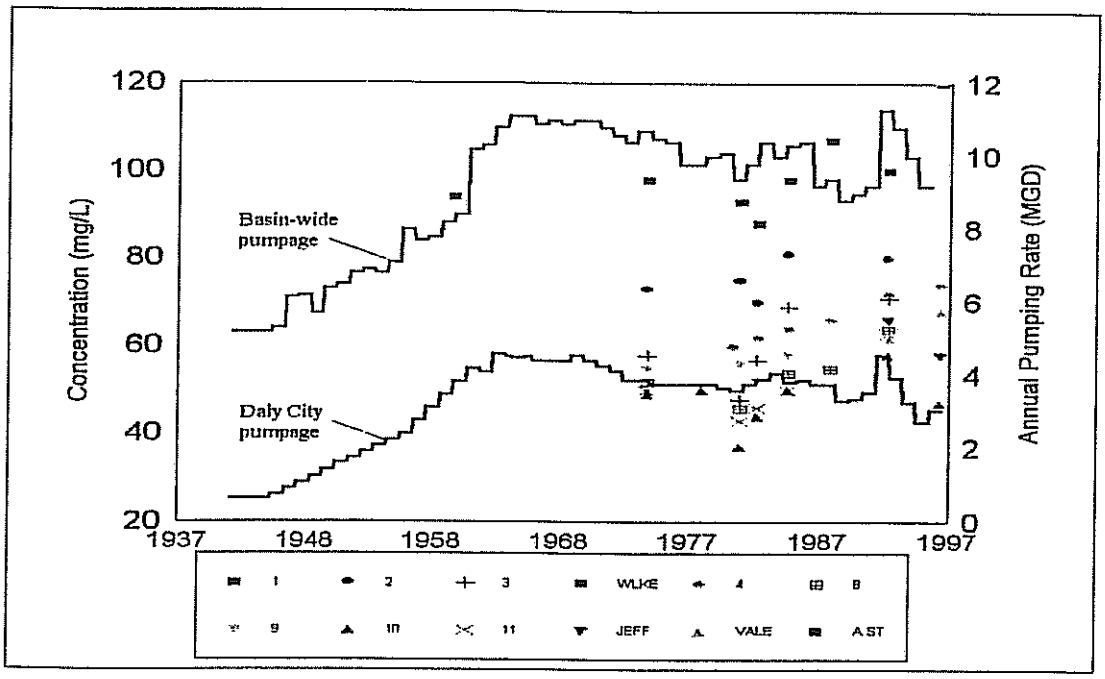


Figure 3.4a Chloride Ion Concentrations in Samples from Water Supply Wells in Daly City

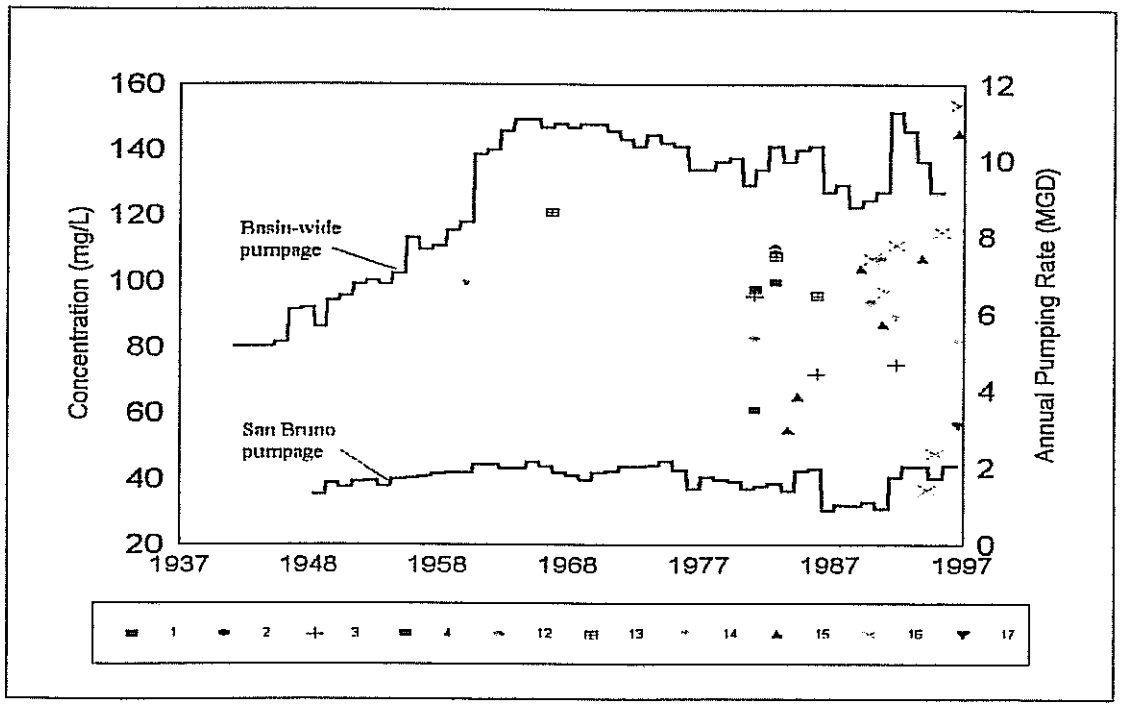


Figure 3.4b Chloride Ion Concentrations in Samples from Water Supply Wells in San Bruno

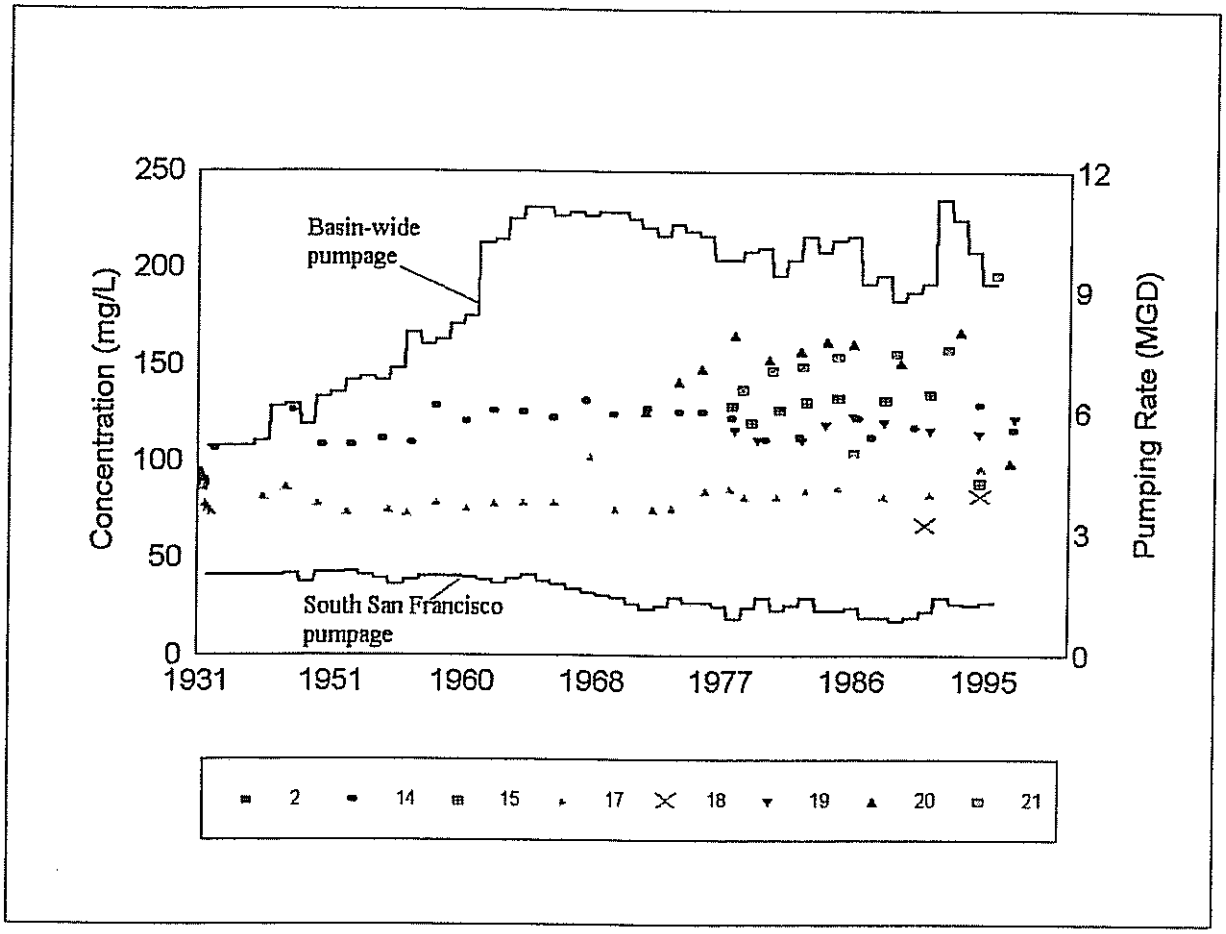


Figure 3.4c Chloride Ion Concentrations in Samples from Water Supply Wells in South San Francisco (California Water Service Company)

Service Company wells 20 and 21 have been increasing on the average by 1 to almost 3 mg/L per year (Figure 3.4c). The relatively modest increases in chloride ion in the Daly City wells could be the consequence of seawater intrusion if the forward edge of the seawater wedge was gradually mixing with relatively fresh groundwater. In south San Francisco, however, wells owned by the California Water Service Company located closer to south San Francisco Bay than wells 20 and 21 produce water with relatively constant concentrations of chloride ion. If direct intrusion of bay water were the source of chloride ion in wells 20 and 21, one would expect similar trends in the other nearby wells.

The upward movement of older, briny groundwater from underlying clays is also a plausible explanation for the increasing chloride ion concentrations in the Daly City and California Water Service Company wells (Applied Consultants, 1991; Phillips and others, 1993). The depth of these wells range from 500 to almost 600 feet beneath the land surface, and their well screens are separated from the water table and shallow aquifers beneath the ocean and bay by silt and clay deposits. These deposits impede the movement of salts and water from the shallow water table to the deep aquifers tapped by the pumping wells. Additional water level and water chemistry data are needed to identify the source of increasing chloride ion concentrations in the Westside Basin and its long-term implications for the quality of groundwater produced by pumping wells.

WELLHEAD PROTECTION

Stakeholders have expressed concern about potential contamination of the groundwater supply by methyl tertiary butyl ether (MTBE). MTBE is a chemical added to gasoline that is very soluble in water and extremely slow to biodegrade. MTBE in groundwater can originate directly from leaking underground fuel storage tanks or indirectly in percolating rainfall and stormwater runoff. Rainfall can "wash out" MTBE from the atmosphere, and runoff can gather MTBE residue from roads and parking lots. MTBE is a concern as a risk to human health and as a cause of poor odor and taste in drinking water. Due to its chemical properties, MTBE can be smelled and tasted at levels below the federal and state health advisory levels.

MTBE is less dense than water and under ideal conditions will "float" on the water table. Once it is introduced into an aquifer, MTBE can move to deeper parts of the system in response to pumping from nearby wells and recharge from water infiltrating past the soil surface. Accordingly, the potential introduction of MTBE within the regional recharge and discharge patterns shown in Figure 2.3 can impact the quality of the drinking water supply in the Westside Basin. Wellhead protection programs can reduce potential groundwater contamination by MTBE, as well as other constituents of concern in the Westside Basin.

Wellhead protection programs are designed to meet three objectives:

1. ***Reduce or eliminate contamination.*** Strategies can include public education, acquisition of lands, monitoring, promoting best management practices, zoning ordinances, subdivision controls, well permitting, and health regulations.

2. *Provide for alternative sources of emergency drinking water.* In the Westside Basin, potential water sources include groundwater, local runoff, and imported surface water.

3. *Plan for new wells and their protection areas.* Planning accounts for the amount and types of development surrounding potential future well sites, groundwater gradient and aquifer characteristics beneath the sites, and existing water quality in the aquifer.

In the Westside Basin, wellhead protection areas reflect the major pumping centers. Protection areas can be identified by the regional recharge and discharge patterns shown in Figure 2.3, and by the groundwater flow patterns near individual pumping wells.

The most appropriate means for delineating wellhead protection areas include a combination of hydrogeologic mapping and numerical modeling of groundwater flow and contaminant transport. An inventory of potential and confirmed soil and groundwater contamination sites located within the protection area is then completed to assess the risk of contamination to groundwater produced by the well. Previous studies have estimated the protection areas and contamination risk of municipal supply wells in Daly City and the greater San Bruno area using existing hydrogeologic data and analytical methods (Lee, 1993; Guidetti and Schaefer, 1995). These studies concluded that the areas contributing groundwater to pumping wells ranged from about 1,000 feet to more than one mile in diameter. Leaking Underground Fuel Tank (LUFT) sites within these areas were considered to represent the most serious threat to the groundwater supply because of the confirmed existence of soil and/or groundwater contamination. For example, Lee (1993) concluded that at the time of her study there were seven contamination sites within the protection areas of Daly City drinking water wells. Similarly, more than 20 LUFT sites were identified in the wellhead protection areas mapped in the greater San Bruno area by Guidetti and Schaefer (1995).

These studies confirm that land use activities within the Westside Basin can potentially impact drinking water quality produced by wells. Changes in land use may be necessary to minimize the risk of contamination to water supply wells in the basin. Implementing a wellhead protection program will therefore require both political support and technical input. Because restrictions on land use are a concern of stakeholders in the basin, reliable technical information is needed to support local and site-specific land use decisions. Additional analyses will therefore be needed to accurately represent groundwater movement to wells and quantify the relationship between contaminant mass and concentration to the magnitude and timing of impacts at the well. Public education will be needed to communicate the results of these analyses and explain their implications for land use decisions and drinking water quality.

SECTION 4 RECYCLED WATER

Recycled water is a major component of regional water use in other parts of California, particularly southern California where there are over 50 projects delivering recycled water. Use of recycled water is supported by regulatory and planning agencies and provides economic benefits to voluntary participants within a regional setting. Under a water recycling program, water that is otherwise discharged to the Pacific Ocean or San Francisco Bay would be used primarily to irrigate turf and landscaping. The groundwater that would have been used to irrigate these areas becomes available for municipal and industrial use or remains within the basin for future use. Recycled water thereby becomes a new supply of water and enhances the long-term water reliability for the basin.

Treated wastewater in the basin is discharged from the Oceanside Water Pollution Control Plant, the Daly City Water Quality Control Plant, and the South San Francisco-San Bruno Water Quality Control Plant. The Oceanside Water Pollution Control Plant was brought online in 1994 and serves the west side of the City of San Francisco. The wastewater treatment plant in Daly City serves the North San Mateo County Sanitation District comprised primarily of Daly City and the Westborough Water District. The South San Francisco–San Bruno wastewater treatment plant serves the cities of South San Francisco and San Bruno, but also discharges treated wastewater from Burlingame, Millbrae, and the San Francisco International Airport as parts of the North Bayside System Unit.

Discharge through the two plants in San Mateo County from Daly City, City of San Bruno, and City of South San Francisco is approximately 16,600 ac-ft/yr. On the average, annual wastewater discharge from the two plants represents more than 80 percent of the total municipal water supply to these three cities (Figure 4.1). More than half of the average annual discharge occurs during the months of May through November (10,600 ac-ft/yr). The potential supply of recycled water from these three cities is more than double the annual groundwater pumpage for irrigation of parks, golf courses, schools, and cemeteries in the Westside Basin (approximately 4,000 acre-ft/year). Therefore, while the necessary hydrologic conditions exist to develop a recycled water program, it will most likely require creative and innovative approaches to secure users willing to voluntarily accept this potential supply.

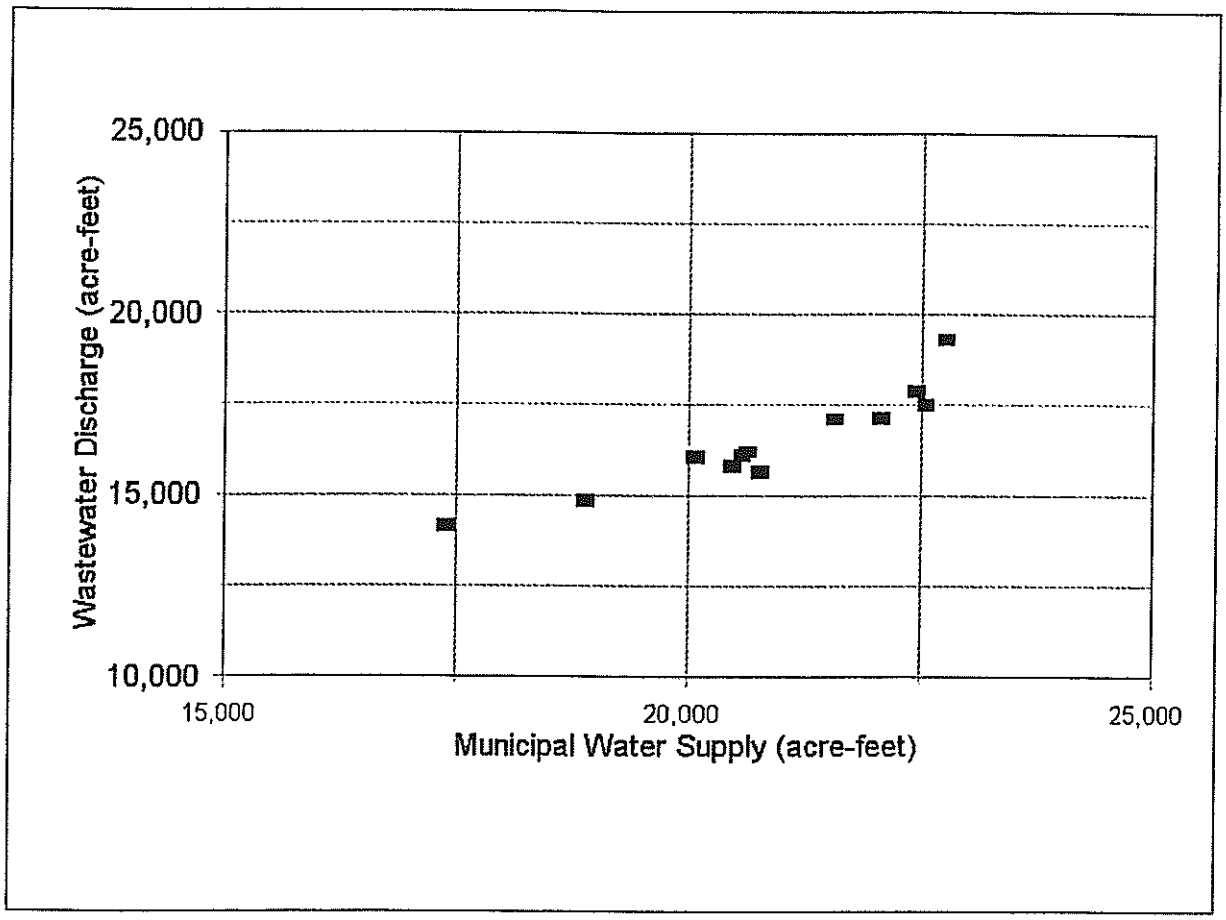


Figure 4-1 Annual Wastewater Discharge and Water Deliveries for Daly City, San Bruno, and South San Francisco (1986-1995)

SECTION 5 CONJUNCTIVE USE

Conjunctive use is the coordinated use of surface water and groundwater to ensure a reliable water supply. During wet years when surface supplies are plentiful, surface water is delivered to water users that otherwise rely on groundwater, allowing the underground reservoirs to fill with water. During dry years when runoff is reduced and surface water supplies are scarce, greater reliance is placed on groundwater storage. Conjunctive use requires a source of imported water, an underground reservoir for storing water, and a mechanism for getting the water into the ground. All of these requirements exist in the Westside Basin.

Imported surface water is delivered to retailers in the Westside Basin through the San Francisco Public Utilities Systems (PUC) system. Bookman-Edmonston (1993) conducted a study for the San Francisco Water Department that concluded additional capacity exists in the San Francisco PUC system to deliver water to the Bay Area. During years of average runoff, the system could deliver an additional 30 to 40 million gallons per day (mgd) during the winter months and an additional 20 mgd during the summer months. During dry years, the system could deliver an additional 30 mgd in several winter months and about 5 mgd during most summer months. The demand pattern and the available storage facilities restrict the capability of the San Francisco PUC system to deliver this additional water, and additional storage facilities are needed to take advantage of this extra potential yield.

The aquifers within the Westside Basin represent a potential means for storing imported surface water and therefore could be used to increase the long-term yield of the San Francisco PUC system. The basin has been used for more than a century, and wells in the basin currently provide a substantial proportion of the municipal water supply to the communities of Daly City, San Bruno, and South San Francisco. These communities rely on 75 to 90 percent of their total pumping capacity to meet between 30 to 50 percent of their municipal supply (Table 5.1).

Imported water and local runoff can be stored in the basin using either active or passive methods. Examples of active groundwater replenishment include recharge ponds, injection wells, and temporary or permanent retention facilities on local creeks. Active groundwater replenishment has been conducted in Alameda and Santa Clara Counties for decades, and their efforts have consisted of increased conservation of natural runoff and storing imported water in local aquifers. Passive groundwater replenishment, or "in-lieu recharge," increases surface water use during periods of adequate runoff. The greater use of surface water allows groundwater storage to increase as a result of reduced pumpage and greater deep percolation of imported surface water. The water stored in the groundwater basin is then available for use during periods of reduced runoff.

While many of the hydrologic and infrastructure elements of a successful conjunctive use program are already in place, complex institutional and economic issues remain to be resolved. Wet year deliveries may be currently restricted by hydropower demands on the

Hetch Hetchy system and by agreements between the San Francisco PUC and other water users in the Tuolumne Basin. Agreements between the PUC and the Bay Area Water Users Association may also require amendments to implement conjunctive use.

Table 5.1
Total Water Demand, Groundwater Use, and Reported Pumping Capacity in 1996
(MGD)

Well Owner	Total Demand (1996)	Demand Met By Groundwater	Capacity to Produce Groundwater
Municipal			
California Water Service Company	7.5	1.3	1.7
Daly City	7.9	3.1	4.0
San Bruno	4.3	2.1	2.4
San Francisco	15.1	2.0	2.0
Total	**34.8**	**8.5**	**10.1**

Notes:
1995 data is used for "Demand Met By Groundwater" for Californa Water Service Company.
Capacity to produce groundwater by San Francisco reported as estimated pumping rate.

SECTION 6 DATA LIMITATIONS

Evaluating basin-wide groundwater flow and storage is challenging because the resource is located beneath land surface and is therefore difficult to measure. Engineers and scientists conducting an assessment of the resource rely in part on the ability to extrapolate limited data over relative large areas. Figures 6.1 and 6.2 show the locations of wells where water level and water quality data have been recently collected in the Westside Basin. A considerable amount of data has been collected, compiled, and analyzed for primarily public supply wells in the Westside Basin. Consequently, data are lacking from substantial portions and key areas of the basin. These include upslope portions of the basin that can be important locations of groundwater recharge, areas served by private wells (or where wells are currently absent), and near critical boundaries like the Pacific Ocean and south San Francisco Bay.

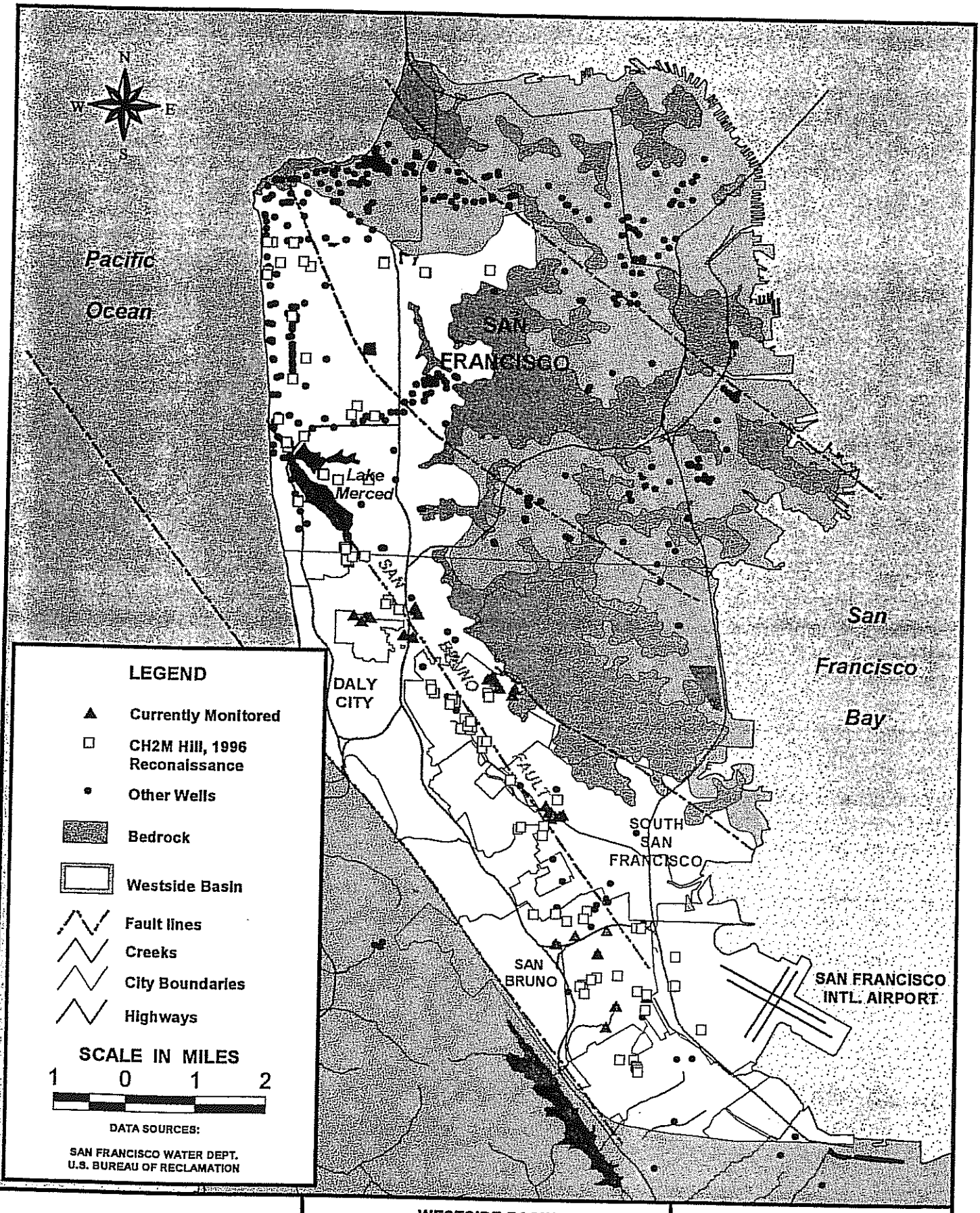
Data limitations can be addressed with the addition of new monitoring locations, improved coordination between data collection agencies, and uniform and accessible data storage and reporting protocols. A basin-wide monitoring program can be achieved by integrating local data collection activities and expanding efforts to improve the distribution of data points across the basin. This information is needed to understand groundwater flow rates and directions, sources of water to pumping wells, and changes in groundwater storage and quality over time. Additional geologic and geophysical information from boreholes, water levels from wells, and chemical, isotopic and age-dating information from well water samples are needed to help answer the following questions, which have been raised by stakeholders and will affect water management decisions in the Westside Basin.

Are there barriers to groundwater flow in the Westside Basin?

The layering of aquifers and confining beds, folding of geologic formations and faulting can create barriers to groundwater flow. These barriers can impact measured water levels and the sources of water produced by pumping wells in the Westside Basin. For example, previous studies could not confirm or refute the possibility of clay barriers between the ocean and inland pumping wells. If such barriers exist, it reduces the risk of saltwater contamination in the Daly City area. Similarly, the San Bruno Fault extends northwestward from south San Francisco Bay and passes through Lake Merced. Fine-grained materials associated with fault zones can impede the lateral movement of groundwater, and affect the vertical movement of water between shallow and deep groundwater. Pumping wells in the basin are located east and west of the San Bruno Fault, and the connection between groundwater on either side of the fault is not understood. If the fault were a partial barrier to flow, it would affect the sources of water produced by pumping wells.

What are groundwater flow directions and storage volumes in the Westside Basin?

Most of the water level data for the Westside Basin are from active production wells that pump water from the deep aquifer. Consequently, most of the water levels and resulting



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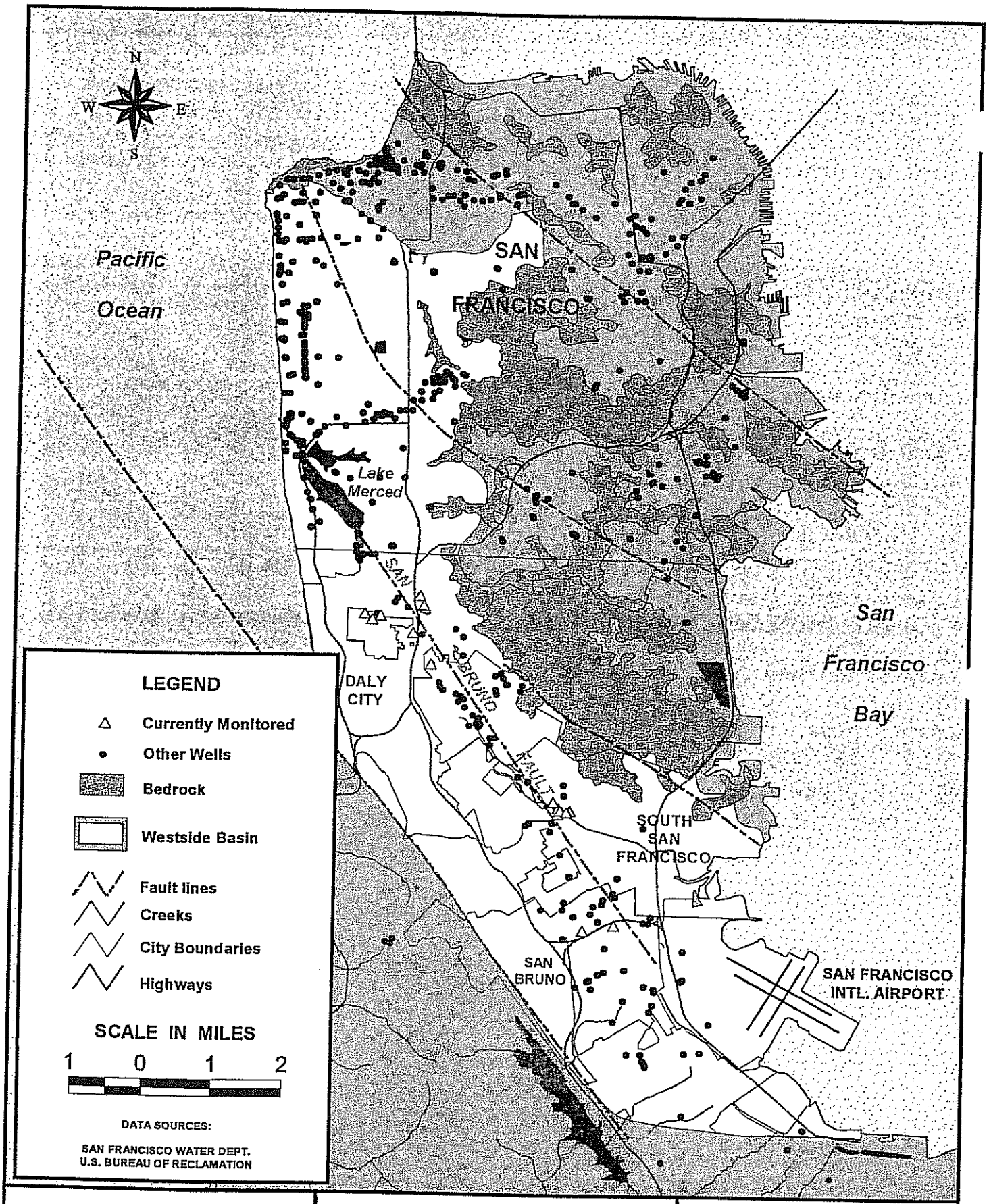
BOOKMAN-EDMONSTON
ENGINEERING, INC.

WESTSIDE BASIN
GROUNDWATER MANAGEMENT PLAN

WELLS USED TO MEASURE GROUNDWATER LEVELS

WESTSIDE BASIN PARTNERS

FIGURE 6.1



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ENGINEERING, INC.

WESTSIDE BASIN
GROUNDWATER MANAGEMENT PLAN

WELLS USED TO MEASURE GROUNDWATER QUALITY

WESTSIDE BASIN PARTNERS

FIGURE 6.2

estimates of groundwater flow and storage are for deep parts of the system and are biased toward conditions near pumping wells. Water level data are needed from wells perforated in the overlying water table, in upland areas that are important for groundwater recharge, and near the Pacific Ocean and south San Francisco Bay. This additional information can be integrated with the data already being collected from production wells to develop a more reliable estimate of flow directions and storage in the entire basin.

If most wells pump from the deep aquifer, what benefits are there for measuring water levels in shallow wells?

Data from shallow wells are needed to map the configuration of the water table and improve our understanding of the relationship between percolating recharge and leakage to the deeper aquifers. The relationship between the water table and deep aquifers is important to designing conjunctive use operations, and when evaluating the timing and magnitude for contaminants introduced at the water table to reach pumping wells in the basin.

Where does the water in my well come from?

Precipitation and irrigation on the hilly areas east of Lake Merced, San Bruno Mountain, and the areas east of the San Andreas Fault can recharge the basin as subsurface inflow. This water moves horizontally toward pumping centers in the valley lowlands. Leakage from the overlying water table also recharges the deep aquifer. The primary sources of recharge to the water table are deep percolation of precipitation and applied water. Groundwater data from upland areas and the valley lowlands are needed from both shallow and deep wells to determine the sources of water to pumping wells in all areas of the basin.

What chemical indicators of saltwater intrusion should be sampled for?

Chloride ion is the major anion in seawater, and increasing chloride ion concentrations in groundwater may be the first indication of saltwater contamination. Chloride ion concentrations alone, however, are not reliable indicators of saltwater intrusion. Additional information is needed to supplement the chloride data. For example, ratios of conservative ions like chloride-to-boron and chloride-to-bromide can be used to help identify saltwater contamination. Additional chemical and isotopic data combined with water level data can be used to confirm saltwater intrusion.

How much water is pumped from the basin?

Pumping is the primary groundwater outflow from the basin, yet more than one-third of the estimated pumpage is not recorded. Uncertainty exists in the quantity and distribution of pumping in the basin. Private wells typically do not record groundwater use.

SECTION 7 REPORTS, MAPS, AND DATA CONSIDERED IN THIS MEMORANDUM

AGS, Inc., Technical Memorandum 7, 1993: *Groundwater Data Collection and Analysis Program.* Prepared for the San Francisco Water Department.

AGS, Inc., Technical Memorandum 8, 1994: *Westside Basin Field Application* (Volume I). San Francisco Water Department Groundwater Master Plan.

AGS, Inc., Technical Memorandum 11, 1996: *Subsidence Modeling Westside and Lobos Basins* (Revised by CH2M Hill). Prepared for the San Francisco Water Department.

AGS, Inc., Technical Memorandum, 1996: *Golden Gate Park Exploratory Hole/ Monitoring Well Project.* Prepared for the San Francisco recreation and Park Department and San Francisco Department of Public Works.

AGS, Inc., Technical Memorandum 19, 1997: *Groundwater Monitoring Program.* Draft report prepared for the San Francisco Public Utilities Commission, City and County of San Francisco.

Applied Consultants, 1991: *Daly City Ground-Water Investigation and Model.*

Bachman, S., Hauge, C., Neese, K., and Saracino, A., 1997: *California Groundwater Management.* Groundwater Resources Association of California.

Bartell, M.J., 1913: *Report on the Underground Water Supply of San Francisco County.* San Francisco, California.

Barrett, Harris and Associates, Inc., 1983: *Water System Master Plan.* Prepared for the City of San Bruno.

Bookman-Edmonston, Technical Memorandum 2, 1993: *Water Supply for Groundwater Recharge.* Prepared for the San Francisco Water Department.

Brabb, E.E. and E.H. Pampayan, 1983: *Geologic Map of San Mateo County, California.* U.S. Geological Survey.

California Water Service Company, 1997: Miscellaneous records of static water level, well-water quality, pumpage, water purchases, and population data.

Carroll E. Bradberry and Associates, 1954: *Preliminary Report on Groundwater.* Water supply report to the City of San Bruno.

CH2M Hill, Technical Memorandum 1, 1993: *Climatologic, Water, and Wastewater Summary, San Francisco Groundwater Master Plan.* Prepared for the San Francisco Water Department.

_____, Technical Memorandum 4, 1996: *Groundwater Resources, San Francisco Groundwater Master Plan* (Revised). Prepared for the San Francisco Water Department.

_____, Technical Memorandum 6, 1993: *Regulatory Requirements, San Francisco Groundwater Master Plan.* Prepared for the San Francisco Water Department.

_____, Technical Memorandum 12a, 1995: *Westside Basin Facilities Design - Elk glen, San Francisco Groundwater Master Plan.* Prepared for the San Francisco Water Department.

_____, Technical Memorandum 12b, 1995: *Westside Basin Facilities Design - Sunset District Wells, San Francisco Groundwater Master Plan* (Revised). Prepared for the San Francisco Water Department.

_____, Technical Memorandum 13, 1995: *Cost Estimates for Short-term Activities, San Francisco Groundwater Master Plan* (Revised). Prepared for the San Francisco Water Department.

_____, Technical Memorandum 15, 1995: *Lake Merced Model Review, San Francisco Groundwater Master Plan.* Prepared for the San Francisco Water Department.

_____, Technical Memorandum 16, 1996: *Geographic Information System Database Design and Documentation, San Francisco Groundwater Master Plan.* San Francisco Groundwater Master Plan.

_____, Technical Memorandum 18, 1997: *Westside Basin Groundwater Model, San Francisco Groundwater Master Plan* (Draft). Prepared for the San Francisco Public Utilities Commission.

City of San Bruno Department of Public Works, 1997: Miscellaneous records of static water level, well-water quality, pumpage, water purchases, and population data.

Clark, W.O., 1924: *Groundwater in Santa Clara Valley California.* U.S. Geological Survey Water-Supply Paper 519.

Clifton, E.H. and R.E. Hunter, 1987: *The Merced Formation and Related Beds: A Mile-Thick Succesion of Late Cenozoic Coastal and Shelf Deposits in the Seacliffs of San Francisco California.* Geological Society of America Centennial Field Guide.

Daly City Department of Water and Wastewater Resources, 1997: Miscellaneous records of static water level, well-water quality, pumpage, water purchases, population, and wastewater discharge data.

Ellis, W.C., 1989: *City of San Bruno Well Site Evaluation for Future Development.*

Fio, J.L. and D.A. Leighton, 1995: *Geohydrologic Framework, Historical Development of the Ground-Water System, and General Hydrologic and Water Quality Conditions in 1990, South San Francisco Bay and Peninsula Area, California.* U.S. Geological Survey Open-File Report 94-357.

Fio, J.L. and D.A. Leighton, 1995: *Compilation of Water Inflow and Outflow Data for Calculating a Regional and Subarea Water Balance, South San Francisco bay and Peninsula Area, California.* U.S. Geological Survey (written communication).

Geo/Resource Consultants, Inc., 1993: *Lake Merced Water Resources Planning Study.*

Guidetti, J.R. and C.F. Schaefer, 1995: *Groundwater Investigation and Wellhead Protection Program for the Greater San Bruno Area.* San Mateo County Environmental Health Services Division.

Kirker, Chapman & Associates in conjunction with David K. Todd, 1972: *Daly City Ground Water Investigation.*

Kissick, Charles, Technical Memorandum 17, 1996: *Lake Merced Field Study* (Volume I). Prepared for the San Francisco Water Department.

Lee, Gail D., 1993: Evaluation *of the Impact of Chemical Contaminants Upon the Daly City Drinking Water Wells through Modeling.* Thesis in partial fulfillment of the requirements for the degree of Master of Science in Environmental Management, University of San Francisco.

Leighton, D.A., Fio, J.L., and L.F. Metzger, 1995: *Database of Well and Areal Data, South San Francisco Bay and Peninsula Area, California.* U.S. Geological Survey Water-Resources Investigations Report 94-4151.

Michel, R.L., Hamlin, S.N., and S.P. Phillips 1995: *Recharge Rates and Changes in Ground-Water Quality in a Shallow Unconfined Aquifer in Western San Francisco.* U.S. Geological Survey (written communication).

Montgomery Watson, 1996: *Draft Recycled Water Master Plan* (Revised). Prepared for the San Francisco Water Department.

Phillips, S.P., Hamlin, S.N., and E.B. Yates, 1993: *Geohydrology, Water Quality, and Estimation of Ground-Water Recharge in San Francisco, California, 1987-92.* U.S. Geological Survey Water-Resources Investigations Report 93-4019.

Ritzman, L.R., 1990: *Water Wells in San Bruno* (Revised). Report prepared for San Bruno City Council.

San Francisco Public Utilities Commission and San Francisco Recreation and Park Department, 1997: *Draft Lake Merced Comprehensive Management Plan.*

San Francisco Bay Regional Water Quality Control Board, 1996: *San Francisco and Northern San Mateo County Pilot Beneficial Use Designation Project.*

San Francisco Water Department, 1996: Draft San Francisco Groundwater Master Plan.

South San Francisco – San Bruno Water Quality Control Plant, 1997: Wastewater discharge data for the South San Francisco – San Bruno Water Quality Control Plant and the combined discharge of the North Bayshore Systems Unit.

The Hydrodynamics Group, 1997: *Impacts of Zoo Wells Model of Westside Basin*. Prepared for the San Francisco Department of Public Works.

The Pacific Group, Technical Memorandum 3, 1993: *Reclaimed Water Supply*. Prepared for the San Francisco Water Department.

The Pacific Group, Technical Memorandum 5, 1996: *Water Demand* (Revised). Prepared for the San Francisco Water Department.

Todd, D.K., 1971: *On the Location of Well No. 14 for the City of San Bruno, California*. Report to the City of San Bruno.

Wood, P.R., 1975: *Sources of Emergency Water Supplies in San Mateo County, California*. U.S. Geological Survey Open-File Report 75-43.

Yates E.B., Hamlin, S.N., and L.H. McCann, 1990: Geohydrology, Water Quality, and Water Budgets of Golden Gate Park and the Lake Merced Area in the Western Part of San Francisco, California. U.S. Geological Survey Water-Resources Investigations Report 90-4080.

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APPENDIX G:
SFPUC REGIONAL WATER SYSTEM SUPPLIER RELIABILITY

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SFPUC
WATER
WASTEWATER
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ED HARRINGTON
GENERAL MANAGER

February 22, 2010

Nicole Sandkulla
Senior Water Resources Engineer
Bay Area Water Supply and Conservation Agency
155 Bovet Road, Suite 302
San Mateo, CA 94402

Dear Nicole,

Attached please find the information you requested on the Regional Water System's supply reliability for use in the Wholesale Customer's 2010 Urban Water Management Plan updates. The SFPUC has assessed the water supply reliability under the following planning scenarios:

- Projected Single dry-year supply for 2010
- Projected Multiple dry-year supply beginning 2010; and
- Projected supply reliability for years 2010-2030.

Table 1 summarizes deliveries to the Wholesale Customers for projected single dry-year supply for 2010 and projected multiple dry-year supply beginning 2010.

With regards to future demands, the SFPUC proposes to expand their water supply portfolio by increasing the types of water supply resources. Table 2 summarizes the water supply resources assumed to be available by 2030.

Concerning allocation of supply during dry years, the Water Shortage Allocation Plan ("Plan") was utilized to allocate shortages between the SFPUC and the Wholesale Customers collectively. The Plan implements a method for allocating water among the individual Wholesale Customers which has been adopted by the Wholesale Customers. The Plan was adopted pursuant to Section 7.03(a) of the 1984 Settlement Agreement and Master Water Sales Contract and has been updated to correspond to the terminology used in the June 2009 Water Supply Agreement between the City and County of San Francisco and Wholesale Customers in Alameda County, San Mateo County and Santa Clara County.

Finally, the SFPUC estimated the frequency and severity of anticipated shortages for the period 2010 though 2030. For this analysis, we assumed that the historical hydrologic period is indicative of future events and evaluated the supply reliability assuming a repeat of the actual historic hydrologic period 1920 through 2002. The results of this analysis are summarized in Table 3.

It is our understanding that you will pass this information on to the Wholesale Customers. If you have any questions or need additional information, please do not hesitate to contact me at (415) 554-0792.

Sincerely,

Paula Kehoe

Paula Kehoe
Director of Water Resources

Table 1
Projected Deliveries for Three Multiple Dry Years

	Purchase Request Year 2010 mgd	One Critical Dry Year	Current Deliveries during Multiple Dry Years in mgd		
			Year 1	Year 2	Year 3
System-Wide Shortage in Percent	0%	10%	10%	20%	20%
Wholesale Allocation mgd	184.0	152.6	152.6	132.5	132.5

Table 2

UWMP Studies: Water Supply Reliability
Water Supply Options for Years 2010 through 2030

	2010	2015	2020	2025	2030
Crystal Springs Reservoir (22.28bg)		x	x	x	x
Westside Basin Groundwater afa		8,100	8,100	8,100	8,100
Calaveras Reservoir Recov(31.5 bg)		x	x	x	x
Districts' Transfer afa		2240	2240	2240	2240

Table 3: Projected System Supply Reliability Based on Historical Hydrologic Period

Allocation by Year	**Wholesale Demand in mgd**				
	184.0	184.0	184.0	184.0	184.0
	Projected Wholesale Allocation in mgd				
Delivery for Fiscal Year	**2010**	**2015**	**2020**	**2025**	**2030**
1920	184.0	184.0	184.0	184.0	184.0
1921	184.0	184.0	184.0	184.0	184.0
1922	184.0	184.0	184.0	184.0	184.0
1923	184.0	184.0	184.0	184.0	184.0
1924	184.0	184.0	184.0	184.0	184.0
1925	154.6	184.0	184.0	184.0	184.0
1926	184.0	184.0	184.0	184.0	184.0
1927	184.0	184.0	184.0	184.0	184.0
1928	184.0	184.0	184.0	184.0	184.0
1929	184.0	184.0	184.0	184.0	184.0
1930	184.0	184.0	184.0	184.0	184.0
1931	184.0	184.0	184.0	184.0	184.0
1932	132.5	152.6	152.6	152.6	152.6
1933	184.0	184.0	184.0	184.0	184.0
1934	184.0	184.0	184.0	184.0	184.0
1935	154.6	184.0	184.0	184.0	184.0
1936	184.0	184.0	184.0	184.0	184.0
1937	184.0	184.0	184.0	184.0	184.0
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1946	184.0	184.0	184.0	184.0	184.0
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1950	184.0	184.0	184.0	184.0	184.0
1951	184.0	184.0	184.0	184.0	184.0
1952	184.0	184.0	184.0	184.0	184.0
1953	184.0	184.0	184.0	184.0	184.0
1954	184.0	184.0	184.0	184.0	184.0
1955	184.0	184.0	184.0	184.0	184.0
1956	184.0	184.0	184.0	184.0	184.0
1957	184.0	184.0	184.0	184.0	184.0
1958	184.0	184.0	184.0	184.0	184.0
1959	184.0	184.0	184.0	184.0	184.0

Delivery for Fiscal Year	2010	2015	2020	2025	2030
1960	184.0	184.0	184.0	184.0	184.0
1961	152.6	184.0	184.0	184.0	184.0
1962	132.5	152.6	152.6	152.6	152.6
1963	184.0	184.0	184.0	184.0	184.0
1964	184.0	184.0	184.0	184.0	184.0
1965	184.0	184.0	184.0	184.0	184.0
1966	184.0	184.0	184.0	184.0	184.0
1967	184.0	184.0	184.0	184.0	184.0
1968	184.0	184.0	184.0	184.0	184.0
1969	184.0	184.0	184.0	184.0	184.0
1970	184.0	184.0	184.0	184.0	184.0
1971	184.0	184.0	184.0	184.0	184.0
1972	184.0	184.0	184.0	184.0	184.0
1973	184.0	184.0	184.0	184.0	184.0
1974	184.0	184.0	184.0	184.0	184.0
1975	184.0	184.0	184.0	184.0	184.0
1976	184.0	184.0	184.0	184.0	184.0
1977	152.6	184.0	184.0	184.0	184.0
1978	136.2	152.6	152.6	152.6	152.6
1979	184.0	184.0	184.0	184.0	184.0
1980	184.0	184.0	184.0	184.0	184.0
1981	184.0	184.0	184.0	184.0	184.0
1982	184.0	184.0	184.0	184.0	184.0
1983	184.0	184.0	184.0	184.0	184.0
1984	184.0	184.0	184.0	184.0	184.0
1985	184.0	184.0	184.0	184.0	184.0
1986	184.0	184.0	184.0	184.0	184.0
1987	184.0	184.0	184.0	184.0	184.0
1988	152.6	184.0	184.0	184.0	184.0
1989	132.5	152.6	152.6	152.6	152.6
1990	132.5	152.6	152.6	152.6	152.6
1991	132.5	132.5	132.5	132.5	132.5
1992	132.5	152.6	152.6	152.6	152.6
1993	136.2	132.5	132.5	132.5	132.5
1994	184.0	184.0	184.0	184.0	184.0
1995	154.6	184.0	184.0	184.0	184.0
1996	184.0	184.0	184.0	184.0	184.0
1997	184.0	184.0	184.0	184.0	184.0
1998	184.0	184.0	184.0	184.0	184.0
1999	184.0	184.0	184.0	184.0	184.0
2000	184.0	184.0	184.0	184.0	184.0
2001	184.0	184.0	184.0	184.0	184.0
2002	184.0	184.0	184.0	184.0	184.0

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APPENDIX H:
CITY OF BURLINGAME 2009 WATER QUALITY REPORT

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BURLINGAME

2009 Water Quality Report

This report contains important information about your drinking water. Translate it, or speak with someone who understands it.

Este informe contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien.

此份有關你的食水報告,內有重要資料和訊息,請找他人為你翻譯及解釋清楚。

BURLINGAME'S DRINKING WATER SOURCES

The sources of drinking water (both tap water and bottled water) include rivers, lakes, oceans, streams, ponds, reservoirs, springs, and wells. The SFPUC has a major water source originating from spring snowmelt flowing down the Tuolumne River to the Hetch Hetchy Reservoir, where it is stored. This pristine water source is located in the well protected Sierra region and meets all federal and state criteria for watershed protection. In conjunction with the SFPUC's stringent disinfection treatment practice, extensive bacteriological-quality monitoring, and high operational standards, the State and USEPA have granted the Hetch Hetchy water source a filtration exemption. In other words, the source is so clean and protected that the SFPUC is not required to filter water from the Hetch Hetchy Reservoir.

The Hetch Hetchy water is supplemented with surface water from two local watersheds. Rainfall and runoff collected from the Alameda Watershed, which spans more than 35,000 acres in Alameda and Santa Clara Counties, are collected in the Calaveras and San Antonio Reservoirs. Prior to distribution, the water from these reservoirs is treated at the Sunol Valley Water Treatment Plant (SVWTP). Treatment processes include coagulation, flocculation, sedimentation, filtration, and disinfection. Fluoridation, chloramination and corrosion control treatment are provided for the combined Hetch Hetchy and SVWTP water at the Sunol Chloramination and Fluoridation Facilities.

Rainfall and runoff captured in the 23,000-acre Peninsula Watershed, located in San Mateo County, are stored in reservoirs, including Crystal Springs (Lower and Upper), San Andreas, and Pilarcitos. The water from these reservoirs is treated at the Harry Tracy Water Treatment Plant (HTWTP). Treatment processes at the HTWTP include ozonation, coagulation, flocculation, filtration, disinfection, fluoridation, corrosion control treatment, and chloramination.

In 2009, the Hetch Hetchy Watershed provided approximately 87% with the remainder contributed by the two local watersheds.

OUR MISSION: Quality Water

The City of Burlingame in coordination with the San Francisco Public Utilities Commission (SFPUC) is pleased to present our 2009 Annual Water Quality Consumer Confidence Report. We want our customers to know where their water comes from, how it is treated to ensure it is top quality and the results of water quality monitoring performed by the City of Burlingame and the SFPUC. With this knowledge, consumers can make health decisions concerning their water use. During 2009 the SFPUC and the City of Burlingame monitored the water quality by collecting health samples. The City of Burlingame collected 845 water quality samples and we are very pleased to announce that the City of Burlingame has met all Federal (USEPA) and State drinking water health standards in 2009. The City of Burlingame and the SFPUC is committed to customer service and providing you with high quality water.

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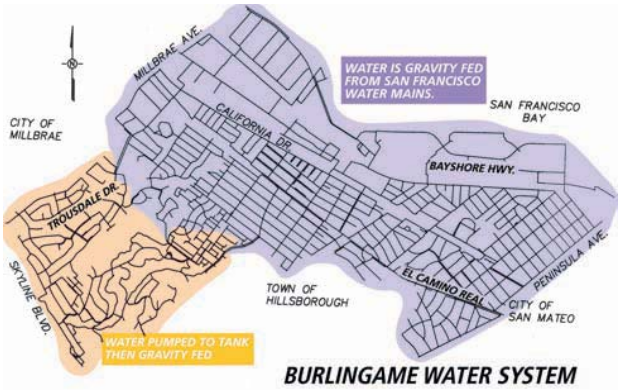
BURLINGAME WATER SYSTEM SERVICE AREA

The City of Burlingame purchases all of its water from the San Francisco Public Utilities Commission (SFPUC). The SFPUC has several large pipelines running through town. We have six metered connections at various locations throughout the city. These connections feed directly into the Aqueduct zone (Purple area on map). Water is pumped to the higher elevations by booster pump stations and to storage reservoirs. To regulate the pressure in the higher elevations we have several pressure reducing valves.



ENSURING THE HIGHEST WATER QUALITY

WATER QUALITY, CONTAMINANTS, AND REGULATIONS

The SFPUC's Water Quality Division regularly collects and tests water samples from reservoirs and designated sampling points throughout the system to ensure that the SFPUC's water meets or exceeds federal and state drinking water standards. In 2009, Water Quality staff conducted 58,595 drinking water tests in the transmission and distribution systems. This monitoring effort is in addition to the extensive treatment process control monitoring performed by our certified and knowledgeable treatment plant staff. The SFPUC also has online instruments providing continuous water quality monitoring at numerous locations.

As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or human activity. Such substances are called contaminants. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk.

In order to ensure that tap water is safe to drink, the USEPA and California Department of Public Health (CDPH) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. CDPH regulations also establish limits for contaminants in bottled water that provide the same protection for public health. More information about contaminants and potential health effects can be obtained by calling the USEPA's Safe Drinking Water Hotline 800-426-4791.

CONTAMINANTS THAT MAY BE PRESENT IN SOURCE WATER INCLUDE:

- Microbial contaminants, such as viruses and bacteria, that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- Inorganic contaminants, such as salts and metals, that can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming
- Pesticides and herbicides that may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, that are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, agricultural application, and septic systems.
- Radioactive contaminants, that can be naturally-occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, the U.S. Environmental Protection Agency (USEPA) and the California Department of Health Services (CDPH) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. CDPH regulations also establish limits for contaminants in bottled water that must provide the same protection for public health. More information about contaminants and potential health effects can be obtained by calling the USEPA's Safe Drinking Water Hotline (1-800-426-4791).

Key Water Quality Terms

Following are definitions of key terms noted on the adjacent water quality data table. These terms refer to the standards and goals for water quality described below.

PUBLIC HEALTH GOAL (PHG): The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the California Environmental Protection Agency.

MAXIMUM CONTAMINANT LEVEL GOAL (MCLG): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the USEPA.

MAXIMUM CONTAMINANT LEVEL (MCL): The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the PHGs or MCLGs as is economically and technologically feasible. Secondary MCLs (SMCLs) are set to protect the odor, taste, and appearance of drinking water.

MAXIMUM RESIDUAL DISINFECTANT LEVEL (MRDL): The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

MAXIMUM RESIDUAL DISINFECTANT LEVEL GOAL (MRDLG): The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

PRIMARY DRINKING WATER STANDARD (PDWS): MCLs and MRDLs for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.

TREATMENT TECHNIQUE (TT): A required process intended to reduce the level of a contaminant in drinking water.

REGULATORY ACTION LEVEL: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

SPECIAL HEALTH NEEDS

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. USEPA/Centers for Disease Control guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline 800-426-4791 or at www.epa.gov/safewater.

CITY OF BURLINGAME WATER QUALITY DATA FOR YEAR 2009 (1)

This table shows the results of SFPUC water quality and the City of Burlingame analyses for 2009. It contains the name of each substance, the Maximum Contaminate Level (MCL) which is highest level allowed by regulation, the ideal Public Health Goal (PHG), the amount detected, the typical sources, footnotes explaining our findings and a key to units of measurement.

DETECTED CONTAMINANTS	Unit	MCL	PHG or [MCLG]	Range or Level Found	Average or [Max]	Major Sources in Drinking Water
TURBIDITY (2)						
For Unfiltered Hetch Hetchy Water	NTU	5	N/A	0.27 - 0.52 (3)	[3.87] (4)	Soil runoff
For Filtered Water from Sunol Valley Water Treatment Plant (HTWTP)	NTU -	1(5) min 95% of samples ≤0.3 NTU(5)	N/A N/A	- 100%	[0.26] -	Soil runoff Soil runoff
For Filtered Water from Harry Tracy Water Treatment Plant (HTWTP)	NTU -	1(5) min 95% of samples ≤0.3 NTU(5)	N/A N/A	- 100%	[0.18] -	Soil runoff Soil runoff
DISINFECTION BYPRODUCTS AND PRECURSOR (SFPUC Regional System)						
Total Trihalomethanes	ppb	80	N/A	9 - 54	[33] (6)	Byproduct of drinking water chlorination
Haloacetic Acids	ppb	60	N/A	5 - 27	[21] (6)	Byproduct of drinking water chlorination
Total Organic Carbon (7)	ppm	TT	N/A	2.3 - 3.2	2.7	Various natural and man-made sources
DISINFECTION BYPRODUCTS AND PRECURSOR (City of Burlingame)						
Total Trihalomethanes	ppb	80	N/A	32.8 - 51.0	[42.1] (6)	Byproduct of drinking water chlorination
Haloacetic Acids	ppb	60	N/A	21.5- 36.3	[27.4] (6)	Byproduct of drinking water chlorination
Total Organic Carbon (7)	ppm	N/A	N/A	2.3 - 3.2	2.7	Various natural and man-made sources
MICROBIOLOGICAL (City of Burlingame)						
Total Coliform	-	≤5.0% of monthly samples	[0]	0	[0%]	Naturally present in the environment
Giardia lamblia	cyst/L	TT	[0]	0.01 - 0.05	[0.05]	Naturally present in the environment
INORGANIC CHEMICALS						
Fluoride (source water) (8)	ppm	2.0	1	<0.1 - 0.8	0.3 (9)	Erosion of natural deposits
Chlorine (including free chlorine and chloramine)	ppm	MRDL = 4.0	MRDLG = 4	1.87 - 2.09	[2.04] (6)	Drinking water disinfectant added for treatment

CONSTITUENTS WITH SECONDARY STANDARDS	Unit	SMCL	PHG	Range	Average	Typical Sources in Drinking Water
Aluminum	ppb	200	N/A	<50 - 51	<50	Erosion of natural deposits
Chloride	ppm	500	N/A	4 - 14.6	9.5	Runoff / leaching from natural deposits
Color	unit	15	N/A	<5 - 9	<5	Naturally-occurring organic materials
Specific Conductance	µS/cm	1600	N/A	30-309	170	Substances that form ions when in water
Sulfate	ppm	500	N/A	1.1- 35.6	16.6	Runoff / leaching from natural deposits
Total Dissolved Solids	ppm	1000	N/A	22 - 168	92	Runoff / leaching from natural deposits
Turbidity	NTU	5	N/A	0.08 - 0.33	0.16	Soil runoff

LEAD AND COPPER	Unit	AL	PHG	Range	90th Percetile	Major Sources in Drinking Water
Copper	ppb	1300	300	<1 - 79.5	43.2	Corrosion of household plumbing systems
Lead	ppb	15	2	<1 - 114.8	1.9	Corrosion of household plumbing systems

OTHER WATER QUALITY PARAMETERS	Unit	ORL	Range	Average
Alkalinity (as CaCO3)	ppm	N/A	8 - 102	50
Boron	ppb	N/A	<100 - 102	<100
Bromide	ppb	N/A	<10 - 16	<10
Calcium (as Ca)	ppm	N/A	2 - 26	12
Chlorate	ppb	(800) NL	56 - 511	258
Hardness (as CaCO3)	ppm	N/A	12 - 108	55
Magnesium	ppm	N/A	0.2 - 8.8	4.5
pH	-	N/A	8.7 - 8.8	8.7
Potassium	ppm	N/A	0.24 - 1.5	0.9
Silica	ppm	N/A	4.8 - 7.5	5.9
Sodium	ppm	N/A	3 - 23	14

KEY:

< / ≤	=	less than / less than or equal to
AL	=	Action Level
Max	=	Maximum
Min	=	Minimum
N/A	=	Not Available
ND	=	Non-Detect
NL	=	Notification Level
NTU	=	Nephelometric Turbidity Unit
ORL	=	Other Regulatory Level
ppb	=	part per billion
ppm	=	part per million
µS/cm	=	microSiemens / centimeter

Note:

(1) All results met State and Federal drinking water health standards.

(2) Turbidity is a water clarity indicator; it also indicates the effectiveness of the filtration plants.

(3) Turbidity is measured every four hours. These are monthly average turbidity values.

(4) This is the highest turbidity of the unfiltered water served to customers in 2009. The highest single turbidity measurement of the unfiltered water in 2009 was 10 NTU but the turbid water was pumped away to San Antonio Reservoir without serving customers. The startup of San Joaquin Pipelines caused elevated turbidities as a result of sediment resuspension in the pipelines.

(5) There is no MCL for turbidity. The limits are based on the TT requirements in the State drinking water regulations.

(6) This is the highest quarterly running annual average value.

(7) Total organic carbon is a precursor for disinfection byproduct formation. The TT requirement applies to the filtered water from the SVWTP only.

(8) The SFPUC adds fluoride to the naturally occurring level to help prevent dental caries in consumers. The CDPH requires our fluoride levels in the treated water to be maintained within a range of 0.8 ppm - 1.5 ppm. In 2009, the range and average of our fluoride levels were 0.7 ppm - 1.3 ppm and 1.0 ppm, respectively.

(9) The naturally occurring fluoride levels in the Hetch Hetchy and SVWTP raw water are ND and 0.2 ppm, respectively. The HTWTP raw water has elevated fluoride levels due to the continued supply of the fluoridated Hetch Hetchy & SVWTP treated water into Lower Crystal Springs Reservoir, which supplies water via San Andreas Reservoir to the HTWTP for treatment.

Note: Additional water quality data may be obtained by calling the City of Burlingame Water Division phone number(650) 558-7687

FLUORIDE: NATURE'S CAVITY FIGHTER

San Francisco has been adding fluoride to the City's drinking water for more than 50 years to protect dental health. For more information in English, Spanish, or Chinese, call the toll-free SFPUC fluoride information line at 866-668-6008 or visit the SFPUC website at www.sfwater.org/fluoride.

BURLINGAME WATER QUALITY ASSURANCE PROGRAM

Burlingame Water Quality Assurance Objectives:

- To conduct our water quality monitoring program to assure the water delivered to you meets all water quality standards as determined by the California Department of Health Services and the Federal Environmental Protection Agency.
- To maintain the existing water system infrastructure to assure that it continues to reliably deliver quality water to our customers.
- To construct capital projects that ensure the water system meets water quality standards and continues to reliably deliver quality water in the future.

PROTECTING OUR WATERSHEDS

The SFPUC actively and aggressively protects the natural water resources entrusted to its care. An annual report on watershed for the Hetch Hetchy supply is prepared to evaluate the sanitary conditions, water quality, and potential contamination sources. This report also presents performance results of watershed management activities implemented by the SFPUC and its partner agencies, such as the National Park Service, to reduce or eliminate the potential contamination sources. The 2009 Hetch Hetchy sanitary survey concludes that only very low levels of contaminants associated with wildlife and human activities exist in the watershed. The SFPUC also conducts sanitary surveys of the local Alameda and Peninsula watersheds every five years. The potential contamination sources identified in the latest survey in 2005 are similar to the upcountry watershed. These survey reports are available at the San Francisco District office (510-620-3474) of the California Department of Public Health.

Hetch Hetchy Reservoir from O'Shaughnessy Dam

HOW CAN WE PRESERVE OUR MOST PRECIOUS NATURAL RESOURCE?

- Don't over-water your lawn and water early in the morning or at night to avoid excess evaporation. When planting use drought tolerant vegetation.
- Fully load the dishwasher and clothes washer before running them.
- When brushing your teeth or washing dishes by hand, don't let the water run. Taking shorter showers can save 2.5 gallons per minute.
- Stop leaks. Repair dripping faucets and leaking toilets as soon as possible.
- If you have a swimming pool, use a cover. You will cut the loss of water by evaporation by 90 percent.

You can obtain a free water conservation kit and shower head retrofit kit by calling (650) 558-7670. The City of Burlingame also provides residential rebates for low flush toilet and high efficiency clothes washer purchases

Further water conservation information can be found at the following websites: http://www.sfwater.org, http://www.h2ouse.org, http://www.bawsca.org

BOTTLE WATER

Drinking water, including bottle water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the USEPA's Safe Drinking Water Hotline (1-800-426-4791).

STORING EMERGENCY WATER SUPPLIES

Although the SFPUC strives to ensure a reliable supply of water for our customers, a natural disaster such as a major earthquake could interrupt water delivery. Residents are encouraged to store drinking water in case of an emergency. The SFPUC recommends storing at least three days worth of water (one gallon of water per person, per day, including pets) in food-grade plastic containers, such as two-liter soda bottles, and replacing supplies every six months. To learn more about emergency preparedness for yourself and your family, visit www.72hours.org.

WHAT YOU SHOULD KNOW ABOUT DRINKING WATER SAFETY

REDUCING LEAD FROM PLUMBING FIXTURES

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The City of Burlingame Water Division is responsible for providing high quality drinking water, but cannot control the variety of materials used in your household or building plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at www.epa.gov/safewater/lead.

Visit the California Department of Public Health (CDPH) website www.cdph.ca.gov or the USEPA website www.epa.gov.

CRYPTOSPORIDIUM

Cryptosporidium is a parasitic microbe found in most surface water. The SFPUC regularly tests for this waterborne pathogen, and found it at very low levels in source water and treated water in 2009. However, current test methods approved by the USEPA do not distinguish between dead organisms and those capable of causing disease. Ingestion of Cryptosporidium may produce symptoms of nausea, abdominal cramps, diarrhea, and associated headaches. Cryptosporidium must be ingested to cause disease, and it may be spread through means other than drinking water.

The San Francisco Public Utilities Commission (SFPUC) uses an extensive water sample collection and testing protocol at its various water sources throughout their transmission system. During 2009 over 58,000 water samples were collected and analyzed by the SFPUC Water Quality division. The City of Burlingame also collects and analyzes samples throughout our distribution system including our storage reservoirs. The SFPUC Water Quality Bureau performed our microbiology & general chemistry analysis at their water quality lab located in Millbrae. The results of the water sample analyses are provided in this report.

SAN FRANCISCO PUBLIC UTILITIES COMMISSION

SEISMIC RELIABILITY. DELIVERY RELIABILITY. WATER SUPPLY RELIABILITY

People, businesses, and the economy in the Bay Area depend on a reliable water system. That's why the San Francisco Public Utilities Commission (SFPUC) is rapidly moving forward with the Water System Improvement Program (WSIP) to create long-lasting improvements to our aging water infrastructure and sustain the quality of life for our 2.5 million residential, commercial, and industrial customers in the San Francisco Bay Area. Approximately one-third of delivered water goes to retail customers in San Francisco, while wholesale deliveries to 27 suburban agencies in Alameda, Santa Clara, and San Mateo counties comprise the other two-thirds.

Built in the early to mid-1900s, many parts of the system are nearing the end of their working life, with crucial portions crossing over or near to three major earthquake faults. In 2002, SFPUC launched the $4.4 billion WSIP to repair, replace, and seismically upgrade the system's deteriorating pipelines, tunnels, reservoirs, pump stations, storage tanks, and dams. The program is funded by a bond measure that was approved by San Francisco voters in November 2002 and includes more than 80 projects throughout the service area – from San Francisco to Hetch Hetchy – to be completed by the end of 2014.

The WSIP is one of the largest water infrastructure programs in the nation and the largest infrastructure program ever undertaken by the City of San Francisco.

For further information on these and other WSIP water quality projects, visit www.sfwater.org.

City of Burlingame
501 Primrose Road
Burlingame, CA 94010

WATER QUALITY REPORT 2009

FOR MORE INFORMATION

If you would like additional information or if you have any questions concerning the City of Burlingame's testing data or water system, please call the Public Works Department at (650) 558-7670, or write to City Hall, Public Works Department, Water Quality Report, 501 Primrose Road, Burlingame, CA 94010. You may also wish to visit the City's website at www.burlingame.org The City of Burlingame City Council meets twice a month on the first and third Monday at 7:00 p.m. in the Council Chambers at City Hall.

Decisions about water quality issues are made from time to time in public meetings of the San Francisco Public Utilities Commission (SFPUC). The SFPUC meets twice a month on the second and fourth Tuesday at 1:30 p.m. Meetings are held at San Francisco City Hall, Room 400. Inquiries about these meetings can be made by calling the office of the Commission Secretary at (415) 554-3165 or visit their website at www.sfgov.org/site/mainpages_index.asp?id=13861.

Do you want to learn more about drinking water regulations? Visit the California Department of Health Services at www.dhs.ca.gov or the U.S. Environmental Protection Agency website at www.epa.gov

City of Burlingame

Rob Mallick – Public Works Superintendent. . . . . (650) 558-7670
City of Burlingame website . . . . . www.burlingame.org

San Francisco Public Utilities Commission

Water Quality Bureau. . . . . (650) 872-5950
Customer Service Bureau. . . . . (415) 551-3000
Website . . . . . www.sfwater.org

California Department of Public Health

District 17 - Santa Clara/San Mateo . . . . . (510) 620-3474
Home Treatment Device Certification Unit. . . . . (916) 327-1140
Website . . . . . .www.dhs.ca.gov

Safe Drinking Water Hotline . . . . . (800) 426-4791
Website . . . . . www.epa.gov

APPENDIX I:
WATER SHORTAGE CONTINGENCY PLAN, JUNE 2011

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Erler & Kalinowski, Inc.

CITY OF BURLINGAME

Water Shortage Contingency Plan

June 2011

Consulting engineers and scientists

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WATER SHORTAGE CONTINGENCY PLAN
City of Burlingame, California

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WATER SHORTAGE CONTINGENCY PLAN
City of Burlingame, California

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Attachment A Example Water Bill Showing Water Use Allocations

Attachment B Request for Water Use Allocation Adjustment

WATER SHORTAGE CONTINGENCY PLAN
City of Burlingame, California

KEY ABBREVIATIONS AND DEFINITIONS

Baseline Water Usage	The average volume of water used by a customer during the Baseline Years, calculated for each bi-monthly billing period.
Baseline Years	The three calendar years prior to the declaration of a water shortage condition.
Demand Reduction Goal	The percent reduction in City-wide water use needed to meet the supply constraint for a particular Stage of Action.
Director	City of Burlingame Director of Public Works
DWR	California Department of Water Resources
gpd	gallons per day
Over Allocation Charge	The charge assessed to a customer's water bill for each unit of water that is used in excess of the Water Use Allocation.
Regulations and Restrictions	Defined actions (e.g., prohibited or required) specified for each Stage of Action that are designed to conserve water during a water shortage condition.
Required Reductions	The percent reduction in water use that is required of all customers during a particular Stage of Action in order to achieve the City-wide Demand Reduction Goal. Required Reductions will be established separately for indoor and outdoor uses.
SFPUC	San Francisco Public Utility Commission
Stage of Action	A designated set of actions to be implemented in response to a specific level of water supply shortage. Each Stage of Action includes a City-wide Demand Reduction Goal, Required Reductions, and Regulations and Restrictions.
Water Use Allocation	The volume of water allocated to each customer for a single bi-monthly billing period. A customer's Water Use Allocation is based on their Baseline Water Usage and the Required Reductions for the current Stage of Action.
WSCP	Water Shortage Contingency Plan

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1. INTRODUCTION

In response to recent State-wide water shortages, the City of Burlingame ("Burlingame" or the "City") has determined that the City must be prepared to respond quickly and effectively to water supply shortages. Therefore, Burlingame has prepared this Water Shortage Contingency Plan ("WSCP") to describe how the City plans to reduce water demands, if such actions are deemed necessary. Although this WSCP was prepared as a response to California's present drought conditions, it is intended to serve as an ongoing plan to address water shortages that may result from future events, such as other droughts, natural disasters, or water supply infrastructure failure. By developing a WSCP, Burlingame hopes to achieve the necessary water demand-reduction while still providing water for public health and safety and minimizing impacts on economic activity.

2. OBJECTIVE OF A WATER SHORTAGE CONTINGENCY PLAN

The purpose of a WSCP is to outline the steps to be taken to manage water supplies and demands during periods of water shortages. A water shortage occurs when supply is reduced to a level that cannot support existing, normal demands. Such a condition may occur as the result of various situations, such as prolonged drought, natural disaster, water supply infrastructure failure or interruption, or regulatory actions. This WSCP outlines the actions to be taken by the City during a water shortage condition in order to balance Burlingame's water demands with its available supplies.

Burlingame purchases all of its potable water from San Francisco Public Utility Commission's ("SFPUC's") Regional Water Supply System ("Regional System"). Although small volumes of recycled water and groundwater have been used selectively within the City, the Regional System is currently the City's only water source.[1] For this reason, Burlingame's water supply availability during a water shortage is almost entirely dependant upon the SFPUC's water supply availability. The following sections discuss how the necessary water demand reductions will be distributed between the City's many customers during a water shortage with the goal of reducing water use in a straightforward and equitable manner.

3. PRIOR DROUGHT ACTIONS

Burlingame has historically developed different strategies for reducing water demand during water shortages such as the severe droughts that occurred in California between 1976 and 1977 and again between 1987 and 1992. In response to these droughts Burlingame's City Council ("City Council") adopted the Water Rationing Ordinance (No. 1101) in 1977 and Water Rationing Plan Resolution 49-92 ("WRPR 49-92") in 1992. During both the 1976-1977 and

[1] Recycled water is used for limited purposes at the wastewater treatment plant and a small volume of groundwater has historically been used for irrigation of certain areas within the City.

1987-1992 droughts, Burlingame adopted specific rules that required water-saving actions and prohibited water-wasting activities. In 1992, these rules were accompanied by specific water use allocations for each customer. The water use allocation system employed in 1992 was based on a per capita water use for single family residential customers and a percentage reduction for multifamily and non-residential customers. These ordinances and resolutions are discussed further below.

3.1.Ordinance 1101

The State of California experienced extremely dry years between 1976 and 1977 when runoff in the Sacramento and San Joaquin Valleys averaged 37% and 26% of normal, respectively. To help mitigate the effects of the drought, the City Council enacted Ordinance 1011 in April 1977 to achieve a 28% reduction in water use, City-wide. Ordinance 1011 focused on adopting specific rules to require water-saving practices and prohibit water-wasting activities. Some of the rules required by the Ordinance 1011 included:

- Repairing broken or defective plumbing, sprinklers, watering, or irrigation equipment immediately.
- Reducing irrigation of lawns, gardens, playfields, parks, median strips, golf courses, cemeteries, and landscaping of any type by at least 50% compared to the same billing period in the previous year.
- Eliminating new irrigation services and expansion of existing irrigation facilities.
- Eliminating use of water that flooded or ran off in gutters or streets.
- Eliminating the use of hoses to wash vehicles or building surfaces or parts.
- Eliminating filling any new or existing swimming pools with water.
- Eliminating use of hoses for cleaning sidewalks, driveways, patios, parking lots, etc.
- Requiring all new construction to include water saving devices in interior plumbing fixtures and minimize landscaping.
- Eliminating use of water in decorative fountains.
- Requiring restaurants to serve water to customers only upon request.
- Using reclaimed water for construction water purposes.

Ordinance 1011 was enforced by the City until 1978 when increased precipitation ended to the drought.

3.2. Water Rationing Plan Resolution No. 49-92

Almost a decade after the 1976-1977 drought event, the City was faced again with extreme dry conditions. The 1987-1992 drought was notable for the six-year duration of significantly below-average runoff flows and the statewide nature of the drought impacts (runoff in the Sacramento and San Joaquin Valleys averaged 56% and 47% of normal, respectively). Statewide reservoir

storage was approximately 40% of average by the third year of the drought and did not return to average conditions until 1994.

The 1987-1992 drought required that the City reduce water demands by 34% at the peak of the drought in 1991 (from 5.0 MGD to 3.3 MGD). To achieve this water demand reduction, WRPR 49-92 mandated the implementation of conservation measures and prohibited the use of potable water for certain activities, similar to those adopted by Ordinance 1011. In addition to these conservation measures however, WRPR 49-92 also assigned a water use allocation for each customer based on a per capita water use for single family residential customers and a percentage reduction for multifamily and non-residential customers.

Each single family dwelling was allocated 100 gallons per day ("gpd") for the first inhabitant, 70 gpd each for the second, third, or fourth inhabitants, and 50 gpd for each additional inhabitant. Service connections with landscaping received allocations based on the landscape area, including 50 gpd for lots under 10,000 square feet, 150 gpd for lots exceeding 10,000 square feet but less than ¾ acre, and between 150 to 300 gpd for lots larger than ¾ acre. For all other accounts (e.g., multifamily residential, commercial, industrial, institutional, and irrigation), the percent reductions required varied seasonally and by customer category. Irrigation accounts were required to cut back 50% during both the summer and winter months. Institutional accounts were cutback 25% during all seasons. Commercial, industrial and hotel accounts without food services were required to reduce water usage by 25% during the summer and by 15% in winter months, while food-related commercial accounts were cutback 20% in the summer and 10% in the winter. Multifamily residential customers were required to reduce water use by 15% during the summer and 7% during winter months.

4. WATER SHORTAGE CONTINGENCY PLAN STRATEGIES

This WSCP updates the City's earlier water shortage management strategies based on the current drought conditions, current water usage within the City, current laws, and current water demand reduction and management practices. This WSCP relies on a combination of water use allocations and rules designed to reduce water use during a shortage. The severity of actions taken by the City will depend on the severity of the water shortage condition. The five stages of action ("Stages of Action") developed herein outline the actions that will be taken by the City to address different water shortages conditions. Each Stage of Action includes a range of City-wide demand reduction goals ("Demand Reduction Goals") and a range of indoor and outdoor required reductions in water use ("Required Reductions") that, if met, would allow the City to achieve the stated City-wide Demand Reduction Goal.

During a water shortage condition, each customer will be assigned a bi-monthly water use allocation ("Water Use Allocation") based on the Required Reductions and their historical water use. To assist customers in complying with their Water Use Allocations, each Stage of Action also contains regulations and restrictions ("Regulations and Restrictions") that mandate water-conserving actions and prohibit water-wasting activities.

Stage of Action – A designated set of actions to be implemented in response to a specific level of water supply shortage. Each Stage of Action includes a City-wide Demand Reduction Goal, Required Reductions, and Regulations and Restrictions.

Demand Reduction Goal - The percent reduction in City-wide water use needed to meet the supply constraint for a particular Stage of Action.

Required Reductions – The percent reduction in water use that is required of all customers during a particular Stage of Action in order to achieve the City-wide Demand Reduction Goal. Required Reductions will be established separately for indoor and outdoor uses.

Water Use Allocation – The volume of water allocated to each customer for a single bi-monthly billing period. A customer's Water Use Allocation is based on historical water use from the prior three calendar years, which are referred to as the "Baseline Years."

Regulations and Restrictions – Defined actions (e.g., prohibited or required) specified for each Stage of Action that are designed to conserve water during a water shortage condition.

Determination of the applicable Stage of Action, Demand Reduction Goal, and Required Reductions will the responsibility of the Director of Public Works (or "Director"), based on the provisions of this WSCP and the severity of the water shortage condition. Implementation of the WSCP will be carried out by the WSCP implementation team ("Implementation Team"), who will be responsible for public outreach, internal coordination within City departments, staff training, distribution of rebates and water conservation materials, monitoring water use and revenue impacts, and enforcement of the Regulations and Restrictions. The primary elements of this WSCP, the Water Use Allocations and the Regulations and Restrictions, have been developed to distribute cutbacks during a water shortage in an equitable and transparent manner. Below is a brief description and rationale for these two major WSCP elements:

- *Water Use Allocations*: A Water Use Allocation methodology was chosen for this WSCP to allow the City to equitably distribute the available water supply amongst its customers.

By assigning each customer a specific allocation, the City will be able to better monitor progress toward meeting the Demand Reduction Goals and customers will be able to see their personal contribution to meeting those goals.

- *Regulations and Restrictions*: To help customers reduce their water usage and to ensure that water is only used for appropriate purposes during the water shortage, this WSCP designates specific Regulations and Restrictions for each Stage of Action. Regulations and Restrictions include prohibiting the use of water for purposes that are not necessary for the protection of health and safety (e.g., irrigation, vehicle washing, sidewalk washing) and requiring the posting of water shortage notifications in selected areas.

In order to achieve the necessary reductions, the following strategies will be used to assist customers in meeting their Water Use Allocations and adhering to the Regulations and Restrictions.

- *Public Outreach*: The first step of reducing water demand is to disseminate information to the public. As part of its WSCP the City will increase outreach efforts to keep its water customers up-to-date on the current water supply conditions and the actions that will be requested to help reduce the City's water use.
- *Rebates and Information on Water-Saving Actions*: To assist customers in reducing their water use, the City will recommend water saving actions and offer rebates for the purchase and installation of water-efficient plumbing fixtures and appliances.

These strategies will be employed and monitored by the Implementation Team.

5. HISTORICAL MONTHLY WATER USE BY CUSTOMER CATEGORY

Burlingame's water use within the past three fiscal years ("FYs") has averaged approximately 4.15 million gallons per day ("MGD"), not including system losses, flushing, or other unmetered or unaccounted for water. Water use within the City is tracked on a bi-monthly basis and presented in Figure 1 by customer category. As shown in Figure 1, single-family residential customers use more water than any other type of customer within the City, or approximately 46% of Burlingame's total water use during the fiscal year 2007-2008.

Figure 1 also illustrates monthly variations in water use amongst the different customer categories, the greatest variation occurring within the single-family residential customer category, with an increase of 140% between January and July. This seasonal fluctuation in water use reflects the increased irrigation needs that occur during the late spring, summer, and early fall. Understanding how and where Burlingame's water is used helps the City develop a WSCP that is applicable to its specific needs as a community.

6. STAGES OF ACTION, DEMAND REDUCTION GOALS, AND REQUIRED REDUCTIONS

Different water shortage conditions will require different actions by the City to respond to varying levels of water supply constraints. The City has defined five different Stages of Action to represent increasing levels of water shortage. Each Stage of Action will include multiple Regulations and Restrictions along with a target City-wide Demand Reduction Goal. The range in applicable Demand Reduction Goals for each Stage of Action is show below in Table 1.

Table 1. Stages of Action and City-Wide Demand Reduction Goals

Stage of Action	City-Wide Demand Reduction Goal
Stage 1 - Watch	5-10%
Stage 2 - Alert	10-20%
Stage 3 - Warming	20-30%
Stage 4 - Crisis	30-40%
Stage 5 - Emergency	50+%

The applicable Stage of Action and the associated Demand Reduction Goal will be decided by the Director of Public Works after a water shortage condition is declared by the City Council. In order to meet the Demand Reduction Goal, the Director will also announce associated indoor and outdoor demand reductions (referred to as Required Reductions) that will be required of all customers in order to achieve the City-wide Demand Reduction Goal. The Required Reductions will be based on the following guidelines:

Table 2. Indoor and Outdoor Required Reductions for each Stage of Action

Stage of Action	Required Reduction	
	Indoor	Outdoor
Stage 1 - Watch	5 – 10 %	5 – 25 %
Stage 2 - Alert	5 – 10 %	25 – 50 %
Stage 3 - Warming	10 – 15 %	50 – 75 %
Stage 4 - Crisis	15 – 35 %	75 – 100 %
Stage 5 - Emergency	> 35 %	100 %

The Required Reduction for outdoor water use ("Outdoor Required Reduction") will be equal to or, in most cases, greater than the Required Reduction for indoor water use ("Indoor Required Reduction") because outdoor water use is predominately associated with landscape irrigation and therefore has a greater potential for savings without impacting the health and safety of the City's residents or the economic health of Burlingame's businesses. Because of this difference in Indoor and Outdoor Required Reductions, the actual effects of the City's Stages of Action will vary for each customer based on the proportion of water that is used for indoor versus outdoor purposes.

6.1. Transition Between Stages of Action

Transition between different Stages of Action or increase or decrease of the Demand Reduction Goal (and associated Required Reductions) will be based on the following conditions, as announced by the Director of Public Works:

- Change in water supply condition,
- Change in water demands due to climate, season, or as a result of conservation actions, or
- Inability to meet City-wide Demand Reduction Goal.

The City's water use during a water shortage condition will be monitored by the Department of Public Works ("Department") to evaluate whether the City-wide Demand Reduction Goal has been met or if additional actions are necessary.

7. WATER USE ALLOCATION METHODOLOGY

Water Use Allocations will be determined based on the severity of the water shortage. Water Use Allocations will be calculated for each customer using the Indoor and Outdoor Required Reductions announced by the Director. Because the City of Burlingame bills its customers on a bi-monthly cycle, Water Use Allocations will be calculated for each billing period and will be based on each customer's historical water use. The Water Use Allocations for the current and subsequent billing periods will be printed on each customer's water bill, as shown in Attachment A.

Below is a discussion of the methodologies used to determine each customer's baseline water usage ("Baseline Water Usage") and Water Use Allocations. Adjustments to Water Use Allocations will be considered on a case-by-base basis, in accordance with the guidelines presented below. For illustrative purposes, this section also includes a discussion of the average expected Water Use Allocations for different customer categories (e.g., different types of residential and non-residential customers) based on each category's historical water use.

7.1. Determination of Baseline Water Usage

The Baseline Water Usage is defined for each customer as the average water usage during the three years prior to declaration of the water shortage condition ("Baseline Years"). The Baseline Water Usage is the starting point from which the Indoor and Outdoor Required Reductions will be applied for each customer. Because most customers vary their water use throughout the year, a Baseline Water Usage will be calculated for each billing period based on the water use measured at each account during the equivalent billing period during the Baseline Years. For example, a customer's Baseline Water Usage for the billing period of July-August in 2009 will be equal to that customer's average water use during the July-August billing period for 2006, 2007, and 2008.

Because water used for outdoor purposes will be reduced at a greater percentage than water used for indoor purposes, the Baseline Water Usage must be subdivided into an indoor and outdoor component. Since irrigation demands are typically lowest between November and February, these months are considered to be generally representative of indoor water use for most customers. Therefore the indoor portion of the Baseline Water Usage ("Indoor Baseline Water Usage") will be calculated for each customer as the average water used between November and February during the Baseline Years and billed between January and April.[2] Any water that is used above and beyond the Indoor Baseline Water Usage is considered to be for outdoor purposes, and therefore termed the "Outdoor Baseline Water Usage." The result is that each customer's Indoor Baseline Water Usage will be constant throughout the year, while the Outdoor Baseline Water Usage will vary for each billing period, generally increasing during the summer and decreasing during the winter. Water use for dedicated irrigation accounts will be assumed to be 100% outdoor water use.

In the event that water usage data is not available for a customer during all three of the Baseline Years, then the water usage data for that customer during any complete year within the Baseline Years shall be used. For example, if water usage data is available from 2008 but not from 2007 or 2006, than the 2008 water usage data shall be used to establish the customer's baseline. If a complete year of water usage data is not available for a customer during the Baseline Years then the customer's Baseline Water Usage will be determined by the Director considering similar or standard usage data for residential, commercial, or other uses. For example, the Baseline Water Usage for a new single-family residential account will be equal to the average Baseline Water Usage for all single-family accounts within the City.

7.2. Determination of Water Use Allocations

Water Use Allocations will be determined from each customer's Baseline Water Usage and the Indoor and Outdoor Required Reductions established by the Director. The Required Reductions will be applied to each customer's Indoor and Outdoor Baseline Water Usage to determine their Water Use Allocation for each billing period. For example, Table 3 below presents the Baseline Water Usage for Burlingame's average single-family customer and the calculated Water Use Allocation for an example Stage of Action requiring a 5% reduction in indoor water use and 25% reduction in outdoor water use. This example is shown for a customer who receives bills during odd-numbered months (e.g., January, March, etc.).

[2] This is consistent with the methodology for determining indoor water use for sewer billing purposes.

Table 3. Example Bi-Monthly Water Use Allocations for the Average Single-Family Residential Customer Billed During Odd-Numbered Months

Bill Received	Period of Use	Baseline Water Usage (100 gallons)			Required Reduction		Water Use Allocation (100 gallons)
		Total	Indoor	Outdoor	Indoor	Outdoor	
Jan	Nov-Dec	122	114	8	5%	25%	114
Mar	Jan-Feb	114	114	0	5%	25%	108
May	Mar-Apr	155	114	42	5%	25%	140
July	May-Jun	224	114	111	5%	25%	192
Sept	Jul-Aug	236	114	123	5%	25%	201
Nov	Sep-Oct	178	114	65	5%	25%	157

Residential accounts whose water usage is less than 45 units (one unit being 100 gallons) in one billing period, representing an average of approximately 75 gpd, will not be subject to the Required Reductions.

7.3. Example Required Reductions for each Stage of Action by Customer Type

As presented above in Section 5, indoor and outdoor water use typically varies both by customer type and by individual customer. Therefore, the actual effect of the required water demand reductions will be different for each customer depending on the portion of water use that is attributed to indoor versus outdoor uses. This section provides an example of the average effect of the Required Reductions for each customer category to meet City-wide Demand Reduction Goals associated with five example Stages of Action.

For the purpose of this WSCP, water use is discussed for the following customer categories:

- Single-family residential
- Multifamily residential
- Commercial – without food service
- Commercial – with food service
- Industrial
- Institutional

Historical water use records within the City indicate that monthly water use varies significantly between these categories, with single-family residential comprising the largest portion of outdoor water use within the City (see Section 5). As a result of the variation in indoor versus outdoor water use within different customer categories, the effects during each Stage of Action will differ for the average customer in each of the customer categories defined above. For example, to meet a 20% City-wide Demand Reduction Goal the average single-family residential customer will be cutback 24% while the average multifamily residential customer will be cutback only 12%.

Table 4. Effects of Example Required Reductions on Different Customer Categories

Stage of Action	City-Wide Demand Reduction Goal	Required Reduction		Average Effect of Required Reduction (% Cutback)					
				Residential		Commercial			
		Indoor	Outdoor	Single Family	Multi-family	Food	Non-Food	Indus-trial	Institu-tional
Stage 1	5 %	5 %	5 %	5%	5%	5%	5%	5%	5%
Stage 2	10 %	5 %	25 %	12%	6%	6%	8%	7%	11%
Stage 3	20 %	10 %	50 %	24%	12%	12%	15%	15%	22%
Stage 4	30 %	15 %	75 %	35%	18%	17%	23%	22%	33%
Stage 5	50 %	35 %	100 %	57%	39%	38%	43%	42%	54%

The examples presented above in Table 4 illustrate how the Required Reductions will affect customers differently based on their water use patterns. Because single-family residential customers have the highest proportional outdoor water use, the single-family residential accounts will, on average, be required to reduce their water use the most. Figure 2 attached, illustrates the monthly effect of the Required Reduction on an average single-family residential customer.

7.4. Adjustments to Water Use Allocations

In the event that a customer wishes to appeal their Water Use Allocation, an adjustment request may be filed with the Department. All adjustment requests must be made in writing to the Department using the appropriate "Request for Water Use Allocation Adjustment" form provided in Attachment B, and must include the appropriate documentation. Approval of all adjustments for Water Use Allocations will be at the discretion of the Director, based on the following grounds:

- Medical requirements documented by a written statement from a physician providing the amount of water needed each day for treatment of a medical condition.
- An increase in occupancy.
- Undue hardship, which includes, but is not limited to, adverse economic impacts such as loss of production, loss of jobs, and similar factors, documented by the customer and potentially confirmed by Department staff through a field visit.
- Emergency conditions, which include, but are not limited to, conditions affecting the health, sanitation, fire protection, or safety of the customer or the public, documented by the customer and potentially confirmed by Department staff through a field visit.

8. WATER DEMAND REDUCTION MEASURES

In order to assist customers in meeting their Water Use Allocations during a water shortage condition, the City will adopt specific Regulations and Restrictions to prevent wasteful uses of water.

8.1. Regulations and Restrictions

In addition to City-wide Demand Reduction Goal and Indoor and Outdoor Required Reductions, each Stage of Action will include Regulations and Restrictions to encourage water conservation during a water shortage. The Regulations and Restrictions for each Stage of Action are presented below in Table 5. Upon declaration of a water shortage condition by the City Council and determination of the appropriate Stage of Action, Demand Reduction Goal, and Required Reductions, the Director of Pubic Works will also announce the applicable Regulations and Restrictions that will be implemented for that Stage of Action. Regulations and Restrictions are be applicable to the Stage of Action they are listed under below, as well as for all higher-level Stages of Action, unless it is in conflict with a Regulation or Restriction listed under a higher-level Stage of Action.

Table 5. Regulations and Restrictions for each Stage of Action

During All Water Shortage Conditions • Water waste, flooding, or runoff into the street or gutters is prohibited. • Hoses cannot be used to clean hard surface areas, including but not limited to sidewalks, driveways, roofs, and awnings. • Hoses used for vehicle or building washing must have positive shutoff valves.
Stage 1 - Watch • (No additional regulations or restrictions apply.)
Stage 2 - Alert • Irrigation with potable water is prohibited between the hours of 10 a.m. and 5 p.m.
Stage 3 - Warning • No irrigation shall be permitted on any day other than Monday and Thursday. This provision does not apply to hand-held hose watering of vegetation, if the hose is equipped with a positive water shutoff valve, which is allowed between the hours of 5 p.m. and 10 a.m. • Potable water shall not be used to clean, fill, or maintain levels in outdoor decorative fountains; interior fountains must recirculate water. • Businesses must post notification of water shortage conditions in restrooms. • Hotels must post notification of water shortage conditions in rooms. • City buildings must post notification of water shortage conditions in restrooms and break rooms. • City will reduce irrigation at parks, eliminate flushing programs, and stop use of potable water in street sweeping. • Broken or defective plumbing, sprinklers, or irrigation system which permit the escape or leakage of potable water must be repaired within 24 hours of the discovery of the defect or leak.
Stage 4 - Crisis • All irrigation with potable water is prohibited unless performed with a hose equipped with a positive shutoff valve. • Restaurants and hotel banquets shall serve water to customers only upon request. • Draining and/or filling any existing or new swimming pools with potable water is prohibited. • The use of potable water for construction uses or street sweeping is prohibited.
Stage 5 - Emergency • All irrigation with potable water is prohibited. • The use of potable water for vehicle washing is prohibited.

If additional Regulations and Restrictions are deemed necessary by the Director, they will be announced concurrent with the Stage of Action, Demand Reduction Goal, and Required Reductions.

9. VIOLATIONS AND PENALTIES

Additional surcharges or restrictions may be imposed on any customer who exceeds their Water Use Allocation or to any customer who does not adhere to the Regulations and Restrictions listed in Section 7.4. Applicable fines and/or service restrictions shall be determined based on the Stage of Action in effect at the time that the violation is committed. The fines and service restrictions listed in this WSCP do not preclude the City from imposing additional fines or service restrictions pursuant to other resolutions, ordinances, or statutes.

9.1. Over Allocation Charge

Any customer who exceeds their Water Use Allocation in any given billing period will be billed at an increased rate for each unit of water consumed in excess of the Water Use Allocation ("Over Allocation Charge"). The Over Allocation Charge will be calculated based on the volume of water that is consumed in excess of the Water Use Allocation and customers will be charged on a per unit basis at a rate of that is consistent with the current approved City of Burlingame water rate schedule at the time that the Water Use Allocation is exceeded. This water rate schedule shall be adopted pursuant to the requirements of Proposition 218 and approved by the City Council. Rates specified within the approved rate schedule shall contain provisions for Over Allocation Charges during periods of water shortages.

9.2. Penalty for Violation of Regulations and Restrictions

Penalties may be issued for violation of the Regulations and Restrictions listed in Section 7.4. Penalties will include warnings, service restrictions, and discontinuance of water service and will be determined based on the number of violations committed and the Stage of Action in effect at the time of the most recent violation. Sequential violations of the Regulations and Restrictions shall continue to accrue until the City Council determines that a water shortage condition no longer exists.

Warnings
A first violation of the Regulations and Restrictions will result in a written notification to the customer. A second violation for the same action will result in a written warning to the customer.

Service Restrictions
If a customer violates a Regulation or Restriction for a third time, the Director of Public Works may direct that a flow restriction device be installed on the customer's service line. Notice of intent to install a flow restriction device shall be delivered by certified mail or personal service at least five (5) days before installation of such device. The flow restriction device will be removed once charges for installation and removal of the device have been paid by the customer, but not before a minimum of three (3) days have elapsed since the installation of the flow restriction device. Fees for installation and removal of flow restricting devices will be consistent with §15.04 of the Burlingame Municipal Code and the City's current approved water rate schedule.

Discontinuance of Water Services
If a customer violates a Regulation or Restriction for a fourth time, the Director of Public Works may direct that water service be discontinued. A notice of intention to terminate service shall be delivered by certified mail or personal service at least ten (10) days before service is terminated. A reactivation charge in the amount specified in §15.04 of the Burlingame Municipal Code or by the City's current water rate schedule shall be paid prior to reactivating water service to any customer.

Appeals
The decision to terminate service may be appealed to the City Council which may affirm, reverse, or modify the decision.

10. IMPLEMENTATION TEAM MEMBER AND RESPONSIBILITIES

The Implementation Team will be responsible for implementing the WSCP and for monitoring water use and revenue impacts throughout the water shortage. The Implementation Team will be led by the Director of Public Works and will consist of staff members from Burlingame's Department of Public Works and Department of Finance. Implementation Team members will include the Assistant Director of Public Works, the Public Works Superintendent, the Public Works Assistant Superintendent, and the Finance Information Services Manager.

The Implementation Team will be responsible for actions that are needed to smoothly implement the WSCP, such as public information and outreach, education, rebates, enforcement of the Regulations and Restrictions, and monitoring progress toward meeting the designated Demand Reduction Goal. Examples of the Implementation Team duties may include, but are not limited to:

- Interfacing with City officials, water customers, and the general public,
- Training City staff,
- Updating the City's website to disseminate information about the water shortage,
- Developing, producing, and distributing mailings, bill inserts, signs and other educational materials,
- Notifying newspaper and email list-serves about the water shortage condition,
- Establish a drought hotline to connect with customers,
- Conducting "House Calls" and provide customers with free water conservation kits,
- Advertise, distribute, and monitor the City's rebate programs for water-efficient fixtures and appliances,
- Issuing warnings and penalties for violation of the Regulations and Restrictions,
- Monitoring the City's water use in comparison with the Demand Reduction Goal, and

- Monitoring water shortage-related costs and revenue losses.

The Implementation Team will meet on a regular basis throughout the period of water shortage to evaluate progress toward meeting the Demand Reduction Goal and to determine whether additional actions are needed.

11. COST RECOVERY DURING A WATER SHORTAGE

As a result of reduced water use and increased spending on conservation activities during a water shortage, water revenues likely to decrease. In order to recuperate these losses, the City may increase its water rates so that customers are charged for the actual cost of providing water during a shortage. These rates will be specified in the City of Burlingame's water rate schedule, as approved by the City Council and in accordance with Proposition 218 requirements.

The City's expenditures for water conservation activities are likely to increase during a water shortage. These expenditures will include increasing efforts related to existing conservation activities as well as potential costs associated with temporary or new staff members. Burlingame's existing conservation activities include:

- Brochures, mailings, and water conservation kits,
- Restaurant pre-rinse spray valves,
- Rebates for the purchase of water-savings toilets and clothes washers, and
- Commercial water audits.

These and other expenses will be considered when setting water rates and fees that are applicable during water shortage periods and will be accounted for in the rates and fees specified in § 15.04 of the Burlingame Municipal Code and the City's water rate schedule.

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FIGURES

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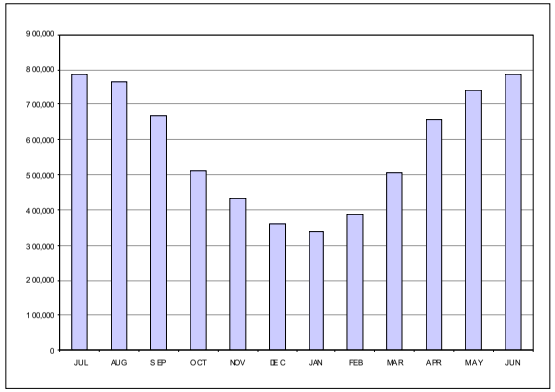
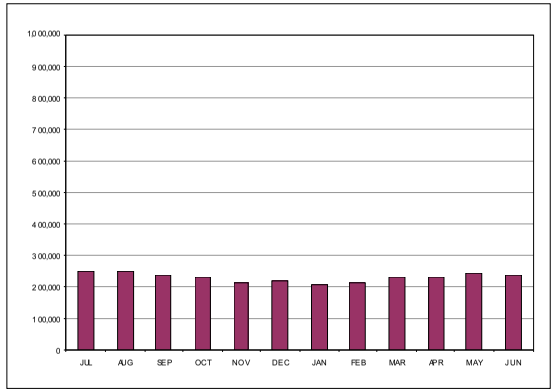
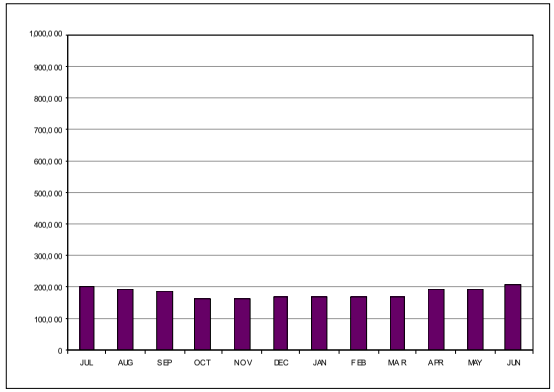


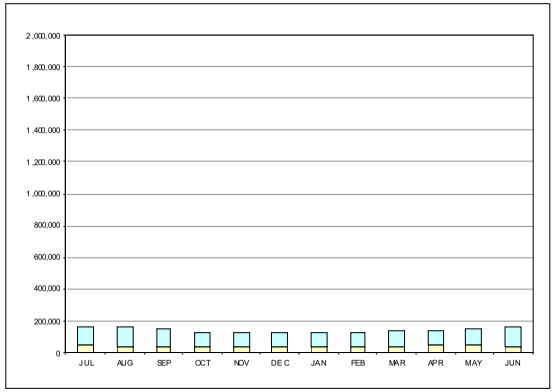
Single-Family Residential



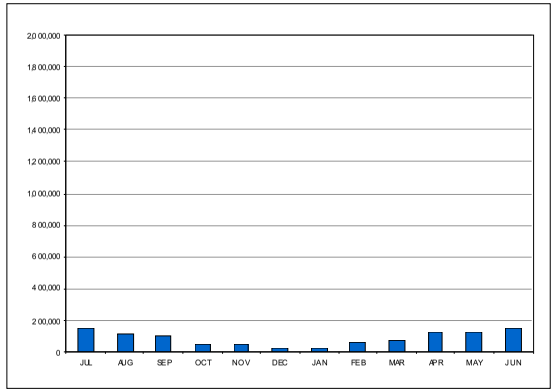
Multi-Family Residential



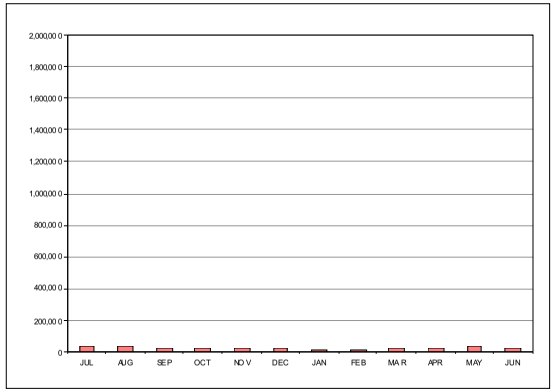
Industrial



Commercial



Landscape



Institutional

Abbreviations:

FY = Fiscal Year

Notes:

1. Water use shown in hundreds of gallons.
2. Reflects average monthly water usage measured by the City of Burlingame between July 2005 to June 2008.
3. Does not include unaccounted for water (e.g., system losses, flushing, or other unmetered uses).

Erler & Kalinowski, Inc.

Actual Monthly Water Use by Customer Category
(FY 2005 through 2007)

City of Burlingame
Burlingame, CA
June 2011
EKI A20031.13 D1

Figure 1

G:\A20031.13 D1\Jun11\Figure 1.dwg 3-25-11

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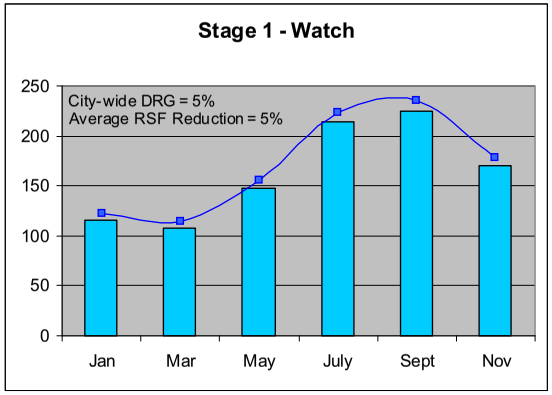

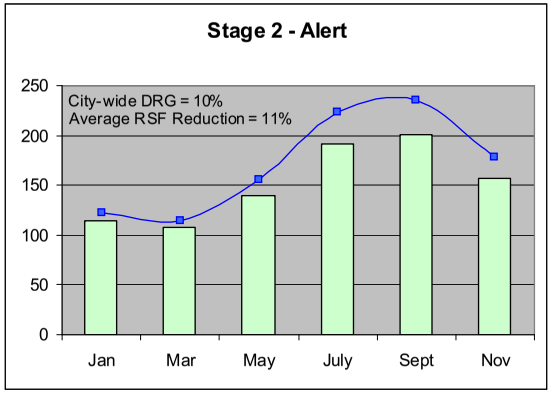

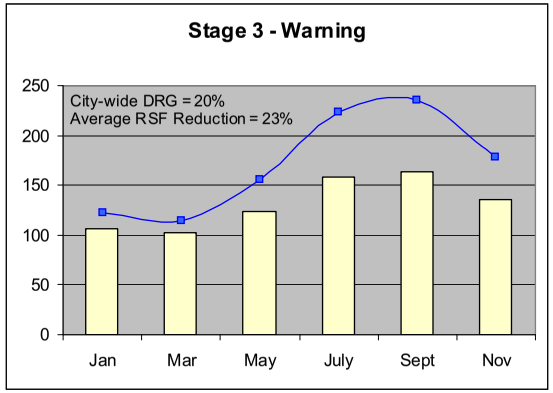

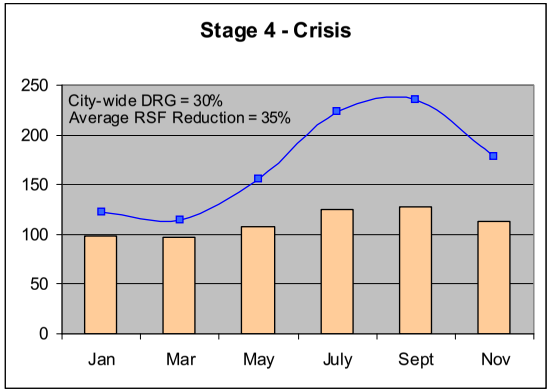

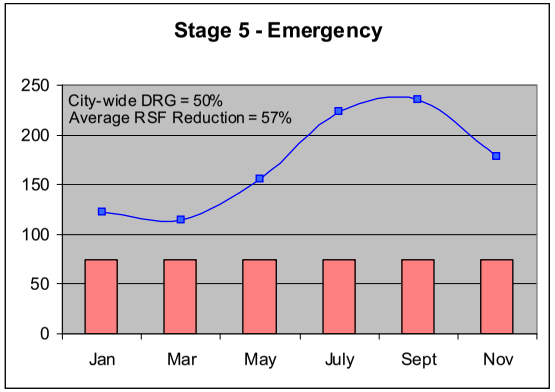

Legend:

Baseline Usage

Average RSF Customer Water Use Allocation

- 5% City-Wide DRG (5% Indoor, 5% Outdoor)
- 10% City-Wide DRG (5% Indoor, 25% Outdoor)
- 20% City-Wide DRG (10% Indoor, 50% Outdoor)
- 30% City-Wide DRG (15% Indoor, 75% Outdoor)
- 50% City-Wide DRG (35% Indoor, 100% Outdoor)

Abbreviations:

DRG = Demand Reduction Goal

RSF = Residential Single-Family

Notes:

1. Water use shown in hundreds of gallons.
2. Baseline water usage calculated from water use for the average single-family residential customer during the calendar years 2006 through 2008.

Erler & Kalinowski, Inc.

Monthly Water Use Allocations for the Average Single-Family Residential Customers

City of Burlingame
Burlingame, CA
June 2011
EKI A20031.13 D1

Figure 2

G:\A20031.13 D1\Jun11\Figure 2.dwg 3-25-11

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ATTACHMENTS

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ATTACHMENT A

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CITY OF BURLINGAME WATER BILL

John Doe
123 Fourth Avenue

Account Number
01-123456

www.burlingame.org
email: waterdept@burlingame.org
P O Box 191, Burlingame, CA 94011-0191
501 Primrose Rd, Burlingame, CA 94010-3997
(650) 558-7210 FAX (650) 685-6138
Office Hours M-F 8:00 A.M. - 5:00 P.M.

Water & Sewer Emergencies
M-F 7:00 A.M.- 3:30 P.M. (650) 558-7670
Other Hours (Weekends/Holidays) (650) 692-0604

Meter # 12345678	Prior Read Date: 01-05-2009	Prior Reading: 05754	Days of Service: 56	Use in 100 Gallons: 256	
Size: 3/4 INCH	Current Read Date: 03-02-2009	Current Reading: 06010		Current Allocation: 119	

ACCOUNT SUMMARY

OVER CURRENT ALLOCATION: 137
Next Allocation: 149

Previous Balance	463.68
Payment(s) Received by 03-03-2009 Thank You	-463.68
Unpaid Balance	0.00

Current Charges (03-03-2009)

Fixed Charge	54.02
Water	150.53
Sewer	197.89
Over Allocation Charge	0.00

PLEASE PAY THIS AMOUNT **$402.44**
Total Amount Due By: 04-02-2009
A 1.5% Penalty Charge will be assessed if not paid by due date.

NOTES: PLEASE SEE ENCLOSED FLYER ON "FREE" ELECTRONICS RECYCLING EVENT 9/27 & 9/28.
SELECT YOUR FREE SUBSCRIPTION TO ANY OF THE ELECTRONIC NEWSLETTERS THE CITY OF BURLINGAME OFFERS. CLICK ON E-NEWS AT WWW.BURLINGAME.ORG TO SUBSCRIBE.
PLEASE REMEMBER TO CONSERVE WATER!!!!!

Consumption History

Month	Days	Use in 100 Gal	Month	Days	Use in 100 Gal	Month	Days	Use in 100 Gal
MAR-08	60	446	JUL-08	61	462	NOV-08	61	206
MAY-08	61	459	SEP-08	62	474	JAN-09	61	301

PLEASE DETACH & RETURN THIS WITH YOUR REMITTANCE. DO NOT STAPLE.
CHECKS SHOULD BE MADE PAYABLE TO CITY OF BURLINGAME

Account Number: 01-123456

Service Address: 123 Fourth Avenue

Amount Due: **$402.44**

Due Date: **04-02-2009**

Amount Paid (if different): _____

**** CIRCLE CHECKING DEBIT DAY: 25 1 ****

AUTOMATIC PAYMENT SERVICE REQUIRES AUTHORIZATION.
PLEASE SIGN AND RETURN WITH VOIDED CHECK.

X_____
AUTOMATIC PAYMENT SERVICE AUTHORIZATION SIGNATURE

CITY OF BURLINGAME, WATER DEPT
PO BOX 191
BURLINGAME CA 94011-0191

John Doe
123 Fourth Avenue

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ATTACHMENT B

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REQUEST FOR ADJUSTMENT TO DROUGHT WATER ALLOCATION

(Medical/Change in Occupancy)

Customer Name: _____
Last Name First Name

Account Number: _____ **Email Address**: _____

Service Address: _____

Mailing Address: _____

(___)_____ (___)_____ (___)_____
Home phone Work phone Cell phone

Adjustment Requested (check at least one and submit applicable information):

☐ **Substantiated medical requirements**

The undersigned medical doctor hereby certifies that following person(s) _____ who reside(s) at the address listed above has a medical condition(s) that require(s) the use of _____ gallons of water per day above and beyond regular water usage.

Name:_____
Medical Doctor

Date:_____

☐ **Change in occupancy**

Note the number of occupants below (do not include temporary visitors)

_____	_____	_____	_____
2006	*2007*	*2008*	*current*

I certify under penalty of perjury that all the information provided on this declaration is truthful and correct. I understand that all information provided is subject to verification by the City of Burlingame and may include an audit of water use including an inspection by City of Burlingame of the interior and exterior of my premises. I acknowledge that City of Burlingame reserves the right to increase the customer service account water use allocation if, upon inspection, it is determined that any information provided on this Request for Adjustment to Water Allocation was inaccurate or falsified.

Customer Signature _____ **Date** _____

Allocation Adjustment requests should be sent to:

Burlingame Water Office
PO Box 191
Burlingame, CA 94011

Questions? Call 1-650-558-7210
Fax: 1-650-342-8386

Please allow up to three weeks for a response.

For Internal Use Only			
City of Burlingame Staff Auditor:	***Accepted***	***Denied***	***Date:***

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APPENDIX J:
CITY OF BURLINGAME RESOLUTION NO. 9-2011, TIER 2 DROUGHT REDUCTION IMPLEMENTATION PLAN.

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RESOLUTION NO. 9-2011

**A RESOLUTION OF
THE CITY COUNCIL OF THE CITY OF BURLINGAME
APPROVING TIER 2 DROUGHT IMPLEMENTATION PLAN
PURSUANT TO SECTION 3.11.C OF THE WATER SUPPLY AGREEMENT WITH
THE SAN FRANCISCO PUBLIC UTILITIES COMMISSION**

WHEREAS, The City of Burlingame is one of 26 agencies in San Mateo, Santa Clara and Alameda Counties which purchase water from the City and County of San Francisco (San Francisco) pursuant to a Water Supply Agreement entered into in 2009 (Agreement); collectively these 26 agencies are referred to in the Agreement as Wholesale Customers; and

WHEREAS, Section 3.11 of the Agreement addresses times when insufficient water is available in the San Francisco Regional Water System to meet the full demands of all users; Section 3.11.C provides that during periods of water shortage caused by drought, the San Francisco Public Utilities Commission (SFPUC) will allocate available water between its retail customers and the Wholesale Customers collectively, in accordance with a schedule contained in the Water Shortage Allocation Plan set forth in Attachment H to the Agreement (Tier 1 Plan); and

WHEREAS, Section 3.11.C authorizes the Wholesale Customers to adopt a Drought Allocation Plan, including a methodology for allocating the water which is collectively available to the 26 Wholesale Customers among each individual Wholesale Customer (Tier 2 Plan) and section 3.11.C also commits the SFPUC to honor allocations of water unanimously agreed to by all Wholesale Customers or, if unanimous agreement cannot be achieved, water allocations that have been adopted by the Board of Directors of the Bay Area Water Supply and Conservation Agency (BAWSCA); additionally, the Agreement provides that the SFPUC can allocate water supplies as necessary during a water shortage emergency if no agreed upon plan for water allocation has been adopted by the 26 Wholesale Customers or the BAWSCA Board of Directors; and

WHEREAS, commencing in October 2009, representatives appointed by the managers of each of the Wholesale Customers have been meeting to develop a set of principles to serve as guidelines for an equitable allocation methodology, as well as formulas and procedures, to implement those principles; these discussions, and supporting technical analyses, have been conducted with the assistance of BAWSCA staff; and

WHEREAS, the Tier 2 Plan, attached to this resolution as Exhibit A, has been endorsed by all of the Wholesale Customer representatives who participated in the formulation process and they have committed to recommend that it be formally adopted by the governing body of their respective agencies; and

WHEREAS, the Tier 2 Plan allocates the collective Wholesale Customer share among each of the 26 wholesale customers through December 31, 2018 to coincide with San Francisco's deferral of decisions about additional water supply until at least 2018;

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Burlingame as follows:

1. All of the above-stated facts and those contained in the staff report are true and correct.

2. The Tier 2 Drought Implementation Plan, a copy of which is attached hereto as Exhibit A, is approved.

3. This approval is conditioned upon all of the other 25 Wholesale Customers approving the Plan, such approvals being evidenced through adoption of similar resolutions or, in the case of private-sector organizations, by other equivalently binding written commitments signed by an executive officer acting within the scope of delegated authority, and all such approvals occurring on or before June 30, 2011.

4. If the other 25 Wholesale Customers do not adopt resolutions or binding commitments by June 30, 2011, this resolution will automatically expire and be of no further effect after June 30, 2011, unless it has been extended prior thereto by further action of this Council.

Terry Nagel

Terry Nagel, Mayor

I, Mary Ellen Kearney, City Clerk of the City of Burlingame do hereby certify that the foregoing Resolution was introduced at a regular meeting of the City Council on the 7th day of February, 2011, and was adopted thereafter by the following vote:

AYES: Councilmembers: **BAYLOCK, BROWNRIGG, DEAL, KEIGHRAN, NAGEL**
NOES: Councilmembers: **NONE**
ABSENT: Councilmembers: **NONE**

Mary Ellen Kearney

Mary Ellen Kearney, City Clerk

EXHIBIT A

TIER 2 DROUGHT IMPLEMENTATION PLAN AMONG WHOLESALE CUSTOMERS

This Tier 2 Drought Implementation (Plan) describes the method for allocating the water made available by the San Francisco Public Utilities Commission (SFPUC) among the Wholesale Customers during shortages caused by drought. This Plan is adopted pursuant to Section 3.11.C of the July 2009 Water Supply Agreement between the City and County of San Francisco and the Wholesale Customers (Agreement).

SECTION 1. APPLICABILITY AND INTEGRATION

Section 1.1 **Applicability**. This Plan applies when, and only when, the SFPUC determines that a system-wide water shortage of 20 percent or less exists, as set forth in a declaration of water shortage emergency adopted by the SFPUC pursuant to California Water Code Sections 350 *et seq.* This Plan applies only to water acquired and distributed by the SFPUC to the Wholesale Customers and has no effect on water obtained by a Wholesale Customer from any source other than the SFPUC.

Section 1.2 **Integration with Tier 1 Water Shortage Allocation Plan**. The Agreement contains, in Attachment H, a Water Shortage Allocation Plan which, among other things, (a) provides for the allocation by the SFPUC of water between Direct City Water Users (e.g., retail water customers within the City and County of San Francisco) and the Wholesale Customers collectively during system-wide water shortages of 20 percent or less, (b) contemplates the adoption by the Wholesale Customers of this Plan for allocation of the water made available to Wholesale Customers collectively among the 26 individual Wholesale Customers, (c) commits the SFPUC to implement this Plan, and (d) provides for the transfer of both banked water and shortage allocations between and among the Wholesale Customers and commits the SFPUC to implement such transfers. That plan is referred to as the Tier 1 Plan.

The Tier 1 Plan also provides the methodology for determining the Overall Average Wholesale Customer Reduction, expressed as a percentage cutback from prior year's normal SFPUC purchases, and Overall Wholesale Customer Allocation, in million gallons per day, both of which are used in determining the Final Allocation Factor for each Wholesale Customer. The Overall Average Wholesale Customer Reduction is determined by dividing the volume of water available to the Wholesale Customers (the Overall Wholesale Customer Allocation), shown as a share of available water in Section 2 of the Tier 1 Plan, by the prior year's normal total Wholesale Customers SFPUC purchases and subtracting that value from one.

This Plan is referred to in the Agreement as the Tier 2 Plan. It is intended to be integrated with the Tier 1 Plan described in the preceding paragraph. Terms used in this Plan are intended to have the same meaning as such terms have in the Tier 1 Plan.

SECTION 2. ALLOCATION OF WATER AMONG WHOLESALE CUSTOMERS

Section 2.1 **Annual Allocations Among the Wholesale Customers**. The annual water supply allocated by the SFPUC to the Wholesale Customers collectively during system-wide shortages of 20 percent or less shall be apportioned among them based on the methodology described in this Section.

Section 2.2 **Methodology for Allocating Water Among Wholesale Customers**. The water made available to the Wholesale Customers collectively will be allocated among them in proportion to each Wholesale Customer's Allocation Factor, adjusted as described in the following subsections below. The Wholesale Customer Allocation Factors will only be calculated at the onset of a drought and will remain the same until such time as the SFPUC declares the shortage condition over. The Wholesale Customer Allocation Factors will be recalculated during subsequent shortage periods for use during those specific periods.

Section 2.2.1 **Step One: Determination of Base/Seasonal Purchase Cutback For Each Wholesale Customer**. The first step requires calculating the Wholesale Customer's Base/Seasonal Purchase Cutback. This calculation has seven parts. An example of Steps 1b-1f is presented in Table 2. Step 1g is shown in columns 3-6 in Table 3. For steps 1b-1g, the calculation uses average monthly production values for the three years preceding the drought for all potable supply sources, expressed as a monthly value in hundred cubic feet:

- Step 1a: Each agency's total annual purchases from the SFPUC will be compared to its Individual Supply Guarantee (ISG), with any annual purchases above its ISG subtracted from that agency's total annual SFPUC purchases by subtracting the amount on a monthly basis in proportion to the agency's monthly SFPUC purchase pattern,

- Step 1b: Calculate Average Monthly and Total Production for the three fiscal years immediately preceding the drought, excluding years during which shortage allocations were in effect, based on monthly production data from the SFPUC and Wholesale Customers,

- Step 1c: Calculate Base Component which is equal to the Average Monthly Production during the base months of December, January, February and March, multiplied by 12,

- Step 1d: Calculate Seasonal Component as the difference between Total Production and Base Component,

- Step 1e: Calculate an agency's Base/Seasonal Allocation , expressed in hundred cubic feet, by multiplying the Base Component by one minus the Base Reduction Percentage, or 90%, and the Seasonal Component by the percentage needed (Seasonal Reduction Percentage) to achieve the required Overall Average Wholesale Customer Reduction, which is expressed as a percentage,

- Step 1f: Calculate the Base/Seasonal Allocation Cutback Percentage for each agency by dividing its Base/Seasonal Allocation by the agency's Total Production, and

- Step 1g: Calculate the Base/Seasonal Purchase Cutback Percentage by multiplying the Base/Seasonal Allocation Cutback percentage times the lesser of: (a) the immediately preceding SFPUC purchases or (b) ISG, adjusting the Seasonal percentage above until the total reduction equals the Overall Average Wholesale Customer Reduction.

Additionally, adjustments to the Base Component for Stanford University will be made to remove that two week time period that the University is completely closed during the winter break per policy set by the University President as long as that policy remains in place. This adjustment will be removed at such time as the seasonal closure policy is terminated by Stanford University.

Section 2.2.2 **Step Two: First Adjustment for San Jose and Santa Clara.** The resulting Base/Seasonal Purchase Cutback Percentage in Section 2.2.1 for San Jose and Santa Clara will be compared to the highest Base/Seasonal Purchase Cutback percentage of the other Wholesale Customers. If both San Jose's and Santa Clara's percentage reductions are larger than the highest percentage reduction among any other Wholesale Customers, the Base/Seasonal Purchase Cutback percentage established under Section 2.2.1 will remain unchanged. If either San Jose's percentage cutback or Santa Clara's percentage cutback, or both, is smaller than the highest Base/Seasonal Purchase Cutback percentage of other Wholesale Customers, the Base/Seasonal Allocation (in mgd) of San Jose or Santa Clara, or both, will be reduced so that the percentage cutback of each is no smaller than that of the Wholesale Customers' otherwise highest percentage cutback. The amount of shortage allocation (in mgd) removed from San Jose and/or Santa Clara will be reallocated among the remaining Wholesale Customers in proportion to the Base/Seasonal Allocation of each.

Section 2.2.3 **Step Three: Determination of Weighted Purchase Cutback For Each Wholesale Customer.** Each agency's weighted allocation is calculated by multiplying its Adjusted Base/Seasonal Allocation in Section 2.2.2 by 66.66% and its Fixed Component by 33.33%. The Fixed Component is (i) the Wholesale Customer's ISG provided for in the Agreement, or (ii) in the case of Hayward, 25.11 mgd, or (iii) in the case of San Jose and Santa Clara, consistent with the limit on purchases from SFPUC set forth in Section 4.05 of the Agreement, e. g., 4.5 mgd each. The amount of the Fixed Component for each Wholesale Customer is shown on Table 1.

Section 2.2.4 **Step Four: Second Adjustment for San Jose and Santa Clara.** The resulting Weighted Allocations for San Jose and Santa Clara will be compared to the highest Weighted Purchase Cutback, shown as a percentage, of the other Wholesale Customers. If both San Jose's and Santa Clara's percentage cutback is larger than the highest percentage cutback among other Wholesale Customers, the Weighted Purchase Cutbacks established under Section 2.2.3 will remain unchanged. If either San Jose's

percentage cutback or Santa Clara's percentage cutback, or both, is smaller than the highest percentage cutback of any other Wholesale Customers, the Weighted Shortage Allocation (in mgd) of San Jose or Santa Clara, or both, will be reduced so that the percentage reduction of each is no smaller than that of the Wholesale Customers' otherwise highest Weighted Percentage Cutback. The amount of allocation (in mgd) removed from San Jose and/or Santa Clara will be reallocated among the remaining Wholesale Customers in proportion to the Weighted Shortage Allocation of each.

Section 2.2.5 <u>Step Five: Adjustment for Minimum and Maximum Cutbacks.</u> Using the Adjusted Weighted Purchase Cutbacks, either a 10% minimum cutback or maximum cutback, as defined below, is applied to any agency whose Adjusted Weighted Purchase Cutback falls outside this range:

- A minimum 10% cutback is applied to the individual agency Adjusted Weighted Allocation, with the reapportioned water being placed in the hardship bank for allocation to East Palo Alto.

- A maximum cutback of the average cutback plus 20% (e.g. 15% average cutback results in a maximum cutback of 15% + 20% = 35%) is applied to the individual agency Adjusted Weighted Allocation, with the water necessary to meet that level being subtracted in proportion to each Wholesale Customer's Adjusted Weighted Allocation from all remaining agencies, except those at agencies subject to the minimum cutback above.

The result is the Adjusted Minimum/Maximum Purchase Cutback, expressed as a percentage.

Section 2.2.6 <u>Step Six: Adjustment to Provide Sufficient Supply for East Palo Alto</u>. In order to provide for sufficient water supply for water customers served by the City of East Palo Alto (EPA), the maximum Final Purchase Cutback applied at any given time to EPA will be equal to 50% of the Overall Average Wholesale Customer Reduction. The water needed to accommodate the guaranteed maximum cutback to EPA will be provided in two ways:

- First, water from the hardship bank provided by the 10% minimum cutback will be first added to the EPA Adjusted Weighted Purchase Allocation, and

- Second, the balance of water needed for EPA will be deducted on a prorated basis from those agencies with a pre-drought residential per capita water use greater than 55 gallons per capita per day (as documented in the most recent BAWSCA Annual Survey) in proportion to each agency's Min./Max. Adjusted Allocation and who are not subject to the minimum and maximum reductions already applied per Section 2.2.5

The result is the Allocation with EPA Adjustment, expressed as an mgd.

Section 2.2.7 **Step Seven: Determination of Final Allocation Factor.** Each Wholesale Customer's Final Allocation Factor is the fraction expressed as a percentage, the numerator of which is the particular Wholesale Customer's "Final Allocation with EPA Adjustment" (in mgd) as calculated in Steps One through Six and the denominator of which is the Overall Wholesale Customer Allocation (in mgd), a number provided by the SFPUC during the drought period as determined by the SFPUC in the Tier 1 Plan.

Section 2.2.8 **Example Calculation**. Table 2 presents a sample of the calculations involved in Steps 1b-1f. Table 3 presents a sample of the calculations involved in Step 1g and Steps Two through Seven, using the values from Tables 1 and 2 and recent water use data for the other values. Tables 2 and 3 are presented for illustrative purposes only and do not supersede the foregoing provisions of this Section 2.2. In the event of any inconsistency between this Section 2.2 and Tables 2 and 3, the text of this section will govern.

Section 2.3 **Calculation of Individual Wholesale Customer Allocation Factors; Directions to SFPUC**. The Tier 1 Plan contemplates that in any year in which the methodology described above must be applied, the Bay Area Water Supply and Conversation Agency (BAWSCA) will calculate each Wholesale Customer's individual percentage share of the amount of water made available to the Wholesale Customers collectively, following the methodology described above and defined above as Wholesale Customer Allocation Factors. The Tier 1 Plan requires SFPUC to allocate water to each Wholesale Customer in accordance with calculations delivered to it by BAWSCA.

Each Wholesale Customer authorizes BAWSCA to perform the calculations required, using water sales data furnished to it by the SFPUC, and to deliver to SFPUC a list of individual Wholesale Customer Allocation Factors so calculated as contemplated by the Tier 1 Plan. Neither BAWSCA nor any officer or employee of BAWSCA shall be liable to any Wholesale Customer for any such calculations made in good faith, even if incorrect.

SECTION 3. GENERAL PROVISIONS

Section 3.1 **No Third-Party Beneficiaries**. This Plan is for the sole benefit of the Wholesale Customers and shall not be construed as granting rights to any person other than another Wholesale Customer.

Section 3.2 **Governing Law**. This Plan is made under and shall be governed by the laws of the State of California.

Section 3.3 **Effect on Water Supply Agreement.** This Plan describes the method for allocating water from the SFPUC among the Wholesale Customers during system-wide water shortages of 20 percent or less declared by the SFPUC. The provisions of this Plan, and the Tier 1 Plan contained in Attachment H to the Agreement with which it is integrated, are intended to implement Section 3.11 of the Agreement. The Plans do not

affect, change or modify any other section, term or condition of the Agreement or of the individual Water Sales Contracts between each Wholesale Customer and San Francisco.

Section 3.4 **Amendment**. This Plan may be amended only by the written agreement of all Wholesale Customers.

Section 3.5 **Termination**. This Plan shall expire on December 31, 2018. It may be terminated prior to that date only by the written agreement of all Wholesale Customers.

APPENDIX K:
CITY OF BURLINGAME MUNICIPAL CODE CHAPTER 15.06 – WATER SHORTAGE EMERGENCIES

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Chapter 15.06 WATER SHORTAGE EMERGENCIES

15.06.010 Implementation of chapter.

(a) The provisions of this chapter shall be implemented only upon adoption by the city council of a declaration that a water shortage condition exists that requires special conservation measures or emergency allocation measures pursuant to California Water Code Sections 350 et seq.

(b) The provisions of the chapter shall be of no further force or effect when the city council determines that a water shortage condition no longer exists. (Ord. 1101 § 1 (part), (1977); Ord. 1365 § 1 (part), (1988))

15.06.020 Definitions.

For the purposes of this chapter, the following terms, phrases, words and their derivations shall have the meaning given in this chapter:

(a) “Customer” is any person using water supplied by the Burlingame water department.

(b) “Director” is the director of public works of the city of Burlingame.

(c) “Emergency allocations” are the allocations allowed various classifications of customers to achieve a specific reduction in water use necessitated by a water shortage of emergency proportions.

(d) “Person” is any person, firm, partnership, corporation, company or organization of any kind.

(e) “Special conservation measures” are the measures required to achieve a specific reduction in water use necessitated by a water shortage which has not reached emergency proportions.

(f) “Unit of water” is one thousand (1,000) gallons of water.

(g) “Water” is water from the water department.

(h) “Water department” is the Burlingame municipal water system.

(i) “Water shortage” means a water shortage condition declared by the city council pursuant to Sections 350 et seq. of the Water Code. (Ord. 1101 § 1 (part), (1977); Ord. 1365 § 1 (part), (1988))

15.06.030 Allocations.

When the city council declares a water shortage that requires emergency allocations, it shall specify in the declaration the specific allocations required to achieve the specified reduction in water use. The allocations may include any or all of the following classifications:

(a) Single-party residential and multifamily residential customers, including a minimum or lifeline allocation;

(b) Nonresidential customers:

(1) Industrial customers using process water to manufacture, alter, convert, clean, heat or cool a product, including water used in laundries and recycled car wash facilities,

(2) Industrial, commercial (including nonrecycled car wash facilities) and governmental agency customers;

(c) Irrigation and Outside Water Usage Customers. Irrigation of lawns, gardens, playfields, parks, median strips and landscaping of any type. (Ord. 1101 § 1 (part), (1977); Ord. 1365 § 1 (part), (1988))

15.06.040 Regulations and restrictions.

The city council at the time it declares a water shortage may adopt water use regulations and restrictions, including, but not limited to any or all of the following:

(a) Broken or defective plumbing, sprinklers, watering or irrigation systems which permit the escape or leakage of water shall be immediately repaired.

(b) Irrigation of lawns, gardens, playfields, parks, median strips and landscaping of any type shall be reduced by an amount determined by the city council to be necessary to achieve the goals set forth in its declaration of a water shortage.

(c) No use of water shall be allowed which results in flooding or runoff in gutters, driveways or streets.

(d) When a hose is used for washing cars, buses, boats, trailers or other vehicles, or washing building structures or parts thereof, or any similar purpose, it shall have a positive shutoff valve.

(e) Use of a hose for the purposes set forth in subsection (d) of this section shall be prohibited.

(f) Restaurants shall serve water to customers only upon request.

(g) No water shall be used to clean, fill or maintain levels in decorative exterior fountains; interior fountains must recirculate water.

(h) “Sidewalks, walkways, driveways, patios, parking lots, tennis courts or other hard-surfaced areas shall not be cleaned using water from hoses or by other use of water directly from faucets or other outlets.

(i) Draining and filling of any existing or new swimming pools with city-supplied water shall be prohibited.

(j) Service connections for new construction incorporating water-saving devices shall be granted as long as conditions of this chapter are met, provided no residential landscaping shall be installed during the water shortage.

(k) Construction water for consolidation of backfill and other nondomestic uses shall be denied if other methods of water sources can be used.

(l) No new residential irrigation services shall be permitted, and additional water shall not be allowed for expansion of existing irrigation facilities. (Ord. 1101 § 1 (part), (1977); Ord. 1365 § 1 (part), (1988))

15.06.050 Exceptions.

Considerations for exceptions regarding allocations of water or from any of the regulations and restrictions set forth herein shall be as follows:

(a) Written applications for exceptions shall be made to the City of Burlingame Water Department, 501 Primrose Road, Burlingame, California 94010.

(b) Each application shall be reviewed and determined by the director. Denials of applications may be appealed to the city council whose decision shall be final.

(c) The only grounds for granting such exceptions are:

(1) Undue hardship to the applicant, including adverse economic impacts such as loss of production or jobs;

(2) A condition affecting the health, sanitation or safety of the applicant or the general public.

Prior to granting an exception, the director must be satisfied that all practical water conservation measures have been adopted by the applicant. (Ord. 1101 § 1 (part), (1977); Ord. 1365 § 1 (part), (1988))

15.06.060 Penalties for excess water consumption.

The following penalties may be imposed on excess water consumption:

(a) Excess Use Charge. The city council shall set by resolution an amount to be added to the normal cost per unit for each unit in excess of allocation.

(b) Flow-restricting Devices. The city manager may, after one written warning, direct the installation of a flow-restricting device on the service line of any customer observed by city personnel to be violating any of the regulations and/or exceeding water allocations hereinabove set forth.

Charges for installation and removal of flow-restricting devices shall be set by council.

First installation shall be a minimum of three (3) days, second and last installation, ten (10) days minimum.

(c) Discontinuance of Water Service. Continued water consumption in excess of the allocation may result in the discontinuance of water service by the water department. A reactivation charge shall be paid prior to reactivating the service. (Ord. 1101 § 1 (part), (1977); Ord. 1365 § 1 (part),

(1988))

15.06.070 Enforcement.

The director, all employees of the water department, public works department and fire department have the duty and are authorized to enforce the provisions of this chapter and shall have all the powers and authority contained in California Penal Code Section 836.5, including the power to issue written notices to appear. (Ord. 1101 § 1 (part), (1977); Ord. 1365 § 1 (part), (1988))

APPENDIX L:
CITY OF BURLINGAME RESOLUTION 49-92, WATER RATIONING PLAN

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EXHIBIT A

WATER RATIONING PLAN

RESOLUTION NO. 49-92

I. ALLOCATIONS

A. Allocations of water during the water shortage emergency will be a per capita allocation for residential accounts and a percentage reduction of 1987 usage for commercial accounts and multifamily dwellings.

Single Family and Duplex

First Person	100 gallons/day
2nd-4th Persons	70 gallons/day for each person
5 or more persons	50 gallons/day for each person

Landscape Allocation

Lot Size	Extra Allocation
Less than 10,000 Sq.Ft.	50 gallons/day
10,000+ sq. ft.	150 gallons/day
3/4 Acre +	up to 300 gal./day*

*If water conservation measures implemented

	Jun 1 - Nov 30	Dec 1 - May 31
Multi-Family	15% Reduction	7% Reduction
Food Related	20% "	10% "
Commercial, Industry & Hotels w/food	25% "	15% "
Irrigation/Parks	50% "	50% "
Government, schools, hospitals, churches	25% "	25% "

B. Allocations for new accounts will be based on the number of occupants of residential units and by considering similar use data for commercial/industrial accounts.

C. A change in use will be reason to adjust the existing allocation.

D. Limited banking is permitted. Accounts with existing unused allocation may retain up to 10,000 gallons from the 1990-91 rationing program. Beginning with meter readings on or after June 1, 1991, an additional 10,000 gallons may be banked, up to a maximum bank of 20,000 gallons.

E. Residents who have not previously notified the City regarding the number of residents in the dwelling unit will receive an allocation for one person until the information is received. All landscape allocations will be established at less than 10,000 square feet lot size for City residents and 10,000+ square feet for Burlingame Hills (unincorporated) area.

II. WATER USE REGULATIONS AND RESTRICTIONS

A. Water waste, flooding or runoff into the street or gutters is prohibited.

B. Hoses cannot be used to clean hard surface areas (sidewalks, driveways, roofs, awnings, etc.)

C. Hoses used for any purpose must have positive shutoff valves.

D. Restaurants or hotel banquets can serve water only upon request.

E. Potable water cannot be used to clean, fill or maintain levels in decorative fountains. The use of groundwater is permitted.

F. Additional water allocations will not be allowed for new landscaping or expansion of existing landscaping. Low water use landscaping designs and irrigation systems must be employed for new or renovated landscaping.

G. Water service connections for new construction will only be granted if water-saving fixtures or devices are incorporated into the plumbing system.

H. Use of potable water for consolidation of backfill, dust control or other non-essential construction purposes is prohibited. The use of groundwater and/or reclaimed water is permitted when approved by the Department of Health.

I. Verified water waste as determined by the City will serve as prima facie evidence that the allocation assigned to the water account is excessive. The allocation will then be subject to review and possible reduction, including termination of service.

J. Water used for all cooling purposes must be recycled.

K. The use of groundwater and/or reclaimed water is strongly encouraged when approved by the Department of Health for the following uses:
   1. Irrigation of turf areas.
   2. Irrigation of median strips.
   3. Street or parking lot sweepers/washers.

L. Use of reduced water flow equipment for the washing of fleet or dealer vehicles is strongly encouraged. Positive shutoff valves must be used.

M. Broken or defective plumbing, sprinklers, or irrigation systems which permit the escape or leakage of water must be immediately repaired.

III. WATER USE IN EXCESS OF ALLOCATION

A. Penalties.

1) Excess water consumption is all billing units over allocation.

2) Charges for excess water use shall be two times the regular unit charge for each unit in excess of allocation up to 110% of allocation. The charge for excess water use shall be three times the regular unit charge for each unit over 110% of allocation up to 130% of allocation. The charge for excess water use shall be five times the regular unit charge for each unit over 130% of allocation.

3) No excess use charge shall be applied to any customer using less than 7,500 gallons per month.

B. Flow Restricting Devices.

The City Manager may, direct the installation of a flow-restricting device under the following conditions:

1) The customer has been mailed or personally served at least one written warning of being fifty percent (50%) or more over allocation for a billing period or has had at least two (2) written warnings of violations of the use restrictions.

2) The restricting device shall be removed only after a minimum 3-day period has elapsed and only upon payment of the appropriate installation and removal charges.

3) After one removal of a restricting device, if the customer is again fifty percent (50%) or more over allocation for a billing period or receives another violation notice of the use restrictions, the City may install a flow-restricting device which shall remain in place until this water rationing plan shall terminate and the appropriate charge for removal is paid.

4) No restrictor shall be placed on a customer using less than 7,500 gallons per month.

5) Restriction devices may be installed or water service discontinued if a customer fails to repair broken or defective plumbing within five (5) days after receipt of notice of the need for repairs.

C. Discontinuance of Water Service.

The City Manager may direct that water service be discontinued for repeated violations of water use restrictions under the following circumstances:

1) Notice of intention to terminate service shall be delivered by certified mail or personal service. It shall state that a hearing will be held before the City Manager and shall direct the customer to show cause why his service should not be terminated. The notice shall be served at least five (5) days before said hearing.

2) At the hearing the City Manager shall determine whether or not the customer's service shall be restricted, terminated or such other remedy as may be appropriate. His decision may be appealed to the City Council which may affirm, reverse or modify his decision.

D. Charges for installation and removal of flow-restricting devices are as follows:

Meter Size	Installation Cost	Removal Cost
5/8" to 1"	$ 50.00	$25.00
1-1/2" to 2"	100.00	50.00
3" and larger	Actual Cost	Actual Cost

First installation to be a minimum of three days; second and last installation ten days minimum. Actual cost shall include all material, labor, equipment and overhead charges.

The charge for discontinuance of water services shall be twenty-five dollars ($25.00) and shall be paid prior to reactivating the service.

IV. EXCEPTIONS

A. When considering exceptions for allocations based on 1987 usage, the Director of Finance may use the Calendar Year 1986 if the water use records show that the customer clearly conserved water in 1987 compared to 1986.

B. If a customer does not have a 1987 record, then the amount of the allocation shall be established by considering similar uses and/or standard usage data for commercial usage, and a per capita standard shall be used for residential accounts.

C. For special circumstances, the Director of Finance may use comparable usage data from water records or publications.

V. IMPLEMENTATION

A. This plan shall become effective upon adoption by the City Council.

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APPENDIX M:
CITY OF BURLINGAME ORDINANCE 1846-2010 INDOOR WATER CONSERVATION REGULATIONS

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ORDINANCE NO. 1846-2010

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF BURLINGAME ESTABLISHING INDOOR WATER CONSERVATION REGULATIONS

The Burlingame City Council does hereby ordain as follows:

Division 1. Findings:

WHEREAS, a reliable minimum supply of potable water is essential for the public health, safety and welfare of the people and economy of the City of Burlingame, California; and

WHEREAS, the greater San Francisco Bay Area as a Semi-Arid region, is largely dependent upon imported water supplies for its source of water; factors, such as drought, increasing population, climate change, and environmental and regulatory concerns affect the Bay Area's water reliability and subject it to water supply challenges; and

WHEREAS, careful water management requires active water conservation measures, not only in times of drought but continually, in order to ensure a reliable minimum supply of water to meet current and future water supply needs; and

WHEREAS, Article X, Section 2 of the California Constitution and Section 100 of the California Water Code declare that the general welfare requires water resources be put to beneficial use, waste or unreasonable use or unreasonable method of use of water be prevented, and conservation of water be fully exercised with a view to the reasonable and beneficial use thereof; and

WHEREAS, the San Francisco Public Utilities Commission will impose an interim water supply limitation on its wholesale customers, including local water suppliers such as the City of Burlingame, until at least 2018; and

WHEREAS, current supply and demand projections for the Bay Area Water Supply and Conservation Agency (BAWSCA) member agencies, of which the City of Burlingame is one, indicate that, in the absence of increased water conservation, water demands will exceed available water supplies in 2015 and implementation of water conserving ordinances is one mechanism by which agencies can reduce future water demands and remain within existing supplies; and

WHEREAS, the City Council of the City of Burlingame finds and determines that this Ordinance is consistent with the provisions of the 2007 California Plumbing Code and the California Green Building Standards Code, respectively, requiring high

efficiency water conserving fixtures and reductions in indoor water use as such provisions will be implemented in the coming years; and

WHEREAS, the City Council of the City of Burlingame finds that implementation of this Ordinance is necessary to expedite the use of high efficiency water conserving fixtures and to assist BAWSCA member agencies in achieving water savings; and

WHEREAS, in November 2009, the State Legislature, having identified the provision of a more reliable water supply and the protection, restoration and enhancement of the Delta ecosystem as a high priority for the State, passed Senate Bill 7 (7th Extraordinary Session) requiring certain urban water suppliers to reduce per capita urban water use by 20% by the year 2020; and

WHEREAS, the City Council of the City of Burlingame finds that the implementation of this Ordinance is consistent with the policies and goals established by the State Legislature in enacting Senate Bill 7 (7th Extraordinary Session); and

WHEREAS, the State Legislature, having identified urban water conservation as a cost-effective approach to addressing water supply needs and having determined that there are many water conservation practices that produce significant energy and water resource savings that should be encouraged as a matter of state policy, passed Senate Bill 407 (Chapter 587, Stats. 2009), requiring all residential and commercial property owners to replace existing plumbing fixtures with water-conserving fixtures by 2017 and 2019, respectively, and to upgrade existing plumbing fixtures upon any residential remodel initiated after January, 1 2014; and

WHEREAS, Senate Bill 407 further authorizes a city, county, or retail water supplier to enact local ordinances that promote compliant use of water efficient plumbing fixtures or which will result in a greater amount of water savings than those provided for in Senate Bill 407; and

WHEREAS, the City Council of the City of Burlingame finds and determines that this Ordinance is consistent with the mandates of Senate Bill 407 and will result in water savings as provided for in Senate Bill 407; and

WHEREAS, Article XI, Section 7 of the California Constitution states that a city or county may make and enforce within its limits all local, policy, sanitary, and other ordinances and regulations not in conflict with general laws; and

WHEREAS, the City Council of the City of Burlingame finds and determines that the more restrictive building standards for water conserving fixtures provided for in this Ordinance are reasonably necessary because of local climatic, geological or topographical conditions; and

WHEREAS, the adoption and enforcement of this Ordinance is necessary to manage the City of Burlingame's potable water supply in the short and long-term, to avoid or minimize the effects of drought and shortage within the City of Burlingame and to ensure a reliable and sustainable minimum supply of water for the public health, safety and welfare.

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF BURLINGAME DOES ORDAIN AS FOLLOWS:

Division 2. **Enactment of Chapter 18.19**

A new Chapter, Chapter 18.19, entitled "Indoor Water Conservation", is hereby added to the Burlingame Municipal Code, to read as follows:

18.19.010 Title

This Ordinance shall be known as the City of Burlingame "Indoor Water Conservation Ordinance".

18.19.020 Coordination with the Plumbing Code

The code of rules and regulations printed in one volume and published by the International Association of Plumbing and Mechanical Officials, under the title "California Plumbing Code, 2007 Edition," and the appendices printed therein, and all supplements subsequently issued thereto, hereinafter collectively called the "Plumbing Code," prescribing regulations for the installation of all plumbing fixtures, was adopted as amended, by the City of Burlingame, in Chapter 18.12 of the Burlingame Municipal Code, on November 7, 2007. Printed in book form and filed in the office of the city clerk and the chief building official, the Burlingame Plumbing Code establishes the rules, regulations, and standards within the City of Burlingame as to all matters therein contained; subject however, to the amendments, additions, and deletions set forth in this chapter. The mandatory requirements of the adopted appendix to the California Plumbing Code, 2007 Edition, shall be enforceable to the same extent as if contained in the body of the Plumbing Code. One copy of the Plumbing Code shall at all times be kept on file in the office of the city clerk. To the extent the provisions of this Ordinance conflict with any provisions in the existing Plumbing Code, the California Building Standards Code, or any other municipal codes in conflict, then the provisions of this Ordinance shall supersede and control with regard to the indoor fixture requirements described herein.

18.19.030 Applicability

A. The provisions of this Ordinance shall apply to the following projects:

1. All new construction, regardless of building classification, requiring a building permit, plan check or design review, or requiring new or expanded water service.

2. All kitchen and bathroom remodels requiring a building permit, plan check, design review, new or expanded water service, except that the provisions of this Ordinance will only apply to the fixtures normally included in the kitchen or bathroom, as the case may be, to be remodeled.

B. The provisions of this Ordinance shall not apply to:

1. Existing buildings not seeking a building permit, plan check or design review;

2. Registered local, state or federal historical sites;

3. Remodels where, in the discretion of the City, the unique configuration of the building, its drainage system or portions of the public sewer, or both, are incompatible with efficiency standards listed in the Indoor Water Use Efficiency Table and require a greater quantity of water to flush the system in a manner that is consistent with public health.

18.19.040 Definitions

A. "certified professional" means a licensed contractor, licensed architect or licensed professional engineer.

B. "Energy Star Qualified" means that a given fixture meets the United States Environmental Protection Agency standard for an energy efficient product.

C. "gal/cycle" means gallons per cycle.

D. "gal/100 lbs ice" means gallons per hundred pounds of ice.

E. "gpf" means gallons per flush.

F. "gpm" means gallons per minute.

G. "local agency" means the City of Burlingame which is responsible for adopting, implementing and enforcing the Ordinance, including but not limited to, approval of a permit and plan check or design review of a project.

H. "LSI" means Langlier Saturation Index providing an indication of the degree of saturation of water with respect to calcium carbonate related to cooling tower efficiency.

I. "local water purveyor" means any entity, including a public agency, city, county, or private water company that provides retail water service.

J. "permit" means the document issued by the City in connection with new construction, remodels or renovations and which authorizes the lawful initiation of construction, improvements or repairs to a building or structure.

K. "Project applicant" means the individual or entity submitting an Indoor Water Use Efficiency Checklist as required under Section 18.19.060 B and requesting a permit, plan check, design review, or new or expanded water service application from the local agency. A Project applicant may be the property owner or his or her designee.

L. "RMF" means residential multi-family.

M. "sq. ft." means square feet.

18.19.050 Minimum Indoor Fixture Requirements

All new construction and applicable remodels will have, at a minimum, fixtures that comply with the efficiency standards listed below (the "Indoor Water Use Efficiency Table")

INDOOR WATER USE EFFICIENCY TABLE

Fixture	Residential	Non-Residential
Toilets	≤ 1.28 gpf, and ≥ 350 grams	≤ 1.28 gpf, and ≥ 350 grams
Urinals	≤ 0.5 gpf	≤ 0.5 gpf
Showers	≤ 2.0 gpm	≤ 2.0 gpm
Bathroom faucets	≤ 1.5 gpm	≤ 0.5 gpm
Kitchen faucets	≤ 2.2 gpm	≤ 2.2 gpm
Clothes washers	≤ 6.0 Water Factor	≤ 6.0 Water Factor
Dishwashers	≤ 6.5 gal/cycle, or Energy Star Qualified	Energy Star Qualified
Cooling towers	≥ 5 - 10 cycles, or ≥ 2.5 LSI	≥ 5 - 10 cycles, or ≥ 2.5 LSI
Food steamers	--	Boiler less, or Self-contained
Ice machines	----	≤ 25 gal/100 lbs ice, or Air-cooled
Pre-rinse spray valves	--	≤ 1.15 gpm
Automatic vehicle wash facilities	--	≥ 50% of water that is recycled on site
Commercial refrigeration	--	Closed loop, or Air-cooled
Meters	Submeters for RMF, and Separate meter for outdoor if landscape >5000 sq. ft.	Submeters, and Separate meter for outdoor if landscape >5000 sq. ft.

18.19.060 Compliance with Ordinance

A. The City shall:

1. Provide the Project applicant with a copy of the Ordinance and an Indoor Water Use Efficiency Checklist form when it provides applicant with the procedures for permits, plan checks, design reviews or new or expanded water service applications.

2. Review the Indoor Water Use Efficiency Checklist submitted by the Project applicant.

3. Approve or deny the Project applicant's Indoor Water Use Efficiency Checklist submittal as part of the application review process.

4. Upon approval of the Indoor Water Use Efficiency Checklist, and after all other required permits and approvals have been obtained by the applicant, issue a permit or approve the plan check, design review or new or expanded water service application for the Project applicant.

5. In its discretion, inspect the installation of the water efficient fixtures and appliances to verify that they have been installed and are performing at the required use levels.

6. Provide a copy of the complete Indoor Water Use Efficiency Checklist to the City.

B. The Project applicant shall:

1. Meet the minimum water use efficiency standards for indoor fixtures and appliances provided for in the Indoor Water Use Efficiency Table and Checklist.

2. Prior to construction, submit all portions of the Indoor Water Use Efficiency Checklist to the City's *(appropriate official)* for verification.

3. Construct the Project in compliance with the minimum water use efficiency standards for indoor fixtures and appliances provided for in the Indoor Water Use Efficiency Table and Checklist.

18.19.070 Components of the Indoor Water Use Efficiency Checklist

The Indoor Water Use Efficiency Checklist shall require, at a minimum:

A. Project Information;

B. Quantity and unit water use factors of all indoor fixtures and appliances relative to the standards listed in the Indoor Water Use Efficiency Table and Checklist;

C. Contain the following statement to be completed by the Project applicant: "I certify that the subject project meets the specified requirements of the Indoor Water Use Efficiency Ordinance"; and

D. Bear the signature of the Project applicant, or that of a certified professional.

18.19.080 Violations, Penalties and Enforcement

A. Violation.

It is unlawful for any person, firm, partnership, association, or corporation subject to the requirements of this Ordinance to fail to comply with the water use efficiency requirements or to alter or replace the fixtures and appliances required by this Ordinance with other noncompliant fixtures or appliances after the completion of construction or remodel.

B. Notice of Correction.

Whenever the City determines that a violation of this Ordinance has occurred, the City may serve a notice of correction on the owner(s) of the property on which the violation is situated. The owner(s) of record shall have ninety (90) days to take corrective action.

C. Enforcement

If the owner of the property which is the subject of the violation fails to take corrective action within ninety (90) days, the City may enforce this ordinance according to the provisions of Chapter 1.12 of this code.

18.19.090 Public Education

The local agency shall provide information to all applicants regarding the installation of water efficient fixtures and appliances."

Division 3. Severability

If any section, subsection, provision or part of this Ordinance, or its application to any person or circumstance, is held to be unconstitutional or otherwise invalid, the remainder of this Ordinance, and the application of such provision to other person or circumstances, shall not be affected thereby and shall remain in full force and effect and, to that end, the provisions of this Ordinance are severable.

Division 4. Ordinance Categorically Exempt

The City Council of the City of Burlingame finds and determines that this Ordinance is not subject to the California Environmental Quality Act (Public Resources Code Section 2100 et seq.-"CEQA") pursuant to Section 15307 (the activity assures the maintenance, restoration, enhancement, or protection of a natural resource) and Section 15378(b)(2) (the activity is not a project as it involves general policy and procedure making) of the State CEQA Guidelines, California Code of Regulations, Title 14, Chapter 3, since it makes and implements policies and procedures for ensuring that water resources are conserved by reducing water consumption through the use of water efficient indoor plumbing fixtures.

Division 5. Effective Date

This Ordinance shall become effective on March 18, 2010.

Cathy Baylock, Mayor

I, Mary Ellen Kearney, City Clerk of the City of Burlingame, do hereby certify that the foregoing ordinance was introduced at a regular meeting of the City Council held on the 1st day of February, 2010, and adopted thereafter at a regular meeting of the City Council held on the 16th day of February, 2010, by the following vote:

AYES: Councilmembers: **BAYLOCK, BROWNRIGG, DEAL, KEIGHRAN, NAGEL**
NOES: Councilmembers: **NONE**
ABSENT: Councilmembers: **NONE**

Mary Ellen Kearney, City Clerk

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APPENDIX N:
CITY OF BURLINGAME ORDINANCE 1845-2010 WATER CONSERVATION IN LANDSCAPING REGULATIONS

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ORDINANCE NO. 1845-2010

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF BURLINGAME ESTABLISHING WATER CONSERVATION IN LANDSCAPING REGULATIONS

The Burlingame City Council does hereby ordain as follows:

Division 1. Findings:

WHEREAS, a reliable minimum supply of potable water is essential to the public health, safety and welfare of the people and economy of the City of Burlingame, California; and.

WHEREAS, careful water management requires active water conservation measures, not only in times of drought but continually, in order to ensure a reliable minimum supply of water to meet current and future water supply needs; and

WHEREAS, the California Water Conservation in Landscaping Act, also known as the State Landscape Model Ordinance ("Model Ordinance"), has been implemented by a Statewide Landscape Task Force which was overseen by the California Urban Water Conservation Council; and

WHEREAS, the California Water Conservation in Landscaping Act was amended by the legislature's enactment of AB 2717 (Chapter 682, Stats. 2004) and AB 1881 (Chapter 559, Stats. 2006); and

WHEREAS, AB 1881 requires cities and counties, no later than January 1, 2010, to adopt the updated Model Ordinance or their own local ordinance which is "at least as effective as" the Model Ordinance in conserving water; if cities and counties do not take such action, the State's Model Ordinance will be deemed to be automatically adopted by statute; and

WHEREAS, the City of Burlingame has developed this local Water Conservation In Landscaping Ordinance to meet the requirements and guidelines of the Model Ordinance and to address the unique physical characteristics, including average landscaped areas, within the City of Burlingame's jurisdiction in order to ensure that this Ordinance will be "at least as effective as" the Model Ordinance in conserving water; and

WHEREAS, although this Water Conservation in Landscaping Ordinance is more streamlined and simplified than the Model Ordinance, the City Council of the City of Burlingame finds that it is "at least as effective as" the Model Ordinance for the following reasons: (1) this Ordinance applies to more accounts than the Model Ordinance does because it lowers the size threshold for applicable landscapes from 2,500 square feet (or, in the case of single-family residences, from 5,000 square feet) to 1,500 square feet, to better reflect the typical landscaped areas located within the City of Burlingame's

boundaries; (2) this Ordinance includes a default turf restriction of 25% of the irrigated area and requires that at least 80% of the plants in non-turf landscape areas be native plants, low-water using plants, or no-water using plants (unless the applicant elects to perform a water budget); and (3) this Ordinance expands the requirement for dedicated irrigation meters to all accounts with landscaping greater than 5,000 square feet; the Model Ordinance does not contain any such default turf restrictions or specified plant requirements and only requires dedicated irrigation meters on non-residential accounts with landscaping greater than 5,000 square feet; and

WHEREAS, although this Water Conservation in Landscaping Ordinance is more streamlined and simplified than the Model Ordinance, the City Council of the City of Burlingame further finds that it is "at least as effective as" the Model Ordinance because this Ordinance includes water budget parameters and values and landscape parameters that are consistent with the Model Ordinance; by using the same water budget parameters as the Model Ordinance (e.g., plant factors, irrigation efficiency), this Ordinance will be as effective as the Model Ordinance in developing landscape water budgets; and, by using the same landscape parameters as the Model Ordinance for, among other things, slope restrictions and width restrictions for turf, irrigation times, and minimum mulch requirements, this Ordinance will be at least as effective as the Model Ordinance in achieving water savings; and

WHEREAS, Article X, Section 2 of the California Constitution and Section 100 of the California Water Code declare that the general welfare requires water resources be put to beneficial use, waste or unreasonable use or unreasonable method of use of water be prevented, and conservation of water be fully exercised with a view to the reasonable and beneficial use thereof; and

WHEREAS, the San Francisco Public Utilities Commission has imposed an interim water supply limitation on its wholesale customers, including local water suppliers, until at least 2018; and

WHEREAS, current supply and demand projections for the Bay Area Water Supply and Conservation Agency ("BAWSCA") member agencies, of which the City of Burlingame is one, indicate that, in the absence of increased water conservation, water demands will exceed available water supplies in 2015 and implementation of water conserving ordinances is one mechanism by which agencies can reduce future water demands and remain within existing supplies; and

WHEREAS, the City Council of the City of Burlingame finds and determines that this Ordinance is consistent with the provisions requiring reductions in outdoor water use for landscaping in the California Green Building Standards Code, as such provisions will be implemented in the coming years; such requirements include the development of a water budget for landscape irrigation in accordance with methodology outlined in either the Model Ordinance or pursuant to a locally adopted ordinance; and

WHEREAS, the State Legislature has identified the provision of a more reliable water supply and the protection, restoration and enhancement of the Delta ecosystem as high priorities for the California; accordingly, in November 2009, the State Legislature passed Senate Bill 7 (7th Extraordinary Session) requiring certain urban water suppliers to reduce per capita urban water use by 20% by the year 2020; and

WHEREAS, the City Council of the City of Burlingame finds that implementation of this Ordinance is consistent with the policies and goals established by the State Legislature in enacting SB 7 (7th Extraordinary Session); and

WHEREAS, Article XI, Section 7 of the California Constitution declares that a city or county may make and enforce within its limits all local, policy, sanitary, and other ordinances and regulations not in conflict with general laws; and

WHEREAS, the adoption of this Ordinance is separate and distinct from the City of Burlingame's possible future adoption of an ordinance relating to the use of recycled water in outdoor landscapes, as required pursuant to the Recycled Water in Landscaping Act, SB 2095 (Chapter 510, Stats. 2000); and

WHEREAS, the adoption and enforcement of this Ordinance is necessary to manage the City of Burlingame's potable water supply in the short and long-term, to avoid or minimize the effects of drought and shortage within the City of Burlingame and to ensure a reliable and sustainable minimum supply of water for the public health, safety

and welfare.

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF BURLINGAME DOES ORDAIN AS FOLLOWS:

Division 2. Repeal of Chapter 18.17

Chapter 18.17 of the Burlingame Municipal Code, "Landscaping", is hereby repealed in its entirety.

Division 3. Enactment of Chapter 18.17

A new Chapter 18.17, entitled "Water Conservation in Landscape Ordinance", is hereby added to the Burlingame Municipal Code, to read as follows:

"18.19.010 Title

This Ordinance shall be known as the City of Burlingame Water Conservation in Landscape Ordinance.

18.17.020 Applicability

A. The provisions of this Ordinance shall apply to all of the following landscape projects:

1. Tier 1 Landscapes: All new construction and rehabilitated landscapes with irrigated landscape areas between 1,500 square feet and 2,500 square feet requiring a building or landscape permit, plan check or design review, or requiring new or expanded water service.

2. Tier 2 Landscapes: All new construction and rehabilitated landscapes with irrigated landscape areas equal to or greater than 2,500 square feet requiring a building or landscape permit, plan check or design review or requiring new or expanded water service.

3. Existing landscapes, including existing cemeteries, shall only be subject to the provisions for existing landscapes provided for in Section 18.17.120 "Provisions for Existing Landscapes Over One Acre in Size;" and

4. New and rehabilitated cemeteries shall only be subject to the provisions of Section 18.17.080 "Water Budget Calculations", Section 18.17.100 "Landscape Audit Report", and Section

18.17.110 "Landscape and Irrigation Maintenance Schedule."

B. The provisions of this Ordinance shall not apply to:

1. New construction and rehabilitated landscapes with irrigated landscape areas less than 1,500 square feet or that do not require a building or landscape permit, plan check or design review, or new or expanded water service;

2. Landscapes or portions of landscapes that are only irrigated for an establishment period;

3. Registered local, state or federal historical sites where landscaping establishes a historical landscape style, as determined by a public board or commission responsible for architectural review or historic preservation;

4. Ecological restoration or mined-land reclamation projects that do not require a permanent irrigation system; or

5. Community gardens or plant collections, as part of botanical gardens and arboretums open to the public, agricultural uses, commercial nurseries and sod farms.

18.17.030 Definitions

A. "applied water" means the portion of water supplied by the irrigation system to the landscape.

B. "automatic irrigation controller" means an automatic timing device used to remotely control valves that operate an irrigation system. Automatic irrigation controllers schedule irrigation events using either evapotranspiration (weather based) or soil moisture data.

C. "backflow prevention device" means a safety device used to prevent pollution or contamination of the water supply due to the reverse flow of water from the irrigation system.

D. "certified irrigation designer" means a person certified to design irrigation systems by an accredited academic institution a professional trade organization or other program such as the US Environmental Protection Agency's WaterSense irrigation designer certification program and Irrigation Association's Certified Irrigation Designer program.

E. "certified landscape irrigation auditor" means a person certified to perform landscape irrigation audits by an accredited academic institution, a professional trade organization or other program such as the US Environmental Protection Agency's WaterSense irrigation auditor certification program and Irrigation Association's Certified Landscape Irrigation Auditor program.

F. "certified professional" or "authorized professional" means a certified irrigation designer, a certified landscape irrigation auditor, a licensed landscape architect, a licensed landscape contractor, a licensed professional engineer, or any other person authorized by the state to design a landscape, an irrigation system, or authorized to complete a water budget.

G. "conversion factor (0.62)" means the number that converts acre-inches per acre per year to gallons per square foot per year

H. "drip irrigation" means any non-spray low volume irrigation system utilizing emission devices with a flow rate measured in gallons per hour. Low volume irrigation systems are specifically designed to apply small volumes of water slowly at or near the root zone of plants.

I. "ecological restoration project" means a project where the site is intentionally altered to establish a defined, indigenous, historic ecosystem.

J. "effective precipitation" or "usable rainfall" (Eppt) means the portion of total precipitation which becomes available for plant growth.

K. "establishment period" means the first year after installing the plant in the landscape or the first two years if irrigation will be terminated after establishment. Typically, most plants are established after one or two years of growth.

L. "Estimated Total Water Use" (ETWU) means the total water used for the landscape as described in Section 18.17.080 "Water Budget Calculations."

M. "ET adjustment factor" (ETAF) means a factor of 0.7, that, when applied to reference evapotranspiration, adjusts for plant factors and irrigation efficiency, two major influences upon the amount of water that needs to be applied to the landscape. ETAF for a Special Landscape Area shall not exceed 1.0. ETAF for existing non-rehabilitated landscapes shall not exceed 0.8.

N. "evapotranspiration rate" means the quantity of water evaporated from adjacent soil and other surfaces and transpired by plants during a specified time.

O. "flow rate" means the rate at which water flows through pipes, valves and emission devices, measured in gallons per minute, gallons per hour, or cubic feet per second.

P. "hardscapes" means any durable material (pervious and non-pervious).

Q. "hydrozone" means a portion of the landscaped area having plants with similar water needs. A hydrozone may be irrigated or non-irrigated.

R. "invasive plant species" means species of plants not historically found in California that spread outside cultivated areas and can damage environmental or economic resources. "Noxious weeds" means any weed designated by the Weed Control Regulations in the Weed Control Act and identified on a Regional District noxious weed control list. Lists of invasive plants are maintained at the California Invasive Plant Inventory and USDA invasive and noxious weeds database.

S. "irrigation audit" means an in-depth evaluation of the performance of an irrigation system. An irrigation audit includes, but is not limited to: inspection, system tune-up, system test with distribution uniformity or emission uniformity, reporting overspray or runoff that causes overland flow, and preparation of an irrigation schedule.

T. "irrigation efficiency" (IE) means the measurement of the amount of water beneficially used divided by the amount of water applied. Irrigation efficiency is derived from measurements and estimates of irrigation system characteristics and management practices. The minimum average irrigation efficiency for purposes of this Ordinance is 70%. Greater irrigation efficiency can be expected from well-designed and maintained systems.

U. "irrigation survey" means an evaluation of an irrigation system that is less detailed than an irrigation audit. An irrigation survey includes, but is not limited to: inspection, system test, and written recommendations to improve performance of the irrigation system.

V. "irrigation water use analysis" means an analysis of water use data based on meter readings and billing data.

W. "landscape architect" means a person who holds a license to practice landscape architecture in California as further defined by the

California Business and Professions Code, Section 5615.

X. "landscape area" means all the planting areas, turf areas, and water features in a landscape design plan subject to the Maximum Applied Water Allowance calculation. The landscape area does not include footprints of buildings or structures, sidewalks, driveways, parking lots, decks, patios, gravel or stone walks, other pervious or non-pervious hardscapes, other non-irrigated areas designated for non-development (e.g., open spaces and existing native vegetation), agricultural uses, commercial nurseries and sod farms.

Y. "landscape contractor" means a person licensed by the State of California to construct, maintain, repair, install, or subcontract the development of landscape systems.

Z. "landscape project" means the total area comprising the landscape area, as defined in this Ordinance.

AA. "lateral line" means the water delivery pipeline that supplies water to the emitters or sprinklers from the valve.

BB. "local agency" means the City of Burlingame which is responsible for the adoption, implementation and enforcement of this Ordinance, including but not limited to approval of a permit and plan check or design review of a project.

CC. "local water purveyor" means any entity, including a public agency, city, county, district or private water company that provides retail water service.

DD. "low volume irrigation" means the application of irrigation water at low pressure through a system of tubing or lateral lines and low-volume emitters such as drip, drip lines, and bubblers.

EE. "low water use plant" means a plant species whose water needs are compatible with local climate and soil conditions. Species classified as "very low water use" and "low water use" by WUCOLS, having a regionally adjusted plant factor of 0.0 through 0.3, shall be considered low water use plants.

FF. "Maximum Applied Water Allowance" (MAWA) means the upper limit of annual applied water for the established landscaped area as specified in Section 18.17.080 "Water Budget Calculations."

GG. "mined-land reclamation projects" means any surface mining operation with a reclamation plan approved in accordance with the

Surface Mining and Reclamation Act of 1975.

HH. "mulch" means any organic material such as leaves, bark, straw, compost, or inorganic mineral materials such as rocks, gravel, and decomposed granite left loose and applied to the soil surface for the beneficial purposes of reducing evaporation, suppressing weeds, moderating soil temperature, and preventing soil erosion.

II. "native plant" means a plant indigenous to a specific area of consideration. For the purposes of these guidelines, the term shall refer to plants indigenous to the coastal ranges of Central and Northern California, and more specifically to such plants that are suited to the ecology of the present or historic natural community(ies) of the project's vicinity.

JJ. "new construction" means the construction of a new building or structure containing a landscape or other new land improvement, such as a park, playground, or greenbelt without an associated building.

KK. "no-water using plant" means a plant species with water needs that are compatible with local climate and soil conditions such that regular supplemental irrigation is not required to sustain the plant after it has become established.

LL. "operating pressure" means the pressure at which the parts of an irrigation system are designed by the manufacturer to operate.

MM. "overhead sprinkler irrigation systems" means systems that deliver water through the air (e.g., spray heads and rotors).

NN. "overspray" means the irrigation water which is delivered beyond the target area.

OO. "permit" means an authorizing document issued by local agencies for new construction or rehabilitated landscapes.

PP. "pervious" means any surface or material that allows the passage of water through the material and into the underlying soil.

QQ. "plant factor" or "plant water use factor" is a factor, when multiplied by ETo, estimates the amount of water needed by plants.

RR. "precipitation rate" means the rate of application of water measured in inches per hour.

SS. "project applicant" means the individual or entity submitting a Project Landscape Application required under Section 18.17.060, to request a permit, plan check, or design review from the City. A project applicant may be the property owner or his or her designee.

TT. "rain sensor" or "rain sensing shutoff device" means a component which automatically suspends an irrigation event when it rains.

UU. "recreational area" means areas dedicated to active play such as parks, sports fields, and golf courses where turf provides a playing surface.

VV. "reference evapotranspiration" or "ETo" means a standard measurement of environmental parameters which affect the water use of plants.

WW. "rehabilitated landscape" means any re-landscaping project that requires a permit, plan check, design review, or requires a new or expanded water service application.

XX. "runoff" means water which is not absorbed by the soil or landscape to which it is applied and flows from the landscape area.

YY. "soil moisture sensing device" or "soil moisture sensor" means a device that measures the amount of water in the soil. The device may also suspend or initiate an irrigation event.

ZZ. "Special Landscape Area" (SLA) means an area of the landscape dedicated solely to edible plants, areas irrigated with recycled water, water features using recycled water and areas dedicated to active play such as parks, sports fields, golf courses, and where turf provides a playing surface.

AAA. "sprinkler head" means a device which delivers water through a nozzle.

BBB. "station" means an area served by one valve or by a set of valves that operate simultaneously.

CCC. "turf" means a ground cover surface of mowed grass. Annual bluegrass, Kentucky bluegrass, Perennial ryegrass, Red fescue, and Tall fescue are cool-season grasses. Bermuda grass, Kikuyu grass, Seashore Paspalum, St. Augustine grass, Zoysia grass, and Buffalo grass are warm-season grasses.

DDD. "valve" means a device used to control the flow of water in the

irrigation system.

EEE. "water feature" means a design element where open water performs an aesthetic or recreational function. Water features include ponds, lakes, waterfalls, fountains, artificial streams, spas, and swimming pools (where water is artificially supplied).

FFF. "WUCOLS" means the Water Use Classification of Landscape Species published by the University of California Cooperative Extension, the Department of Water Resources and the Bureau of Reclamation, 2000.

18.17.040 Water Conservation in Landscaping Ordinance Requirements

A. All owners of new construction and rehabilitated landscapes of applicable sizes shall:

1. complete the Landscape Project Application (Section 18.17.060); and

2. comply with the Landscape and Irrigation Maintenance Schedule (Section 18.17.110) requirements of this Ordinance.

B. All owners of existing landscapes over one acre in size, even if installed before enactment of this Ordinance, shall:

1. comply with City programs that may be instituted relating to irrigation audits, surveys and water use analysis, and

2. shall maintain landscape irrigation facilities to prevent water waste and runoff.

18.17.050 Compliance with Ordinance.

A. The City shall:

1. Provide the project applicant with the Ordinance and Landscape Project Application requirements and the procedures for permits, plan checks, design reviews, or new or expanded water service;

2. Review the Landscape Project Application submitted by the project applicant;

3. Approve or deny the project applicant's Landscape Project Application submittal;

4. Issue or approve a permit, plan check or design review that complies with the approved Landscape Project Application or approve a new or expanded water service application that complies with the approved Landscape Project Application;

B. The project applicant shall:

1. Prior to construction, submit all portions of the Landscape project Application, except the Landscape Audit Report, to the City;

2. Construct the Project in compliance with the minimum water use efficiency standards for indoor fixtures and appliances provided for in the Indoor Water Use Efficiency Table and Checklist;

3. After construction, submit the Landscape Audit Report portion of the Landscape Project Application to the City.

18.17.060 Landscape Project Application

A. The elements of a landscape must be designed to achieve water efficiency and will comply with the criteria described in this Ordinance. In completing the Landscape Project Application, project applicants may choose one of two options to demonstrate that the landscape meets the Ordinance's water efficiency goals. Regardless of which option is selected, the applicant must complete and comply with all other elements of the Ordinance. The options include:

1. Planting restrictions:

a. The turf area may not be more than 25% of the landscape area; and

b. At least 80% of the plants in non-turf landscape areas shall be native plants, low-water using plants, or no-water using plants; or the

2. Water Budget Calculation option (Section 18.17.080).

B. The Landscape Project Application shall include the following elements:

1. Project Information;

2. Outdoor Water Use Efficiency Checklist (Section 18.17.070);

3. Water Budget Calculations, if applicant selects to use a water budget approach rather than comply with the turf area limitations or specified plant type restrictions (Section 18.17.080);

4. Landscape and Irrigation System Design Plans (Section 18.17.090);

5. Landscape Audit Report (Section 18.17.100).

18.17.070 Outdoor Water Use Efficiency Checklist

The City of Burlingame has developed an Outdoor Water Use Efficiency Checklist (Checklist), based on the criteria described below. For Tier 1 projects, either the project applicant or a certified or authorized professional shall complete the Checklist and submit it to City along with the Landscape and Irrigation Design Plan. For Tier 2 projects, a certified or authorized professional shall complete and submit the Checklist to City along with the Landscape and Irrigation Design Plan.

A. Plant Material

1. Each hydrozone shall have plant materials with similar water use that are selected and planted appropriately based upon their adaptability to the climatic, geologic, and topographical conditions of the project site.

2. The turf area shall not be more than 25% of the landscape area], unless the project applicant develops a site-specific water budget and the ETWU of the landscape area does not exceed the MAWA.

3. Turf shall not be planted on slopes greater than 25% or in areas that are less than eight feet wide, unless irrigated with subsurface irrigation or a low volume irrigation system.

4. At least 80% of the plants in non-turf landscape areas shall be native plants, low-water using plants, or no-water using plants, unless the project applicant develops a site-specific water budget and the ETWU of the landscaped area does not exceed the MAWA.

5. Fire-prone plant materials and highly flammable mulches should be avoided.

6. The use of invasive and/or noxious plant species is strongly discouraged.

7. The architectural guidelines of a common interest development shall not prohibit or include conditions that have the effect of prohibiting the use of low-water use plants as a group.

B. Mulch

A minimum two-inch layer of mulch shall be applied on all exposed soil surfaces of planting areas, although a three-inch layer is recommended.

C. Irrigation System

An irrigation system shall meet all the requirements listed in this section and the manufacturers' recommendations. The irrigation system and its related components shall be planned and designed to allow for proper installation, management, and maintenance.

1. Dedicated landscape water meters shall be required for landscape areas greater than 5,000 square feet and are highly recommended for landscape areas greater than 2,500 square feet.

2. Tier 2 Landscapes are required to have automatic irrigation controllers that utilize either evapotranspiration or soil moisture sensor data for irrigation scheduling.

3. Sensors (rain, freeze, wind, etc.), either integral or auxiliary, that suspend or alter irrigation operation during unfavorable weather conditions shall be required on all irrigation systems.

4. The irrigation system shall be designed to prevent runoff, low head drainage, overspray, or other similar conditions.

5. Low volume irrigation required in mulched areas, in areas with slope greater than 25%, and within 24-inches of a non-permeable surface, or in narrow or irregularly shaped areas that are less than eight feet in width in any direction.

6. Average irrigation efficiency is assumed to be 70%. Irrigation systems shall be designed, maintained, and managed to meet or exceed an average landscape irrigation efficiency of 70%.

7. Irrigation shall be scheduled between 8:00 p.m. and 10:00 a.m., unless unfavorable weather prevents it or otherwise renders irrigation unnecessary.

D. Hydrozone

1. Each valve shall irrigate a hydrozone with similar site, slope, sun exposure, soil conditions, and plant materials with similar water use.

2. Sprinkler heads and other emission devices shall be selected based on what is appropriate for the plant type within that hydrozone.

3. Where feasible, trees shall be placed on separate valves from shrubs, groundcovers, and turf.

4. Individual hydrozones that mix plants with different water uses may be allowed if a water budget is performed, and the plant factor calculation is based on the proportion of the respective plant water uses or the plant factor of the higher water using plant is used.

E. Water Features

1. Recirculating water systems will be used for water features.

2. The surface area of a water feature will not exceed 10% of the landscape area and will be counted as a high-water using plant for purposes of a water budget calculation.

3. Pool and spa covers are highly recommended.

F. Soil Amendments

Soil amendments, such as compost, shall be incorporated according to the soil conditions at the project site and based on what is appropriate for the selected plants.

18.17.080 Water Budget Calculations

The project applicant may elect to complete a water budget calculation for the landscape project. A Tier 1 water budget may be developed and completed by the project applicant. A Tier 2 water budget calculation must be completed by a certified or authorized professional. Water budget calculations, if prepared, shall adhere to the following requirements:

A. The plant factor used shall be from WUCOLS. The plant factor ranges from 0.0 to 0.3 for low water use plants, from 0.4 to 0.6 for moderate water use plants, and from 0.7 to 1.0 for high water use plants.

B. All water features shall be included in the high water use hydrozone.

C. All Special Landscape Areas (SLA) shall be identified and their water use included in the water budget calculations.

D. The reference evapotranspiration adjustment factor (ETAF) for SLA shall not exceed 1.0. The ETAF for all other landscaped areas shall not exceed 0.7.

E. Irrigation system efficiency shall be greater than or equal to 70%.

F. Maximum Applied Water Allowance (MAWA) shall be calculated using the equation below:

$$MAWA = (ETo)\ (0.62)\ [(0.7 \times LA) + (0.3 \times SLA)]$$

Where:

MAWA = Maximum Applied Water Allowance (gallons per year)
ETo = Reference Evapotranspiration (inches per year
0.62 = Conversion Factor (to gallons)
0.7 = Reference Evapotranspiration Adjustment Factor (ETAF)
LA = Landscape Area including SLA (square feet)
0.3 = Additional Water Allowance for SLA
SLA = Special Landscape Area (square feet)

G. A local agency or project applicant may consider Effective Precipitation (25% of annual precipitation) in tracking water use and may use the following equation to calculate the MAWA:

$$MAWA = (ETo - Eppt)\ (0.62)\ [(0.7 \times LA) + (0.3 \times SLA)]$$

H. Estimated Total Water Use (ETWU) will be calculated using the equation below. The sum of the ETWU calculated for all hydrozones will not exceed the MAWA.

$$ETWU = (ETo)(0.62)\ \frac{PF \times HA}{IE} + SLA$$

Where:

ETWU = Estimated Total Water Use per year (gallons)
ETo = Reference Evapotranspiration (inches)
PF = Plant Factor from WUCOLS (see Section 491)
HA = Hydrozone Area [high, medium, and low water use areas] (square feet)
SLA = Special Landscape Area (square feet)

0.62 = Conversion Factor
IE = Irrigation Efficiency (minimum 0.70)

18.17.090 Landscape and Irrigation Design Plans

A. Tier 1 Landscapes: The Landscape and Irrigation Design Plan may be prepared by, and bear the signature of, the project applicant, or that of a certified or authorized professional.

B. Tier 2 Landscapes: The components of the Landscape and Irrigation Design Plan shall be prepared as follows:

1. The landscape design portion shall be prepared by, and bear the signature of, a licensed landscape architect, licensed landscape contractor, or that of a certified or authorized professional; and

2. The irrigation design portion shall be prepared by, and bear the signature of, a licensed landscape architect, certified irrigation designer, licensed landscape contractor, or that of a certified or authorized professional.

C. The landscape design portion of the Landscape and Irrigation Design Plan, at a minimum, shall:

1. Delineate and label each hydrozone;

2. Identify each hydrozone as low, moderate, high water, or mixed water use;

3. Identify Special Landscape Areas (i.e., recreational areas; areas permanently and solely dedicated to edible plants; areas irrigated with recycled water);

4. Identify type of mulch and application depth;

5. Identify type and surface area of water features;

6. Identify hardscapes (pervious and non-pervious); and

7. Contain the following statement: "I have complied with the criteria of the Water Conservation in Landscaping Ordinance and applied them for the efficient use of water in the Landscape and Irrigation Design Plan."

D. The irrigation design portion of the Landscape and Irrigation Design Plan, at a minimum, shall contain:

1. Location and size of separate water meters for landscape;

2. Location, type and size of all components of the irrigation system, including controllers, main and lateral lines, valves, sprinkler heads, moisture sensing devices, rain switches, quick couplers, pressure regulators, and backflow prevention devices;

3. Static water pressure at the point of connection to the public water supply;

4. Flow rate (gallons per minute), application rate (inches per hour), and design operating pressure (pressure per square inch) for each station;

5. Irrigation schedule;

6. The following statement: "I have complied with the criteria of the Water Conservation in Landscaping Ordinance and applied them accordingly for the efficient use of water in the Landscape and Irrigation Design Plan."

E. Grading

If the Landscape Project will be graded, then the grading shall be designed to minimize soil erosion, runoff, and water waste. All grading should be conducted to:

1. Maintain all irrigation and normal rainfall within property lines and avoid drainage on to non-permeable hardscapes;

2. Avoid disruption of natural drainage patterns and undisturbed soil;

3. Avoid soil compaction in landscape areas; and

4. Be consistent with city and county grading requirements.

18.17.100 Landscape Audit Report

A. Tier 1 Landscapes: Landscape irrigation audits for new or rehabilitated landscapes installed after March 18, 2010 shall be conducted after the landscaping and irrigation systems have been installed. The audit may be conducted by the project applicant or by a certified landscape irrigation auditor.

B. Tier 2 Landscapes: Landscape irrigation audits for new or rehabilitated landscapes installed after [Ordinance adoption date] shall be conducted by a certified landscape irrigation auditor after the landscaping and irrigation system have been installed.

C. The Landscape Audit Report shall include, but is not limited to: inspection to confirm that the landscaping and irrigation system were installed as specified in the Landscape and Irrigation Design Plan, system tune-up, system test with distribution uniformity, reporting overspray or run off that causes overland flow, and preparation of an irrigation schedule.

D. The Landscape Audit Report shall include the following statement: "The landscape and irrigation system has been installed as specified in the Landscape and Irrigation Design Plan and complies with the criteria of the Ordinance and the permit".

E. City shall administer on-going programs that may include, but not be limited to, post-installation landscape inspection, irrigation water use analysis, irrigation audits, irrigation surveys and water budget calculations to evaluate compliance with the MAWA.

18.17.110 Landscape and Irrigation Maintenance Schedule

Landscapes shall be maintained to ensure water use efficiency.

A. A regular maintenance schedule shall include, but not be limited to, routine inspection; adjustment and repair of the irrigation system and its components; aerating and dethatching turf areas; replenishing mulch; fertilizing; pruning; weeding in all landscape areas; and removing obstructions to emission devices.

B. Repair of all irrigation equipment shall be done with the originally installed components or their equivalents.

C. A Project applicant is encouraged to implement sustainable or environmentally-friendly practices for overall landscape maintenance.

18.17.120 Stormwater Management

Stormwater best management practices shall be implemented into the landscape and grading design plans to minimize runoff and to increase on-site retention and infiltration and should be consistent with city, county, state and federal stormwater management requirements.

18.17.120 Provisions for Existing Landscapes Over One Acre in Size

This section shall apply to all existing landscapes that were installed before March 18, 2010 and are over one acre in size.

A. Irrigation Audit, Irrigation Survey, and Irrigation Water Use Analysis.

1. For landscapes that have a water meter, the City shall administer programs that may include, but not be limited to, irrigation water use analyses, irrigation surveys, and irrigation audits to evaluate water use and provide recommendations as necessary to reduce landscape water use to a level that does not exceed the MAWA for existing landscapes. The MAWA for existing landscapes shall be calculated as:

$$MAWA = (0.8)\ (ETo)(LA)(0.62).$$

2. For landscapes that do not have a meter, the City shall administer programs that may include, but not be limited to, irrigation surveys and irrigation audits to evaluate water use and provide recommendations as necessary in order to prevent water waste.

3. All landscape irrigation audits for existing landscapes that are greater than one acre in size shall be conducted by a certified landscape irrigation auditor.

B. Water Waste Prevention.

The City shall prevent water waste resulting from inefficient landscape irrigation by prohibiting runoff from leaving the target landscape due to low head drainage, overspray, or other similar conditions where water flows onto adjacent property, non-irrigated areas, walks, roadways, parking lots, or structures.

18.17.130 Violations, Penalties and Enforcement

A. Violation Notice of Correction.

It is unlawful for any person, firm, partnership, association, or corporation subject to the requirements of this Ordinance to fail to comply with the outdoor water use efficiency requirements of this Ordinance.

B. Notice of Correction

Whenever the City determines that a violation of this Ordinance has occurred, the City may serve a notice of correction on the owner(s) of the property on which the violation is situated. The owner(s) of record shall have ninety (90) days to take corrective action.

C. Enforcement.

If the owner of the property which is the subject of the violation fails to take corrective action within ninety (90) days, the City may enforce this ordinance according to the provisions of Chapter 1.12 of this code.

18.17.140 Public Education

A. The City shall provide information to all applicants regarding the design, installation, management, and maintenance of water-efficient landscapes and irrigation systems.

B. All model homes that are landscaped shall use signs and written information to demonstrate the principles of water-efficient landscapes that are described in this Ordinance."

Division 4. Severability

If any section, subsection, provision or part of this Ordinance, or its application to any person or circumstance, is held to be unconstitutional or otherwise invalid, the remainder of this Ordinance, and the application of such provision to other person or circumstances, shall not be affected thereby and shall remain in full force and effect and, to that end, the provisions of this Ordinance are severable.

Division 5. Ordinance Categorically Exempt

The City Council of the City of Burlingame finds and determines that this Ordinance is not subject to the California Environmental Quality Act (Public Resources Code Section 2100 et seq.) ("CEQA") pursuant to Section 15307 (the activity assures the maintenance, restoration, enhancement, or protection of a natural resource) and Section 15378(b)(2) (the activity is not a project as it involves general policy and procedure making) of the State CEQA Guidelines, California Code of Regulations, Title 14, Chapter 3, since it makes and implements policies and procedures to ensure that water resources are conserved by reducing water consumption through the establishment of a structure for planning, designing, installing, maintaining and managing water-efficient landscapes.

Division 6. Effective Date

This Ordinance shall become effective on March 18, 2010.

Cathy Baylock, Mayor

I, Mary Ellen Kearney, City Clerk of the City of Burlingame, do hereby certify that the foregoing ordinance was introduced at a regular meeting of the City Council held on the 1st day of February, 2010, and adopted thereafter at a regular meeting of the City Council held on the 16th day of February, 2010, by the following vote:

AYES: Councilmembers: **BAYLOCK, BROWNRIGG, DEAL, KEIGHRAN, NAGEL**
NOES: Councilmembers: **NONE**
ABSENT: Councilmembers: **NONE**

Mary Ellen Kearney, City Clerk

APPENDIX O:
WASTEWATER RATES

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SEWER RATES EFFECTIVE JANUARY 1, 2011

Residential customers (except Burlingame Hills):

When new customer service is provided to premises classified as single-family or duplex, the customer will be charged at a bi-monthly rate based on the number of residents reported to occupy the premises as follows:

Number of residents	Rate
1	$41.78
2	$51.98
3	$63.62
4	$75.25
5	$85.92
6	$88.98
7	$96.76
8	$112.69
9 or more	$132.10

Per capita rates will be used until the customer has had service through a consecutive January, February, March and April, and on January 1 following that consecutive period, the sewer rate for the customer will be adjusted to the applicable rate specified in section 15.08.070(a). Following a second consecutive January, February, March, and April, the rate will be further adjusted according to the demonstrated water usage for the total eight months on January 1 following the second consecutive period. Consumption for the months of January-April for the previous three years is averaged, then multiplied by the current sewer rate approved by City council. Because the cost of sewage treatment is higher than our cost for clean water, the sewer rate is higher than the water rate. Current sewer rates are as follows (all rates are per 1000 gallons of water usage).

Non-residential sewer charges are based on actual bimonthly water usage
Per 1000 gallons of water usage:

Residential (Jan-Apr)	$ 10.75
Multi Unit (M)	$ 10.05
Light Commercial (E)	$11.87
Heavy Commercial (C)	$19.27
Food Related (D)	$28.59
Hospital (P)	$19.27
Institutional (F)	$ 4.21

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APPENDIX P:
DOCUMENTATION REGARDING UWMP REPORT DISTRIBUTION

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