

Appendix 4.14-1
WSAV, July 2006



SWEETWATER AUTHORITY

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July 20, 2006

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Subject: PORT OF SAN DIEGO CHULA VISTA BAYFRONT MASTER PLAN
WATER SUPPLY ASSESSMENT AND VERIFICATION
SWA GEN. FILE: CHULA VISTA BAY FRONT WATER SUPPLY ASSESSMENT

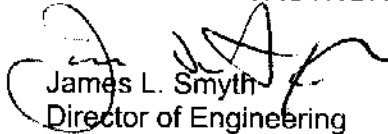
Dear Mr. Helmer:

This letter is in response to your request that Sweetwater Authority (Authority) update the Water Supply Assessment and Verification that was previously prepared for the Port of San Diego's proposed Chula Vista Bayfront Master Plan, pursuant to Senate Bills 221 and 610. Therefore, enclosed are one hard copy and one compact disc containing the subject document, which was approved by the Authority's Governing Board at its July 12, 2006 meeting.

If you have any questions, please contact Mr. Jack Adam at (619) 409-6753.

Sincerely,

SWEETWATER AUTHORITY


James L. Smyth
Director of Engineering

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enclosures: as cited

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*A Public Water Agency
Serving National City, Chula Vista and Surrounding Areas*

WATER SUPPLY ASSESSMENT AND VERIFICATION

Port of San Diego Chula Vista Bayfront Master Plan

**November 2005
(Updated July 2006)**



Sweetwater Authority

Prepared by
Sweetwater Authority Staff

November 2005
(Updated July 2006)

*Port of San Diego
Chula Vista Bayfront Master Plan
Water Supply Assessment and Verification*

*Approved by the Sweetwater Authority Governing Board
July 12, 2005*



Sweetwater Authority
505 Garrett Avenue
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**Sweetwater Authority
Water Supply Assessment**

**Port of San Diego
Chula Vista Bayfront Master Plan**

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Sweetwater Authority Water Supply Assessment

Port of San Diego Chula Vista Bayfront Master Plan

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Section 1 - Introduction

The San Diego Unified Port District (Port), in partnership with the City of Chula Vista (City), is currently preparing the Chula Vista Bayfront Master Plan (CVBMP), as shown on the Bayfront Master Plan Land Use Illustrative Plan and Development Program Fact Sheet included with the Port's letter dated May 24, 2006, and included in Appendix A. The Port has determined that the CVBMP is subject to the California Environmental Quality Act (CEQA), under California Water Code (Water Code) Section 10910(a), and meets the definition of a "Project" as described in Water Code Section 10912(a) and California Government Code (Government Code) Section 66473.7(1), and as such, a Water Supply Assessment (WSA) pursuant to Senate Bill (SB) 610, and a Water Supply Verification (WSV), pursuant to SB 221 are required for the project. SB 610 and SB 221 amended state law, effective January 1, 2002, to improve the link between information on water supply availability and certain land use decisions made by cities and counties. The Port also requested that since the SB 610 and SB 221 requirements are substantially similar, that Sweetwater Authority (Sweetwater) prepare both the Water Supply Assessment and Water Verification (WSA&V), concurrently. The Notice of Preparation for the project Environmental Impact Report is included as Appendix A.

This WSA&V supersedes the WSA&V dated November 2005. The Port originally requested that Sweetwater prepare a WSA&V for the CVBMP in a letter dated April 25, 2005, and a supplemental letter dated September 12, 2005. Based on these requests, Sweetwater prepared a WSA&V which was adopted by Sweetwater's Governing Board on November 9, 2005.

Subsequent to that, the proposed land use plan was refined by the Port, and it was determined that the projected water usage would exceed that which was included in the original WSA&V. The main difference in land use is the inclusion of the Gaylord Hotel, and a reduction in irrigated parkland (overall park acreage did not change). Therefore in a letter dated May 24, 2006, the Port requested Sweetwater prepare a new, or amend its existing, WSA&V for the CVBMP.

The CVBMP proposes a mix of land uses, including hotel, retail, office, energy utility zone, civic/cultural, residential, conference facilities, marina, recreational vehicle/campground spaces, parks and promenades, open space buffers, wetlands and trail systems. Construction of the CVBMP is conceived to be phased in five-year increments of the next 20 years.

Section 2 - Identification of the Public Water Provider

In accordance with Water Code Section 10912(c), Sweetwater is the “public water system” for the area in which the Port’s CVBMP is proposed. As such, the Port requested that Sweetwater prepare a WSA&V. The WSA&V is intended to be used by the Port and the City in their evaluation of the CVBMP under the CEQA process, and for the Port to seek approval of the City’s amended Specific Plan and Tentative Map(s).

Sweetwater was formed by the condemnation of a private water company that served the cities of Chula Vista and National City, and a portion of the county of San Diego. The condemnation suit was filed by the South Bay Irrigation District (SBID) and the City of National City on May 10, 1968, and was finalized on August 30, 1977. SBID and the City of National City formed Sweetwater by the Joint Powers Agreement of February 1, 1972. The Agreement was amended and re-adopted on July 22, 1977. Sweetwater was formed pursuant to the provisions of Article 1, Chapter 5, Division 7, Title 1, of the Government Code of the State of California. Sweetwater is empowered by the Joint Powers Agreement to acquire, own, lease, operate, manage, maintain, and improve the water system.

SBID was formed during March 1951, under the Irrigation Law of California (Division 11, Section 20500 of the Water Code), and includes most of the city of Chula Vista and the unincorporated area within and adjacent to the Sweetwater River Valley. It also overlaps small segments of the cities of National City and San Diego. On May 1, 1990, SBID transferred ownership of the water system, including all of the property deeds and easements to Sweetwater. The city of National City is part of the urbanized South Bay region of the San Diego metropolitan area located on the San Diego Bay. Incorporated in 1887, National City is the second oldest city in the county of San Diego. SBID and the City of National City are members of the San Diego County Water Authority (Water Authority).

Section 3 – Previous Water Supply Assessments

Sweetwater, in consultation with the City, considered a portion of the proposed bayfront water demand. This demand was also included in Sweetwater's 2005 Urban Water Management Plan (UWMP). However, based on information provided by the Port on the CVBMP, Sweetwater did not include all the demands associated with the project in the 2005 UWMP.

As such, Sweetwater has prepared this WSA&V in consultation with the Water Authority, the Port, and the City, pursuant to Public Resources Code Section 21151.9, and California Water Code Sections 10631, 10657, 10910, 10911, 10912, and 10915, referred to as SB 610, and Business and Professions Code Section 11010, and Government Code Sections 65867.5, 66455.3, and 66473.7, referred to as SB 221.

Section 4 – Sweetwater's Urban Water Management Plan

Sweetwater prepares a UWMP every five years, in accordance with Water Code Sections 10610 through 10656 of the Urban Water Management Planning Act (Act), which were added by Statute 1983, Chapter 1009, and became effective on January 1, 1984. The Act, which was Assembly Bill (AB) 797, requires that every urban water supplier providing water for municipal purposes to more than 3,000 customers, or supplying more than 3,000 acre-feet of water annually, shall prepare and adopt a UWMP in accordance with the prescribed requirements.

The Act requires urban water suppliers to file plans with the California Department of Water Resources (DWR) describing and evaluating reasonable and practical efficient water uses, reclamation, and conservation activities. As required by law, Sweetwater's UWMP includes projected water supplies required to meet future demands. Sweetwater prepared UWMPs in 1985, 1990, 1995, and 2000, and 2005 and filed those plans with the DWR.

As stated above, the adopted 2005 UWMP did not account for all the water demands associated with the Port's CVBMP. Therefore, in accordance with Water Code Section 10910 (c)(3), and Government Code Section 66473.7 (a)(2), this WSA&V includes a discussion with regard to whether Sweetwater's total projected water supplies, available during normal, single dry, and multiple dry water years during a 20-year projection, would meet the projected water demand associated with the proposed project, in addition to Sweetwater's existing and planned future uses. Applicable information from Sweetwater's 2005 UWMP has been used in the preparation of this WSA&V.

Sweetwater's 2005 UWMP includes all potential future development and redevelopment within its service area, including Chula Vista's Urban Core Specific Plan (UCSP), other projects identified in Chula Vista's Vision 2020 General Plan, the National City Downtown Specific Plan, and the portion of CVBMP demands known, at the time, the 2005 UWMP was prepared.

Section 5 – Supply and Demand Assessment

5.1 Project Demand Analysis

Sweetwater's water system provides water service to approximately 179,485 consumers within the city of National City, a portion of the city of San Diego, and the South Bay Irrigation District, which consists of a portion of the city of Chula Vista and the unincorporated portion of the County of San Diego, known as Bonita. The Sweetwater service area covers 36.5 square miles and contains approximately 33,928 service connections. In addition, the system has emergency interconnections to three water agencies: Otay Water District, the City of San Diego, and the California American Water Company. At the present time, there are no plans for expansion of the Sweetwater service area.

5.1.1 Climate

Climate conditions within the service area are characteristically Mediterranean along the coast, with mild temperatures year-round. The majority of the service area is within two miles of the San Diego Bay. However, the Bonita area and the reservoirs are located farther inland, and experience slightly hotter summers and colder winters. More than 80% of the region's rainfall occurs in the period between December through March. Average annual rainfall is approximately 11.3 inches per year at the Sweetwater Reservoir based on records dating back to 1888. Climate data is included in Table 1, and consists of the 117-year Sweetwater Reservoir average monthly rainfall, and Sweetwater Reservoir average monthly high temperature based on records dating back to 1961. Average monthly evapotranspiration (ET_o) data was obtained from the California Irrigation Management Information System (CIMIS) website for the Otay Lakes Station.

**Table 1
 Climate Data**

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
Ave precip (in.)	2.15	2.12	1.99	0.87	0.35	0.08	0.04	0.07	0.20	0.55	1.06	1.83
Ave temp (°F)	68.7	69.1	69.1	71.8	72.9	76.2	81.4	84.1	82.8	79.0	73.6	68.9
ETo	0.98	1.43	2.44	3.31	4.03	4.49	4.64	4.03	3.31	2.44	1.18	0.61

5.1.2 Population

Population and housing growth data for Sweetwater was obtained from the San Diego Association of Governments (SANDAG) 2030 Regional Growth Forecast for years 2005 through 2030. These estimates do not include the increase in population due to the CVBMP, other redevelopment projects identified in Chula Vista’s Vision 2020 General Plan, and National City’s Downtown Specific Plan.

Sweetwater updated the land uses and densities associated with the redevelopment projects (including the CVBMP), and recalculated the estimated population growth. Population projections are shown in Table 2.

**Table 2
 SANDAG Population and Redevelopment Adjustment**

	2005	2010	2015	2020	2025	2030
SANDAG 2030 Population Projection	179,485	180,906	185,447	190,387	192,660	198,752
Redevelopment Increase	---	4,958	14,688	23,715	27,760	38,158
Revised Population Projection	179,485	185,864	200,135	214,102	220,420	236,730

5.1.3 Demand Assessment

Table 3 shows the historical and projected water demands by use sector through 2030, as included in Sweetwater’s 2005 UWMP.

**Table 3
 Historical and Projected Potable Water Demands
 (Not Including the Bayfront Master Plan)
 (acre-feet)**

Water Use Sectors	Fiscal Year Ending ¹								
	1990	1995	2000	2005	2010	2015	2020	2025	2030
Residential ³	11,855	14,979	16,885	16,094	17,126	18,211	19,362	19,878	21,205
Commercial ^{4,5}	10,845	3,873	4,321	4,407	4,583	4,691	4,805	4,856	4,987
Industrial	822	402	408	405	456	607	768	840	1,025
Public	1,633	1,363	1,743	1,897	2,130	2,192	2,258	2,287	2,364
Irrigation/ Agricultural	31	31	43	31	49	44	39	36	30
Other ⁶	132	21	18	42	39	40	41	41	42
Unaccounted for Water	720	1,623	2,423	694	1,041	1,101	1,165	1,193	1,266
Estimated Conservation Savings	---	---	---	---	1,212	1,590	1,952	2,320	2,659
Total	22,533	22,292	25,841	23,570	24,213	25,296	26,485	26,813	28,260

Notes:

1. Fiscal Year July 1 through June 30.
2. Residential includes domestic and irrigation for single-family, multi-family, and mobile homes.
3. Commercial includes domestic and irrigation for businesses and golf courses.
4. Prior to Fiscal Year 1991-92, commercial included mobile homes and apartments. Beginning in Fiscal Year 1991-92, mobile homes and apartments have been included in residential.
5. "Other" included construction meters and golf courses through Fiscal Year 1989-90. Subsequent to Fiscal Year 1989-90, "Other" only includes construction meters.

The total projected water demands for the CVBMP are shown in Table 4. These demands have been developed by Sweetwater, and supplemented by the Port and Gaylord Hotels, based on the project density and land use information provided by the Port, combined with actual water use data for each type of land use within Sweetwater's service area.

**Table 4
 Bayfront Master Plan Projected Water Demands**

Land Use	Units ¹	Acres ¹	Water Duty ²	Average Water Demand	
				(MGD)	(acre-feet per year)
Residential	2,000		105 gpcd	0.63	705.7
Hotel (General)		57.09	8871 gal/ac/day	0.51	567.3
Hotel (Gaylord) ³		32.2	See Footnote 3	0.6	672.1
Office		21.14	1861 gal/ac/day	0.04	44.8
Retail ⁴		57.35	1861 gal/ac/day	0.11	123.2
RV Park		14.06	568 gal/ac/day	0.01	11.2
Park ⁵		89.83	776 gal/ac/day	0.07	78.4
Energy Utility		28.30	3041 gal/ac/day	0.09	100.81
Total				2.02	2,262.7

1. Based on residential land use data included in the Port District's letter to Sweetwater dated May 24, 2006.
2. Based on actual 2004 consumption within Sweetwater's service area for each land use type.
3. Water demand based on hotel specific data provided by Gaylord Hotels.
4. Retail demands include marinas and commercial recreation uses.
5. Acreage is for only irrigated park areas, non-irrigated open space is not included.

As previously stated, Sweetwater considered a level of future development at the bayfront in its 2005 UWMP. This assumed development resulted in an average day demand of 1.6 mgd (1746.4 acre-feet per year). This level of development is included in the demand projections shown in Table 3.

However, based on the currently proposed densities provided by the Port, and the demands shown in Table 4, an additional 0.42 mgd or 516.3 acre-feet in demand was not included in the original demand projections included in the 2005 UWMP. The projected demands, shown in Table 5, have been increased to account for this difference.

**Table 5
 Historical and Projected Potable Water Demands
 (Including the Bayfront Master Plan)
 (acre-feet)**

Water Use Sectors	Fiscal Year Ending ¹								
	1990	1995	2000	2005	2010	2015	2020	2025	2030
Residential ³	11,855	14,979	16,885	16,094	17,126	18,211	19,362	19,878	21,205
Commercial ^{4,5}	10,845	3,873	4,321	4,407	4,715	4,954	5,200	5,383	5,646
Industrial	822	402	408	405	457	609	771	844	1029
Public	1,633	1,363	1,743	1,897	2,101	2,133	2,170	2,170	2,217
Irrigation/ Agricultural	31	31	43	31	49	44	39	36	30
Other ⁶	132	21	18	42	39	40	41	41	42
Unaccounted for Water	720	1,623	2,423	694	1,041	1,101	1,165	1,193	1,266
Estimated Conservation Savings	---	---	---	---	1,212	1,590	1,952	2,320	2,659
Total	22,533	22,292	25,841	23,570	24,316	25,502	26,796	27,225	28,776

Notes:

1. Fiscal Year July 1 through June 30.
2. Residential includes domestic and irrigation for single-family, multi-family, and mobile homes.
3. Commercial includes domestic and irrigation for businesses and golf courses.
4. Prior to Fiscal Year 1991-92, commercial included mobile homes and apartments. Beginning in Fiscal Year 1991-92, mobile homes and apartments have been included in residential.
5. "Other" included construction meters and golf courses through Fiscal Year 1989-90. Subsequent to Fiscal Year 1989-90, "Other" only includes construction meters.

As previously stated, the total demands associated with the CVBMP have not been included in any of Sweetwater's previous water supply assessments. Therefore, the total demand has not been specifically included in any Water Authority or Metropolitan Water District of Southern California (Metropolitan) planning document. In its 2005 Regional UWMP, Metropolitan identified a potential reserve or system replenishment supply that can also be used to meet demands in cases where the identified growth had not been included in the SANDAG regional growth forecast. It is intended that the additional demand associated with the CVBMP be met through purchase of imported water from Metropolitan's reserve supply.

5.1.4 Demand Management Measures (Water Conservation)

Sweetwater recognizes water conservation and demand management as a priority in its water use planning. The long-term goal of Sweetwater's water conservation program is to achieve and maintain water use limits for various use categories that are reasonable for that category. Specific objectives of Sweetwater's conservation program are to:

- Eliminate wasteful practices in water use
- Continue to develop information on both current and potential water conservation practices
- Ongoing, timely implementation of conservation practices
- Public information and education activities to spread knowledge of water use techniques

Sweetwater started a water conservation program in 1990. Initial efforts included a long-term public information program and cooperation with the conservation efforts of the Water Authority. The water conservation program expanded significantly during the 1987-1992 drought, and the backbone of a long-term conservation program was formed. Since that time, Sweetwater has continued to revamp the conservation program by developing a variety of innovative and effective approaches to demand management.

Water conservation programs are developed and implemented on the premise that water conservation increases water supply by reducing the demand on available supply, which is vital to the optimal use of the region's supply resources. Sweetwater actively participates in countywide and regional conservation programs through the Water Authority and Metropolitan. As a member of the Water Authority, Sweetwater benefits from regional programs performed on behalf of its member agencies. Sweetwater also participates in many water conservation programs designed and typically operated on a shared-cost participation program basis among the Water Authority, Metropolitan, and their member agencies.

The vast majority of water savings result from the residential and commercial Ultra Low Flow Toilets (ULFT) and High Efficiency Washers (HEW). Sweetwater is gradually shifting emphasis towards more water efficient landscaping and commercial appliances, as these programs continue to evolve. Opportunities for ULFT savings will decline and landscape water efficiency will be increasingly emphasized and practiced. The resulting savings in supply directly relates to additional available water in the San Diego region for beneficial use within the Water Authority's service area, including Sweetwater. In partnership with the Water Authority, the County, and developers, Sweetwater's water conservation efforts are expected to grow and expand.

Sweetwater's fiscal year 2005 budget included \$78,900 for conservation programs that are anticipated to save approximately 2,400 acre-feet for the year. This fiscal

year 2005 financial commitment represents an average cost of approximately \$33 per acre-foot of projected water sales during fiscal year 2005. Conservation programs also reduce imported water demand.

Demonstrating its commitment to conservation, Sweetwater officials became an original signatory to the *Memorandum of Understanding (MOU) Regarding Urban Water Conservation in California*, which created the California Urban Water Conservation Council (CUWCC) in 1991 in an effort to reduce California's long-term water demands. As defined in the MOU, a water conservation Best Management Practices (BMP) is a "generally accepted practice among water suppliers that results in more efficient use or conservation of water." Since becoming a signatory in 1991, Sweetwater has made implementation of the BMPs for water conservation, the cornerstone of its conservation programs, and a key element in its water resource management strategy. Sweetwater's BMP Implementation Status Reports, BMP Water Savings Reports, and BMP Coverage Report are included in Appendix C.

The BMP programs implemented by Sweetwater include the following:

- **BMP 1 - Water Survey Programs for Single-Family and Multi-Family Residential Consumers** - The Residential Survey Program is free to both single- and multi-family residential consumers, and has been available since 1995. The program helps consumers learn how to save water in their own homes, which in turn saves the consumers money. The survey includes a review of landscaping, outdoor irrigation system, indoor use, identification of indoor leaks, a complete educational packet, information about other water conservation programs, and free faucet aerators and low-flow showerheads. An irrigation surveyor will perform a meter leak detection test, check the irrigation system, suggest seasonal adjustments for a consumer's individual water schedule, check the soil to ensure that watering coincides with moisture absorption, discuss proper lawn maintenance, and offer low water use landscape information.
- **BMP 2 - Residential Plumbing Retrofit** – Retrofit water conservation device packages, which include toilet tank displacement devices and shower head flow restrictors, were made available to essentially all households within Sweetwater's service area in 1977 as part of DWR's pilot water conservation study. Sweetwater offered retrofit devices, which included low-flow showerheads, toilet tank displacement kits, and faucet aerators to its customers from 1991 through 2003. To present, Sweetwater has distributed 20,833 low-flow showerheads, and continues to offer incentive vouchers for installing water efficient toilets, washers, and other appliances.

The Water Authority and its member agencies distributed over 550,000 showerheads between 1991 and 2002. Since January 1, 1994, showerheads manufactured in the United States must be in compliance with 2.5 GPM maximum flow. Data gathered from the Residential Survey Program (BMP 1) showed 80-90% saturation of low-flow showerheads in homes surveyed.

- **BMP 3 - System Water Audits, Leak Detection, and Repair** – Many of Sweetwater’s system water audits, leak detection, and repair programs contribute to better water management and reduction in water loss.

Water Audits. Sweetwater conducts a monthly audit of its overall system for unbilled and unaccounted for water loss. Using these comparisons, Sweetwater can evaluate the need for implementation of a formal water loss reduction program.

Unbilled water loss represents the difference between water sales and water production. Sweetwater’s 12-month average unbilled water loss was 5.6% in 2003, and 5.2% in 2004.

Unaccounted for water loss is determined by comparing total water use (water sales, meter inaccuracy due to aging, main breaks, major fire fighting use, system flushing, etc.) with total water production. Sweetwater’s 12-month average unaccounted for water loss was 2.76% in 2003, and 1.51% in 2004.

Leak Detection. A Supervisory Control and Data Acquisition (SCADA) system was installed in the distribution system in 2001, and is used to monitor water flow throughout the system. Rapid changes in water quantity and/or pressure at any of the monitoring points within the system are immediately evaluated. On the rare occasion a leak is discovered, it is quickly detected and corrected. A leak detection survey was performed on 19.49 miles of the distribution system in September 2002. Total annual water loss for surveyed portions of the system was calculated at 0.0 gallons.

Water System Improvements. Routine and preventative maintenance is performed on the distribution system. In addition, Sweetwater implements a capital improvement program to maintain and renew transmission, distribution, and storage facilities.

Facility Inspection. Critical facilities, including pump stations and valve vaults, are inspected bi-weekly. Other distribution facilities are inspected weekly. As part of Sweetwater’s preventative maintenance program, each system valve is exercised at least every three years, and each fire hydrant is visually inspected and maintained every one to two years.

Meter Maintenance and Replacement Program. A 15-year repair/replacement program covers every service meter within the Sweetwater system. Meters sized below 5/8-inch are calibrated and replaced as needed. Meters sized 1-1/2 to 2-inches are calibrated and rebuilt as necessary. Meters sized at 3-inches and larger are calibrated and maintained annually.

Water Theft. Sweetwater monitors incidents of water theft, and has the ability to charge up to three times the water service rate when it is determined that water theft has occurred.

- **BMP 4 - Metering with Commodity Rates for All New Connections and Retrofit of Existing Connections** – Sweetwater requires the installation of water meters on all services throughout its distribution system, and bills by volume of water metered.
- **BMP 5 - Large Landscape Conservation Programs and Incentives** - From 1991 to 2004, large landscape (defined as landscape with one acre or more) irrigation surveys were available to consumers at no charge through the *Professional Assistance for Landscape Management (PALM)* program, sponsored by the Water Authority. Using methodology developed by the Irrigation Training and Research Center at California Polytechnic State University at San Luis Obispo, the surveyor performs catch can tests, makes numerous soil and plant observations, and calculates ETo based irrigation schedule.

Beginning in 2005, residential and commercial consumers with large landscapes (currently defined as over 2,000 square feet) can receive the following services at no charge through the *Smart Landscape* program, sponsored by Sweetwater, the Water Authority, Metropolitan, and the DWR:

Landscape irrigation audits. Audits are available at no charge to residential and commercial consumers with a minimum of 2,000 square feet of irrigated landscaping. Site audits include a review of irrigation conditions, watering schedule, and sprinkler distribution uniformity, by a trained technician. Landscape area measurement and water use recommendations are provided.

Weather-Based Irrigation Controllers. Vouchers are available to residential and commercial consumers with a minimum of 2,000 square feet of irrigated landscaping for weather-based irrigation controllers to retrofit old timers. Residential (\$65) and commercial (\$13.33 per active station) vouchers are available.

Irrigation System Upgrade Grants. Grants up to \$2,500 in matching funds are available through the *Commercial Landscape Incentive Program*. Sites must have a minimum of one acre of irrigated landscape, and be currently over-irrigated to qualify.

Water Budgets. A voluntary program for consumers with dedicated irrigation meters is being developed by the Water Authority for member agencies. Water use data is converted into web-accessible water budgets. Each billing cycle, participating consumer water use is charted against previous use and calculated landscape water needs. Water budgets help consumers determine

the right amount of water required to maintain healthy landscaped areas, given weather conditions. Water budgets can decrease outside water use by 20%.

- **BMP 6 – High-Efficiency Washing Machine Voucher Program** - Since 2000, Sweetwater has participated in the Water Authority's voucher program. New technology in washing machine design provides for more efficient water use and savings. Residential consumers have taken advantage of the \$100 to \$125 voucher offers to replace their standard top-loading washers with low-water use, energy-efficient models. Prior to March 10, 2004, high-efficiency washers had water efficiency factor values of 9.5 or less. With greater availability of ultra-high efficiency washers, vouchers are now limited to machines with water efficiency factor values of 6.0 or less. The water efficiency factor is determined by the amount of water it takes to wash a cubic foot of laundry. The lower the water efficiency factor, the greater the water efficiency of the clothes washer.
- **BMP 7 – Public Information Programs** - Sweetwater promotes water conservation in coordination with the Water Authority and Metropolitan. Regional activities include: public service announcements, demonstration gardens, monthly conservation strategy meetings, water awareness month activities, water efficiency workshops, and landscape water use classes. Sweetwater independently distributes public information through its website, bill inserts, on-hold telephone messages, annual Consumer Confidence Report, newsletters, news releases, brochures, keynote speakers, classroom presentations, facility tours, video library, and participation in year-round special events and community festivals.

Literature-Brochures. Sweetwater provides brochures and literature on a variety of water conservation topics including lawn watering, Xeriscape planting, drip irrigation, swimming pool maintenance, leak detection, and general household conservation tips. These are made available to residents through a literature rack at Sweetwater's Administration Office and website, through individual and group mailings, through distribution to residential complex managers, and through distribution at public appearances by Sweetwater Board members and staff. Sweetwater Customer Service Representatives also distribute Conservation Policy Brochures to new and other water consumers, while out in the field. The brochures contain leak detection information and water-saving tips.

Films. Sweetwater has distributed "Water Wise Gardening," a film on Xeriscape plants and efficient irrigation, to all public libraries in its service area. In addition, this film is available to rent from Sweetwater's film library. The library also includes informational films produced by Sweetwater, which promote conservation as a source for future water needs.

Newsletters/Brochures. Sweetwater publishes a consumer newsletter, "Customer Connections" quarterly, incorporating conservation tips and

programs. Brochures are developed and distributed to deal with specific conservation issues, as was the case for all stages of the water alert in 1990 and 1991. To communicate the conservation measures called for by the alert in 1990 and 1991, Sweetwater developed brochures in English and Spanish, then distributed 35,000 of the brochures through bulk mail, with a special mailing and accompanying letter of instruction for residential complex managers.

Personal Letters. Sweetwater sends a personalized letter to notify consumers of reported or observed water waste on their property. These letters are sent to elicit cooperation in Sweetwater's efforts to use water wisely, and are sent with appropriate conservation materials, such as a lawn-watering guide, leak detection information, or general conservation tips.

Seminars. Sweetwater works with local agencies to cooperatively host periodic conservation seminars for groups of water users, targeted toward high water use consumers, or toward specific types of use. These seminars include information on current water saving methods and devices, and contacts for additional assistance and information, as well as a summary of local agency information and contact persons for cooperative efforts between Sweetwater and its consumers.

Speakers Bureau. Sweetwater staff and its Board of Directors are available to address civic and community groups, clubs, associations, and other organizations on a wide variety of water issues. Speakers provide conservation handouts to interested audience members at these appearances. The Sweetwater speakers' bureau is promoted through involvement in civic groups, through the customer newsletter, through letters to local libraries and schools, and through periodic newspaper announcements of availability.

Committees. Sweetwater maintains a permanent Communications Committee to provide assistance and suggestions to staff regarding water awareness issues. This committee can be convened as needed to provide assistance and suggestions to staff regarding conservation issues and address consumer concerns resulting from water reduction allocations.

Exhibits and Related Materials. Sweetwater participates in local business and community fairs to distribute water-saving devices, conservation literature, and to answer consumer questions face-to-face. Materials have also been provided to local merchants and libraries for their distribution and displays on general water conservation issues. Sweetwater also partners with neighboring water agencies to put on water conservation public awareness events, including water-wise technology expos and landscape contests.

Tours. Sweetwater provides tours of its Perdue Plant in Spring Valley, its Desalination Facility in Chula Vista. Bus fees are reimbursed for any tour

provided to elementary and secondary school students within the service area. Tours are also provided for college and military students, community groups, after school programs, and student enrichment clubs (i.e. scouting, boys and girls clubs). Leadership tours of facilities are offered up to 10 times per year to local business leaders, elected officials, and representatives from high-use water consumers. Lessons and information presented during the tours incorporate information about the limited water supply for the region and wise water use practices.

News Relations. Sweetwater provides formal press releases and feature story information to the Chula Vista Star News, the San Diego Union Tribune, and local radio and television reporters, as well as to trade and special interest publications. In response to local community interest, Sweetwater established a regular watering index in the Star News during the 1990-91 water alert.

Advertising. Sweetwater has purchased advertising or content space in local newspapers, school and city newsletters and chamber publications to promote water conservation and understanding of water issues. Additional advertising has been provided in the Star News through that newspaper's co-sponsorship of a Sweetwater water conservation poster contest.

- **BMP 8 – School Education Programs** – Since 1991, Sweetwater has had an active school education program, which includes water conservation messages. In 2000, Sweetwater created a regular education specialist position to support, in addition to other activities, the school education program. Sweetwater's Education Specialist provides instructional assistance, educational materials, and classroom lessons that identify urban, agricultural, and environmental issues and conditions in the local watershed.

Sweetwater also participates in the Water Authority's countywide education programs. The Water Authority offers students from kindergarten through high school, a wide array of educational opportunities including water testing kits, and computer programs.

Elementary School Education Program. A professional teacher provides classroom lessons in elementary schools throughout the service area, teaching students about the water cycle and watershed protection. Each of these lessons includes discussion of wise water use practices.

Sweetwater has provided copies of water conservation films and books to each elementary school library in the service area. Water conservation games, books, and posters have been distributed to each classroom, and Sweetwater has provided each elementary student with promotional gifts reinforcing water conservation during various water awareness month campaigns.

Sweetwater provides web-based learning for elementary students on its website. Its teachers also prepare and present specialized lessons for science fairs, extended day programs, and classrooms upon request, and promote the use of Water Authority and Metropolitan education programs.

Junior and Senior High School Education Programs. Sweetwater's professional teachers have developed secondary-school classroom lessons on water treatment, groundwater, and water supply issues, all with a discussion of wise water use practices. Laboratory equipment issued by the Water Authority is provided to secondary school teachers for classroom use. Sweetwater staff promotes use of Metropolitan and Water Authority secondary school education programs on conservation gardening, water quality, water sources, and the effects of the political process on water supplies. Sweetwater has been an active partner in programs geared toward local secondary school students, including a program to encourage student activities to benefit the Sweetwater River Watershed coordinated by the Resource Conservation District of Greater San Diego. Staff, from throughout Sweetwater, has participated in career-based events with the local schools, and were featured in "Water Works," a curriculum unit developed by the Water Authority and Metropolitan. Sweetwater has provided a variety of water resources for use at local schools, including water maps and issues guides, distributed to social science and science teachers, and "The Cadillac Desert," an eight-hour video series produced by public television, distributed to secondary schools and public libraries in the service area.

Mini-Grant Program for Local Schools. Sweetwater provides mini-grants to teachers for the development and presentation of water-based lessons, to assist with providing conservation demonstration gardens at local school sites, and to host use of the Water Authority's Splash Science Lab at local schools.

- **BMP 9 – Conservation Programs for Commercial, Industrial, and Institutional Accounts** – Sweetwater participates in the Water Authority's Commercial, Industrial & Institutional Program (CII), which offers point-of-purchase vouchers to consumers for water-efficient devices. Vouchers are available for commercial Ultra Low-Flush Toilets (\$95), for low-flow and waterless urinals (\$95), for single-load commercial clothes washers installed in laundromats, and multi-family common areas (\$150), for multi-load commercial clothes washers (\$775), for cooling tower conductivity controllers (\$500), and for hospital X-ray processor water conservation units (\$3,247). The vouchers reduce the up-front costs for businesses, and the equipment produces long-term savings in water, sewer, and energy costs. Incentives are also available for spray valves used for pre-rinsing dishes in commercial kitchens (free installation).
- **BMP 10 – Wholesale Agency Assistance Program** - This BMP applies only to wholesale agencies. The Water Authority provides conservation-related technical support and information to its member agencies, and typically manages the

programs on behalf of its member agencies. Sweetwater, the Water Authority, and Metropolitan share funding for most conservation incentives. Typically, Sweetwater and the Water Authority each contribute one-quarter of the cost, and Metropolitan provides one-half of the incentive.

- **BMP 11- Conservation Pricing** – Sweetwater’s water rate structure is set up as an increasing block rate, which increases the cost of water in seven steps for residential use. This encourages residential users to limit their water use by charging more for units above a base amount. The increasing rate structure was implemented with a higher rate starting at the 90th percentile of the average consumer use, to encourage average consumers to cut their use by 10% to avoid the higher rate. All other water users such as commercial, industrial, public, and agricultural are billed at a single uniform rate structure. This rate is higher than the base block rates for residential consumers, in order to encourage large users to control excess use of water. Sweetwater currently offers a financial incentive (\$.61 per unit) for single-family residential consumers who use less than 10 units per billing cycle.
- **BMP 12 – Water Conservation Coordinator** – Sweetwater first designated a Conservation Coordinator in 1991. During this same year, Sweetwater used three temporary staff positions to handle the increased volume of conservation-related activities caused by the drought. In June 1992, a Water Conservation – Information Specialist staff position was created.

Sweetwater currently has a program coordinator and assistant who oversee the water conservation program along with employee training and professional development programs.

- **BMP 13 – Water Waste Prohibition** – The following water waste prohibitions are designed to encourage efficient water use within the region, and provide a method for meeting demand reduction goals, should an extended water shortage occur.

Region. The County of San Diego enforces several state and local ordinances requiring water conservation, to assure available water resources are put to beneficial use for all citizens of the county. California Plumbing Code, Section 402, requires the installation of water conserving fixtures in new construction. Section 67.101 of the County’s Code of Regulatory Ordinances simply prohibits water waste: “No person shall waste or cause or permit to be wasted any water furnished or delivered by any agency distributing for public benefit any water dedicated to or provided for public use within the unincorporated territory of the county of San Diego.”

In addition, cities and counties are required to enforce California’s Model Water Efficient Landscape Ordinance as it applies to new and rehabilitated public and private landscapes that require a permit and on developer installed

residential landscapes (Section 6717c.1 of the County's Zoning Ordinance). The County's Water Conservation and Landscape Design Manual implements Zoning Ordinance Section 6712 (d), which requires efficient irrigation uses (including rain sensors), transitional zones, use of native plantings, restriction on turf, use of mulch, the preservation of existing vegetation and natural features, and the use of reclaimed water when available.

Agency. With Resolution 92-7 passed on March 25, 1992, Sweetwater established rules and requirements for water conservation. This resolution prohibits wasteful use of water and is in effect until more stringent measures are required.

For use during emergency conditions such as drought or catastrophic interruption in service where additional water use restrictions are necessary, Sweetwater has developed a six-stage drought response plan allowing for water use cutbacks of 10-40% and more, and has established an allocation method of rationing water during drought stages. Although Resolution 92-1, which describes Sweetwater's allocation program is not currently in effect, the program could be instituted on short notice, if required.

Stage 1 – Demand reduction goal 0% – no shortage. Encourages measures to use water wisely.

Stage 2 – Designed to reduce water use up to 10%. Calls for voluntary compliance with measures.

Stages 3, 4, 5 and 6 – Designed to reduce water use by 15, 20, 30, and 40 percent, respectively. Calls for mandatory compliance with measures to reduce water use. In addition to surcharges for use above predetermined allotment, imposes penalties for non-compliance. These stages are used when the water supply may not meet demand due to drought or other prolonged shortage circumstance.

According to Resolution 93-2, "When the amount of water supply available to Sweetwater Authority for service to customers falls below the Stage 2 triggering levels," the General Manager has the authority to declare that a shortage emergency condition exists and implement Sweetwater's Water Shortage Contingency Plan.

- **BMP 14 – Residential ULFT Replacement Program** – Since 1991, Sweetwater has participated in the Water Authority's ULFT voucher (previously rebate) program. This program offers point-of-purchase vouchers (\$75) to residential consumers to be used towards the purchase of water efficient devices to replace older, less efficient units.

Since 1992, toilets manufactured in the United States must comply with a 1.6 gallons per flush (gpf) maximum flow. Toilets with consistently lower water use continue to be developed. Beginning in 2005, ULFT vouchers are only available for toilets on the Supplemental Purchase Specifications (SPS) list to encourage customers to install toilets that have met more rigorous water efficiency standards. Vouchers (\$95) are also available for dual flush toilets.

As defined in the MOU, a water conservation BMP is a “generally accepted practice among water suppliers that results in more efficient use or conservation of water.” As more and better data are collected over time, the BMPs are refined and revised based upon the most objective criteria available. The MOU sets agency-specific implementation schedules and coverage goals based on standardized criteria, including signatory date and base year data. The MOU recognizes specific BMP goals that may be delayed or remain unmet due to varying local conditions and provides for good faith efforts towards implementation.

Sweetwater is making the following good faith efforts:

- **BMP 1 - Water Survey Programs for Single-Family and Multi-Family Residential Customers** – Sweetwater’s Customer Service Staff performs high bill investigations each billing cycle on all accounts to assist consumers in identifying leaks on their premises.

Plumbing code changes and improvements in the efficiency of water fixtures have significantly reduced the water savings potential from performing indoor residential water surveys. The CUWCC is scheduled to discontinue BMP 1 in 2007. It is anticipated that a new BMP 15 incorporating outdoor water survey elements from BMP 1 will be adopted by the CUWCC prior to 2008. Upon adoption, Sweetwater will develop an implementation schedule for BMP 15.

- **BMP 5 – Large Landscape Conservation Programs and Incentives** - Sweetwater has historically given first consideration for water conservation program resources to retrofit and replacement programs (ULFT, showerhead, and HEW vouchers) which have demonstrated long-term water savings with minimal effort and action required on the part of the consumer to maintain savings.

Sweetwater is gradually shifting emphasis towards more water efficient landscape customer support programs as the technologies to support water efficient landscaping continue to evolve. The Water Authority is developing a web-based water budget program for its member agencies. In 2006, Sweetwater will begin to offer water budgets to consumers with dedicated irrigation meters.

- **BMP 13 – Water Waste Prohibition** – One condition of BMP 13 requires enforceable measures to prohibit single-pass cooling systems in new connections, non-recirculating systems in all new conveyer car wash businesses, commercial laundry systems, and non-recycling decorative water fountains.

These measures have not been specifically addressed in regional, local, and agency policies; however, water waste ordinances and regulations have been enacted for general water waste and for areas not specifically addressed by BMP 13. An evaluation of the impacts of additional water waste prohibitions and legal authority for implementation of these measures is planned in 2006.

5.2 Existing and Projected Supplies

Water used in Sweetwater's service area comes from various sources. These sources include local groundwater, a brackish groundwater desalination facility, surface water, and imported water from the Colorado River and the State Water Project. The imported water is delivered by the Water Authority, either purchased from, or wheeled by Metropolitan, and is then purchased by Sweetwater. Since 1955, local sources have met 44.7% of the water needs within Sweetwater's service area, while the 55.3% balance has been met with imported water. The percentage of local to imported water varies greatly with time due to local rainfall amounts. Historic and projected local and imported water deliveries from the Water Authority to Sweetwater are shown in Table 6.

**Table 6
 Historic and Normal Water Year Projected Sweetwater Supplies**

Fiscal Year Ending	Total Local Supply (acre-feet)	Local Supply (acre-feet)		
		Reservoirs	National City Wells	Reynolds Desal. Facility
1980	18,700	17,392	1,308	---
1985	21,271	20,052	1,219	---
1990	1,853	---	1,853	---
1995	17,247	15,855	1,392	---
2000	20,319	16,302	1,899	2,118
2005	12,228	8,449	1,793	1,986
2010	12,200	5,400	2,400	4,400
2015	12,200	5,400	2,400	4,400
2020	12,200	5,400	2,400	4,400
2025	12,200	5,400	2,400	4,400
2030	12,200	5,400	2,400	4,400

5.2.1 Local Supply

5.2.1.1 Surface Water Sources

Sweetwater owns and operates two storage reservoirs known as Sweetwater Reservoir and Loveland Reservoir, which were constructed in 1888 and 1945 respectively. Sweetwater Reservoir has an approximate capacity of 28,079 acre-feet, and Loveland Reservoir capacity is 25,400 acre-feet, for a combined capacity of 53,160 acre-feet. The watershed for the Sweetwater River is approximately 186 square miles. Sweetwater Reservoir is downstream of Loveland Reservoir and has a

treatment plant capable of producing 30 million gallons of water per day (MGD). Local supply from Sweetwater Reservoir varies from zero to 100% depending on the local runoff conditions.

During wet years when Sweetwater and Loveland Reservoirs are at or near full capacity, they are capable of providing up to a two-year supply to Sweetwater customers. As part of Metropolitan's Seasonal Storage Operators Agreement (SSOA) program, Sweetwater has the ability to purchase water from the Water Authority in the winter and store it in Sweetwater Reservoir for use in the summer when there may be a shortage of available water. Storing water in the winter for summer use is a regional benefit due to the fact that more water becomes available for other local water agencies in the summer.

5.2.1.2 Groundwater Sources

Sweetwater produces groundwater from the Sweetwater Valley Groundwater Basin identified in the State of California Department of Water Resources (DWR) Bulletin 118 as Basin Number 9-17. Sweetwater adopted an interim groundwater management plan that governs groundwater management until a subsequent groundwater management plan can be prepared in accordance with Water Code Section 10750 (AB3030). The interim groundwater management plan is included as Appendix E.

The Sweetwater Valley Groundwater Basin underlies an alluvial valley that empties into the San Diego Bay and is bounded on the east by the impermeable Santiago Peak volcanic rocks. The north and south are Pliocene and Pleistocene semi-permeable terrestrial deposits, which constitute valley walls. The western boundary is San Diego Bay. Basin recharge is derived from seasonal runoff from precipitation, discharge from the Sweetwater and Loveland Reservoirs, and underflow from the reservoirs.

Two water-bearing formations in the Basin are the Quaternary Alluvium and the San Diego Formation. In 1997, the Water Authority estimated a groundwater storage capacity of 13,000 acre-feet in the Quaternary Alluvium, and about 960,000 in the San Diego Formation. The Sweetwater Valley Groundwater Basin is not an adjudicated basin, therefore, there has never been any restriction on the rate of extraction since groundwater production began. In addition, the Sweetwater Valley Groundwater Basin has not been identified in DWR Bulletin 118 as in overdraft.

Sweetwater operates the National City Wells, which produce potable groundwater (Total Dissolved Solids [TDS] approximately 600 mg/l) and the Richard A. Reynolds Groundwater Desalination Facility (Desalination Facility) that produces drinking water from brackish groundwater (TDS between 2,000 and 2,500 mg/l). Both well fields pump from the San Diego Formation.

The National City Wells consist of three wells: Nos. 2, 3 and 4. Well Nos. 3 and 4 operate while the oldest well, No. 2, serves as a backup. Sweetwater has produced an average of 1,770 acre-feet per year from the National City Wells from 1954 to 2004.

The Desalination Facility commenced operation in January 2000. The facility was designed to take groundwater from four alluvial wells and five deep San Diego Formation wells, located on the north side of the Sweetwater River. A sixth San Diego Formation has been constructed and a seventh is currently in design. The facility removes the TDS from the brackish groundwater using reverse osmosis technology (R/O). Currently, the alluvial wells are not operated for the following reasons: 1) summertime vegetative distress in the Sweetwater River, and 2) because of surface water influence on the relatively shallow alluvial formation, and the R/O membranes not being approved for surface water treatment. Groundwater production for the past five years is included in Table 7.

**Table 7
 Groundwater Production 2000 through 2004**

Fiscal Year Ending	Total GW Produced (acre-feet)	Source (acre-feet)	
		NC Wells	Desalination Facility
2000	4,017	1,899	2,118
2001	4,890	1,775	3,115
2002	4,658	1,406	3,252
2003	4,447	1,637	2,840
2004	3,637	1,595	2,042

Phase I of the Desalination Facility was designed to produce four MGD of drinking water. The facility was constructed with space to accommodate a Phase 2 expansion to produce up to eight MGD. Well Nos. 6 and 7, when on line, will allow the Desalination Facility to produce up to 4,400 acre-feet per year. Additionally, Sweetwater is currently participating in studies with the United States Geological Survey (USGS) to evaluate the San Diego Formation Aquifer, and to make safe use of the available yield from the aquifer.

5.2.1.3 Water Recycling

Sweetwater does not produce or distribute recycled water. The City of San Diego is the largest water recycling agency in the area. Sweetwater is currently preparing a master plan for the distribution of recycled water within its service area, either from the City of San Diego’s South Bay Water Reclamation Plant or from a future facility within Sweetwater’s service area that could be constructed by the Authority.

Because the customer base and timetable for implementation of recycled water service is unknown at this time, the use of recycled water has not been considered in the preparation of this WSA&V.

5.2.2 Imported Supply

Sweetwater represents two (City of National City and South Bay Irrigation District) of the 24 member agencies of the Water Authority. Member agency status entitles Sweetwater to directly purchase water from the Water Authority on a wholesale basis. One hundred percent of Sweetwater's imported water is purchased from the Water Authority. The Water Authority is a member agency of Metropolitan. The statutory relationships between the Water Authority and its member agencies, and Metropolitan and its member agencies, respectively, establish the scope of the Authority's entitlements to water from these two agencies. The historical quantities of water purchased from the Water Authority by Sweetwater are shown on Table 8.

Table 8
Historic Sweetwater Imported Supplies

Fiscal Year Ending	Total Imported Water (acre-feet)	Source (acre-feet)	
		Untreated	Treated
1985	4,634	---	4,634
1986	20,842	---	20,842
1987	16,384	---	16,384
1988	20,514	---	20,514
1989	19,519	---	19,519
1990	24,019	---	24,019
1991	20,508	---	20,508
1992	14,722	---	14,722
1993	6,188	---	6,188
1994	1,387	---	1,387
1995	5,045	---	5,045
1996	1,589	---	1,589
1997	14,230	---	14,230
1998	8,452	---	8,452
1999	---	---	---
2000	5,520	5,429	91
2001	14,381	14,381	
2002	18,858	18,858	
2003	19,752	19,752	
2004	19,648	19,648	
2005	11,342	11,234	108

The Water Authority was organized on June 9, 1944 under the County Water Authority Act for the sole purpose of importing Colorado River Water into San Diego County. The imported water, now a combination of Colorado River water and State

Project water, is sold wholesale to the 24 member agencies of the Water Authority. The member agencies are autonomous and their City Councils or Board of Directors set local policies and pricing structures.

Imported water delivered by the Water Authority is either purchased from or wheeled by Metropolitan from Metropolitan facilities, located just south of the San Diego/Riverside county line. Metropolitan is a public agency organized in 1928 by a vote of the electorates of 13 Southern California cities. Since its formation, Metropolitan has grown to include 27 member agencies of which the Water Authority is the largest. Metropolitan was formed for the purpose of developing, storing, and distributing water to the residents of Southern California.

5.2.2.1 March 2003 Report on Metropolitan's 2005 Regional UWMP

Metropolitan's 2005 Regional UWMP provides member agencies, retail water utilities, cities, and counties within its service area with water supply information for purposes of developing local UWMP, water supply assessments and written verifications. As part of this process, Metropolitan also uses SANDAG's regional growth forecast in calculating regional water demands for the Water Authority's service area. In the 2005 Regional UWMP, Metropolitan has identified a potential reserve or system replenishment supply in excess of the forecasted demands that can also be used to meet demands in cases where the identified growth has not been included in the SANDAG regional growth forecast. Copies of Metropolitan's 2005 Regional UWMP are available at Sweetwater's Administration Office.

5.2.2.2 San Diego County Water Authority's 2005 UWMP

The Water Authority Board of Directors approved the Water Authority's 2005 UWMP for distribution to member agencies, the County of San Diego, and cities within the county. The purpose of the report is to provide a statement regarding the Water Authority's supplies and implementation of Water Authority plans and programs to meet the future water supply requirements of its member agencies. The 2005 UWMP contains documentation on the Water Authority/Imperial Irrigation District Water Conservation and Transfer Agreement, All American Canal and Coachella Canal Lining Projects, and a planned seawater desalination facility at the Encina Power Station. The documentation included in the 2005 UWMP was prepared for use by the Water Authority's member agencies in preparation of local UWMP, water supply assessments, and written verifications required under state law.

The Water Authority is planning to build a regional water treatment facility to increase the amount of treated water available to the county of San Diego. The Twin Oaks Valley Water Treatment Plant will produce up to 100 MGD of treated water, enough to supply up to 220,000 typical households each year. The project is currently under environmental review and is scheduled to begin operation in the summer 2008.

5.3 Dry Year Demand Assessment

The dry year demand assessment is shown in Table 9 and includes demands during single and multiple dry water years. The estimated demands for multiple dry years are reflective of years 2026, 2027, and 2028. Studies have shown that hot, dry weather may generate urban water demands that are approximately 7%* greater than normal demands. These percentages were utilized to generate the dry year demands shown in Table 9. No extraordinary conservation measures, beyond BMP implementation, are reflected in the demand projections.

*Source: *Weather-Related Water Demand Variability in Metropolitan Water District Service Area, 09/1990*

**Table 9
 Projected Water Demand during Normal, Single and Multiple Dry-Years
 (acre-feet per year)**

	Normal Water Year (2025)	Single Dry Water Year (2025)	Multiple Dry Water Years		
			Year 1 (2026)	Year 2 (2027)	Year 3 (2028)
Total Demand	27,225	29,131	29,463	29,795	30,126

5.4 Dry Year Supply Assessment

Probability estimates for usable runoff were calculated using the hydrologic data for the period between 1926 and 2004 within the Sweetwater River Watershed, excluding that runoff spilled from the Sweetwater Dam to San Diego Bay. Based on this data the historical amount of useable runoff for normal, single and multiple dry years were determined. The normal water year for local runoff is based upon the 50th percentile of runoff, the single dry year is the year with the lowest run-off (1961), and the multiple dry year period is the lowest average runoff for a consecutive three-year period (1959 through 1961). The National City Wells and the Desalination Facility are relatively fixed supplies that are not weather dependent; therefore, the production from these sources has not been reduced during a drought event. Table 10 shows the estimated supply from local sources.

Table 10
Local Projected Water Supply during Normal, Single, and Multiple Dry Years
(acre-feet per year)

Supply Source	Normal Water Year	Single Dry Water Year	Multiple Dry Year Period		
			Year 1	Year 2	Year 3
Sweetwater Reservoir	5,400	350	830	830	830
National City Wells	2,400	2,400	2,400	2,400	2,400
Reynolds Desalination	4,400	4,400	4,400	4,400	4,400
Total Local Supplies	12,200	7,150	7,630	7,630	7,630

5.5 Shortage Contingency Analysis

Sweetwater’s shortage contingency plan (SCP) was developed in response to the drought of 1988 to 1992, and which is included in Sweetwater’s 2005 UWMP and is not reproduced here.

The Water Authority, in conjunction with its member agencies, is currently developing a Drought Management Plan (DMP) in the event that the region faces supply shortages due to drought conditions. Because Metropolitan has not developed an allocation plan to be implemented during supply shortages, the Water Authority and its member agencies are developing assumptions regarding Metropolitan supplies available during drought stages.

The Water Authority has formed a Technical Advisory Committee (TAC) made up of representatives from member agencies. Sweetwater is actively participating in the TAC and providing input on the development of the DMP. However, until a regional DMP is in place, it remains unclear how cutbacks to imported supply could affect Sweetwater. Once the regional DMP is in place, Sweetwater will reevaluate the SCP that was developed during the 1988 through 1992 drought, and has served as Sweetwater’s SCP since that time.

Section 6 – Conclusion: Availability of Sufficient Supplies

Sweetwater, Metropolitan, and the Water Authority are implementing plans that include projects and programs to help ensure that the existing and planned water users within Sweetwater’s service area have an adequate supply. Table 11 shows the forecasted water demands compared with projected supplies within Sweetwater’s service area. This demonstrates that with implementation of the projects discussed in agencies’ planning documents, there will be adequate water supplies to serve the proposed Project along with existing and future uses.

Table 11
Projected Water Supply and Demand for
Normal Years
(acre-feet per year)

Supply Source	2005	2010	2015	2020	2025	2030
Imported Water	11,342	12,116	13,302	14,596	15,025	16,686
Sweetwater Reservoir	8,449	5,400	5,400	5,400	5,400	5,400
National City Wells	1,793	2,400	2,400	2,400	2,400	2,400
Reynolds Desalination	1,986	4,400	4,400	4,400	4,400	4,400
Total Available Supply	23,570	24,316	25,502	26,796	27,225	28,776
Total Projected Demand	23,570	24,316	25,502	26,796	27,225	28,776

The normal, single, and multiple dry-year scenarios are shown in Table 12, and demonstrate that supplies will be adequate to meet future demands in dry-year periods. If projected imported and local supplies are available as indicated, no shortages are anticipated within the Authority’s service area in the dry-year scenarios analyzed.

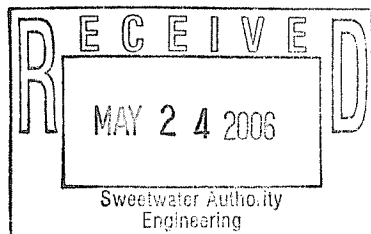
Table 12
Projected Water Supply and Demand during
Normal, Single, and Multiple Dry-Years
(acre-feet per year)

Supply Type	Normal Water Year (2025)	Single Dry Water Year (2025)	Multiple Dry Water Years		
			Year 1 (2026)	Year 2 (2027)	Year 3 (2028)
Imported Water	15,025	21,981	21,833	22,165	22,496
Sweetwater Reservoir	5,400	350	830	830	830
National City Wells	2,400	2,400	2,400	2,400	2,400
Reynolds Desalination	4,400	4,400	4,400	4,400	4,400
Total Supplies Available	27,225	29,131	29,463	29,795	30,126
Total Projected Demand	27,225	29,131	29,463	29,795	30,126

This WSA&V Report demonstrates and verifies that with development of the resources identified, there will be sufficient water supplies, over a 20-year planning horizon, to meet the projected demands of the proposed Project, and the existing and planned development projects within Sweetwater’s service area.

These findings further verify that there is a sufficient water supply to serve the proposed Project, including existing and other planned projects in both normal and dry year forecasts. An adequate supply is further confirmed by Metropolitan’s 2005 Regional UWMP, which identifies reserve supply and states that Metropolitan will have adequate supplies to meet dry-year demands within its service area over the next 20 years.

Appendix A
May 24, 2006 Letter from the Port



May 24, 2006

Mr. James L. Smyth
Director of Engineering
Sweetwater Authority
505 Garrett Avenue
P.O. Box 2328
Chula Vista, CA 91912-2328

RE: Chula Vista Bayfront Master Plan Water Supply Assessment and Verification
Request for Amended Verification

Dear Mr. Smyth:

We received your letter dated November 17, 2005, which documents the Sweetwater Authority's (Authority) Water Supply Assessment (WSA) and Verification for the Chula Vista Bayfront Master Plan (CVBMP). Since receipt of this letter, the Port District, the City of Chula Vista and the CVBMP team have further refined the project scope and have additional information that affects the project's potable water demand. We respectfully request that the Authority review this additional information and determine if the WSA is still applicable or if an amendment is required.

Project Description

As we described in our original WSA request dated April 25, 2005 and a supplemental letter dated September 12, 2005, the CVBMP proposes a mix of land uses, including hotel, retail, office/research and development, energy utility zone, cultural, residential, conference facilities, marina, recreational vehicle/campground space, parks and promenades, open space buffers, wetlands and trail systems. Our revised estimate of construction of the entire CVBMP is now about 25 years to be completed within three phases of approximately six, five and 14 years respectively. Our original request estimated that the project would be built in four phases over a 20-year period. The project area continues to be divided into three planning districts: the Sweetwater District to the north; the Harbor District in the central core; and the Otay District to the south. The first phase of development is planned to occur between F and J Streets in the central Harbor District.

The three planning districts have been divided into a number of specific development parcels in which specific development has been proposed. We have attached a table identifying the development parcels, their acreages, development densities and average water demands. This table represents a more refined definition of the CVBMP development program than we previously provided to the Authority for our original WSA request. Kimley Horn Associates, consulting civil engineers for this project, prepared the data for this table. The development parcels indicated in the table's left hand column are depicted on the attached map for reference. We intend to use this information for the project Environmental Impact Report. A synopsis of the revised water demand estimates by land use type is shown in the table below.

Revised Bayfront Master Plan Projected Water Demands

Land Use	Acres ¹	Water Duty ²	Average Water Demand	
			(MGD)	(acre-feet per year)
Residential	31.46	105 gpcd	0.63	705.7
Hotel (General)	57.09	8871 gal/ac/day	0.47	526.5
Hotel ³ (Gaylord)	32.2	See Footnote 3	0.60	672.1
Office	21.14	1861 gal/ac/day	0.04	44.8
Retail ⁴	57.35	1861 gal/ac/day	0.11	123.2
RV Park	14.04	568 gal/ac/day	0.01	11.2
Park ⁵	89.83	776 gal/ac/day	0.07	78.4
Energy Utility	28.30	3041 gal/ac/day	0.09	100.84
TOTAL			2.02	2,262.7

1. Based on Port's revised CVBMP Land Use Table for Plan A2, 3/27/06
2. Based on Sweetwater Authority's consumption rate for each land use type
3. Water demand based on hotel-specific data provided by Gaylord Hotels
4. Retail uses includes marinas and commercial recreation uses
5. Acreage is for only irrigated park areas, non-irrigated open space not included

The Authority's November 17, 2005 Water Supply Assessment and Verification letter indicated total water demand estimates of 1.6 million gallons per day (MGD) and 1,746.4 acre feet per year (AFY). The revised water demand numbers in the above table indicate increases to those numbers by 0.42 MGD and 516.3 AFY respectively. We believe that these numbers reflect a more accurate estimate of the project's water demand based on current and more detailed project information.

We understand that the Authority has considered delivering recycled water to the project site, but that delivery of recycled water is not yet guaranteed. Even so, the project's preliminary civil engineering plans indicate provision of secondary "purple" water pipes to provide recycled water in the event that recycled water is made available to the project site in the future. If this were to occur, the project's potable water demand would be diminished.

Our understanding is that the Authority will review this information and determine if a new or amended Water Supply Assessment and Water Verification would be necessary. Since the Authority has already completed a WSA, we understand that Water Code Section 10910(h) may be applicable. It is also the Port's understanding that the Authority will be able to take action on this request in a timely manner thereby further enabling the CVBMP environmental review process to continue to move forward.

We thank you for your time and consideration of this request. If you have any additional questions regarding this request or wish to meet with Port and City staff, please contact Wileen Manaois, Senior Planner, at (619) 686-6282 or me at (619) 686-6468.

Sincerely,



John W. Helmer
Manager, Land Use Planning

Attachments: 11"x17" Land Use Development Table
Map of Land Use Parcels

cc: Jack Adam, Sweetwater Authority (with attachment)
Ralph Hicks, Director, Land Use Planning, Port of San Diego
Wileen Manaois, Senior Planner, Port of San Diego
Mike Hogan, Hogan Guiney Dick
Laurie Madigan, Director of Community Development, City of Chula Vista
Jim Newton, Civil Engineer, City of Chula Vista
Marilyn Pongeggi, Environmental Review Coordinator, City of Chula Vista
Marisa Lundstedt, Environmental Projects Manager, City of Chula Vista
Mike Shirey, City Attorney Office, City of Chula Vista
Gary Edmonds, Fire Inspector II, City of Chula Vista
Dana Firehauf, San Diego County Water Authority
Charles Bull, Project Manager, RECON
Donna Steel, RECON



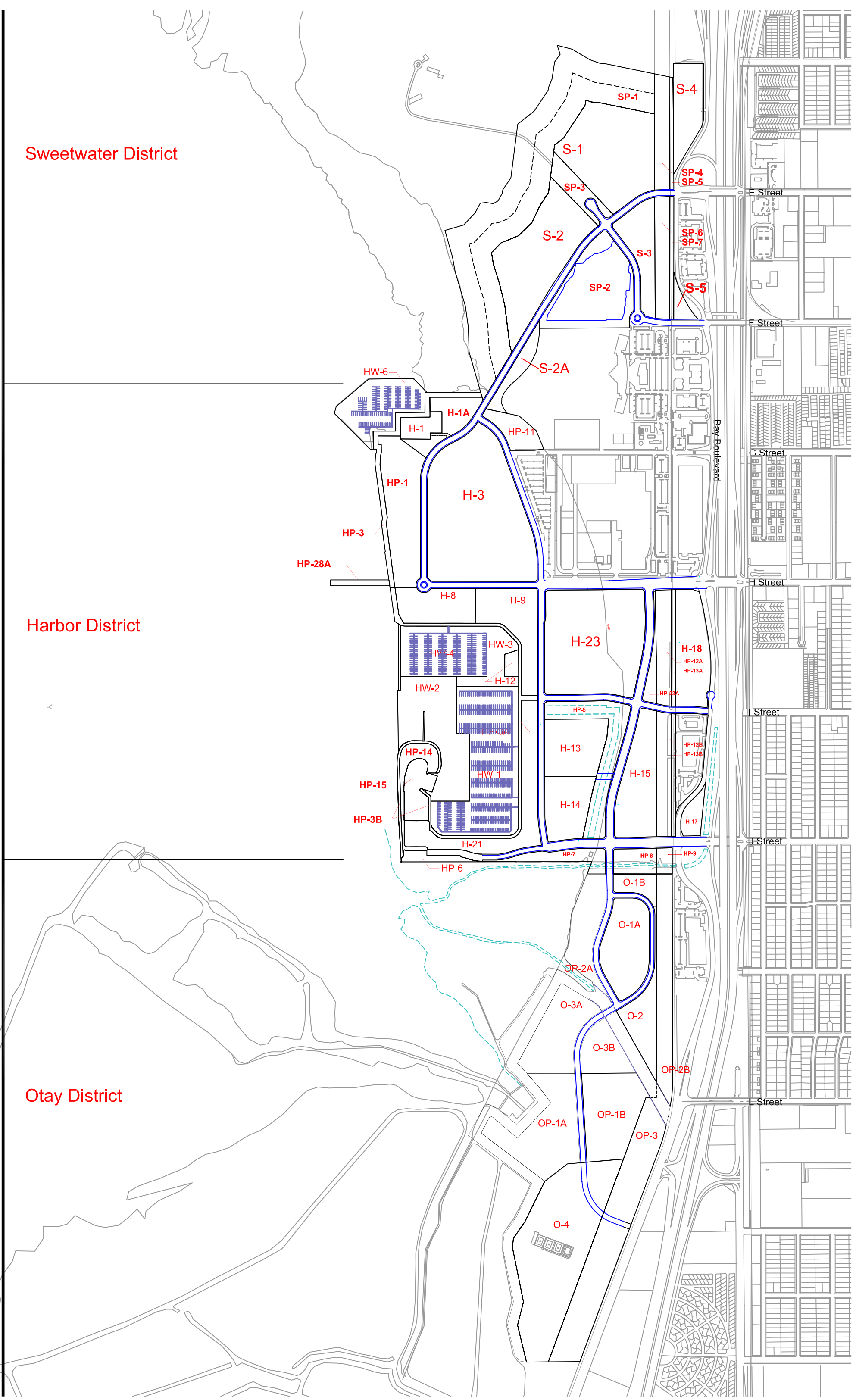
**CHULA VISTA BAYFRONT MASTER PLAN
SWEETWATER PARK (PROPOSED PROJECT)
Draft Illustrative Plan**

Note: This plan is conceptual and is subject to change.

Sweetwater District

Harbor District

Otay District



SP-1

S-4

S-1

SP-3

SP-4

SP-5

S-2

S-3

SP-6

SP-7

S-5

SP-2

S-2A

HW-6

H-1A

H-1

HP-11

HP-1

H-3

HP-3

HP-28A

H-8

H-9

H-23

H-18

HP-12A

HP-13A

HW-4

HW-3

H-12

HW-2

HP-13A

HP-14

HW-1

HP-15

HP-3B

H-13

H-14

HP-5

HP-12B

HP-13B

H-15

H-17

H-21

HP-6

HP-7

HP-8

HP-9

O-1B

O-1A

OP-2A

O-3A

O-2

O-3B

OP-2B

OP-1A

OP-1B

OP-3

O-4

E Street

F Street

G Street

H Street

I Street

J Street

K Street

L Street

Ray Boulevard

CHULA VISTA BAYFRONT MASTER PLAN
DEVELOPMENT PROGRAM PER PARCEL "FACT SHEET"
WORKING DRAFT FOR EIR TEAM 050406

1. PROPOSED PROJECT - SWEETWATER PARK (formerly Plan A Option 2)

Year	Phase	Parcel	Use	Parcel SF	Acres	Density Ranges (for EIR analysis)	Stories	Height Ranges for EIR	Required Parking	Proposed Onsite Parking	Land Use Designation	Notes
SWEETWATER DISTRICT												
		Development										
	I	S-1	Resort Hotel	799,931	18.36	750 rooms	2-8	40-100	750	750		(Need to determine ancillary use sizes)
	III	S-3	Mixed use office/commercial recreation	269,011	6.18	60,000-120,000sf MU	2-3	30-45	480	480		Trust related mixed use office/commercial recreation.
	III	S-4	Office	267,418	6.14	120,000sf office	8	125	360	360		Non-trust related office.
		Development Total		1,336,360	30.68							
		Open Space										
	I	S-2	Signature Park (Part 1 of 4)	783,037	17.98				216	216		No amphitheater.
	I	S2-A	Open Space	112,487	2.58							Previously part of S2
	None	S-5	Existing park	48,142	1.11							No changes proposed.
	I	SP-1	400' buffer (400'+200'+400')	1,781,026	40.89							
	I	SP-2	Seasonal wetland with 50' buffer	625,976	14.37							
	III	SP-3	Nature Center parking and access road	129,625	2.98				100	100		Includes existing F Street to be demolished.
	III	SP-4	150' SDGE ROW	174,805	4.01							
	III	SP-5	40' Coronado Rail ROW	48,921	1.12							
	III	SP-6	150' SDGE ROW	186,388	4.28							
	III	SP-7	40' Coronado Rail ROW	53,367	1.23							
		Open Space Total		3,943,774	90.54							
		Streets										
	I		E St Extension	0	0.00							
	I		F St Termination	0	0.00							
	I		Street D	0	0.00							
		Public Street Total		0	0							
		District Total Not Including Water		5,280,134	121.22							
HARBOR DISTRICT												
		Development										
	II	H-1	Community Boating Center (see HW6)	88,713	2.04	200 slips	1-2	15-30	180	180		Community Boating Center that could include an aquatic center, low & moderate income boating, dock & dine facilities, water taxi dock, and a boat launch. 10ksf building pad. Surface parking: 0.7/slip (140) and 40 for boating center. Parcel size increased using some of H1A in order to avoid 2nd story for boating center. See HW6 for water component.
	I	H-3	Resort Conference Center	1,403,782	32.23	1,500-2,000 rooms; 400,000sf conf space; 100ksf retail	20-25	250-300	2816	2316		Previously 1500 rms in Phase I, 500 rms in Phase II - now all 2000 in Phase I; includes 400ksf meeting space and 5-10 restaurants, 5-10ksf each totaling 100ksf max. 2316 onsite spcs (1500 for hotel, 176 for restaurant, 640 for conference center) and 500 offsite spcs at H18.
	I	H-9	Retail, Commercial Recreation/ Marina Support/ Park/ Parking (see HW4)	363,894	8.35	25,000-50,000sf	1-2	15-30	340	400		Former H8A and H9 retail combined as one parcel H9. Includes marina support building and parking for new HW4 marina with 200 slips. Park area would be integrated into the retail development by tenant. 200 onsite parking spaces for retail and 140 onsite parking spaces for marina slips (.7spc/slip) at H9. See HW4 for water component. Also 80 spaces for H12 (20 for Ferry Landing, 60 for restaurant). Tenant would have opportunity to develop the 50ksf retail on parcels H8 and H9 as long as the H8 park acreage is included in the total development.
	II	H-12	Ferry Terminal / 2nd story restaurant (retail)	35,284	0.81	10,000-25,000sf	2	30-40	253	0		80 parking spaces (20 for Ferry Landing and 60 for restaurant) at nearby H9 and 173 offsite spcs at H18. Baywalk would continue around structure. 1st floor: 10-25ksf ferry landing area, loading/unloading for water taxis and ferries; 2nd floor: 10-25ksf restaurant 20' max height.
	I	H-13/H-14	Residential	639,448	14.68	1300 units	3-25	50-300	2405	2410		H13 and H14 combined as one parcel. H13=357846sf, H14=287422sf. Pacifica proposing 1300 units 4-25 stories, 40-300 ft high; supporting ancillary retail uses up to 15000sf.
	I	H-15	Mixed use office/commercial recreation/hotel	428,533	9.84	300,000-420,000sf MU 200-250 rooms	14-17	170-200	1693	1693		Parking: 630 for MU office, 313 for hotel, 480 for retail, 270 for general office. Previously 475ksf max office; Pacifica proposing 300ksf ofc, 120ksf retail, 250 rms. Ofc/retail height=60ft (5 st); hotel height=170ft (14 st). H15 & H16 combined. (Need to determine ancillary use sizes)
	II	H-17	TBD	78,872	1.81							Previously under Open Space. Possible fire station (?). Designate for public service type use/Industrial business park.
	I	H-18	Mixed use office/ commercial recreation / collector parking (2000-3000 spaces)	384,384	8.82	100000sf mixed use office/commercial rec, 2000-3000sps parking garage	6-10	85-155	300	3000		300 spcs for H18 office plus offsite/remote parking for parcels H3, H12, H21, H23. Previously 400ksf office. Includes 2k-3k space collector parking garage 5-7 stories wrapped by office.
	II	H-21	Retail, marina support, parking (see HW1)	453,782	10.42	75,000-150,000sf	1-2	15-30	950	600		Includes marina support building and parking for HW1 marina with 500 slips. Parcel size increased to include some of HP15 to increase onsite parking. 600 onsite spcs and 350 offsite spcs at H18. See HW1 for water component.
	I	H-23	Resort Hotel Cultural/retail	1,057,398	24.27	500 rooms; 200,000sf standalone cultural/retail	25 hotel 1-3 cult/ret	30-65 cult/ret	1000	900		Parking required: 500 for cultural/retail and 500 for hotel. 900 spaces provided onsite; 100 of hotel parking spaces provided offsite at H18. 100rms added to 400rm hotel and height adjusted. (Need to determine ancillary use sizes)
	II	H-23A	Industrial Business Park use	61,922	1.42							Previously proposed as Open Space. Industrial business park use.
	II	H-27	Widened overpass?	0	0.00							Widened overpass for pedestrians/landscap
		Development Total		4,996,012	114.69							
		Open Space										
	II	H-1A	Signature Park (2 of 4)	189,332	4.35							
	I	HP-1	Signature Park (Part 3 of 4)/ Bayside Park	521,686	11.98							Parking for H1A, HP1, H8 (272 spaces), HP3 and HP28 parking (48 spaces) located at HP1 also.
	I	H-8	Signature Park (Part 4 of 4)	276,516	6.35				272	320		150-ft width between harbor retail and H St. 154295sf + 188179sf + 55605sf = 398079sf. Baywalk ranges from 25 to 50 feet wide. Baywalk around existing boatyard H1, H12, and H21 would occur in Phase II. Parking provided at HP1.
	I	HP-3	Baywalk	398,079	9.14				36	0		
	I	HP-5	Existing wetlands w/50' setback	369,180	8.48							
	II	HP-7	Marina View Park	130,633	3.00				79	79		Parcel increased due to revised roadway layout, which decreased size of H21. To be used for extension of Marina View Park and parking. Parking for HP7, HP8, HP9.
	II	HP-8	Marina View Park	112,706	2.59							
	II	HP-9	SDGE ROW / Marina View Park	42,502	0.98							
	II	HP-11	Wetlands	136,623	3.14							
	II	HP-12	150' SDGE ROW	369,724	8.49							180965sf + 188759 = 369724
	II	HP-13	40' Coronado Rail ROW	106,758	2.45							52246 + 54512 = 106758
	II	HP-6/ HP14/ HP-15	Reconfigured Arm/ Existing Boat Launch/ Bayfront Park / Harbor Police building/ Reconfigured parking	438,214	10.06				121	100 boat trailer spcs, 80 existing car spcs		Boat trailer parking reduced to 100 spaces to increase parcel size/parking for H21. 60 existing parking spaces on southwest end at HP6 (1.27ac), 20 existing spaces in front of restroom. HP14 Park=2.74ac, HP15 Boat launch/parking lot=6.05ac.
	I,II	HP-28	H Street Pier	35,886	0.82				12	0		
		Open Space Total		3,127,839	71.81							
		(Water)										
	III	HW-1	Marina (see H21)	952,657	21.87	500 slips						Northern 3 rows are all new slips; the rest of slips are existing to remain.
	III	HW-2	Open water / navigation area	613,325	14.08							Formerly HW2 marina.
	III	HW-3	New Commercial Harbor	175,112	4.02							Formerly HW4 commercial harbor. Includes removal of riprap and placement of bulkhead.
	III	HW-4	Marina (see H9)	452,588	10.39	200 slips						All newly configured slips within existing CV Marina.
	None	HW-5	Fishing Pier	13,500	0.31							Existing fishing pier to remain.
	II	HW-6	Boating Center Slips (see H1)	381,678	8.76	200 slips						
	III		Navigation Channel Improvements	0	0.00							
		Water Total		2,588,860	59.43							
		Streets										
	I		E St Extension	0	0.00							Road segment between H3 Gaylord and HP1 Park
	I		H St Extension	0	0.00							
	I		Street A (H to J St)	0	0.00							
	I		Street C (I St to Marina Pkwy)	0	0.00							
	I?		Bay Blvd segment termination	0	0.00							
	I		J St / Marina Parkway Realignment	0	0.00							Includes private road between Goodrich and Gaylord and straightening of J St/Marina Parkway bend at Marina Way.
	I		Marina Way	0	0.00							
		Public Street Total		0	0.00							
		District Total Not Including Water		8,123,851	186.50							
OTAY DISTRICT												
		Development										
	II	O-1A	Residential	414,145	9.51							NOTE: OTAY ACREAGES ASSUME 150'/300' EASEMENT ON OP3
	II	O-1B	Residential	95,639	2.20	700 (total for O1 & O2)		50-200	1330	1350		Maximum 700 units. Midrise bldgs 5-15 stories, 50-180ft high. Garden style 2-4 stories, 20-48ft high. Supporting ancillary retail uses up to 5000sf. 1350 onsite spcs and 190 on-street spaces.
	II	O-2	Residential	225,029	5.17							236 RV parking spaces. O3A+O3B=406427+205205=611632sf.
	II	O-3	RV Park	611,632	14.04	175-236 RV spaces	1-2	15-35	236	236		Assume Duke needs 28.32ac excluding 100' buffer. Includes relocation of power plant and switchyard.
	II	O-4	Energy Utility Zone	1,232,959	28.30							
		Development Total		2,579,404	59.21							
		Open Space										
	II	OP-1	South Park	1,029,972	23.64				95	95		95 onsite spcs; Includes a 1.5ac dog park.
	II	OP-2A	Buffer/open space	996,629	22.88							
	II	OP-2B	Telegraph Creek widening	155,760	3.58							Additional land area next to O3A. Includes area around Telegraph Creek. Reduced orig buffer from 200' to 200' buffer west of residential and RV Park, 100' buffer thereafter including LNG site.
	II	OP-3	SDGE ROW	1,199,835	27.54					150		Widen southward to 130' 150 onsite parking spcs.
		Open Space Total		3,382,196	77.64							
		Public Street										
	II		Street A (west)	0	0.00							
	II		Street B (east, south)	0	0.00							
		Public Street Total		0	0.00							
		District Total		5,961,600	136.86							
		Streets Total		2,016,352	46.29							
		Project Total NOT INCLDG WATER OR STREETS		19,365,585	444.57							
		Project Total INCLUDING WATER		21,954,445	504.00							
		Project Total INCLDG WATER & STREETS		23,970,797	550.29							
		Development		8,911,776	204.59							
		Open Space		10,453,809	239.99							
		Public Street		2,016,352	46.29							
		Water		2,588,860	59.43							

Phase I = 2007-2012; Phase II = 2013-2017; Phase III = 2018-2031.

New harbor configuration increased land area to parcels H8, H9, H21, and HP15 and decreased water area.

Font colors:

Black = old info as of 3/16/06

Red = new info as of 3/29/06

Blue = new info as of 4/10/06 (J St/Marina Way realignment, RV park at existing size)

Green = new info as of 5/4/06 (parking changes)

Appendix B

BMP Implementation Status Reports

Reported as of 4/18/05

Water Supply & Reuse

Reporting Unit:

Sweetwater Authority

Year:

2004**Water Supply Source Information**

Supply Source Name	Quantity (AF) Supplied	Supply Type
Desalination Facility	2036	Groundwater
San Diego County Water Authority	20162	Imported
National City Wells	1595	Groundwater
Sweetwater Authority	1595	Local Watershed

Total AF: 25388

Reported as of 4/18/05

Accounts & Water UseReporting Unit Name:
Sweetwater AuthoritySubmitted to
CUWCC
02/28/2005Year:
2004**A. Service Area Population Information:**

1. Total service area population 175000

B. Number of Accounts and Water Deliveries (AF)

Type	Metered		Unmetered	
	No. of Accounts	Water Deliveries (AF)	No. of Accounts	Water Deliveries (AF)
1. Single-Family	26306	10033	0	0
2. Multi-Family	3373	6417	0	0
3. Commercial	3251	3859	0	0
4. Industrial	45	446	0	0
5. Institutional	319	1250	0	0
6. Dedicated Irrigation	686	1883	0	0
7. Recycled Water	0	0	0	0
8. Other	9	51	0	0
9. Unaccounted	NA	1449	NA	0
Total	33989	25388	0	0
	Metered		Unmetered	

Reported as of 4/18/05

BMP 01: Water Survey Programs for Single-Family and Multi-Family Residential Customers

Reporting Unit: **Sweetwater Authority** BMP Form Status: **100% Complete** Year: **2004**

A. Implementation

- | | |
|--|------------|
| 1. Based on your signed MOU date, 08/29/1991, your Agency STRATEGY DUE DATE is: | 08/28/1993 |
| 2. Has your agency developed and implemented a targeting/marketing strategy for SINGLE-FAMILY residential water use surveys? | yes |
| a. If YES, when was it implemented? | 7/1/1995 |
| 3. Has your agency developed and implemented a targeting/marketing strategy for MULTI-FAMILY residential water use surveys? | yes |
| a. If YES, when was it implemented? | 7/1/1995 |

B. Water Survey Data

Survey Counts:	Single Family Accounts	Multi-Family Units
1. Number of surveys offered:	26306	3373
2. Number of surveys completed:	4	0

Indoor Survey:

- | | | |
|---|-----|-----|
| 3. Check for leaks, including toilets, faucets and meter checks | yes | yes |
| 4. Check showerhead flow rates, aerator flow rates, and offer to replace or recommend replacement, if necessary | yes | yes |
| 5. Check toilet flow rates and offer to install or recommend installation of displacement device or direct customer to ULFT replacement program, as necessary; replace leaking toilet flapper, as necessary | yes | yes |

Outdoor Survey:

- | | | |
|--|-----|----------|
| 6. Check irrigation system and timers | yes | yes |
| 7. Review or develop customer irrigation schedule | yes | yes |
| 8. Measure landscaped area (Recommended but not required for surveys) | yes | yes |
| 9. Measure total irrigable area (Recommended but not required for surveys) | yes | yes |
| 10. Which measurement method is typically used (Recommended but not required for surveys) | | Pacing |
| 11. Were customers provided with information packets that included evaluation results and water savings recommendations? | yes | yes |
| 12. Have the number of surveys offered and completed, survey results, and survey costs been tracked? | yes | yes |
| a. If yes, in what form are surveys tracked? | | database |
| b. Describe how your agency tracks this information. | | |

Contractor tracks survey data, including number of surveys, in a database

C. Water Survey Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	1905	2083
2. Actual Expenditures	115	

D. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? No

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

E. Comments

Surveys are offered to all accounts through marketing efforts, so number of surveys offered is equal to number of accounts.

Reported as of 4/18/05

BMP 02: Residential Plumbing Retrofit

Reporting Unit: **Sweetwater Authority** BMP Form Status: **100% Complete** Year: **2004**

A. Implementation

1. Is there an enforceable ordinance in effect in your service area requiring replacement of high-flow showerheads and other water use fixtures with their low-flow counterparts? no

a. If YES, list local jurisdictions in your service area and code or ordinance in each:

2. Has your agency satisfied the 75% saturation requirement for single-family housing units? yes

3. Estimated percent of single-family households with low-flow showerheads: 75%

4. Has your agency satisfied the 75% saturation requirement for multi-family housing units? yes

5. Estimated percent of multi-family households with low-flow showerheads: 75%

6. If YES to 2 OR 4 above, please describe how saturation was determined, including the dates and results of any survey research.

The San Diego county Water Authority and its member agencies distributed over 550,000 showerheads between 1991 and 2002. The average rate of natural replacement is 4.0%, while housing demolition is 0.5. Since January 1, 1994 showerheads manufactured in the United States must be in compliance with 2.5 gpm maximum. Data gathered from the Residential Survey Program showed an 80-95% saturation of showerheads in homes surveyed. The Water Authority was unable to secure monies for a formal saturation study on showerheads during this period, but is continuing to pursue grant-funding opportunities.

B. Low-Flow Device Distribution Information

1. Has your agency developed a targeting/ marketing strategy for distributing low-flow devices? yes

a. If YES, when did your agency begin implementing this strategy? 7/1/1996

b. Describe your targeting/ marketing strategy.

-residential survey distribution -direct distribution to customers - distribution at community events -by customer request -distribution at CBO events

Low-Flow Devices Distributed/ Installed	SF Accounts	MF Units
2. Number of low-flow showerheads distributed:	0	0
3. Number of toilet-displacement devices distributed:	0	0
4. Number of toilet flappers distributed:	0	0
5. Number of faucet aerators distributed:	0	0
6. Does your agency track the distribution and cost of low-flow devices?		no

a. If YES, in what format are low-flow devices tracked?

b. If yes, describe your tracking and distribution system :

The San Diego County Water Authority documented distribution in the region on a spreadsheet by region - however these items were not tracked at the agency level.

C. Low-Flow Device Distribution Expenditures

	This Year	Next Year
1. Budgeted Expenditures	0	0
2. Actual Expenditures	0	

D. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? yes

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

The San Diego county Water Authority and its member agencies distributed over 550,000 showerheads between 1991 and 2002. The average rate of natural replacement is 4.0%, while housing demolition is 0.5. Since January 1, 1994 showerheads manufactured in the United States must be in compliance with 2.5 gpm maximum. Data gathered from the Residential Survey Program showed an 80-95% saturation of showerheads in homes surveyed. The Water Authority was unable to secure monies for a formal saturation study on showerheads during this period, but is continuing to pursue grant-funding opportunities.

E. Comments

Reported as of 4/18/05

BMP 03: System Water Audits, Leak Detection and Repair

Reporting Unit:

BMP Form Status:

Year:

Sweetwater Authority**100% Complete****2004****A. Implementation**

1. Has your agency completed a pre-screening system audit for this reporting year? no
2. If YES, enter the values (AF/Year) used to calculate verifiable use as a percent of total production:
 - a. Determine metered sales (AF)
 - b. Determine other system verifiable uses (AF)
 - c. Determine total supply into the system (AF)
 - d. Using the numbers above, if (Metered Sales + Other Verifiable Uses) / Total Supply is < 0.9 then a full-scale system audit is required. 0.00
3. Does your agency keep necessary data on file to verify the values used to calculate verifiable uses as a percent of total production? yes
4. Did your agency complete a full-scale audit during this report year? no
5. Does your agency maintain in-house records of audit results or the completed AWWA audit worksheets for the completed audit? no
6. Does your agency operate a system leak detection program? yes
 - a. If yes, describe the leak detection program:

We compare all metered sales, meter inaccuracy (due to aging), main breaks, major fire fighting use, system flushing, etc., to arrive at a total monthly usage. This usage is compared to our total production number to compile the percentage of unaccounted water. In 2003 the 12 month average percentage was 5.6, and in 2004 it was 5.2.

B. Survey Data

1. Total number of miles of distribution system line. 390
2. Number of miles of distribution system line surveyed. 0

C. System Audit / Leak Detection Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	0	0
2. Actual Expenditures	0	

D. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? yes
 - a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

We compare all metered sales, meter inaccuracy (due to aging), main breaks, major fire fighting use, system flushing, etc., to arrive at a total monthly usage. This usage is compared to our total production number to compile the percentage of unaccounted water. In 2003 the 12 month average percentage was 5.6, and in 2004 it was 5.2.

E. Comments

Reported as of 4/18/05

BMP 05: Large Landscape Conservation Programs and Incentives

Reporting Unit: **Sweetwater Authority** BMP Form Status: **100% Complete** Year: **2004**

A. Water Use Budgets

- | | |
|--|-----|
| 1. Number of Dedicated Irrigation Meter Accounts: | 686 |
| 2. Number of Dedicated Irrigation Meter Accounts with Water Budgets: | 0 |
| 3. Budgeted Use for Irrigation Meter Accounts with Water Budgets (AF): | 0 |
| 4. Actual Use for Irrigation Meter Accounts with Water Budgets (AF): | 0 |
| 5. Does your agency provide water use notices to accounts with budgets each billing cycle? | no |

B. Landscape Surveys

- | | |
|--|------------|
| 1. Has your agency developed a marketing / targeting strategy for landscape surveys? | yes |
| a. If YES, when did your agency begin implementing this strategy? | 08/10/1990 |
| b. Description of marketing / targeting strategy: | |
| <p>Marketing/targeting strategy on behalf of Sweetwater Authority via consultant: -Potential customers are prescreened by the review of water usage data records and the comparison of typical patterns of other industry or SIC water usage. -Customers that exhibit unusually high water usage relative to the size of the property are sent a letter and a program brochure, inviting them to participate in the program. -Dispersal of brochures and advertising to a variety of candidates, homeowners associations as well as large turf customers -Outreach to landscape organizations i.e. California Landscape Contractors Association.</p> | |
| 2. Number of Surveys Offered. | 345 |
| 3. Number of Surveys Completed. | 1 |
| 4. Indicate which of the following Landscape Elements are part of your survey: | |
| a. Irrigation System Check | yes |
| b. Distribution Uniformity Analysis | yes |
| c. Review / Develop Irrigation Schedules | yes |
| d. Measure Landscape Area | yes |
| e. Measure Total Irrigable Area | yes |
| f. Provide Customer Report / Information | yes |
| 5. Do you track survey offers and results? | yes |
| 6. Does your agency provide follow-up surveys for previously completed surveys? | yes |
| a. If YES, describe below: | |

All customers receive an offer for a follow-up survey.

C. Other BMP 5 Actions

- | | |
|---|----|
| 1. An agency can provide mixed-use accounts with ETo-based landscape budgets in lieu of a large landscape survey program. | no |
| Does your agency provide mixed-use accounts with | |

landscape budgets?

- 2. Number of CII mixed-use accounts with landscape budgets. 0
- 3. Do you offer landscape irrigation training? yes
- 4. Does your agency offer financial incentives to improve landscape water use efficiency? yes

Type of Financial Incentive:	Budget (Dollars/Year)	Number Awarded to Customers	Total Amount Awarded
a. Rebates	0	0	0
b. Loans	0	0	0
c. Grants	0	0	0

5. Do you provide landscape water use efficiency information to new customers and customers changing services? No

a. If YES, describe below:

- 6. Do you have irrigated landscaping at your facilities? yes
 - a. If yes, is it water-efficient? yes
 - b. If yes, does it have dedicated irrigation metering? no
- 7. Do you provide customer notices at the start of the irrigation season? yes
- 8. Do you provide customer notices at the end of the irrigation season? no

D. Landscape Conservation Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	574	2415
2. Actual Expenditures	656	

E. "At Least As Effective As"

- 1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? No
 - a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

F. Comments

Reported as of 4/18/05

BMP 06: High-Efficiency Washing Machine Rebate Programs

Reporting Unit:

Sweetwater Authority

BMP Form Status:

100% Complete

Year:

2004

A. Implementation

1. Do any energy service providers or waste water utilities in your service area offer rebates for high-efficiency washers? yes

a. If YES, describe the offerings and incentives as well as who the energy/waste water utility provider is.

San Diego Gas & Electric offered tiered rebates of \$75 and \$125 on qualified high-efficiency clothes washers in their service area.

2. Does your agency offer rebates for high-efficiency washers? yes

3. What is the level of the rebate? 125

4. Number of rebates awarded. 423

B. Rebate Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	10258	11800
2. Actual Expenditures	9729	

C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? no

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

D. Comments

Reported as of 4/18/05

BMP 07: Public Information Programs

Reporting Unit: **Sweetwater Authority** BMP Form Status: **100% Complete** Year: **2004**

A. Implementation

1. Does your agency maintain an active public information program to promote and educate customers about water conservation? yes

a. If YES, describe the program and how it's organized.

Agency level: Communications Director, One Education Specialist, One Graphic Designer and One Communications Specialist. On-hold messages, billing messages promotional items and publications in all lobbies. Regular newsletters videos, poster boards, banners, irrigation and water landscape (Protector del Agua) classes, Speaker's Bureau and facility tours. Listings in business and education directories. News releases, advertising in local and regional papers. Community festivals and events, demonstration garden. Partnered events with other agencies. Internet website. Regional level through SDCWA: Advertise in local newspapers, public service announcements (PSA), Demonstration Garden. This demonstration garden is available to all SDCWA member agencies, community events (i.e. Earth Day), Monthly Joint Public Information meetings that provide a regional conservation strategy, Conservation Action Committee, Speakers' Bureau, Water Awareness Month, Recycled Water Certification workshops are available to customers, Voucher Incentive Program (both Residential & Comercial) provide ongoing workshops to retail home improvement stores as well as dealers, Irrigation and water efficiency landscape classes (i.e. Protector del Agua workshops), Website information.

2. Indicate which and how many of the following activities are included in your public information program.

Public Information Program Activity	Yes/No	Number of Events
a. Paid Advertising	yes	8
b. Public Service Announcement	no	0
c. Bill Inserts / Newsletters / Brochures	yes	1
d. Bill showing water usage in comparison to previous year's usage	yes	
e. Demonstration Gardens	yes	2
f. Special Events, Media Events	yes	9
g. Speaker's Bureau	yes	8
h. Program to coordinate with other government agencies, industry and public interest groups and media	no	

B. Conservation Information Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	175550	175400
2. Actual Expenditures	122300	

C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? No

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective"

as."

D. Comments

Demonstration gardens includes mini-grants for school gardens and partnerships with other agencies, SDG&E Etc. Most of our agency's activities are a partnership with the San Diego County Authority. Recordkeeping changes resulted in increased reported funding for this period.

Reported as of 4/18/05

BMP 08: School Education Programs

Reporting Unit:
Sweetwater Authority

BMP Form Status:
100% Complete

Year:
2004

A. Implementation

1. Has your agency implemented a school information program to promote water conservation? yes

2. Please provide information on your school programs (by grade level):

Grade	Are grade-appropriate materials distributed?	No. of class presentations	No. of students reached	No. of teachers' workshops
Grades K-3rd	no	19	3009	0
Grades 4th-6th	no	133	4644	6
Grades 7th-8th	yes	0	0	0
High School	yes	0	0	0

3. Did your Agency's materials meet state education framework requirements? yes

4. When did your Agency begin implementing this program? 9/9/1990

B. School Education Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	44250	44150
2. Actual Expenditures	31000	

C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? No

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

D. Comments

School education programs coordinated internally by Communications Section, and regionally by the San Diego County Water Authority. The SD County Water Authority's regional school program is an established program with a renowned reputation throughout the region. The Program offers students from kindergarten through high school, a wide array of educational opportunities including the Splash Mobile, water testing kits, and computer programs.

Reported as of 4/18/05

BMP 09: Conservation Programs for CII Accounts

Reporting Unit: **Sweetwater Authority** BMP Form Status: **100% Complete** Year: **2004**

A. Implementation

- 1. Has your agency identified and ranked COMMERCIAL customers according to use? yes
- 2. Has your agency identified and ranked INDUSTRIAL customers according to use? yes
- 3. Has your agency identified and ranked INSTITUTIONAL customers according to use? yes

Option A: CII Water Use Survey and Customer Incentives Program

4. Is your agency operating a CII water use survey and customer incentives program for the purpose of complying with BMP 9 under this option? no

CII Surveys	Commercial Accounts	Industrial Accounts	Institutional Accounts
a. Number of New Surveys Offered	0	0	0
b. Number of New Surveys Completed	0	0	0
c. Number of Site Follow-ups of Previous Surveys (within 1 yr)	0	0	0
d. Number of Phone Follow-ups of Previous Surveys (within 1 yr)	0	0	0

CII Survey Components	Commercial Accounts	Industrial Accounts	Institutional Accounts
e. Site Visit	no	no	no
f. Evaluation of all water-using apparatus and processes	no	no	no
g. Customer report identifying recommended efficiency measures, paybacks and agency incentives	no	no	no

Agency CII Customer Incentives	Budget (\$/Year)	No. Awarded to Customers	Total \$ Amount Awarded
h. Rebates	0	0	0
i. Loans	0	0	0
j. Grants	0	0	0
k. Others	0	0	0

Option B: CII Conservation Program Targets

- 5. Does your agency track CII program interventions and water savings for the purpose of complying with BMP 9 under this option? yes
- 6. Does your agency document and maintain records on how savings were realized and the method of calculation for estimated savings? yes
- 7. Estimated annual savings (AF/yr) from site-verified actions taken by agency since 1991. 160.79
- 8. Estimated annual savings (AF/yr) from non-site-verified actions taken by agency since 1991. 0

B. Conservation Program Expenditures for CII Accounts

	This Year	Next Year
1. Budgeted Expenditures	5646	5646
2. Actual Expenditures	12590	

C. "At Least As Effective As"

- 1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? No
 - a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

D. Comments

Reported as of 4/18/05

BMP 09a: CII ULFT Water Savings

Reporting Unit:

BMP Form Status:

Year:

Sweetwater Authority

100% Complete

2004

- 1. Did your agency implement a CII ULFT replacement program in the reporting year? Yes
If No, please explain why on Line B. 10.

A. Targeting and Marketing

- 1. What basis does your agency use to target customers for participation in this program? Potential savings
CII Sector or subsector

Check all that apply.

- a. Describe which method you found to be the most effective overall, and which was the most effective per dollar expended.

Our CII Voucher Incentive Program contract, HDMC, has been a significant player in the promotion of water-efficient products in the San Diego County. Working in cooperation with WSA Marketing, a San Diego-based marketing and communications firm, HDMC has conducted extensive education, outreach, public relations, advertising and direct-marketing activities. HDMC and WSA Marketing have created relationships with the owners, managers, and related customer service supervisors and staff at water-efficient product suppliers from Valley Center to San Ysidro for the past five years. Partnerships have been established with business owners, as well as key employees at wholesale and retail suppliers. Understanding of suppliers' business profiles, sales operations and accounting policies and procedures are key to the success of the program. Working relationships and/or qualified data has been gathered on over 200 plumbers. Dealers sign contracts each year in order to participate in a program that is responsible for increasing their sales substantially.

- 2. How does your agency advertise this program? Check all that apply. Direct letter
Bill insert
Bill message
Newsletter
Telephone
Web page
Newspapers
Other print media
Trade shows and events

- a. Describe which method you found to be the most effective overall, and which was the most effective per dollar expended.

EXTENSIVE MARKETING IN THE REGION, OUTREACH TO RETAIL AND WHOLESALE DEALERS WITH ONGOING COMMUNICATION AND TRAINING HAS MADE THIS PROGRAM SUCCESSFUL IN THIS REGION.

B. Implementation

- 1. Does your agency keep and maintain customer participant information? (Read the Help information for a complete list of all the information for this BMP.) Yes
- 2. Would your agency be willing to share this information if the CUWCC did a study to evaluate the program on behalf of your agency? Yes
- 3. What is the total number of customer accounts 11

participating in the program during the last year ?

CII Subsector	Number of Toilets Replaced			
	Standard Gravity Tank	Air Assisted	Valve Floor Mount	Valve Wall Mount
4.				
a. Offices	0	0	0	0
b. Retail / Wholesale	0	0	0	0
c. Hotels	0	0	0	0
d. Health	0	0	0	0
e. Industrial	0	0	0	0
f. Schools: K to 12	0	0	0	0
g. Eating	0	0	0	0
h. Government	0	0	0	0
i. Churches	0	0	0	0
j. Other	0	0	0	0

5. Program design.

Rebate or voucher

6. Does your agency use outside services to implement this program?

Yes

a. If yes, check all that apply.

Consultant

Plumbing contractors/subcontracts

7. Participant tracking and follow-up.

Telephone

Site Visit

8. Based on your program experience, please rank on a scale of 1 to 5, with 1 being the least frequent cause and 5 being the most frequent cause, the following reasons why customers refused to participate in the program.

- a. Disruption to business 4
- b. Inadequate payback 5
- c. Inadequate ULFT performance 3
- d. Lack of funding 5
- e. American's with Disabilities Act 2
- f. Permitting 2
- g. Other. Please describe in B. 9.

9. Please describe general program acceptance/resistance by customers, obstacles to implementation, and other issues affecting program implementation or effectiveness.

The CII Voucher Incentive Program continues to increase in popularity in the San Diego region. Extensive marketing by our contractor, coupled with our member agency support, has proven to be quite successful.

10. Please provide a general assessment of the program for this reporting year. Did your program achieve its objectives? Were your targeting and marketing approaches effective? Were program costs in line with expectations and budgeting?

Our agency used all funds allocated to this program this fiscal

year, it exceeded our expectations.

C. Conservation Program Expenditures for CII ULFT

1. CII ULFT Program: Annual Budget & Expenditure Data

	Budgeted	Actual Expenditure
a. Labor	0	0
b. Materials	0	0
c. Marketing & Advertising	0	0
d. Administration & Overhead	4457	585
e. Outside Services	0	0
f. Total	4457	585

2. CII ULFT Program: Annual Cost Sharing

a. Wholesale agency contribution	1080
b. State agency contribution	0
c. Federal agency contribution	0
d. Other contribution	4457
e. Total	5537

D. Comments

Section C.2 This total represents the amount of funds available in our CII Voucher Incentive Program which besides ULFT's includes; CTCC's, Urinals, and HEW's. The contributing wholesale agencies are MWD and the SDCWA. Study was to end in 2003 - Unable to submit 2004 report without data for BMP 9a Therefore 2003 BMP 9a data also used for 2004.

Reported as of 4/18/05

BMP 11: Conservation PricingReporting Unit:
Sweetwater AuthorityBMP Form
Status:
100% CompleteYear:
2004**A. Implementation****Rate Structure Data Volumetric Rates for Water Service by Customer Class****1. Residential**

a. Water Rate Structure	Increasing Block
b. Sewer Rate Structure	Service Not Provided
c. Total Revenue from Volumetric Rates	\$16963709
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	\$5410540

2. Commercial

a. Water Rate Structure	Uniform
b. Sewer Rate Structure	Service Not Provided
c. Total Revenue from Volumetric Rates	\$4945124
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	\$1068382

3. Industrial

a. Water Rate Structure	Uniform
b. Sewer Rate Structure	Service Not Provided
c. Total Revenue from Volumetric Rates	\$443715
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	\$41788

4. Institutional / Government

a. Water Rate Structure	Uniform
b. Sewer Rate Structure	Service Not Provided
c. Total Revenue from Volumetric Rates	\$2255190
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	\$414629

5. Irrigation

a. Water Rate Structure	Uniform
b. Sewer Rate Structure	Service Not Provided
c. Total Revenue from Volumetric Rates	\$39358
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	\$5770

6. Other

a. Water Rate Structure	Uniform
b. Sewer Rate Structure	Service Not Provided
c. Total Revenue from Volumetric Rates	\$433378
d. Total Revenue from Non-Volumetric	

Charges, Fees and other Revenue Sources \$355888

B. Conservation Pricing Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	69600	68700
2. Actual Expenditures	48278	

C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? No

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

D. Comments

Detail provided by Director of Finance.

Reported as of 4/18/05

BMP 12: Conservation Coordinator

Reporting Unit:

Sweetwater Authority

BMP Form Status:

100% Complete

Year:

2004**A. Implementation**

1. Does your Agency have a conservation coordinator? yes
2. Is this a full-time position? no
3. If no, is the coordinator supplied by another agency with which you cooperate in a regional conservation program ? no
4. Partner agency's name:
5. If your agency supplies the conservation coordinator:
 - a. What percent is this conservation coordinator's position? 10%
 - b. Coordinator's Name Sue Mosburg
 - c. Coordinator's Title Training Coordinator
 - d. Coordinator's Experience and Number of Years Program oversight and coordination 2 years
 - e. Date Coordinator's position was created (mm/dd/yyyy) 9/1/1991
6. Number of conservation staff, including Conservation Coordinator. 2

B. Conservation Staff Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	26000	22300
2. Actual Expenditures	22989	

C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? no
 - a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

D. Comments

Conservation Specialist (10% position time) with 13+ years experience assists.

Reported as of 4/18/05

BMP 13: Water Waste Prohibition

Reporting Unit:

Sweetwater Authority

BMP Form Status:

100% Complete

Year:

2004**A. Requirements for Documenting BMP Implementation**

1. Is a water waste prohibition ordinance in effect in your service area? no
- a. If YES, describe the ordinance:
2. Is a copy of the most current ordinance(s) on file with CUWCC? no
- a. List local jurisdictions in your service area in the first text box and water waste ordinance citations in each jurisdiction in the second text box:

B. Implementation

1. Indicate which of the water uses listed below are prohibited by your agency or service area.
- a. Gutter flooding yes
- b. Single-pass cooling systems for new connections no
- c. Non-recirculating systems in all new conveyor or car wash systems no
- d. Non-recirculating systems in all new commercial laundry systems no
- e. Non-recirculating systems in all new decorative fountains yes
- f. Other, please name no
2. Describe measures that prohibit water uses listed above:

A policy adopted by Sweetwater Authority Board prohibits water from irrigation systems to run on the sidewalk and street. This policy is voluntary at this time. National City portion of service area: - Guidelines for On-Site Landscaping [revised June, 1992] Section V. Design Considerations

Water Softeners:

3. Indicate which of the following measures your agency has supported in developing state law:
- a. Allow the sale of more efficient, demand-initiated regenerating DIR models. no
- b. Develop minimum appliance efficiency standards that:
- i.) Increase the regeneration efficiency standard to at least 3,350 grains of hardness removed per pound of common salt used. no
- ii.) Implement an identified maximum number of gallons discharged per gallon of soft water produced. yes
- c. Allow local agencies, including municipalities and special districts, to set more stringent standards and/or to ban on-site regeneration of water softeners if it is demonstrated and found by the agency governing board that there is an adverse effect on the reclaimed water or groundwater supply. no
4. Does your agency include water softener checks in home water no

audit programs?

5. Does your agency include information about DIR and exchange-type water softeners in educational efforts to encourage replacement of less efficient timer models? no

C. Water Waste Prohibition Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	0	0
2. Actual Expenditures	0	

D. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? no

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

E. Comments

Reported as of 4/18/05

BMP 14: Residential ULFT Replacement Programs

Reporting Unit: **Sweetwater Authority** BMP Form Status: **100% Complete** Year: **2004**

A. Implementation

	Single-Family Accounts	Multi- Family Units
1. Does your Agency have program(s) for replacing high-water-using toilets with ultra-low flush toilets?	yes	yes
Number of Toilets Replaced by Agency Program During Report Year		
Replacement Method	SF Accounts	MF Units
2. Rebate	0	0
3. Direct Install	0	0
4. CBO Distribution	0	0
5. Other	600	383
<hr/>		
Total	600	383

6. Describe your agency's ULFT program for single-family residences.

Through this program, residential customers are offered a voucher redeemable for up to \$75 off the purchase price of an approved ultra-flush toilet. The voucher is for a point-of-purchase discount only. ULFTs must be from the list of approved toilets. No after-purchase rebates are available.

7. Describe your agency's ULFT program for multi-family residences.

Same as above. Single-family and multi-family customers must be replacing existing high-volume fixtures.

8. Is a toilet retrofit on resale ordinance in effect for your service area? no

9. List local jurisdictions in your service area in the left box and ordinance citations in each jurisdiction in the right box:

B. Residential ULFT Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	20221	20502
2. Actual Expenditures	21652	

C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? no

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

D. Comments

Program managed regionally through San Diego County Water Authority. San Diego region uses vouchers rather than rebates.

Appendix C

BMP Water Savings Reports

Total Water Savings (AF) Report

Reporting Unit:

Sweetwater Authority

Estimated Water Savings from BMP Annual Report Data

BMP01: Water Survey Programs for Single-Family and Multi-Family Residential Customers	286
BMP02: Residential Plumbing Retrofit	485
BMP04: Metering with Commodity Rates for all New Connections and Retrofit of Existing	0
BMP05: Large Landscape Conservation Programs and Incentives	8,246
BMP06: High-Efficiency Washing Machine Rebate Programs	38
BMP09: Conservation Programs for CII Accounts	2,634
BMP09a: CII ULFT Water Savings	34
BMP14: Residential ULFT Replacement Programs	7,957
Total:	19,680

Water Savings (AFY) Detail Report for BMP 01: Water Survey Programs for Single-Family and Multi-Family Residential Customers

Reporting Unit:
Sweetwater Authority

Estimated Water Savings from BMP Annual Report Data

Year	Water Savings (AF)
1991	2
1992	18
1993	34
1994	32
1995	30
1996	26
1997	24
1998	24
1999	21
2000	18
2001	15
2002	13
2003	11
2004	9
2005	8
TOTAL:	286

Water Savings (AFY) Detail Report for BMP 02: Residential Plumbing Retrofit

Reporting Unit:
Sweetwater Authority

Estimated Water Savings from BMP Annual Report Data

Year	Gross Water Savings (AFY)	Water Savings (AFY) Net of Plumbing Code
1991	5	5
1992	11	10
1993	17	13
1994	22	14
1995	25	14
1996	32	18
1997	36	17
1998	39	16
1999	41	14
2000	42	11
2001	43	9
2002	43	7
2003	43	5
2004	43	4
2005	43	3
TOTALS:	485	162

Water Savings (AFY) Detail Report for BMP 04: Metering with Commodity Rates for all New Connections and Retrofit of Existing

Reporting Unit:
Sweetwater Authority

Estimated Water Savings from BMP Annual Report Data

Year	Water Savings (AF)
1991	0
1992	0
1993	0
1994	0
1995	0
1996	0
1997	0
1998	0
1999	0
2000	0
2001	0
2002	0
2003	0
2004	0
2005	0
TOTAL:	0

Water Savings (AFY) Detail Report for BMP 05: Large Landscape Conservation Programs and Incentives

Reporting Unit:
Sweetwater Authority

Estimated Water Savings from BMP Annual Report Data

Year	Water Savings (AF)
1991	468
1992	912
1993	860
1994	779
1995	710
1996	672
1997	607
1998	555
1999	505
2000	461
2001	418
2002	376
2003	340
2004	307
2005	276
TOTAL:	8,246

Water Savings (AFY) Detail Report for BMP 06: High-Efficiency Washing Machine Rebate Programs

Reporting Unit:
Sweetwater Authority

Estimated Water Savings from BMP Annual Report Data

Year	Gross Water Savings (AFY)	Water Savings (AFY) Net of Program Freeridership Effects
1991	0	0
1992	0	0
1993	0	0
1994	0	0
1995	0	0
1996	0	0
1997	0	0
1998	0	0
1999	0	0
2000	0	0
2001	1	1
2002	3	3
2003	7	6
2004	14	12
2005	13	12
TOTAL:	38	35

Water Savings (AFY) Detail Report for BMP 09: Conservation Programs for CII Accounts

Reporting Unit:
Sweetwater Authority

Estimated Water Savings from BMP Annual Report Data

Year	Water Savings (AF)
1991	44
1992	84
1993	124
1994	127
1995	126
1996	113
1997	102
1998	92
1999	148
2000	158
2001	536
2002	529
2003	187
2004	215
2005	49
TOTAL:	2,634

Water Savings (AFY) Detail Report for BMP 09a: CII ULFT Water Savings

Reporting Unit:
Sweetwater Authority

Estimated Water Savings from BMP Annual Report Data

Year	Gross Water Savings (AFY)	Water Savings (AFY) Net of Plumbing Code	Water Savings (AFY) Net of Plumbing Code and Program Freeridership Effects
1991	0	0	0
1992	0	0	0
1993	0	0	0
1994	0	0	0
1995	0	0	0
1996	0	0	0
1997	0	0	0
1998	0	0	0
1999	0	0	0
2000	0	0	0
2001	0	0	0
2002	0	0	0
2003	0	0	0
2004	0	0	0
2005	0	0	0
TOTALS:	0	0	0

Water Savings (AFY) Detail Report for BMP 14: Residential ULFT Replacement Programs

Reporting Unit:
Sweetwater Authority

Estimated Water Savings from BMP Annual Report Data

Year	Gross Water Savings (AFY)	Water Savings (AFY) Net of Plumbing Code	Water Savings (AFY) Net of Plumbing Code and Program Freeridership Effects
1991	51	51	38
1992	118	116	87
1993	152	146	109
1994	205	192	144
1995	312	292	219
1996	392	360	270
1997	492	446	334
1998	574	509	382
1999	652	567	426
2000	742	635	477
2001	783	650	488
2002	829	670	504
2003	862	677	508
2004	896	684	514
2005	896	657	493
TOTALS:	7,957	6,653	4,995

Appendix D

BMP Coverage Report

Reported as of 4/18/05

BMP 01 Coverage: Water Survey Programs for Single-Family and Multi-Family Residential Customers

Reporting Unit:
Sweetwater Authority

Reporting Period:
03-04

MOU Exhibit 1 Coverage Requirement

No exemption request filed

Agency indicated "at least as effective as" implementation during report period?

No

A Reporting Unit (RU) must meet three conditions to satisfy strict compliance for BMP 1.

Condition 1: Adopt survey targeting and marketing strategy on time

Condition 2: Offer surveys to 20% of SF accounts and 20% of MF units during report period

Condition 3: Be on track to survey 15% of SF accounts and 15% of MF units within 10 years of implementation start date.

Test for Condition 1

Sweetwater Authority to Implement Targeting/Marketing Program by:	1999		
		<u>Single-Family</u>	<u>Multi-Family</u>
Year Sweetwater Authority Reported Implementing Targeting/Marketing Program:	1950	1950	1950
Sweetwater Authority Met Targeting/Marketing Coverage Requirement:	YES	YES	YES

Test for Condition 2

			<u>Single-Family</u>	<u>Multi-Family</u>
Survey Program to Start by:	1998	Residential Survey Offers (%)	215.16%	201.71%
Reporting Period:	03-04	Survey Offers \geq 20%	YES	YES

Test for Condition 3

	Completed Residential Surveys	
	<u>Single Family</u>	<u>Multi-Family</u>
Total Completed Surveys 1999 - 2004:	13	7
Past Credit for Surveys Completed Prior to 1999 (Implementation of Reporting Database):	1,041	192
Total + Credit	1,054	199
Residential Accounts in Base Year	24,419	3,333
Sweetwater Authority Survey Coverage as % of Base Year Residential Accounts	4.32%	5.97%

Coverage Requirement by Year 7 of Implementation per Exhibit 1	7.90%	7.90%
Sweetwater Authority on Schedule to Meet 10-Year Coverage Requirement	NO	NO

BMP 1 COVERAGE STATUS SUMMARY:

Water supplier has not met one or more coverage requirements for this BMP.

Reported as of 4/18/05

BMP 02 Coverage: Residential Plumbing Retrofit

Reporting Unit:

Reporting Period:

Sweetwater Authority

03-04

MOU Exhibit 1 Coverage Requirement

No exemption request filed

Agency indicated "at least as effective as" implementation during report period?

Yes

An agency must meet one of three conditions to satisfy strict compliance for BMP 2.

Condition 1: The agency has demonstrated that 75% of SF accounts and 75% of MF units constructed prior to 1992 are fitted with low-flow showerheads.

Condition 2: An enforceable ordinance requiring the replacement of high-flow showerheads and other water use fixtures with their low-flow counterparts is in place for the agency's service area.

Condition 3: The agency has distributed or directly installed low-flow showerheads and other low-flow plumbing devices to not less than 10% of single-family accounts and 10% of multi-family units constructed prior to 1992 during the reporting period.

Test for Condition 1

Report Year	Report Period	Single-Family		Multi-Family	
		Reported Saturation	Saturation > 75%?	Reported Saturation	Saturation > 75%?
1999	99-00	75.00%	YES	75.00%	YES
2000	99-00	75.00%	YES	75.00%	YES
2001	01-02	75.00%	YES	75.00%	YES
2002	01-02	75.00%	YES	75.00%	YES
2003	03-04	75.00%	YES	75.00%	YES
2004	03-04	75.00%	YES	75.00%	YES

Test for Condition 2

Report Year	Report Period	Sweetwater Authority has ordinance requiring showerhead retrofit?
1999	99-00	NO
2000	99-00	NO
2001	01-02	NO
2002	01-02	NO
2003	03-04	NO
2004	03-04	NO

Test for Condition 3

Reporting Period: 03-04

<u>1992 SF Accounts</u>	<u>Num. Showerheads Distributed to SF Accounts</u>	<u>Single-Family Coverage Ratio</u>	<u>SF Coverage Ratio > 10%</u>
23,766			NO
<u>1992 MF Accounts</u>	<u>Num. Showerheads Distributed to MF Accounts</u>	<u>Multi-Family Coverage Ratio</u>	<u>MF Coverage Ratio > 10%</u>
7,922			NO

BMP 2 COVERAGE STATUS SUMMARY:

Water supplier is meeting coverage requirements for this BMP.

Reported as of 4/18/05

BMP 03 Coverage: System Water Audits, Leak Detection and Repair

Reporting Unit:
Sweetwater Authority

Reporting Period:
03-04

MOU Exhibit 1 Coverage Requirement

No exemption request filed

Agency indicated "at least as effective as" implementation during report period?

Yes

An agency must meet one of two conditions to be in compliance with BMP 3:

Condition 1: Perform a prescreening audit. If the result is equal to or greater than 0.9 nothing more needs be done.

Condition 2: Perform a prescreening audit. If the result is less than 0.9, perform a full audit in accordance with AWWA's Manual of Water Supply Practices, Water Audits, and Leak Detection.

Test for Conditions 1 and 2

<u>Report Year</u>	<u>Report Period</u>	<u>Pre-Screen Completed</u>	<u>Pre-Screen Result</u>	<u>Full Audit Indicated</u>	<u>Full Audit Completed</u>
1999	99-00	NO			NO
2000	99-00	NO			NO
2001	01-02	NO			NO
2002	01-02	NO			NO
2003	03-04	NO			NO
2004	03-04	NO			NO

BMP 3 COVERAGE STATUS SUMMARY:

Water supplier has not met one or more coverage requirements for this BMP.

Reported as of 4/18/05

BMP 04 Coverage: Metering with Commodity Rates for all New Connections and Retrofit of Existing

Reporting Unit:

Sweetwater Authority

Reporting Period:

03-04

MOU Exhibit 1 Coverage Requirement

No exemption request filed

Agency indicated "at least as effective as" implementation during report period?

No

An agency must be on track to retrofit 100% of its unmetered accounts within 10 years to be in compliance with BMP 4.

Test for Compliance

Total Meter Retrofits
Reported through 2004No. of Unmetered Accounts
in Base YearMeter Retrofit Coverage as
% of Base Year Unmetered
AccountsCoverage Requirement by
Year 6 of Implementation per
Exhibit 1

42.0%

RU on Schedule to meet 10
Year Coverage Requirement

YES

BMP 4 COVERAGE STATUS SUMMARY:

Water supplier is meeting coverage requirements for this BMP.

Reported as of 4/18/05

BMP 05 Coverage: Large Landscape Conservation Programs and Incentives

Reporting Unit:
Sweetwater Authority

Reporting Period:
03-04

MOU Exhibit 1 Coverage Requirement

No exemption request filed

Agency indicated "at least as effective as" implementation during report period? No

An agency must meet three conditions to comply with BMP 5.

Condition 1: Develop water budgets for 90% of its dedicated landscape meter accounts within four years of the date implementation is to start.

Condition 2: (a) Offer landscape surveys to at least 20% of its CII accounts with mixed use meters each report cycle and be on track to survey at least 15% of its CII accounts with mixed use meters within 10 years of the date implementation is to start OR (b) Implement a dedicated landscape meter retrofit program for CII accounts with mixed use meters or assign landscape budgets to mixed use meters.

Condition 3: Implement and maintain customer incentive program(s) for irrigation equipment retrofits.

Test for Condition 1

Year	Report Period	BMP 5 Implementation Year	No. of Irrigation Meter Accounts	No. of Irrigation Accounts with Budgets	Budget Coverage Ratio	90% Coverage Met by Year 4
1999	99-00	1	586			NA
2000	99-00	2	177			NA
2001	01-02	3	641			NA
2002	01-02	4	646			No
2003	03-04	5	661			No
2004	03-04	6	686			No

Test for Condition 2a (survey offers)

Select Reporting Period:	03-04
Large Landscape Survey Offers as % of Mixed Use Meter CII Accounts	18.4%
Survey Offers Equal or Exceed 20% Coverage Requirement	NO

Test for Condition 2a (surveys completed)

Total Completed Landscape Surveys Reported through	24
Credit for Surveys Completed Prior to Implementation of Reporting Database	1,385
Total + Credit	1,409
CII Accounts in Base Year	3,513
RU Survey Coverage as a % of Base Year CII Accounts	40.1%
Coverage Requirement by Year of Implementation per Exhibit 1	6.3%
RU on Schedule to Meet 10 Year Coverage Requirement	YES

Test for Condition 2b (mixed use budget or meter retrofit program)

<u>Report Year</u>	<u>Report Period</u>	<u>BMP 5 Implementation Year</u>	<u>Agency has mix-use budget program</u>	<u>No. of mixed-use budgets</u>
1999	99-00	1	NO	
2000	99-00	2	NO	
2001	01-02	3	NO	
2002	01-02	4	NO	
2003	03-04	5	NO	
2004	03-04	6	NO	

<u>Report Year</u>	<u>Report Period</u>	<u>BMP 4 Implementation Year</u>	<u>No. of mixed use CII accounts</u>	<u>No. of mixed use CII accounts fitted with irrig. meters</u>
1999	99-00	1	980	
2000	99-00	2	984	
2001	01-02	3	983	
2002	01-02	4	985	
2003	03-04	5	900	
2004	03-04	6	840	

Test for Condition 3

<u>Report Year</u>	<u>Report Period</u>	<u>BMP 5 Implementation Year</u>	<u>RU offers financial incentives?</u>	<u>No. of Loans</u>	<u>Total Amt. Loans</u>
1999	99-00	1	NO		
2000	99-00	2	NO		
2001	01-02	3	YES		
2002	01-02	4	YES		
2003	03-04	5	YES		
2004	03-04	6	YES		

<u>Report Year</u>	<u>Report Period</u>	<u>No. of Grants</u>	<u>Total Amt. Grants</u>	<u>No. of rebates</u>	<u>Total Amt. Rebates</u>
1999	99-00				
2000	99-00				
2001	01-02				
2002	01-02				
2003	03-04				
2004	03-04				

BMP 5 COVERAGE STATUS SUMMARY:

Water supplier has not met one or more coverage requirements for this BMP.

Reported as of 4/18/05

BMP 06 Coverage: High-Efficiency Washing Machine Rebate Programs

Reporting Unit:
Sweetwater Authority

Reporting Period:
03-04

MOU Exhibit 1 Coverage Requirement

No exemption request filed

Agency indicated "at least as effective as" implementation during report period?

No

An agency must meet one condition to comply with BMP 6.

Condition 1: Offer a cost-effective financial incentive for high-efficiency washers if one or more energy service providers in service area offer financial incentives for high-efficiency washers.

Test for Condition 1

<u>Year</u>	<u>Report Period</u>	<u>BMP 6 Implementation Year</u>	<u>Rebate Offered by ESP?</u>	<u>Rebate Offered by RU?</u>	<u>Rebate Amount</u>
1999	99-00	1	NO	NO	
2000	99-00	2	YES	YES	100.00
2001	01-02	3	YES	YES	125.00
2002	01-02	4	YES	YES	125.00
2003	03-04	5	YES	YES	125.00
2004	03-04	6	YES	YES	125.00

<u>Year</u>	<u>Report Period</u>	<u>BMP 6 Implementation Year</u>	<u>No. Rebates Awarded</u>	<u>Coverage Met?</u>
1999	99-00	1		YES
2000	99-00	2	9	YES
2001	01-02	3	50	YES
2002	01-02	4	132	YES
2003	03-04	5	266	YES
2004	03-04	6	423	YES

BMP 6 COVERAGE STATUS SUMMARY:

Water supplier is meeting coverage requirements for this BMP.

Reported as of 4/18/05

BMP 07 Coverage: Public Information ProgramsReporting Unit:
Sweetwater AuthorityReporting Period:
03-04**MOU Exhibit 1 Coverage Requirement**

No exemption request filed

Agency indicated "at least as effective as" implementation during report period? No

An agency must meet one condition to comply with BMP 7.

Condition 1: Implement and maintain a public information program consistent with BMP 7's definition.

Test for Condition 1

<u>Year</u>	<u>Report Period</u>	<u>BMP 7 Implementation Year</u>	<u>RU Has Public Information Program?</u>
1999	99-00	2	YES
2000	99-00	3	YES
2001	01-02	4	YES
2002	01-02	5	YES
2003	03-04	6	YES
2004	03-04	7	YES

BMP 7 COVERAGE STATUS SUMMARY:**Water supplier is meeting coverage requirements for this BMP.**

Reported as of 4/18/05

BMP 08 Coverage: School Education ProgramsReporting Unit:
Sweetwater AuthorityReporting Period:
03-04**MOU Exhibit 1 Coverage Requirement**

No exemption request filed

Agency indicated "at least as effective as" implementation during report period? No

An agency must meet one condition to comply with BMP 8.

Condition 1: Implement and maintain a school education program consistent with BMP 8's definition.

Test for Condition 1

<u>Year</u>	<u>Report Period</u>	<u>BMP 8 Implementation Year</u>	<u>RU Has School Education Program?</u>
1999	99-00	2	YES
2000	99-00	3	YES
2001	01-02	4	YES
2002	01-02	5	YES
2003	03-04	6	YES
2004	03-04	7	YES

BMP 8 COVERAGE STATUS SUMMARY:**Water supplier is meeting coverage requirements for this BMP.**

Reported as of 4/18/05

BMP 09 Coverage: Conservation Programs for CII Accounts

Reporting Unit:
Sweetwater Authority

Reporting Period:
03-04

MOU Exhibit 1 Coverage Requirement

No exemption request filed

Agency indicated "at least as effective as" implementation during report period? No

An agency must meet three conditions to comply with BMP 9.

Condition 1: Agency has identified and ranked by use commercial, industrial, and institutional accounts.

Condition 2(a): Agency is on track to survey 10% of commercial accounts, 10% of industrial accounts, and 10% of institutional accounts within 10 years of date implementation to commence.

OR

Condition 2(b): Agency is on track to reduce CII water use by an amount equal to 10% of baseline use within 10 years of date implementation to commence.

OR

Condition 2(c): Agency is on track to meet the combined target as described in Exhibit 1 BMP 9 documentation.

Test for Condition 1

Year	Report Period	BMP 9 Implementation Year	Ranked Com. Use	Ranked Ind. Use	Ranked Inst. Use
1999	99-00	1	YES	YES	YES
2000	99-00	2	YES	YES	YES
2001	01-02	3	YES	YES	YES
2002	01-02	4	YES	YES	YES
2003	03-04	5	YES	YES	YES
2004	03-04	6	YES	YES	YES

Test for Condition 2a

	Commercial	Industrial	Institutional
Total Completed Surveys Reported through 2004			
Credit for Surveys Completed Prior to Implementation of Reporting Databases	83	18	
Total + Credit	83	18	
CII Accounts in Base Year	3,182	44	287
RJ Survey Coverage as % of Base Year CII Accounts	2.6%	40.9%	
Coverage Requirement by Year 6 of Implementation per Exhibit 1	4.2%	4.2%	4.2%
RJ on Schedule to Meet 10 Year Coverage Requirement	NO	YES	NO

Test for Condition 2a

Year	Report Period	BMP 9 Implementation Year	Performance Target Savings (AF/yr)	Performance Target Savings Coverage	Performance Target Savings Coverage Requirement	Coverage Requirement Met
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1999 99-00	1	57	0.9%	0.5%	YES
2000 99-00	2	76	1.2%	1.0%	YES
2001 01-02	3	462	7.4%	1.7%	YES
2002 01-02	4	462	7.4%	2.4%	YES
2003 03-04	5	127	2.0%	3.3%	NO
2004 03-04	6	161	2.6%	4.2%	NO

Test for Condition 2c

Total BMP 9 Surveys + Credit	101
BMP 9 Survey Coverage	2.9%
BMP 9 Performance Target Coverage	2.6%
BMP 9 Survey + Performance Target Coverage	5.4%
Combined Coverage Equals or Exceeds Coverage Requirement?	YES

BMP 9 COVERAGE STATUS SUMMARY:

Water supplier is meeting coverage requirements for this BMP.

Reported as of 4/18/05

BMP 11 Coverage: Conservation Pricing

Reporting Unit:

Sweetwater Authority

Reporting Period:

03-04**MOU Exhibit 1 Coverage Requirement**

No exemption request filed

Agency indicated "at least as effective as" implementation during report period?

No

An agency must meet one condition to comply with BMP 11.

Agency shall maintain rate structure consistent with BMP 11's definition of conservation pricing. Implementation methods shall be at least as effective as eliminating non-conserving pricing and adopting conserving pricing. For signatories supplying both water and sewer service, this BMP applies to pricing of both water and sewer service. Signatories that supply water but not sewer service shall make good faith efforts to work with sewer agencies so that those sewer agencies adopt conservation pricing for sewer service.

a) Non-conserving pricing provides no incentives to customers to reduce use. Such pricing is characterized by one or more of the following components: rates in which the unit price decreases as the quantity used increases (declining block rates); rates that involve charging customers a fixed amount per billing cycle regardless of the quantity used; pricing in which the typical bill is determined by high fixed charges and low commodity charges.

b) Conservation pricing provides incentives to customers to reduce average or peak use, or both. Such pricing includes: rates designed to recover the cost of providing service; and billing for water and sewer service based on metered water use. Conservation pricing is also characterized by one or more of the following components: rates in which the unit rate is constant regardless of the quantity used (uniform rates) or increases as the quantity used increases (increasing block rates); seasonal rates or excess-use surcharges to reduce peak demands during summer months; rates based upon the longrun marginal cost or the cost of adding the next unit of capacity to the system.

Test for Condition 1

<u>Year</u>	<u>Report Period</u>	<u>RU Employed Non Conserving Rate Structure</u>	<u>RU Meets BMP 11 Coverage Requirement</u>
1999	99-00	NO	YES
2000	99-00	NO	YES
2001	01-02	NO	YES
2002	01-02	NO	YES
2003	03-04	NO	YES
2004	03-04	NO	YES

BMP 11 COVERAGE STATUS SUMMARY:**Water supplier is meeting coverage requirements for this BMP.**

Reported as of 4/18/05

BMP 12 Coverage: Conservation Coordinator

Reporting Unit:

Reporting Period:

Sweetwater Authority**03-04****MOU Exhibit 1 Coverage Requirement**

No exemption request filed

Agency indicated "at least as effective as" implementation during report period?

No

Agency shall staff and maintain the position of conservation coordinator and provide support staff as necessary.

Test for Compliance

<u>Report Year</u>	<u>Report Period</u>	<u>Conservation Coordinator Position Staffed?</u>	<u>Total Staff on Team (incl. CC)</u>
1999	99-00	YES	2
2000	99-00	YES	2
2001	01-02	YES	1
2002	01-02	YES	1
2003	03-04	YES	2
2004	03-04	YES	2

BMP 12 COVERAGE STATUS SUMMARY:**Water supplier is meeting coverage requirements for this BMP.**

Reported as of 4/18/05

BMP 13 Coverage: Water Waste Prohibition

Reporting Unit:
Sweetwater Authority

Reporting Period:
03-04

MOU Exhibit 1 Coverage Requirement

No exemption request filed

Agency indicated "at least as effective as" implementation during report period? No

An agency must meet one condition to comply with BMP 13.

Implementation methods shall be enacting and enforcing measures prohibiting gutter flooding, single pass cooling systems in new connections, non-recirculating systems in all new conveyer car wash and commercial laundry systems, and non-recycling decorative water fountains.

Test for Condition 1

Agency or service area prohibits:

Year	Gutter Flooding	Single-Pass Cooling Systems	Single-Pass Car Wash	Single-Pass Laundry	Single-Pass Fountains	Other	RU has ordinance that meets coverage requirement
1999	yes	no	no	no	no	no	NO
2000	yes	no	no	no	no	no	NO
2001	yes	no	no	no	no	no	NO
2002	yes	no	no	no	no	no	NO
2003	yes	no	no	no	yes	no	NO
2004	yes	no	no	no	yes	no	NO

BMP 13 COVERAGE STATUS SUMMARY:

Water supplier has not met one or more coverage requirements for this BMP.

Reported as of 4/18/05

BMP 14 Coverage: Residential ULFT Replacement Programs

Reporting Unit: **Sweetwater Authority**

MOU Exhibit 1 Coverage Requirement

A Reporting Unit (RU) must meet one of the following conditions to be in compliance with BMP 14.

Condition 1: Retrofit-on-resale (ROR) ordinance in effect in service area.

Condition 2: Water savings from toilet replacement programs equal to 90% of Exhibit 6 coverage requirement.

An agency with an exemption for BMP 14 is not required to meet one of the above conditions. This report treats an agency with missing base year data required to compute the Exhibit 6 coverage requirement as out of compliance with BMP 14.

Status: Water supplier is meeting coverage requirements for this BMP. as of 2004

<u>Coverage Year</u>	<u>BMP 14 Data Submitted to CUWCC</u>	<u>Exemption Filed with CUWCC</u>	<u>ROR Ordinance in Effect</u>	<u>Exhibit 6 Coverage Req'mt (AF)</u>	<u>Toilet Replacement Program Water Savings* (AF)</u>
1998	Yes			58.38	2112.77
1999	Yes	No	No	167.59	2680.18
2000	Yes	No	No	320.84	3315.39
2001	Yes	No	No	512.04	3965.31
2002	Yes	No	No	735.75	4635.70
2003	Yes	No	No	987.08	5312.29
2004	Yes	No	No	1261.67	5996.17
2005	No	No	No	1555.60	
2006	No	No	No	1865.42	
2007	No	No	No	2188.02	

*NOTE: Program water savings listed are net of the plumbing code. Savings are cumulative (not annual) between 1991 and the given year. Residential ULFT count data from unsubmitted forms are NOT included in the calculation.

BMP 14 COVERAGE STATUS SUMMARY:

Water supplier is meeting coverage requirements for this BMP.

BMP 14 Coverage: Residential ULFT Replacement Programs

Reporting Unit: Sweetwater Authority

BMP 14 Coverage Calculation Detail: Retrofit on Resale (ROR) Ordinance Water Savings

	Single Family	Multi-Family
1992 Housing Stock		
Average rate of natural replacement (% of remaining stock)	.04	.04
Average rate of housing demolition (% of remaining stock)	.005	.005
Estimated Housing Units with 3.5+ gpf Toilets in 1997	19398.34	6466.11
Average resale rate	.048	.06
Average persons per unit		
Average toilets per unit		
Average savings per home (gpd; from Exhibit 6)	38.4	48.5

Single Family Housing Units

Coverage Year	Unretrofitted Houses	Houses Sold	Houses Unsold	Sold and Retrofitted	Sold and Already Retrofitted	Unsold and Retrofitted	Gross ROR Savings (AFY)	Nat'l Replacement Only Savings (AFY)	Net ROR Savings (AFY)
1998	17736.88	926.46	18374.89	926.46		735.00	259.29	221.04	38.25
1999	16217.72	921.83	18283.01	847.11	74.72	672.04	324.63	252.93	71.70
2000	14828.68	917.22	18191.60	774.56	142.66	614.48	384.37	283.54	100.83
2001	13558.61	912.64	18100.64	708.22	204.42	561.85	438.99	312.93	126.06
2002	12397.32	908.07	18010.13	647.56	260.51	513.73	488.93	341.16	147.77
2003	11335.50	903.53	17920.08	592.10	311.44	469.73	534.60	368.26	166.34
2004	10364.62	899.02	17830.48	541.38	357.63	429.50	576.35	394.28	182.07
2005	9476.89	894.52	17741.33	495.01	399.51	392.71	614.53	419.27	195.26
2006	8665.20	890.05	17652.62	452.62	437.43	359.08	649.44	443.26	206.18
2007	7923.03	885.60	17564.36	413.85	471.75	328.32	681.36	466.30	215.06

Multi Family Housing Units

Coverage Year	Unretrofitted Houses	Houses Sold	Houses Unsold	Sold and Retrofitted	Sold and Already Retrofitted	Unsold and Retrofitted	Gross ROR Savings (AFY)	Nat'l Replacement Only Savings (AFY)	Net ROR Savings (AFY)
1998	5838.18	386.03	6047.76	386.03		241.91	113.19	93.06	20.13
1999	5271.22	384.10	6017.52	348.54	35.56	218.42	143.99	106.48	37.50
2000	4759.32	382.18	5987.43	314.69	67.48	197.21	171.79	119.37	52.42
2001	4297.13	380.27	5957.49	284.13	96.13	178.06	196.90	131.75	65.15
2002	3879.83	378.36	5927.71	256.54	121.83	160.76	219.57	143.63	75.94
2003	3503.05	376.47	5898.07	231.63	144.85	145.15	240.03	155.04	84.99
2004	3162.86	374.59	5868.58	209.13	165.46	131.06	258.51	166.00	92.51
2005	2855.71	372.72	5839.23	188.82	183.89	118.33	275.19	176.52	98.68
2006	2578.39	370.85	5810.04	170.49	200.37	106.84	290.26	186.62	103.64
2007	2328.00	369.00	5780.99	153.93	215.07	96.46	303.86	196.32	107.54

Appendix E
Sweetwater Authority Interim
Groundwater Management Plan

ATTACHMENT A

RESOLUTION 01-19

**RESOLUTION OF THE GOVERNING BOARD OF
SWEETWATER AUTHORITY ADOPTING AN
INTERIM GROUNDWATER MANAGEMENT PLAN**

WHEREAS, Sweetwater Authority and its predecessors have been engaged in groundwater management activities associated with the Authority's groundwater projects in the Sweetwater Valley (Department of Water Resources Basin Number 9-17) and the San Diego Formation for over one hundred and thirty-two years, and

WHEREAS, the Governing Board of Sweetwater Authority, by approval of Budget Project Number 99-21A approved funding of the preparation of a Groundwater Management Plan, and

WHEREAS, Sweetwater has plans to contract with an engineering consultant to work with staff to prepare a formal Groundwater Management Plan pursuant to Water Code Section 10750 et seq. (AB 3030), and

WHEREAS, the Governing Board wishes to memorialize its existing groundwater management activities as an interim Groundwater Management Plan,

NOW, THEREFORE, BE IT RESOLVED by the Governing Board of Sweetwater Authority that, the attached Interim Groundwater Management Plan is adopted to guide the groundwater management activities of Sweetwater Authority until such time as it is replaced by a subsequent Groundwater Management Plan under Water Code Section 10750 et Seq. (AB 3030) or other statutes.

PASSED AND ADOPTED at a regular meeting of the Governing Board of Sweetwater Authority held on this 9th day of November, 2001 by the following vote, to wit:

Ayes: Directors Doud, Jarrett, Pocklington, Waters, Welsh, Wolniewicz,
and Wright

Noes: None

Absent: None

Abstain: None

/s/ Margaret Cook Welsh
Margaret Cook Welsh, Chair

Attest:

/s/ Marisa Farpon-Friedman
Marisa Farpon-Friedman, Secretary

SWEETWATER AUTHORITY INTERIM GROUNDWATER MANAGEMENT PLAN

A. Interim Plan

This interim groundwater management plan shall govern the groundwater management activities of the Sweetwater Authority until a subsequent Groundwater Management Plan is adopted by the Sweetwater Authority Governing Board, pursuant to Water Code Section 10750 et seq. (AB 3030).

B. Groundwater Management Area Boundaries

Sweetwater Authority shall engage in groundwater management in the area of the Sweetwater Valley basin. This basin is as described in the State of California Department of Water Resources Bulletin Number 118 as the Sweetwater Valley Basin Number 9-17. Also included in the groundwater management activities are the watershed of the Sweetwater River and the underlying San Diego Formation within the Service area of the Sweetwater Authority.

C. Groundwater Management Strategies

1. Maintain static groundwater levels

It shall be the policy and goal of Sweetwater Authority groundwater management to extract from the San Diego Formation so as to not cause a decline in the long term static water levels. In the Sweetwater Valley basin alluvial areas, the policy and goal of Sweetwater Authority groundwater management shall be to extract groundwater to not increase seawater intrusion or cause environmental impacts or damage other producers in the alluvial portion of the basin through the operations of Sweetwater Authority's groundwater projects.

2. Protect groundwater from pollution by manmade activities

Sweetwater Authority shall work with the San Diego Regional Water Quality Control Board (Region 9) to ensure that the groundwater quality within the Sweetwater Valley Basin and the San Diego Formation is protected from contamination.

3. Monitor seawater intrusion

Sweetwater Authority shall monitor groundwater levels, quality and seawater intrusion to ensure that activities of Sweetwater Authority are not causing seawater intrusion.

4. Monitor groundwater quality and quantity

Sweetwater Authority shall periodically monitor the levels and quality of groundwater in the monitoring wells shown in Appendix A. The Authority shall maintain a database of this period information for display on the Sweetwater Authority web page located at www.sweetwater.org.

5. Sweetwater Authority Groundwater Projects

Current Sweetwater Authority groundwater projects include the following:

- a. Existing National City Wells
- b. Existing Richard A. Reynolds Brackish Groundwater Desalination Facility and its nine groundwater extraction wells.
- c. Monitoring of existing groundwater monitoring wells and maintenance of a groundwater level and groundwater quality database.
- d. Proposed National City Aquifer Storage and Recovery (ASR) Project.

6. Develop new or expanded groundwater supplies

Staff shall perform activities to develop new groundwater supplies and expand existing groundwater supplies and provide Budget Requests for the Governing Board's approval for these activities, as follows:

- a. Investigate the development of new wells to extract potable or brackish groundwater to facilitate expansion of existing groundwater projects as in paragraph C.5. above.
- b. Investigate new technologies and their application to existing groundwater sources.
- c. Explore conjunctive use activities to augment or expand existing groundwater supplies.

7. Development of relationships with state and local regulation agencies – Bur. Rec. – USGS

Sweetwater Authority has worked and consulted with the Bureau of Reclamation and the United States Geological Survey to receive funding and develop groundwater projects and to study water quality issues. These relationships have been ongoing since 1997. Sweetwater Authority is currently involved with a contract with the USGS to study groundwater quality issues in the San Diego Formation.

D. Implementation

Sweetwater Authority shall work within the watershed of the Sweetwater River, the Sweetwater Valley Basin (Number 9-17) and the San Diego Formation within the service area of the Sweetwater Authority to manage groundwater levels and protect groundwater quality. By adoption of this document, the Sweetwater Authority Governing Board hereby authorizes staff to maintain databases and perform groundwater management activities as described in this interim groundwater management plan.

E. Data Collection and Management

Sweetwater Authority shall maintain a database of groundwater levels and water quality for the existing monitoring wells shown in Appendix A. Staff shall, to the best of its abilities, carry out groundwater management activities using the strategies in Section C of this interim groundwater management plan.

F. Education

The Sweetwater Authority Stakeholder Survey identifies issues important to stakeholders in the watershed of the Sweetwater River, the Sweetwater Valley basin and the San Diego Formation within the Sweetwater Authority service area. As a part of the groundwater management activities to be carried out under the auspices of this interim groundwater management plan, Sweetwater Authority staff is directed to meet with other public entities and the public interested in the groundwater activities of the Sweetwater Authority. The purpose of these meetings shall be to coordinate information about Sweetwater Authority groundwater management activities and projects, receive input and responses from the public and public entities. Also these meetings shall strive to develop a base of support and a forum for constructive criticism and input to Sweetwater Authority for the groundwater management activities of the Authority.

G. Resolutions of the Governing board, Sweetwater Authority Policy and Legal Authority

1. Resolutions of the Governing Board

Adoption of the attached Resolution 01-19 establishes governing board adoption of this interim groundwater management plan and provides authorization for Sweetwater Authority staff to proceed with the activities described within.

2. Sweetwater Authority Policy concerning groundwater management

Sweetwater Authority's policies regarding groundwater management activities are described within this plan and any subsequent amendments to this interim groundwater management plan authorized by the Governing Board.

3. Legal Authority

Sweetwater Authority operates under the legal authority contained in Irrigation District Law as included in water code section 20500 et seq. Under this authorization the Sweetwater Authority may control,

distribute, store, spread, sink, treat, purify, recapture and salvage any water for the beneficial use of the district. Further Sweetwater Authority according to water code 22078 may do any act to put to any beneficial use any water under its control.

Also under water code section 22076 Sweetwater Authority has, though its groundwater management practices have not been previously memorialized in an AB 3030 plan (Water Code section 10750 et seq.) programs that relate to the following:

- a. the control of saline water intrusion
- b. identification of and management of wellhead protection areas and recharge areas
- c. replenishment of groundwater
- d. monitoring of groundwater levels and storage
- e. construction and operation of a brackish groundwater demineralization facility
- f. development of state and federal partnerships in the funding of groundwater management activities
- g. review and coordination of land use permitting with the County of San Diego to access development activities and their impact on groundwater
- h. management of its groundwater resources by Sweetwater Authority as a local agency thereby making state-controlled groundwater management unnecessary

H. Program Coordination

The General Manager and the Operations Manager of Sweetwater Authority shall be responsible to the Governing Board for the performance of the groundwater management activities described in this interim groundwater management plan.

APPENDIX A

**SWEETWATER AUTHORITY MONITORING
WELLS**

1. ALLUVIAL MONITORING WELL (AMW) #1
2. AMW #2
3. AMW #3
4. AMW #4
5. AMW #5
6. AMW #6
7. AMW #7
8. AMW #8
9. AMW #9

10. SAN DIEGO FORMATION MONITORING WELL
(SDFMW) #1 (STEIN FARM)
11. SDFMW #2 (DIXIE LINE)
12. SDFMW #3 (OPS WELL)
13. SDFMW #4 (ALBERTSON WELL)
14. SDFMW #5 (DEMIN PROPERTY)
15. ABRIGO MONITORING WELL
16. EL TOYON MONITORING WELL