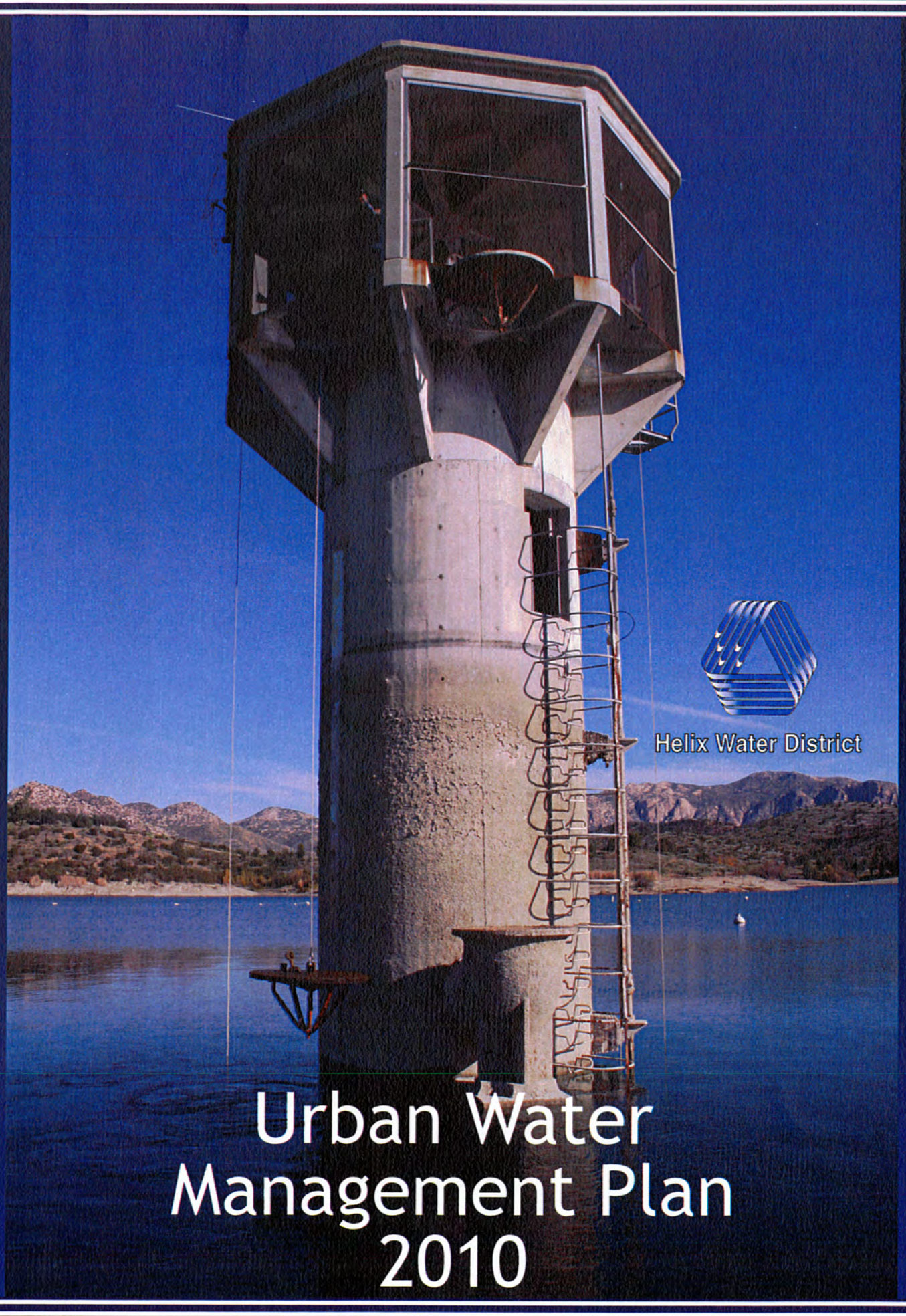

Helix Water District

Urban Water Management Plan 2010

Helix Water District
2010 Urban Water Management Plan

July 2011

Helix Water District

7811 University Ave.
La Mesa, CA 91942
www.hwd.com

Helix Water District
2010 Urban Water Management Plan
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INTRODUCTION

The California Water Code requires all urban water suppliers in the state to prepare an Urban Water Management Plans (UWMP) and update them every five years. These plans satisfy the requirements of the Urban Water Management Planning Act of 1983 (the Act), including amendments that have been made to the Act. Sections 10610 through 10656 of the California Water Code detail the information that must be included in these plans, as well as who must file them.

Since the preparation of the Helix Water District's (District) 2010 UWMP update, major amendments made to the Act require additional information to be provided, including:

- Water Code Section 10631.1 requires a plan by retail water suppliers to include water use projections for single- and multi-family residential housing needed for lower income and affordable households, to assist with compliance with the existing requirement under Section 65589.7 of the Government Code, that suppliers grant a priority for the provision of service to housing units affordable to lower income households.
- Water Code Section 10621(b) clarifies that every urban water supplier preparing a plan must give at least 60 days advanced notice to any city or county prior to the public hearing on the plan within which the supplier provides water supplies to allow for consultation on the proposed plan.
- Water Code Section 10631(j) deems water suppliers that are members of the California Urban Water Conservation Council (CUWCC) and comply with the Memorandum of Understanding (MOU), as it may be amended, to be in compliance with the requirement to describe the supplier's water demand management measures in its UWMP.
- Water Code Section 10631.7 required the California Department of Water Resources (DWR), in consultation with the CUWCC, to convene a technical panel, no later than January 1, 2009, to provide information and recommendations to DWR and the Legislature on new demand management measures, technologies, and approaches. The panel and DWR were to report to the Legislature on their findings no later than January 1, 2010 and each five years thereafter.
- Water Code Section 10633(d) clarifies that the "indirect potable reuse" of recycled water should be described and quantified in the plan, including a determination regarding the technical and economic feasibility of serving those uses.
- Water Code Section 10644(c) requires DWR to recognize exemplary efforts by water suppliers by obligating DWR to identify and report to the technical panel, described above, and "exemplary elements" of individual water suppliers' plans, meaning any water demand management measures adopted

and implemented by specific urban water suppliers that achieve water savings significantly above the levels required to meet the conditions to state grant or loan funding.

In addition to changes in the Act, the state Legislature passed Senate Bill 7 as part of the Seventh Extraordinary Session, referred to as SBx7-7, on November 10, 2009, which became effective February 3, 2010. This new law was the water conservation component to the Delta legislation package, and seeks to achieve a 20 percent statewide reduction in urban per capita water use in California by December 31, 2020. The law requires each urban retail water supplier to develop urban water use targets.

Urban retail water suppliers must include in their 2010 plans the following information from the bill's target setting process: (1) baseline daily per capita water use; (2) urban water use target; (3) interim water use target; (4) compliance daily per capita water use, including technical bases and supporting data for those determinations. An urban retail water supplier may update its 2020 urban water use target in its 2015 urban water management plan (Water Code Section 10608.20).

Agencies subject to the Act must have adopted a complete UWMP that meets the requirements of the law and submitted it to DWR. DWR staff reviews the plans to determine if the UWMP is complete, pursuant to the Act. In addition, DWR will consider whether the urban water supplier has submitted an updated plan when determining eligibility for funds made available pursuant to any program administered by the Department.

The District prepared an UWMP in 1985, updated it in 1990, 1995, 2000, and 2005, and filed those plans with DWR. This 2010 Urban Water Management Plan is an update to the 2005 UWMP and meets the requirements of Sections 10610 through 10656 of the California Water Code. This 2010 plan provides revisions to figures and projections in the 2005 plan as well as new information relevant to the additional reporting requirements previously described.

The District is actively implementing the wise water management practices suggested by the California Urban Water Conservation Council and is a signatory to the Best Management Practices. This UWMP is coordinated with the UWMP updates prepared by both the San Diego County Water Authority (Authority), the District's wholesale agency, and the Metropolitan District of Southern California (MWD). In addition, the participation of local agencies within the District's service area has been encouraged through communications of the on-going plan update and opportunities to review and comment on the plan. The District's coordination efforts are summarized below.

Local Agency Coordination

Agency	Participated in UWMP Development	Commented on the Draft	Attended Public Meetings	Contacted for Assistance	Received Copy of Draft	Sent Notice of Intention to Adopt
San Diego CWA	X			X	X	X
County of San Diego				X	X	X
City of Lemon Grove				X	X	X
City of La Mesa				X	X	X
City of El Cajon		X		X	X	X

The Helix Water District Board of Directors, through Resolution No.11-34, adopted this 2010 Urban Water Management Plan on June 15, 2011, after conducting a public hearing. Notice of the public hearing was advertised in local publications prior to the hearing.

This 2010 UWMP has been submitted to the California Department of Water Resources, to the local coordination agencies listed above, and has been made available for public review in hardcopy format at the District's Administrative Office or electronically at the District's website, as listed below:

Helix Water District
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La Mesa, CA 91942
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SECTION 1 – DISTRICT BACKGROUND & DESCRIPTION

1.1 History of Helix Water District

Helix Water District's history dates back to 1885 when the San Diego Flume Company built Cuyamaca Dam, a diverting dam on the San Diego River near Boulder Creek (one of its tributaries), and 34 miles of wooden flume to deliver water to the people of San Diego. Subsequently the San Diego Flume Company was sold to the Cuyamaca Water Company. In 1913 the La Mesa, Lemon Grove and Spring Valley Irrigation District was organized. In 1926 the District purchased the Cuyamaca Water Company and became an operating public water agency. The eventual growth of the District's current boundaries was the result of various annexations of surrounding areas that are now part of the District. Subsequent District name changes included the renaming to "Helix Irrigation District" in 1956 through a Board action, and the renaming to the current "Helix Water District" in 1973 through an act of the California Legislature which also allowed for the District's continued operation under Irrigation District Law.

1.2 District Service Area

The District's boundaries encompass a highly urbanized service area with a population of approximately 268,000 residents and 55,600 water service connections. Covering an area of nearly 50 square miles, Helix Water District serves the cities of La Mesa, Lemon Grove, El Cajon, as well as various unincorporated communities of San Diego County, including portions of Spring Valley and Lakeside. Refer to the District service area map on **Figure 1-1**.

The District operates as a public agency under the Irrigation District Law of the State of California. The District is governed by a Board of five directors, elected to four-year terms by the registered voters in the division in which each director resides. The Board is empowered to establish water charges, levy assessments, and adopt all policies, procedures, and regulations for providing customers with high quality water that is fairly priced and served through an efficient, reliable water system.

The District is a member agency of the San Diego County Water Authority (Authority), which is in turn a member agency of the Metropolitan Water District of Southern California (MWD). As a retail agency, the District purchases imported water as needed through these wholesalers. The District does not sell water to other agencies.

Helix Water District works today to manage the water demands of tomorrow. The District's mission states that "Helix Water District is a progressive industry leader, providing high quality water, through an efficient and reliable system. Our innovative and dedicated employees and Board members maximize human and technological resources, providing superior service to our customers."

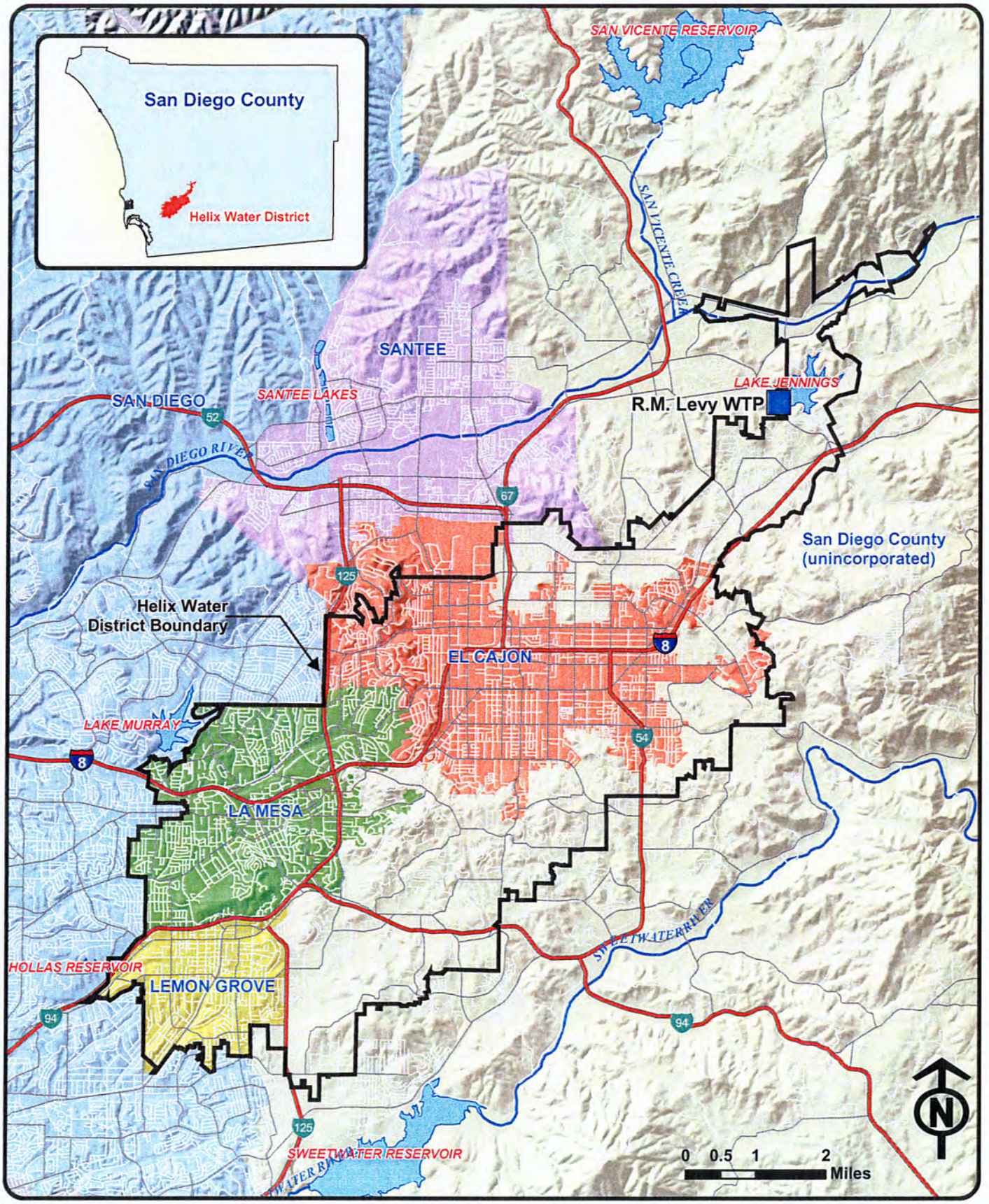


Figure 1-1
Helix Water District
Service Area Location Map

1.3 Water Sources and Facilities

1.3.1 Raw Water System

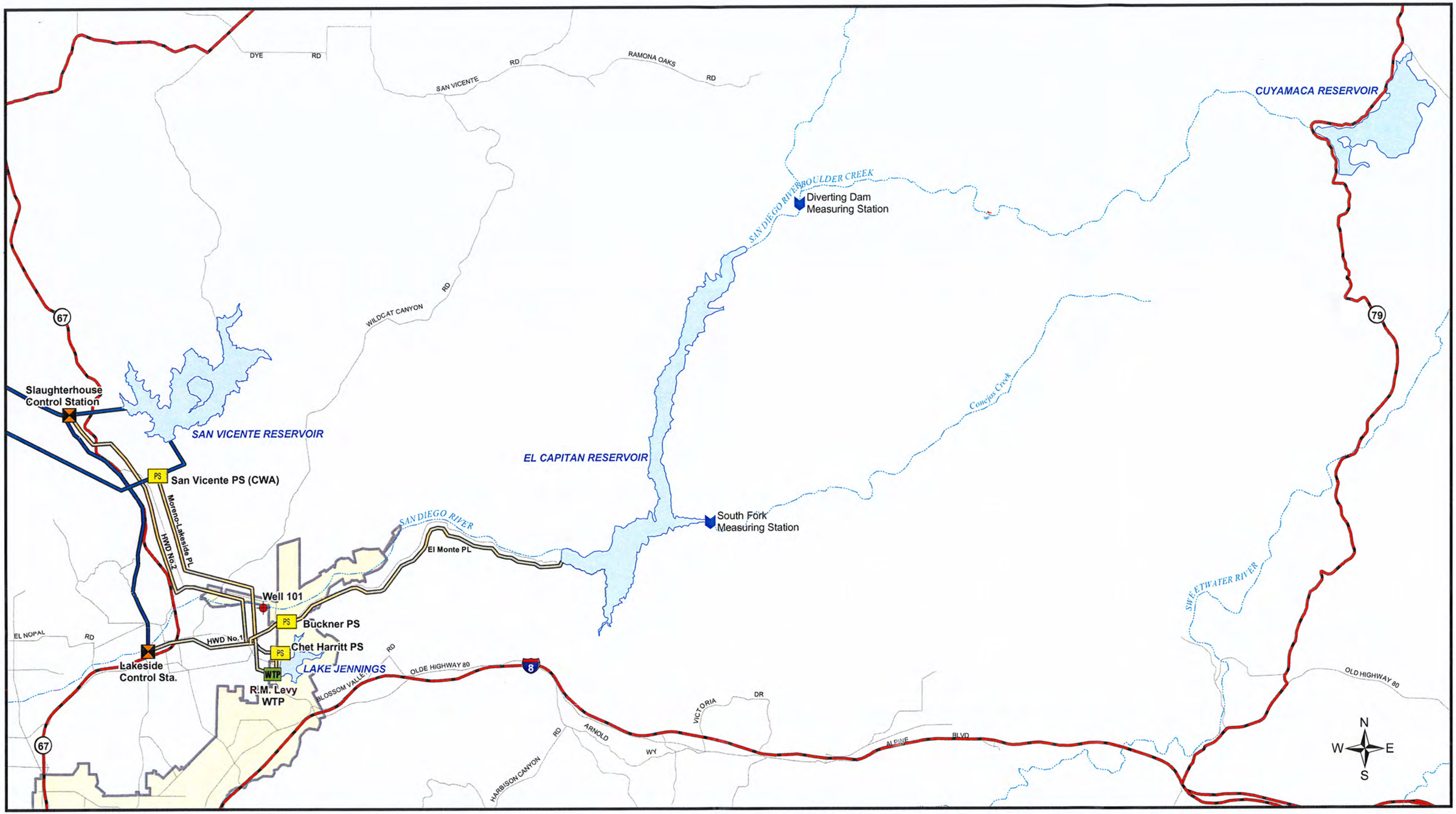
The District's raw water supply consists of both imported and local water sources. Imported water supplies are provided by the Authority and conveyed to the R.M. Levy Water Treatment Plant (Levy WTP) through the District's raw water aqueduct system. This raw water conveyance system is composed of three pipelines which receive imported water from the Authority's aqueduct, which in turn imports a blend of Colorado River and Northern California water through the State Water Project (SWP) system. Historically, SWP water constitutes less than 10 percent of imported water in the winter and about 50 percent in the summer. Deliveries through the Authority's aqueduct are stored at the San Vicente Reservoir, owned by the City of San Diego, and diversions to the District's aqueducts are made at a diversion facility just upstream of the reservoir. The capacity of the District's raw water supply system from the Authority is 45 million gallons per day (MGD) from its two raw water aqueducts (Helix No.1 and Helix No.8) and 65 MGD from its shared capacity in the Authority's Moreno-Lakeside Pipeline.

Local water sources are obtained from local runoff impounded at Lake Cuyamaca which has a storage capacity of 11,756 acre-feet, and El Capitan Reservoir, a City of San Diego reservoir for which the District has storage rights to 10,000 acre-feet. The District also owns and operates Lake Jennings, an impoundment behind Chet Harrit Dam which has a storage capacity of 9,790 acre-feet and stores only imported water since it has a watershed with negligible runoff. An additional water source is a District well, referred to as Well 101, which constitutes less than one percent of the District's water supply.

Other raw water facilities within the District include two pipeline and pump station systems connected to local reservoir storage at Lake Jennings and El Capitan Reservoir, which connect to the Levy WTP. This system of pipelines and pump stations provides the ability to convey imported water into and out of storage as required under varying seasonal conditions. Flow metering of local runoff occurs at the District's South Fork and Diverting Dam Measuring Stations located on Conejos Creek and the San Diego River, respectively. **Figure 1-2** illustrates the District's raw water supply system.

1.3.2 Treated Water System.

Water treatment and conveyance facilities owned and operated by the District include the R.M. Levy Water Treatment Plant which produces treated water up to a capacity of 106 (MGD). Treated water storage facilities include the 30 million gallon (MG) Grossmont Reservoir and 25 storage tanks located throughout the District, providing for a total treated water storage capacity of 64 MG. Treated water conveyance facilities include a 700-mile network of pipelines consisting of transmission mains ranging from 16 to 54 inches in diameter and distribution mains ranging from 2 to 14 inches in diameter, two transmission pump stations (Harold Ball and Los Coches Pump Stations), and 21 distribution system pump stations located throughout the service area.



Legend:

- Helix WD Service Area
- R.M. Levy WTP
- Raw Water Pump Station
- Streamgauge
- Flow Control Station
- HWD Raw Water Pipeline
- SDCWA Pipeline
- Highways

Figure 1-2
Raw Water Supply System

0 2.5 5 Miles

The District has access to imported treated water through a connection to the Authority's treated water aqueduct system (CWA Connection No.5). This treated water connection is used during emergency events or under special operating circumstances such as planned shutdowns for maintenance purposes.

Figures 1-3 and 1-4 illustrate the District's treated water transmission and distribution systems, respectively.

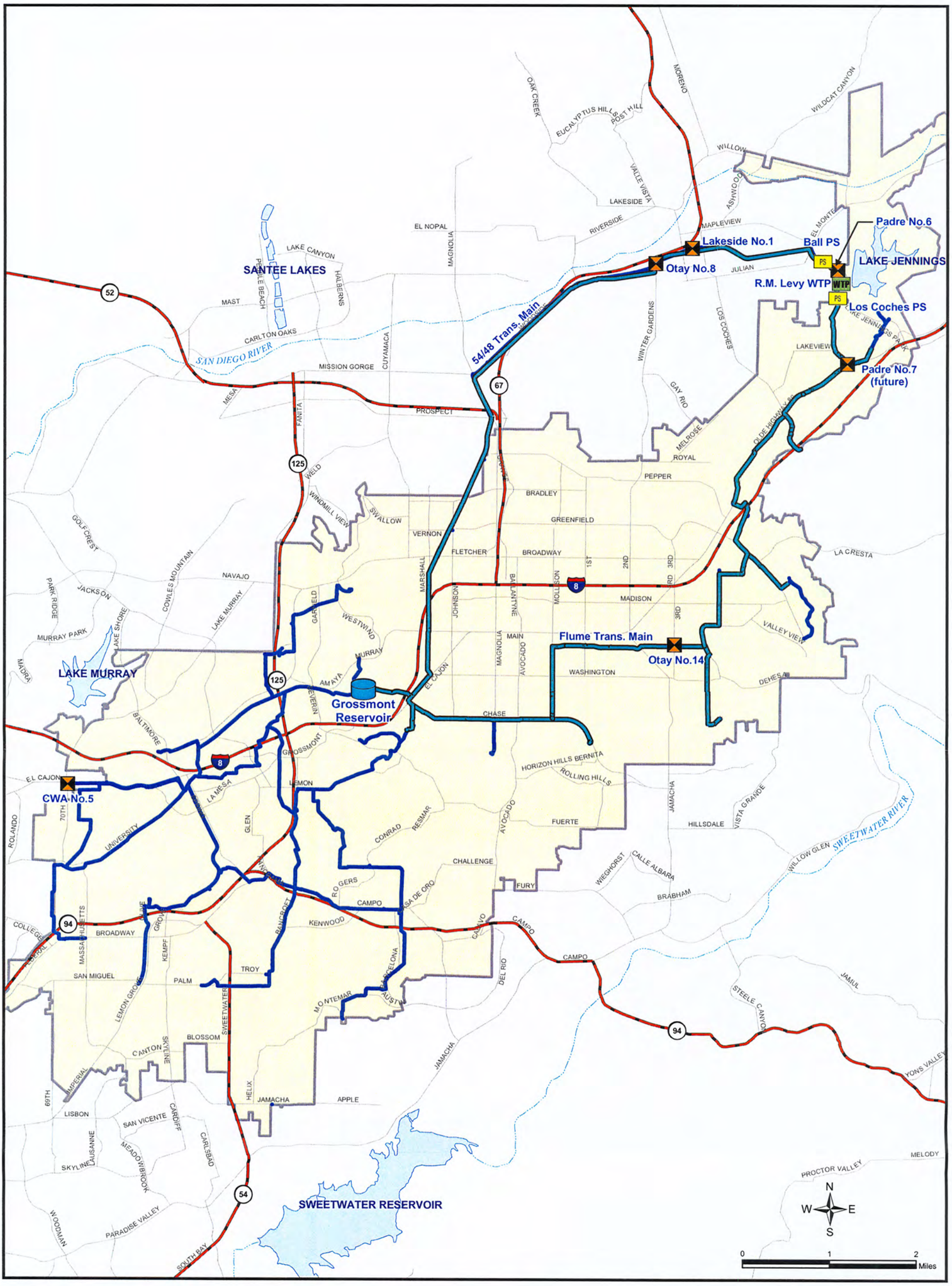
1.3.3 Wastewater Collection

The Helix Water District is solely a retail water supplier and does not collect, treat, or discharge wastewater within its service area. There are nine distinct agencies providing wastewater collection service within the District's boundaries. These agencies exist in the form of municipalities, sanitation districts, water districts providing wastewater service, a sewer maintenance district, and the County of San Diego serving unincorporated areas. The boundaries of these various wastewater agencies are not all coincident with the boundaries of the District. These agencies are listed below and their location and extent is presented on **Figure 1-5**.

- Padre Dam Municipal Water District
- Lemon Grove Sanitation District
- Spring Valley Sanitation District
- Winter Gardens Sewer Maintenance District
- Lakeside Sanitation District
- City of El Cajon
- City of La Mesa
- Otay Water District
- County of San Diego (unincorporated areas)

All wastewater collected within the above agencies is ultimately conveyed the City of San Diego's Metropolitan Wastewater Department's (Metro) trunk sewer system which delivers the wastewater to the City's Point Loma Wastewater Treatment Plant (WWTP). Wastewater entering the Point Loma WWTP undergoes advanced primary treatment and is discharged to the Pacific Ocean through a 4.5 mile ocean outfall. Portions of the District's service area that are sparsely developed are known to be served by septic systems and as a result, wastewater generated within those areas never enters the Metro system.

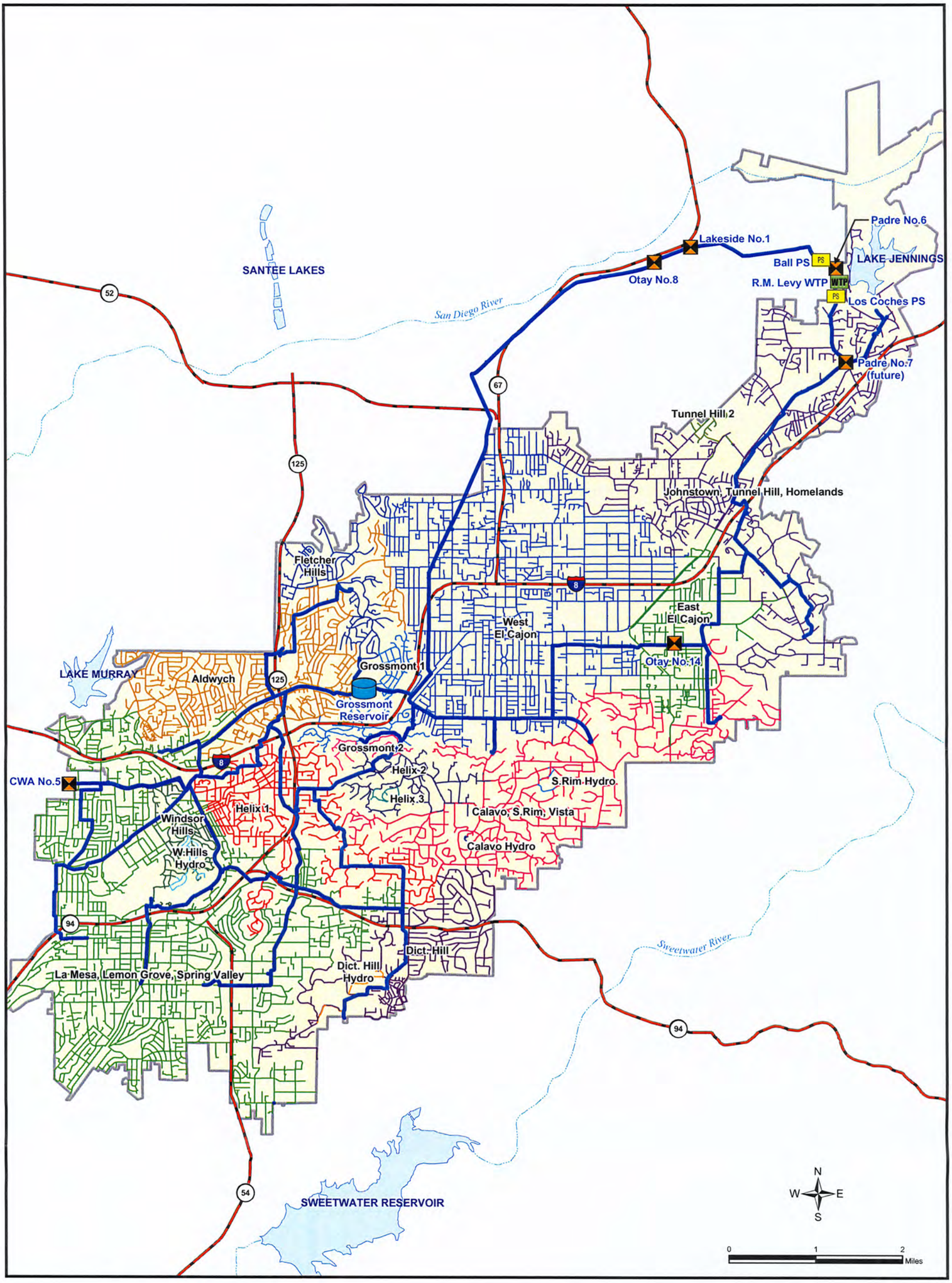
As illustrated on **Figure 1-5**, the District's service area is not coincident with all of the boundaries of the various wastewater agencies listed above. The City of La Mesa and Lemon Grove Sanitation District service areas are fully contained within the District and the City of El Cajon is almost fully contained within the District. The average daily wastewater flows within these three agencies are 5 MGD, 2 MGD, and 8 MGD, respectively. These three agencies comprise a majority of the wastewater flow generated and collected within the District's boundaries. In terms of water consumption, these



Legend:

- Helix WD Service Area
- R.M. Levy WTP
- Treated Water Pump Station
- Treated Water Flow Control Facility
- Grossmont & Flume Transmission Mains
- Other Transmission Mains
- Highways

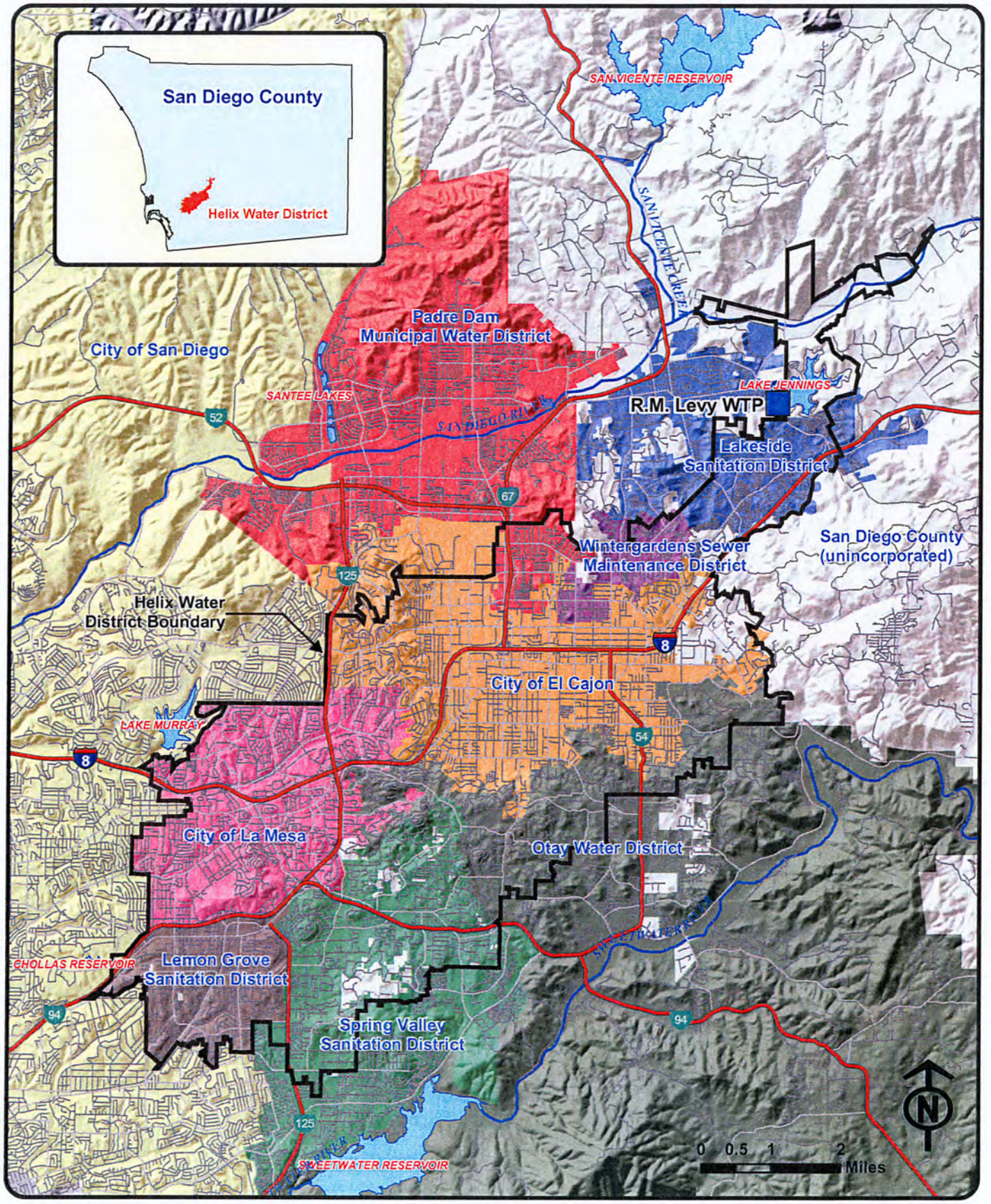
Figure 1-3
Treated Water Transmission System



Legend:

- Helix WD Service Area
- R.M. Levy WTP
- Treated Water Pump Station
- Treated Water Flow Control Facility
- Treated Water Transmission Main
- Distribution System Main
- Highways

Figure 1-4
HWD Distribution Systems



Wastewater Agencies Within Helix Water District
Figure 1-5

three agencies comprise approximately 65 percent of the District's total water usage and by similarity, it may be assumed that wastewater generation within these three agencies comprises a similar percentage of total wastewater flow within the District.

The remaining six wastewater agencies are intersected by District boundaries which are not delineated on the basis of wastewater drainage basins. As a result, it is not possible to quantify the volume of wastewater collected by these agencies explicitly within the District's service area.

It is noted that the District completed a water reclamation feasibility study in 1992, the results of which indicated that wastewater re-use within the District's service area through a dual distribution system is not feasible due to small and widely dispersed reclaimed water markets. In that study, the proposed source of wastewater was the Santee Water Recycling Facility (WRF) which is owned and operated by Padre Dam Municipal Water District. Influent wastewater to that facility is obtained by diverting flows away from Padre Dam's trunk sewer system before it continues on to the Metro system. Such wastewater diversions are derived primarily, if not exclusively, from wastewater generated outside the District's service area. The Santee WRF currently recycles wastewater at a rate of 2 MGD. The entire Padre Dam MWD service area generates approximately 5.2 MGD of wastewater flow which may be diverted to the water recycling plant in the event that it is expanded in capacity.

An on-going groundwater recharge feasibility study presented subsequently in this UWMP assumes that the source for purified wastewater will be the Santee WRF. As presented in this UWMP and other groundwater recharge feasibility studies, there are sufficient wastewater supplies and expandable treatment capacity available at the Santee WRF to support a water reclamation program by the District, should it be financially feasible compared to alternate water supplies.

1.4 LAND USE AND POPULATION

Current and projected land use and population data within the District's service area is provided by the San Diego Association of Governments (SANDAG), a regional planning agency in San Diego formed by the various city and county governments. SANDAG uses available information including the various community general plans and census data to prepare a Regional Growth Forecast which carries projections through 2050. The various data contained in this forecast are readily available and can be modified and organized to coincide with the District's service boundaries. All forecast data presented in this UWMP are based on SANDAG's Series 12 Regional Growth Forecast.

1.4.1 Land Use

Approximately 58 percent of the District's service area is dedicated to residential land use. **Table 1-1** below summarizes generalized land use categories and respective areas within the District boundaries. The figures presented are for both existing land use as well as 2050 land use projections derived from SANDAG's regional growth forecast.

Table 1-1
HWD Generalized Land Use Categories

	Existing		2050	
Land Use	**Acres**	**%**	**Acres**	**%**
Residential	17,568	58.1%	18,807	62.2%
Transportation & Utilities	5,755	19.0%	5,774	19.1%
Vacant, Open Space, Parks	3,115	10.3%	2,158	7.1%
Commercial/Industrial	2,090	6.9%	1,800	6.0%
Institutional	1,490	4.9%	1,515	5.0%
Agriculture	41	0.1%	6	0.0%
Water	186	0.6%	186	0.6%
TOTAL	30,244		30,244	

As can be confirmed from the table above, the majority of lands within the District boundaries are dedicated to intensive urban uses consisting of residential, transportation/utilities, commercial/industrial, and institutional (e.g. government) land use categories. These combined categories constitute nearly 89 percent of the land use now and will comprise 92 percent in the future. Changes to existing land use are expected to occur predominantly in the Residential and Vacant/Open Space/Parks categories, with a 4.1 percent increase in the former and a 3.2 percent reduction in the latter. It is also noted that agricultural land use within the District is almost negligible both currently and in the future.

The projected increases in water demands presented in this UWMP will be attributed predominantly to growth in the residential sectors including both single and multi family residential water use. Growth in these sectors will be driven by development of existing vacant and agricultural lands and by redevelopment infill. As summarized on the table above approximately 1,200 acres of growth will occur in residential land use by the year 2050. Of that total, it is estimated that approximately 990 acres will be from the development of vacant and agricultural lands, and the balance from redevelopment and infill.

1.4.2 Population Projections

Current and projected population within the District's service area is summarized on **Table 1-2** below. In summary, the forecast entails an average population growth rate of approximately 0.84 percent per year within the District over the next 25 years, resulting in a total population gain of approximately 62,000 people, or an overall growth of 23 percent within that time frame.

Table 1-2
Current and Projected Population

Year	HWD Service Area Population
2010	267,922
2015	269,915
2020	284,994
2025	297,749
2030	313,948
2035	330,198

1.5 Climate

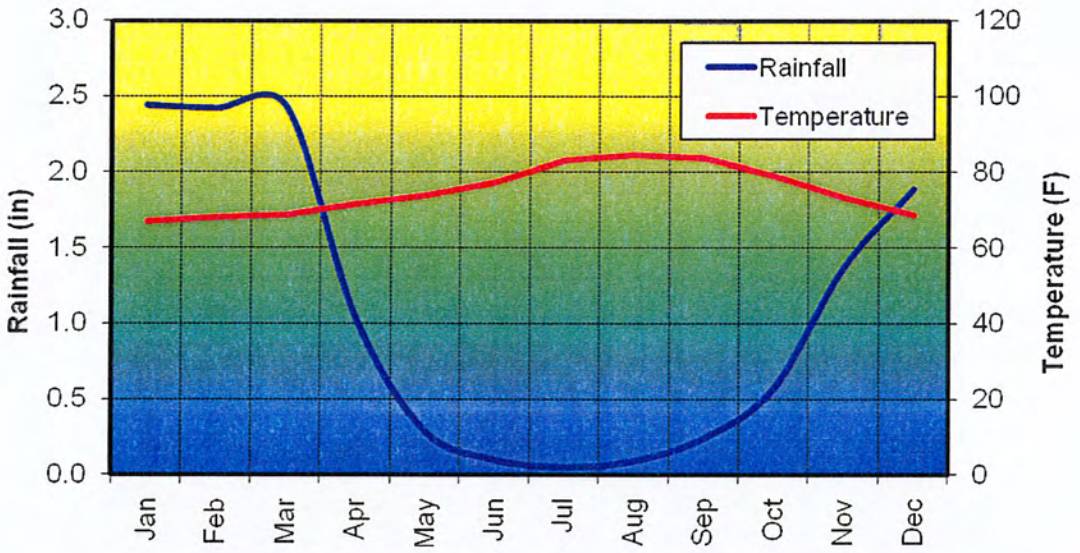
The District's service area is entirely within an inland region of eastern San Diego County. Climate is warm and arid as is characteristic for the inland areas of the county, although temperature fluctuations can vary within the District as a result of the diverse topography ranging in elevation between 280 to 1270 feet (mean sea level). Water demands are generally dependent on weather patterns. Temperature within the District ranges from an average minimum of 54°F to an average maximum of 76°F, and average annual precipitation is 12.9 inches, as measured by NOAA's La Mesa, CA Station (Station No. 044735). Monthly temperature and rainfall data measured at this station is summarized on the Climate Data table below. The data presented is from NOAA's monthly normals which represents 30 year averages for temperature and precipitation for the period between 1971 to 2000, the most current period for weather normals.

Evapotranspiration (ETo) data was obtained from the California Irrigation Management Information System (CIMIS), which maintains measuring stations throughout the state of California. The closest and most representative station maintained by CIMIS is the Miramar #150 station, which is approximately 10 miles from the District. This station recorded an average monthly ETo of 46.4 inches, based on data that spans between April 1999 to the present. A summary of climate data and illustration of the weather patterns are presented on **Table 1-3** and **Figure 1-6** below.

Table 1-3
Climate Data

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Avg. Annual
Min. Temp (F)	45.7	46.9	48.6	51.4	55.3	58.7	62.3	63.8	62.2	56.8	49.6	45.3	**53.9**
Max. Temp (F)	68.5	69.5	69.8	73.1	74.3	78.9	83.6	85.5	84.1	79.6	73.4	68.8	**75.8**
Avg. Rainfall (in)	2.44	2.42	2.43	1.04	0.29	0.10	0.05	0.09	0.24	0.57	1.37	1.89	**12.9**
ETo	1.83	2.20	3.42	4.49	5.25	5.67	5.86	5.61	4.49	3.42	2.36	1.83	**46.4**

Figure 1-6
Average Monthly Temperature and Precipitation



SECTION 2 – WATER DEMANDS

2.1 Historic and Current Water Demands

The District provides primarily domestic water service to a 50 square-mile urbanized area which includes the cities of La Mesa, Lemon Grove, El Cajon, and various unincorporated communities of San Diego County, including portions of Spring Valley and Lakeside. This area, which has a current population of approximately 268,000 residents, is served by a total of 55,600 service connections. The District does not sell water to other agencies.

2.1.1 Water Consumption by Class

The District maintains an account database that compiles data on water use, categorized by the type of use. Residential uses include domestic use and irrigation for single and multi-family homes, including mobile homes. Commercial uses include retail, restaurants, shopping centers, and other similar businesses. Industrial uses generally include manufacturing and equipment or material storage yards, which represents a minor category and is included within the commercial use category. Water used at medical facilities is also included in the commercial use category. Public water uses include government facilities, schools, and libraries. The irrigation use category includes uses such as parks, highway landscaping, multi-family housing irrigation, and minor agricultural irrigation. The District also maintains records on water used for construction, which is included in the commercial category for purposes of this report, and also maintains estimates of unaccounted water (e.g., leaks, main breaks, etc.).

Consistent with the urbanized land uses within the District's service area, current residential water use accounts for 77 percent of total water use, while commercial uses account for 12 percent, for a total of nearly 90 percent of water used within these two categories. Of the remaining water consumption sectors, the highest use is dedicated to public facilities (e.g., government, schools). **Table 2-1** below presents historical water demands and the number of accounts by use sector between the fiscal years of 2005 through 2010. An illustration of the categorical breakdown of water used in 2010 is presented on **Figure 2-1**.

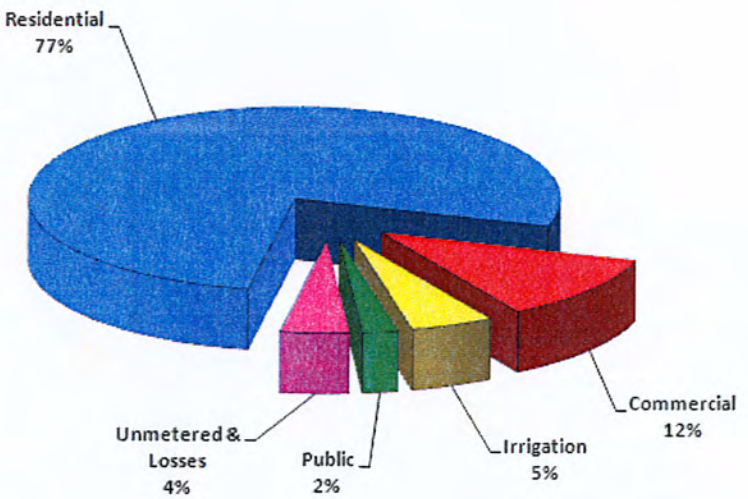
Table 2-1
Historic and Current Water Demands by Sector

Fiscal Year		Single Family Resid.	Multi-Family Resid.	Commercial[1]	Irrigation	Public[2]	Un-metered & Losses	Total
2005	No. of Meters	45,863	4,801	3,395	483	514	--	55,056
	AF/Y	19,592	10,225	4,562	1,022	1,677	1,707	38,785
2006	No. of Meters	46,102	4,815	3,411	500	529	--	55,357
	AF/Y	20,984	10,204	4,634	1,228	1,861	1,291	40,202
2007	No. of Meters	46,240	4,829	3,393	508	524	--	55,494
	AF/Y	21,682	10,265	4,626	1,367	1,941	2,207	42,088
2008	No. of Meters	46,276	4,856	3,371	506	534	--	55,543
	AF/Y	20,758	10,078	4,497	1,300	1,865	1,946	40,443
2009	No. of Meters	46,305	4,864	3,380	831	246	--	55,626
	AF/Y	19,293	9,760	4,283	2,116	875	1,330	37,657
2010	No. of Meters	46,308	4,883	3,363	858	237	--	55,649
	AF/Y	16,333	9,271	3,830	1,671	711	1,395	33,211

Notes: (1) Medical water use is included in "Commercial" category.

(2) "Public" Includes public use facilities such as schools, libraries, and government/municipal offices.

Figure 2-1
Water Use by Sector, Fiscal Year 2010

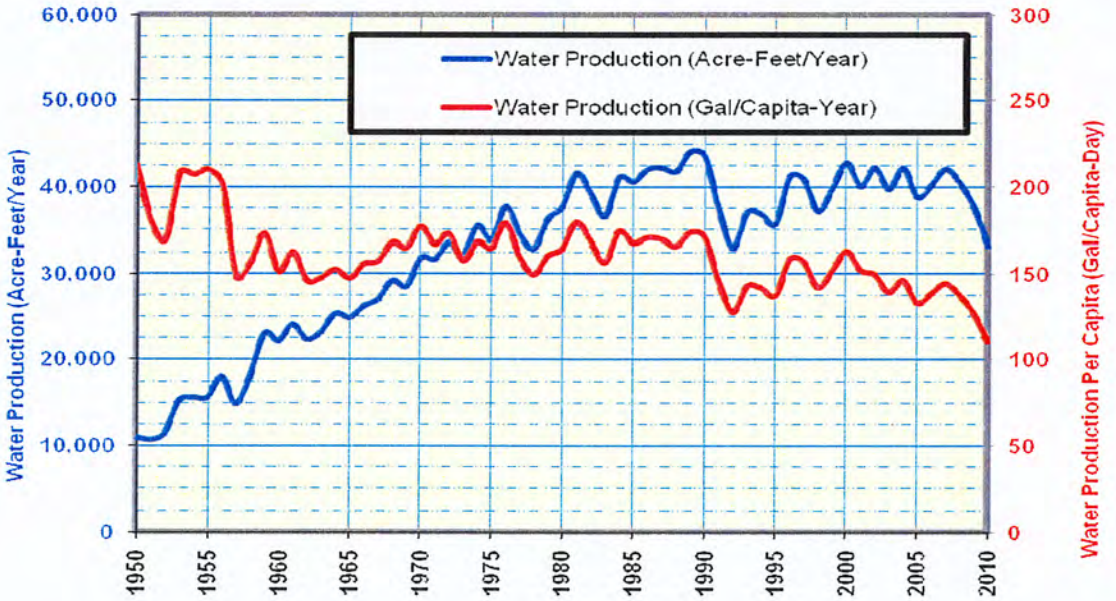


Notes: "Public" includes public use facilities such as schools, libraries, and government offices. "Un-metered" uses include fire protection, maintenance/flushing, pipe breaks, and system leakage. Medical use is included in "Commercial" category.

2.1.2 Per Capita Water Consumption

Figure 2-2 below illustrates the historical water consumption record dating back to 1950. The chart shows both gross water production in Acre-Feet per year as well as per capita water production measured as gallons per capita per day (GPCD). As shown, the District has experienced a steady pattern of growth in gross water production through the early 1990's followed by a decline which was coincident with the drought conditions of the time. That period is followed by a rebounding of production driven by increasing demands, followed by a further decline coincident with the most recent drought conditions. It is noted that both drought conditions resulted in significant drops in per capita water usage. Within the data record it can be noted that per capita water production has steadily decreased with time. The current per capita production rate of 110.7 GPCD is the lowest on record.

Figure 2-2
Historical Water Production



2.2 Future Water Demands

As presented previously, the District encompasses a service area with highly urbanized land use which will experience minimal change in the future due to the nearly fully developed condition of the service area in the present. Correspondingly, no significant changes are anticipated in the overall makeup of water use sectors, aside from incidental changes within the residential use category resulting from development of the minor developable land remaining and changes from single-family to multi-family residential water use (i.e., redevelopment infill). The water use distribution according to the sectors

previously illustrated on **Figure 2-1** is therefore expected to remain constant the in the future.

2.2.1 Total Demand Projection

For purposes of estimated future water demands, the District has used land use data from SANDAG's Series 12 Regional Growth Forecast, which is SANDAG's projection of land use, population, and economic growth through the year 2050. This growth forecast represents to collaborative effect of individual planning documents (e.g., general plans) produced by the various municipal and regional agencies in San Diego County, and is widely accepted as the growth planning document for the region.

Existing and projected land use data from the regional growth forecast was overlaid with the District's service area using a geographical information system (GIS). This provided for a summary of existing and projected land uses within the boundaries of the District, as presented previously in this report. The land use data was used in conjunction with the District's water use records, by sector, to provide for the development of water duties. Water duties define a water usage rate by land use type, expressed in AF/Y, per acre. With the development of water duties, projections of future land uses can be converted into water use projections. Based on the water duty analysis using the regional growth forecast, a total annual demand of 43,000 AF/Y is predicted for the year 2050. For the year 2035, which is the planning year for this UWMP, a linear interpolation between the base year (2008) and 2050 results in a forecast demand of 41,162 AF/Y. A summary of results of the water duty analysis by land use is presented on **Table 2-2**.

Table 2-2
2050 Demand Projections
Water Duty Analysis Summary (1)

Type	2008 Demand AF/Y(2)	2035 Demand AF/Y	2050 Demand AF/Y
Agriculture	9	6	4
Commercial/Industrial	3,254	2,915	2,727
Institutional	1,731	1,789	1,821
Multi Family Residential	9,950	12,255	13,536
Single Family Residential	21,466	22,301	22,765
Transportation & Utilities	545	605	639
Vacant, Open Space, Parks	876	1,289	1,519
TOTAL	37,830	41,162	43,012

(1) Based on SANDAG Series 12 (2050) Regional Growth Forecast.
(2) Base year in growth forecast is 2008 calendar year..

As part of its 2010 UWMP update, the Authority has developed water use projections for the retail agencies in San Diego county including Helix Water District. The projections were developed using the SANDAG regional growth forecast and the Authority's statistical model, CWA-MAIN, which uses historical water use patterns coupled with predictive variables (e.g., income, weather, etc.) to predict future water use. Through its modeling approach the Authority determined future water demands by sectors consisting

of municipal, industrial, and agricultural uses. The growth projections exclude the effect of future water conservation measures. For Helix Water District, the water use projection for 2035 (the planning widow for the UWMP update) is 51,741 Acre-Feet per year. Although this figure excludes the effect of future water conservation efforts, it accounts for some demand reductions associated with existing passive conservations savings, and for demand increases associated with the decay of currently active conservation programs. Accounting for the effect of existing and future water conservation efforts results in a net 2035 demand target of 42,024 Acre-Feet per year, which is in close agreement with the District's 2035 water duty-based projection presented on **Table 2-2** above. Since the water duty analysis is based on overall water consumption rates by land use during the base year of 2008, the effects of water conservation in place at that time are reflected in the water use projections. This suggests that conservation levels in place in 2008 are on track for meeting the long term water use efficiency goals presented subsequently in this report.

On the basis of the above discussions, a total demand of 42,000 Acre-Feet per year by 2035 is adopted for use in this report, which is in concurrence with both the Authority's estimates and the District's water duty analysis.

A detailed summary of water use projections by District meter sectors is presented on **Table 2-3**. The relative growth rates for the interim year between 2010 and 2035 are consistent with the Authority's growth rates (i.e., the projection curves are similar). The projections are further dissociated by component water use sectors (i.e., residential, commercial, etc.) in proportions similar to those predicted by the water duty forecast presented previously on **Table 2-2**. It is noted that the projections represent net water demands after conservation.

Table 2-3
Projected Water Demands by Sector (Acre-Feet/Year)

Fiscal Year	Single Family Resid.	Multi-Family Resid.	Commer-cial	Irrigation	Public	Un-Metered & Losses	Total
2010	16,333	9,271	3,830	1,671	711	1,395	33,211
2015	18,545	10,527	4,349	1,897	807	1,584	37,708
2020	17,570	10,123	4,229	1,897	817	1,634	36,271
2025	18,125	11,250	4,110	1,897	828	1,685	37,894
2030	18,899	12,596	3,990	1,897	838	1,735	39,956
2035	19,676	13,945	3,871	1,897	849	1,786	42,024

2.2.2 Low Income Housing Demand Projections

Estimates for projected water use to be allocated to low income housing needs are based on the current Regional Housing Needs Assessment (RHNA) for the San Diego Region. The current assessment has been prepared for the region by SANDAG and it represents the 2005-2010 (fourth) housing element cycle. It identifies the number of housing units that the local cities and county are required to plan for in their housing elements and it further breaks down the planned housing units by income categories. The RHNA was adopted by the SANDAG Board of Directors in February 2005. With the adoption of the 2050 Regional Growth Forecast by SANDAG in February 2010, development has begun on the 2013-2020 (fifth) housing element cycle of the RHNA. The new RHNA is expected to be adopted by SANDAG's Board of Directors in July 2011.

Housing needs in the RHNA are categorized according to Very Low, Low, Moderate, and Above Moderate income levels. For purposes of this UWMP, low income water supply projections are based on the needs of the Very Low and Low income categories, which fall into income categories that are below 80 percent of median, as defined in the UWMP Guidebook. Within the District's boundaries, there are an estimated total of 690 Low and Very Low income housing units identified in the RHNA. These units are dispersed within the cities of El Cajon, La Mesa, Lemon Grove, and unincorporated areas of the District. Based on current residential water use rates it is estimated that these units represent a consumption rate of 0.26 AF/Y per unit, for a total demand of 180 AF/Y. Water demand for these units are included in water demand projections for single family and multi-family residential demands previously identified on **Table 2-3**. It is further noted that total demand projections in this UWMP are based on the Regional Growth Forecast, which is a basis document for the development of periodic housing element cycles of the RHNA. Therefore, demand projections based on the Regional Growth Forecast include low income housing needs.

Based on a similar allocation of low income to overall future housing units as currently reflected in the RHNA, and the total demand projections included in this UWMP, estimates for low income water demands through 2035 are listed on **Table 2-4** below.

Table 2-4
Low Income Housing Water Demands

Year	Low Income Demand (AF/Y)
2010	180
2015	202
2020	193
2025	204
2030	219
2035	234

2.3 SBx 7-7 Compliance

In 2009 the Department of Water Resources released the 20x2020 Water Conservation Plan (20x2020 Plan) in response to a statewide plan to achieve 20 percent reduction in per capita water use by the year 2020. That same year SBx7-7, Water Conservation Act of 2009, was signed into law as part of a comprehensive water legislation package which sets the approaches of the 20x2020 Plan into effect. As part of SBx-7-7 urban water suppliers are required to develop a 2020 urban water use target that meets the plan's water conservation targets. In 2010, DWR released a manual titled Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use, intended to provide water agencies with specific requirements and methodologies for setting water use efficiency goals and compliance standards during the monitoring period (i.e., through 2020). This guidance manual has been used to develop the baseline water demands and water use efficiency targets presented in this section. While SBx-7-7 requires the development of compliance standards through 2020, the GPCD goals for 2020 are extended through 2035 to span the planning window of this UWMP.

The basic approach required by SBx-7-7 is to develop baseline per capita water use and to develop reduced per capita consumption targets (in GPCD) in order to comply with the conservation goals of the 20x2020 Plan. Within the provisions of SBx-7-7, the District's baseline per capita water used is based on gross water use and population during the ten year period between 1996 and 2005. The average consumption within this time period is 142 GPCD and is adopted as the District's baseline water use. A summary of the baseline data is presented on **Table 2-5** below.

Table 2-5
Baseline Water Use (GPCD)

Year	Gross Water Use (AF/Yr)	Population	GPCD
1996	41,193	245,940	150
1997	40,871	247,389	147
1998	37,133	248,846	133
1999	39,816	250,312	142
2000	42,813	251,792	152
2001	40,049	257,244	139
2002	42,230	258,633	146
2003	39,700	259,804	136
2004	42,206	260,626	145
2005	38,785	260,023	133
		Average GPCD=	**142**

Per SBx-7-7, retail water suppliers must set a 2020 water use target and an interim 2015 water use target according to one of four methods described in the guidance manual. In this UWMP the selected method (Method 1) establishes the 2020 water use target as 80 percent of the baseline per capita water use, or 114 GPCD. The interim 2015 water use

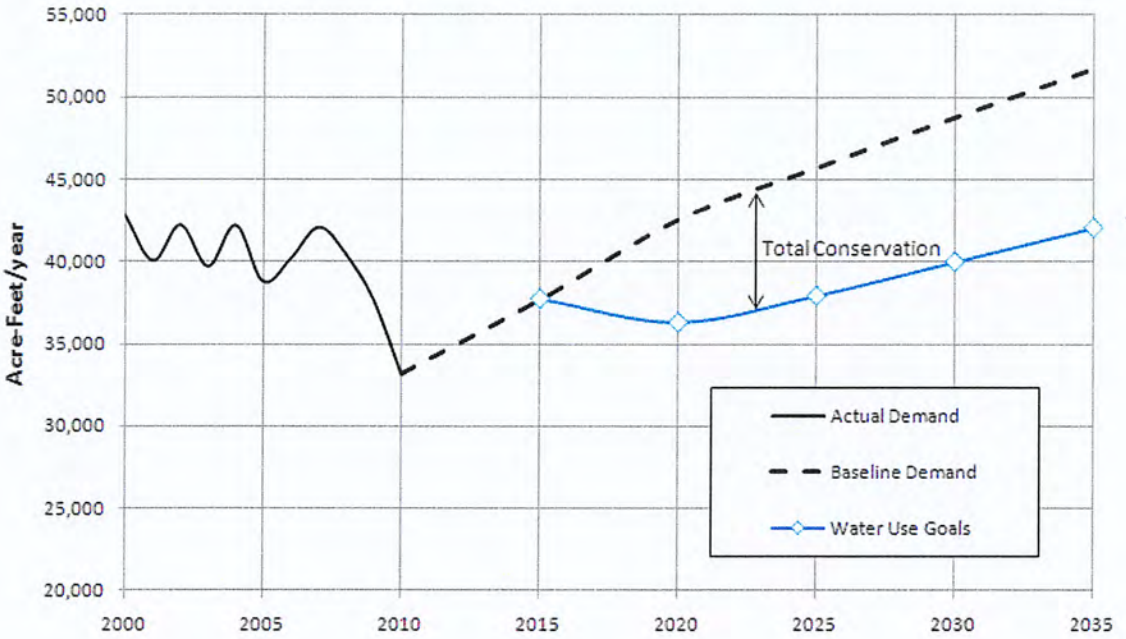
target is set at the mid point between the baseline and 2020 target, or 128 GPCD. **Table 2-6** below summarizes the GPCD water use targets and the resulting overall demand targets through the year 2035.

Table 2-6
Water Use Targets

Year	Population	Water Use Target (GPCD)	Water Use Target (AF/Yr)
2015	269,915	128	38,645
2020	284,994	114	36,271
2025	297,749	114	37,894
2030	313,948	114	39,956
2035	330,198	114	42,024

As presented previously on **Figure 2-2**, significant reductions in water consumption within the District have resulted in a current consumption rate of 110.7 GPCD which meets the 20x2020 GPCD target today. However, long term compliance with the water use targets and the need for additional conservation will be dependent on the degree of rebounding of demands, if any, as has been observed in the past after a prolonged drought and reduced demand periods. Based on the demand projections used in this UWMP, interim compliance will be achieved in 2015 without additional conservation efforts beyond current conditions, but additional conservation will be required for compliance in subsequent years. This is illustrated by the projections on **Figure 2-3** which presents the District's baseline water demands and the 20x2020 water use goals. The difference between the curves beyond 2015 represents the extent of conservation that will be required in order to achieve compliance with the water use goals. Therefore the curve depicting water use goals also represents the projected water demands.

Figure 2-3
Projected Demand and Water Use Targets



It is noted that the conservation levels required for compliance includes current conservation which will continue to contribute, to a lesser degree, to future water demand reductions, and additional conservation to be achieved through new efforts. The projected baseline demand represents municipal, industrial and agricultural demands determined by the Authority as parts of its regional projection of water demands using its CWA-MAIN model. The baseline projection does not include the effect of future conservation measures and it adds demands associated with the decay of currently active conservation programs. However, it does account for some demand reduction resulting from the remaining effects of existing passive conservation savings. A tabular summary of baseline demands, conservation targets, and projected demands is presented on **Table 2-7** below.

Table 2-7
Projected Demands and Conservation Targets

Year	Baseline Demand (AF/Yr)	Conservation Target (GPCD)	Projected Demand (AF/Yr)
2015	37,708	--	37,708 [(1)]
2020	42,576	(6,305)	36,271
2025	45,714	(7,820)	37,894
2030	48,789	(8,833)	39,956
2035	51,741	(9,717)	42,024

[(1)] The 2015 interim per capita use target of 128 GPCD results in a water use target of 38,645 AF/Y. No conservation target is identified in 2015 because the baseline demand is below the target.

2.4 Dry Year Water Demands

Studies have shown that urban water demands during hot and dry periods tend to increase by approximately 7 percent over normal demands [Ref.: Weather-Related Demand Variability in Metropolitan Water District Service Area, September 1990]. This increase in dry weather demands is consistent with regional dry weather demand estimates (adjusted for conservation) reported by the Authority in its UWMP. In developing those estimates, the Authority analyzed historical weather patterns for the San Diego region and utilized those in conjunction with other water demand forecasting variables in its statistical model, CWA-MAIN. The analysis produced single dry year demands that are similarly on the order of 7 percent over normal year demands, and multiple dry year demands (three consecutive years) that range between 7 and 18 percent above normal year demands. For purposes of this UWMP, the relative increases in demands during dry weather conditions as determined for the San Diego region in the Authority's analysis are adopted for use. This assumes that the gross dry weather demand impacts experienced within the San Diego region also apply within the District's service area. The assumed demand increases are then used to revise the projected water demands to represent the single and multiple dry year demands through 2035. A summary of these dry year demand projections is presented on **Table 2-8**.

Table 2-8
Projected Water Demand During Single and Multiple Dry Years

	Single Dry Water Year	Multiple Dry Water Years		
Year	**2015**	**2016**	**2017**	**2018**
Demand (AF/Y)	40,348	43,086	44,517	46,686
Year	**2020**	**2021**	**2022**	**2023**
Demand (AF/Y)	38,810	41,659	43,277	45,519
Year	**2025**	**2026**	**2027**	**2028**
Demand (AF/Y)	40,547	43,619	45,247	47,645
Year	**2030**	**2031**	**2032**	**2033**
Demand (AF/Y)	42,753	45,993	47,781	50,037
Year	**2035**	**--**	**--**	**--**
Demand (AF/Y)	44,966	--	--	--

SECTION 3 - DEMAND MANAGEMENT MEASURES (DMM's)

3.1 DMM Compliance

The District has long had a commitment to water conservation as an invaluable part of wise water management. The District was one of the early signatories to the Memorandum of Understanding Regarding Urban Water Conservation in California (MOU). This document lists conservation practices that have proven to be effective, taking into account economic and non-economic factors. Some of those factors include environmental, social, health, technological and customer impacts. Agencies that signed on to the original MOU agreed to implement fourteen Best Management Practices (BMP's) to the extent feasible, and to track progress towards meeting the intent of those goals. Since the most recent amendment of the MOU in September 2009, the BMP's have evolved into six foundational BMP's which are being implemented by the District, and three programmatic BMP's whose targets may be met through optional tracks. Compliance with programmatic BMP's by the District is being met through implementation of per capita water consumption targets. The foundational BMP's are listed on **Table 3-1**, and the programmatic BMP's are listed on **Table 3-2**.

Table 3-1
Foundational Best Management Practices

BMP	Description
1.1	Operations Practices
1.2	Water Loss Control
1.3	Metering With Commodity Rates
1.4	Retail Conservation Pricing
2.1	Public Outreach
2.2	School Education

Table 3-2
Programmatic Best Management Practices

BMP	Description
3	Residential Traditional and Flex Track
4	Commercial Traditional and Flex Track
5	Landscape Traditional and Flex Track

As part of the MOU, the District has agreed to implement and track the performance and progress of its implementation of each BMP. These BMP monitoring reports are submitted bi-annually by the District to the California Urban Water Conservation Council (CUWCC). Copies of the monitoring reports submitted by the District for fiscal years 2009 and 2010 are provided in **Appendix A** of this UWMP. These reports provide information specific to the District's implementation of the BMP's and performance monitoring data dating back to the inception of the BMP's in 1991. These reports, as well as additional BMP monitoring data are also publicly available for review at the CUWCC's website (**http:\www.cuwcc.org**).

As provided in the Urban Water Management Planning Act and the 2010 UWMP Guidebook, members of the CUWCC have the option of submitting their BMP annual monitoring reports to satisfy the reporting requirements for Demand Management Measures (DMM's) if the supplier is in full compliance with the MOU. The District intends to fulfill the DMM reporting requirements through this option and is including its 2009 and 2010 BMP reports in **Appendix A**. The BMP report forms have been submitted to the CUWCC and compliance with the MOU will be verified through Coverage Reports prepared by the CUWCC. The Coverage Reports are intended to be included in this UWMP as documentation of MOU compliance but may not be available in time to adopt this UWMP prior to the July 1 deadline with the required public review process. As a result, water suppliers are being allowed to self-certify compliance with the MOU by providing documentation that demonstrates compliance. For this UWMP plan, the District self-certifies its compliance with the MOU and is providing supporting documentation in the form of the 2009 and 2010 BMP reports, and the GPCD consumption and target data included in **Appendix B** and summarized in Section 2.3 of this report.

3.2 Best Management Practices (BMP's)

A more detailed description of each BMP and the current state of each BMP's implementation is presented in the following paragraphs.

BMP 1.1 – Operations Practices (Conservation Coordinator & Water Waste Prevention). Water conservation is handled by the District's Finance Department, which includes two staff positions; a Water Conservation Specialist and a Water Conservation Technician. The conservation group oversees the development, marketing, and administration of water conservation programs.

This BMP also requires a water waste prohibition. The District's Policies and Procedures Manual, Section 4.9-Drought Response Policy and Procedure, provides for mandatory restrictions on water consumption and water waste (see **Appendix C).** This policy was enacted by a resolution of the District's Board of Directors in 2008. The policy delineates water use restrictions during shortages and has provisions for penalties.

BMP 1.2 – Water Loss Control. The District has quantified its current volume of apparent and real water loss, and cost impacts, by completing a water audit and balance using the AWWA Water Loss software. The District achieved a water audit score of 94 percent. Unbilled water loss quantified in the audit is the difference between water sales and water production, and can be accounted for by miscellaneous losses such as fire protection, system flushing, meter error, pipeline breaks, etc.

BMP 1.3 – Metering With Commodity Rates. The District requires meters on all connections within its service area. Billing is done through a combination of a base charge and volume of water used. The District maintains a computerized meter data system which tracks meter data including class, size, type, consumption. The District also has in place a meter maintenance and replacement program.

BMP 1.4 – Retail Conservation Pricing. The District has a three tiered, inclining-block rate structure to encourage conservation of water for domestic users. Commercial, multiple and government class rates are set at the middle tier to encourage commercial user conservation. Effective September 1, 2009, irrigation class accounts are billed according to a seasonal inclining-block rate structure.

BMP 2.1 – Public Outreach. The District began a public information program in 1965, and has continued to promote water conservation through the use of its newsletter, billing inserts, website, annual report, annual water quality report, speakers bureau, media releases, paid advertisements, feature story placement, water conservation landscape contest, technology expositions, activities as a founding member of the Water Conservation Garden (4.2 acres on the grounds of Cuyamaca College), public events, and festivals.

BMP 2.2 –School Education. The District has had a school education program for 40 years, beginning with a water treatment plant tour and building into a program that encompasses pre-school through high school, with age appropriate presentations, tours, labs, kits, etc. Each presentation is correlated with California State Department of Education Content Standards and assist teachers in meeting their goals for student learning.

BMP 3 – Residential Traditional and Flex Track. The District provides site-specific leak assistance through water conservation surveys and water efficiency suggestions. The District also performs landscape evaluations that include checking irrigation systems and timers for maintenance and required repairs, estimating landscaped areas, reviewing and suggesting modifications to irrigation schedules, providing information packets to customers, and providing customers with evaluation results and water savings recommendations. The District has also offered rebates for water-efficient devices including clothes washers and toilets. The District's Procedures for New Development & Redevelopment require the installation of high-efficiency fixtures.

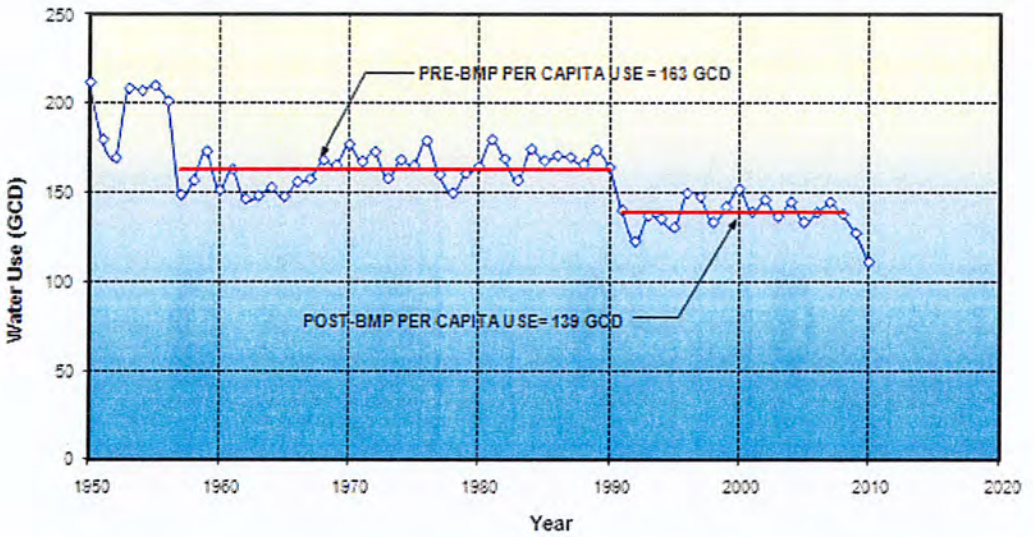
BMP 4 – Commercial, Industrial and Institutional (CII) Traditional and Flex Track. The District continues to offer rebates for a variety of water-efficient devices. The District also offers indoor and outdoor water use evaluations to help identify water savings opportunities at CII properties.

BMP 5 – Landscape Traditional and Flex Track. In 2009, the District implemented a water budget-based tiered rate structure for its dedicated irrigation meter customers. The District tracks site performance and contacts customers that use significantly more water than the bi-monthly budgets. The District has also offered rebates for water-efficient devices including weather-based irrigation controllers, high-efficiency rotating sprinkler nozzles and artificial turf.

3.3 Future Water Conservation

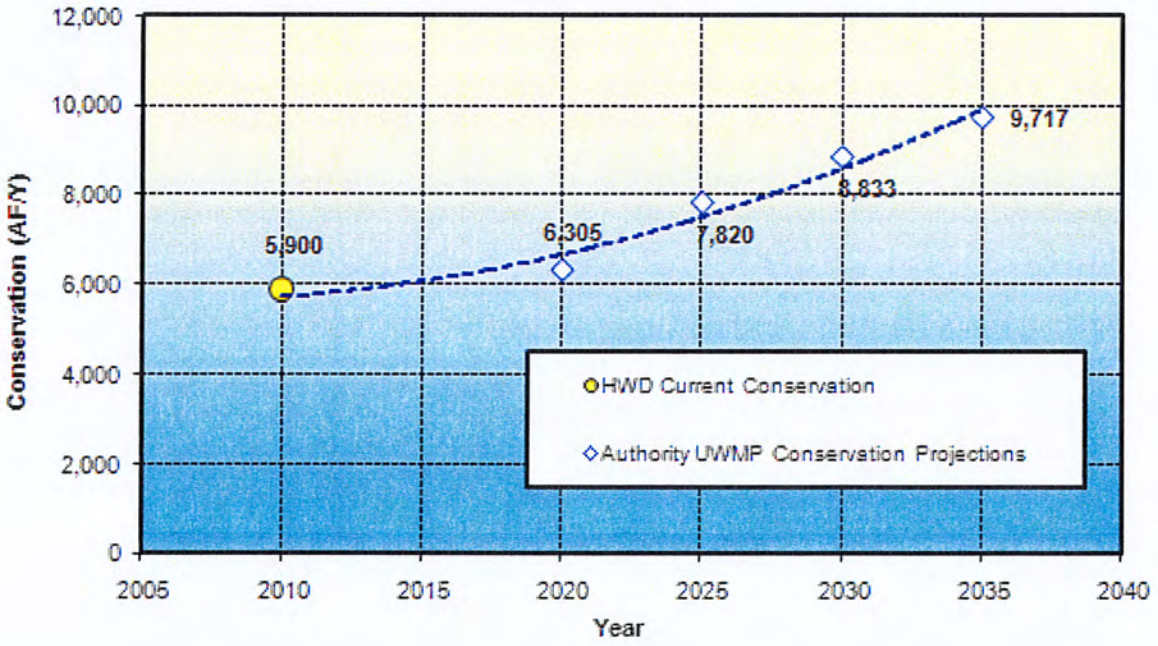
It is estimated that the current level of water conservation attained through the implementation of BMP's is approximately 5,900 AF/Y. This current level of conservation is established through a comparison of water usage rates, on a per capita basis, between the initial baseline consumption rate up to the implementation of the BMP's in 1991, and the lower baseline consumption rate observed for years subsequent to BMP implementation. Based on this comparison, the per capita use rate since implementation of the BMP's has decreased by approximately 24 GPCD. When applied to the current population and adjusted for system losses within each observed period (i.e., pre and post BMP implementation), this difference results in a current annual water savings of 5,900 AF/Y. **Figure 3-1** illustrates the per capita use trend and the two established baselines representing the impact of BMP's on water use.

Figure 3-1
Historic Unit Water Use in Gallons per Capita per Day



As part of their analysis of future regional water demands, the Authority has used data obtained through collaboration with its member agencies and the CUWCC, to determine estimates of future conservation based on their projected baseline demands, agencies' projected local water supplies, and the need for compliance with the water use targets under SBx-7-7 and the 20x2020 Plan. **Figure 3-2** presents the conservation levels required through the year 2035. These conservation figures represent aggregate conservation levels that are subtracted from the Authority's baseline projections in order to produce net demands that are in compliance with the water use targets. The figure also shows the District's current level of conservation and further indicates that under current conditions, no additional conservation is required for compliance with 2015 water use targets but will be required for compliance in subsequent years.

Figure 3-2
Projected Conservation



SECTION 4 – WATER SOURCES

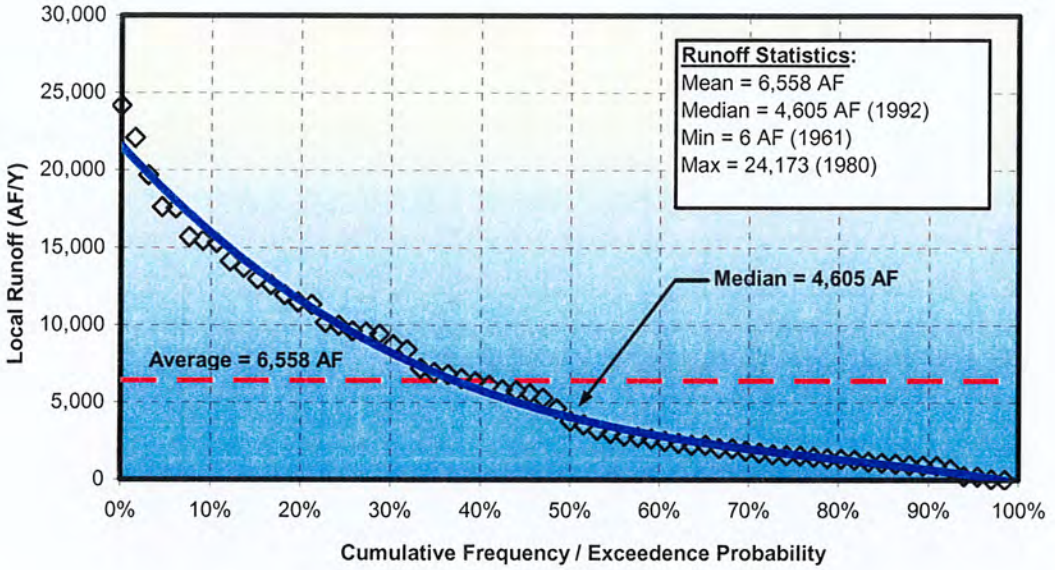
The District's water sources are a combination of imported and locally produced water. Imported water is provided by the Authority, via the District's raw water transmission system. This imported water is a blend of Colorado River and Northern California water, and it constitutes the primary source of water for the District, which has comprised about 83% of the District's normal supply, on average, since the importation of water began. From year to year, a significant amount of variability in the mix of imported to local water can be observed, as these fluctuations are sensitive to seasonal climatic changes.

4.1 Local Water Supplies

Local water sources are obtained from local runoff impounded behind Lake Cuyamaca which has a storage capacity of 11,756 acre-feet, and El Capitan Reservoir, a City of San Diego reservoir for which the District has storage rights to 10,000 acre-feet. The District also owns and operates Lake Jennings, an imported water impoundment behind Chet Harrit Dam, with a storage capacity of 9,790 acre-feet. An additional water source is a District well, referred to as Well 101, which constitutes less than one percent of the District's water supply.

The District's normal local water supply has a historical median runoff value of 4,605 AF/Y based on the recorded data beginning in 1938. The median runoff value corresponds to the level recorded in 1992. The average runoff recorded over the same record is 6,558 AF/Y. **Figure 4-1** illustrates the cumulate frequency distribution of the runoff record. For purposes of this report the median runoff value of 4,605 AF/Y, representing a 50% exceedence probability, represents a normal water year. Evaporative loss of local surface waters is estimated to be 10.6 percent, resulting in a net median runoff value of 4,117 AF/Y.

Figure 4-1
Local Runoff Production-Frequency Distribution



The operation of the District's single groundwater well has historically produced about 150 AF/Y. Together with runoff, these local supply sources represent approximately 17% of the total supply available to the District. The balance of the District's supply has historically been obtained from the Authority, through the imported water facilities previously described. For purposes of this report, the available supply of local water during a "normal" water year has been assumed to be 4,267 AF/Y, based on the sum of the net median runoff and the current production rate of Well 101. Although the current production rate in Well 101 represents less than 1 percent of the District's overall water supply, the groundwater basin can support significantly greater production and may be further developed to contribute more water to the District's supply. This groundwater basin, located in the El Monte valley, and the District's development plans for the basin are further described in the Section 4.4, Planned Water Supplies.

4.2 Dry Year Local Supply Assessment

Local runoff production is expected to significantly drop off during dry years. Conversely, the productions of local groundwater from Well 101, as previously described, is expected to remain in its constant production mode of 150 AF/Y.

To quantify the amount of runoff during dry years, the District's runoff record for the Cuyamaca/El Capitan watersheds dating back to 1938 is utilized. The single lowest recorded seasonal runoff within this data was 6 acre-feet, recorded in 1961. For purposes of this report, no local runoff is assumed to occur during a single dry year. Within the same data record, the single lowest multiple year runoff was produced in the three-year period between 2001 and 2003, during which an average seasonal runoff of 640 AF/Y was recorded. This runoff value is used for quantifying the multiple dry year scenario for

purposes of this study. A summary of local water supplies for the District under normal and dry year conditions is presented on **Table 4-1**.

Table 4-1
Normal and Dry Year Local Water Supplies

			Multiple Dry Years		
	Normal Water Year (1992)	Single Dry Water Year (1961)	Year 1 (2001)	Year 2 (2002)	Year 3 (2003)
Cuyamaca & El Capitan Watersheds	4,117	0	640	640	640
Well 101	150	150	150	150	150
Total Local Supply	4,267	150	790	790	790

4.3 Imported Water Supplies

Although the District originated as a retailer of purely local runoff, since the completion of the first imported water aqueduct by the Authority in 1948, the District has relied primarily on this imported water source, presently comprised of a combination of Colorado River and Northern California water. As a member agency, the District purchases water from the Authority on a wholesale basis, which in turn purchases water from the Metropolitan District of Southern California. Water purchased from Metropolitan by the Authority is imported through Metropolitan facilities which supply the Authority's aqueducts near the San Diego/Riverside county line. Since 1962, imported supplies to the District have averaged 83 percent of the total water supply, with the minimum and maximum imported water rates ranging from 52 percent in 1981 to 100 percent in 1965. Seasonal variations in the blend of water are further illustrated on **Figure 4-2**. The overall proportion of imported water is expected to increase gradually through 2035.

During dry water years during which local runoff production is reduced, imported water supplies from the Authority are expected to increase in order to meet anticipated demands. In its UWMP, the Authority has identified the sources of imported water that will be available to supply its member agencies during normal years and single and multiple dry water years. Based on the availability of local water production that each member agency has provided to the Authority, the UWMP has determined the amount of imported water that will be available for each member agency during normal and drought conditions. These verified imported water supplies are consistent with the demand projections presented in this UWMP.

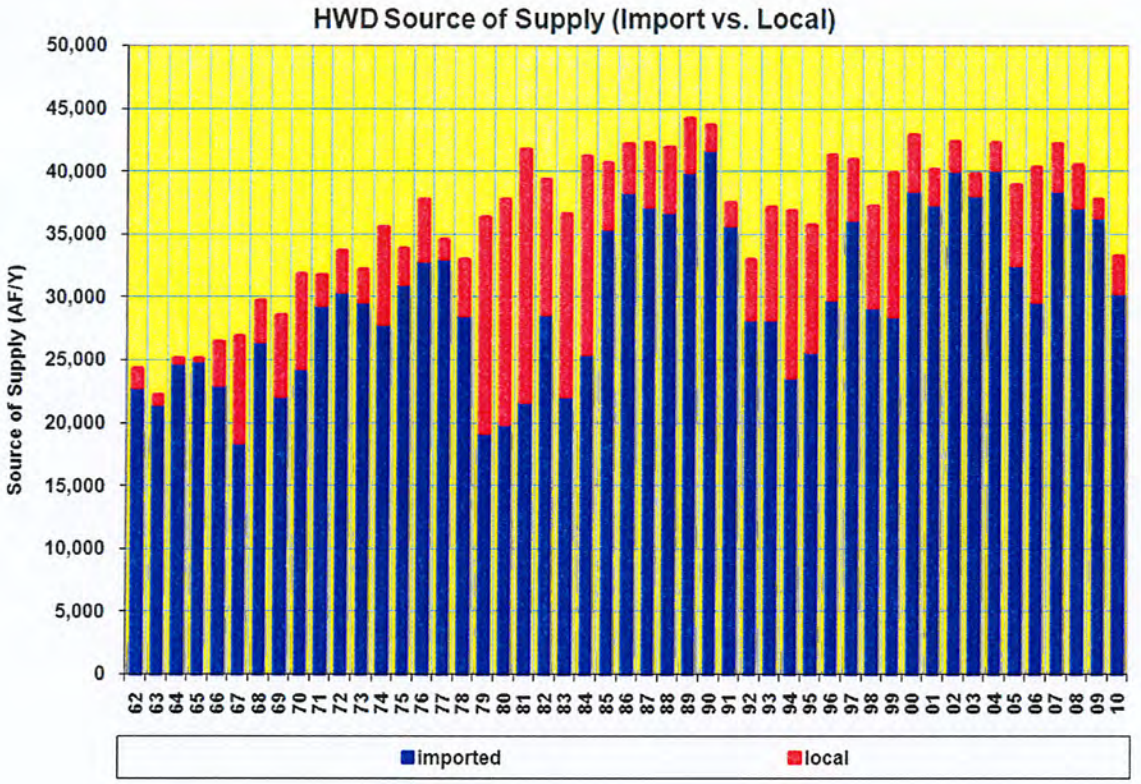


Figure 4-2

4.4 Planned Water Supplies

The Helix Water District is an almost completely urbanized district with a highly built-out service area and receives the majority of its water from the San Diego County Water Authority. Planned Water Supply Projects and Programs are limited due to the nature of the district. Detailed descriptions of expected future supply projects and programs that may be undertaken to meet projected water use are listed below.

4.4.1 The Santee-El Monte Groundwater Basin

The Santee-El Monte groundwater basin is an alluvial aquifer underlying the San Diego River and its tributaries. The basin is approximately 13 miles long and varies in width from 500 feet to 5,000 feet. The basin spans approximately 10 square miles in exposed surface area and has a storage capacity of up to 70,000 acre-feet. It is an alluvial aquifer with depths ranging from 100 to 200 feet and water quality as measure by Total Dissolved Solids ranges between 500 mg/L to 3000 mg/L. The basin has multiple users, is not adjudicated and does not have a overall groundwater basin management plan. A specific groundwater management plan for the El Monte Basin Recharge Project described later in this report was filed with DWR in 2008.

The district has operated only one well located on property the District owns within the basin. This well is located within El Monte valley which is within the eastern portion of

the Santee-El Monte Basin. This eastern portion of the aquifer is referred to the El Monte Basin in this report. The first well, constructed in 1975, was named Well 100. That well collapsed in the 1990's and a second well, named Well 101, was constructed in 2001. The most production achieved from the original Well 100 was approximately 500 AFY in the late 1970's. For purposes of this report, 500 AFY will be considered the District's groundwater pumping right. Groundwater production out of Well 101 has never produced more than 1 percent of the District's total supply of water.

Table 4-2 lists recent annual production rates from Well 101.

Table 4-2
Well 101 (El Monte Basin) Production

Year	Production (AFY)
2005	201
2006	136
2007	80
2008	177
2009	148
2010	129

Usage of the groundwater by local water agencies within the Santee-El Monte basin includes Helix Water District, Lakeside Water District, and Riverview Water District. Current average annual extraction rates by each agency, as well as by private well users, are listed on Table 4-3 below.

Table 4-3
Santee-El Monte Groundwater Basin
Current Production by Water Districts*

Agency	Average Annual Production (AF/Y)
Helix Water District	150
Lakeside-Riverview Water District	1,350
Private Well Use	4,000
Total Basin Groundwater Use	**5,500**

* Source: San Diego County Water Authority Groundwater Report, June 1997.

The total groundwater production out of the Santee-El Monte Basin by all producers is estimated to be within the aquifer's potential yield, which is the yield that can be expected with natural recharge and existing recharge operations (e.g., irrigation return, etc.). As noted in the referenced Authority report, greater yields can be attained through artificial recharge and management of the basin.

4.4.2 El Monte Basin Recharge Project

The Helix Water District continues to analyze the feasibility of a purified water project in the El Monte Basin that would be capable of supplying additional water for the District. Studies have been performed over the last several years by various agencies to determine the feasibility of recharging purified water into the El Monte Groundwater Basin and removal of resulting surplus groundwater for use as an additional water source. These studies have estimated yields up to 5,000 AF/Y to be sustainable through this project.

Padre Dam Municipal Water District (PDMWD) is in the process of sizing an expansion to their wastewater recycling facility. Presently, an average dry weather flow of 4.9 MGD of wastewater is generated within PDMWD's service area, with additional wastewater flows expected through continued development in the area. Wastewater flows generated within PDWMD's service area will be available for diversion to the Santee WRF by the same means in which that facility is currently supplied. Such flow diversions are taken away from the City of San Diego's trunk sewer and force main system, which serves PDMWD and other neighboring sewer collection districts, and is situated on a location where flows can be diverted to the Santee WRF.

The District conducted feasibility studies in fiscal year 2005/06 and 2006/07 to determine if adding capacity to the wastewater recycling facility along with transmission and recharge of the El Monte Groundwater Basin was feasible. Preliminary design and environmental documentation for the proposed El Monte/PDMWD WRF projects were initiated in 2010. If the projects are permitted and funded, up to 5,000 AF/Y of surplus groundwater during normal rainfall years may be available as additional water supply to the District. For planning purposes, the approximate dry year supply has been estimated at 80 percent of normal for a single dry year, and progressively reduced by 90 percent on years 2 and 3 for multiple dry years. Extraction from the El Monte Basin would be accomplished using wells. Well water could be transmitted via an existing pipeline to the Levy WTP as an additional water source, resulting in an equivalent offset in the imported water supply. It is expected that preliminary design and environmental would be conducted over the next two years to define water supply volumes and the ability to permit and fund the project. Initiation of project design and construction, if the project were permitted and funded, would be in the 4 to 6 year time frame. The preliminary project timeline can be summarized as follows:

Feasibility Studies:	July 2005 to June 2007
Preliminary Design/Environmental:	February 2010 to September 2012
Design:	October 2012 to December 2013
Construction (Water Component):	January 2014 to January 1016

The additional supply of water resulting from implementation of this project during normal and dry years is summarized on **Table 4-4** below.

Table 4-4
El Monte Basin Recharge Project
Total Additional Water Supplies (AF/Y)

		Multiple-Dry Year Supply		
Normal Year Supply	Single Dry Year Supply	Year 1	Year 2	Year 3
5,000	4,000	4,000	3,600	3,240

The District does not have the opportunity for future supply development from water transfers, exchanges, desalination, or brackish groundwater treatment.

4.5 Water Supply and Demand Summary

An overall summary of current and planned water supplies within the District through the year 2035 is presented on **Table 4-5**. Included in the summary is the potential supply that could be realized through implementation of the El Monte Basin Recharge Project.

Table 4-5
Current and Planned Water Supplies (AF/Y)

Water Supply Sources	2010 (Actual)	2015	2020	2025	2030	2035
SDCWA	30,345	33,441	32,004	33,627	35,689	37,757
Groundwater (Well 101)	129	150	150	150	150	150
Local Runoff	2,737	4,117	4,117	4,117	4,117	4,117
TOTAL PROJECTED SUPPLY	**33,211**	**37,708**	**36,271**	**37,894**	**39,956**	**42,024**
Potential Groundwater Recharge	--	--	5,000	5,000	5,000	5,000
Potential Supply (with GW recharge)	33,211	37,708	41,271	42,894	44,956	47,024

4.6 Water Supply Reliability

The District, Authority, and MWD are implementing plans that include projects to help ensure that the existing and planned water users within the District's service area have an adequate and reliable water supply. The tables in this section present summaries of the forecasted water demands compared with anticipated supplies. These tables summarize how with the implementation of the projects discussed in agencies' planning documents there will be adequate water supplies to serve the District under normal and drought conditions.

To assess current and future water service reliability, the Urban Water Management Plan Act requires that normal, single dry year, and multiple dry year projections be developed for both supplies and demands. The projections for normal, single dry year, and multiple dry year water supplies and demands have been presented in previous sections of this report. These projections are combined in the following tables to provide for a water supply assessment through 2035.

Table 4-6 provides a comparison of anticipated water supplies and demands for normal water years in five year increments, while **Table 4-7** provides a similar comparison for a single dry year condition. **Tables 4-8** through **4-11** present a comparison of supply and demands for a series of multiple dry years, within each five year incremental projection spanning to 2035.

Table 4-6
Projected Water Supply and Demand (AF/Y)
Normal Water Years, 2015 - 2035

Water Supply Sources	2015	2020	2025	2030	2035
Imported/SDCWA	33,441	32,004	33,627	35,689	37,757
Local Groundwater	150	150	150	150	150
Local Runoff	4,117	4,117	4,117	4,117	4,117
Total Projected Supplies	**37,708**	**36,271**	**37,894**	**39,956**	**42,024**
Total Projected Demand	**37,708**	**36,271**	**37,894**	**39,956**	**42,024**

Table 4-7
Projected Water Supply and Demand (AF/Y)
Single Dry Water Years, 2015 - 2035

Water Supply Sources	2015	2020	2025	2030	2035
Imported/SDCWA	40,198	38,660	40,397	42,603	44,816
Local Groundwater	150	150	150	150	150
Local Runoff	0	0	0	0	0
Total Projected Supplies	**40,348**	**38,810**	**40,547**	**42,753**	**44,966**
Total Projected Demand	**40,348**	**38,810**	**40,547**	**42,753**	**44,966**

Table 4-8
Projected Water Supply and Demand (AF/Y)
Multiple Dry Water Years, 2016 Through 2018

Water Supply Sources	2016	2017	2018
Imported/SDCWA	42,296	43,727	45,896
Local Groundwater	150	150	150
Local Runoff	640	640	640
Total Projected Supplies	**43,086**	**44,517**	**46,686**
Total Projected Demands	**43,086**	**44,517**	**46,686**

Table 4-9
Projected Water Supply and Demand (AF/Y)
Multiple Dry Water Years, 2021 Through 2023

Water Supply Sources	2021	2022	2023
Imported/SDCWA	40,869	42,487	44,729
Local Groundwater	150	150	150
Local Runoff	640	640	640
Total Projected Supplies	**41,659**	**43,277**	**45,519**
Total Projected Demands	**41,659**	**43,277**	**45,519**

Table 4-10
Projected Water Supply and Demand (AF/Y)
Multiple Dry Water Years, 2026 Through 2028

Water Supply Sources	2026	2027	2028
Imported/SDCWA	42,829	44,457	46,855
Local Groundwater	150	150	150
Local Runoff	640	640	640
Total Projected Supplies	**43,619**	**45,247**	**47,645**
Total Projected Demands	**43,619**	**45,247**	**47,645**

Table 4-11
Projected Water Supply and Demand (AF/Y)
Multiple Dry Water Years, 2031 Through 2033

Water Supply Sources	2031	2032	2033
Imported/SDCWA	45,203	46,991	49,247
Local Groundwater	150	150	150
Local Runoff	640	640	640
Total Projected Supplies	**45,993**	**47,781**	**50,037**
Total Projected Demands	**45,993**	**47,781**	**50,037**

SECTION 5 – WATER QUALITY

In general, the influence of water quality on source reliability is a matter of time, scale, and cost. Currently both local and imported water sources require treatment to meet federal and state drinking water standards. A gradual degradation of these sources, occurring over several years could be accomodated with additional and more costly treatment and would therefore not necessarily influence reliability. This additional treatment may require capital facilities, and take several years to plan and construct. Or the added treatment may involve operational changes, for example higher chemical dosing, which could be implemented immediately. From the perspective of supply reliability the water quality impacts that would have the most significant influence on reliability are those that would be sudden and would require substantial capital facilities to treat the water. Some of these senarios are discussed below.

Table 5-1 summarizes the projected sources of water for the District. The local supply percentage assumes a median annual yield of 4,885 acre-ft for the combined sources of runoff and groundwater. The slight drop in percentage of the local supply through year 2030 is the result of a projected increase in the total demand and treatment plant production with a constant local supply.

Table 5-1
Projected Sources of Water

Water Source	2005	2010	2015	2020	2025	2030
Imported (CWA)	88%	88%	88%	88%	89%	89%
Local	12%	12%	12%	12%	11%	11%

The local supply is produced from the Cuyamaca/El Capitan watersheds. Currently these watersheds are largely undeveloped with a considerable percentage of the watersheds within national and state park holdings. The District's management strategy with these sources is to maximize the yield by using most of the winter runoff in the following spring and summer months. Some local water is left in storage as an emergency supply. Use of the local water in the spring and early summer minimizes evaporation and increases available storage to increase yield the following winter. In addition, carryover storage held for several years tends to degrade in quality due to concentration of salts and organics as the source evaporates.

The quality of the imported water supply has rarely influenced the use or management of this source. On the contrary the District has made investments in its treatment plant and adapted operation to use this source. For example, the addition of ozonation to the treatment plant has allowed the District to sustain normal use of the imported water supply through occasional episodes of algae-produced tastes and odors. Also, the increased percentage of State Project Water in the imported water source has added

treatment cost for a number of water agencies due to compliance with federal regulations for disinfection by products. Unforeseen or catastrophic water quality events threaten the reliability of the imported water supply. Such events include, for example, failure of the radioactive waste stockpile in Moab, Utah along the Colorado River or massive failure of the levee system within the Sacramento-San Joaquin delta. Planning and mitigation for such events is being addressed at the federal and state levels.

SECTION 6 – SHORTAGE CONTINGENCY PLANNING

6.1 Mandatory Limits

Within its Policies and Procedures, the District has in place a Drought Response Policy and Procedure that establishes policies for comprehensive water conservation including mandatory provisions against water waste, and sets response plans for the event of water supply shortages. A copy of this policy is attached to this report as **Appendix C**. The policy was initially enacted by a resolution of the District's Board of Directors in 1992 as part of the District's comprehensive water conservation program, and was updated in 2008.

The policy delineates voluntary and mandatory water use restrictions during various drought response levels and has provisions for potential penalties and penalty appeals procedures. It also establishes landscaped area-based water use targets for irrigation class customers. The policy was developed to be compatible with other water suppliers' policies and was completed with input from cities, law enforcement agencies, and the general public. The policy is intended to be consistent with this and the Authority's UWMP's, and is further intended to implement the Authority's Drought Management Plan. The Drought Management Plan is a response program developed by the Authority in consultation with its member agencies for responding to water supply limitations resulting from drought conditions. The response levels included in the District's policy correspond with the Drought Management Plan Stages. For detailed information on drought response levels, use restrictions, conservation targets, and the relationship to the Authority's Drought Management Plan Stages, the reader is referred to the policy in **Appendix C**.

The Drought Response Policy and Procedure requires that drought response levels requiring mandatory conservation measures be declared through a resolution by the Board of Directors.

6.2 Shortage Contingency Analysis

The Urban Water Management Planning Act requires that water suppliers prepare a shortage contingency analysis to address the agency's plan for severe water shortages that would result from catastrophic events such as earthquakes, regional power outages, or prolonged severe drought. The District completed an analysis of financial impacts and methods to mitigate the effects of reduced revenues as a result of severe water shortages. **Table 6-1** presents a summary of revenues and expenditures by drought stages ranging from 10 percent to 50 percent reduced water supply. A detailed summary of revenues and expenditures providing more detail on the sources of revenues and expenditures is provided in **Appendix D**.

Initially drought conditions will result in increased usage and water sales revenue. Severe or prolonged drought conditions could decrease water availability and cause usage to be curtailed resulting in a reduction of the District's water sales revenues.

With the decreased usage during severe drought conditions, water purchase expenses, pumping expenses and water treatment costs would decrease by a corresponding amount. Other operating expenses, such as administrative expense, would be relatively unaffected unless specific actions are taken to reduce staff and or services.

Table 6-1
Revenues and Expenditures by Drought Stages

	FY 2010-11	10% Supply Reduction	25% Supply Reduction	50% Supply Reduction
Water Production Level (AF/Y)	34,200	30,780	25,650	17,100
Total Revenues	$ 65,255,700	$ 61,032,360	$ 54,697,350	$ 44,139,000
Total Operating Expenses	$ 53,393,500	$ 50,711,790	$ 46,689,225	$ 39,984,950
Net Operating Income	$ 11,862,200	$ 10,320,570	$ 8,008,125	$ 4,154,050
Less PAYGO Capital Expenditures	$ (9,474,000)	$ (9,474,000)	$ (8,474,000)	$ (7,474,000)
General Funds	$ -	$ -	$ -	$ -
Increased Water Rates (over normal)	$ -	$ -	$ 467,526	$ 730,984
Rate Stabilization Fund	$ -	$ -	$ 300,000	$ 2,800,000
Surplus/(Deficiency)	**$ 2,388,200**	**$ 846,570**	**$ 301,650**	**$ 211,030**

Since water sales revenues are relied upon to cover operating expenses, a shortfall in revenues would be covered by increased water rates and/or utilizing fund balances. Helix has a rate stabilization fund along with general fund balances that could be utilized to cover operating expenses, especially during emergencies. In severe drought situations where the offset of fund balances and acceptable rate increases are not enough to cover operating expenses, the reduction of Capital PAYGO expenditures and non-essential operating expenses may need to be reduced in order to offset lower revenues.

Appendix A

Best Management Practices (BMP) Reports

Best Management Practices (BMP's)
Base Year Data

The fields in red are required.

Agency name: Helix Water District

Reporting unit name (District name): Helix Water District

Reporting unit number: 128

Primary contact:

First name: Jeff

Last name: Barnes

Email: jeff.barnes@helixwater.org

You must enter the reporting unit number that we have on record for your agency. Click here to open a table to obtain this number.

Base Year Data

Link to FAQs

Reporting Unit Base Year

Base Year: 2008

What is your reporting period? Fiscal

BMP 1.3 Metering

Number of unmetered accounts in Base Year: 0

BMP 3.1 & BMP 3.2 & BMP 3.3 Residential Programs

Number of Single Family Customers in Base Year: 46,269

Number of Multi Family Units in Base Year: 4,856

BMP 3.4 WaterSense Specification (WSS) Toilets

Number of Single Family Housing Units constructed prior to 1992: 44800

Number of Multi Family Units prior to 1992: 4590

Average number of toilets per single family household: 1.7

Average number of toilets per multi family household: 1.3

Five year average resale rate of single family households: 10

Five-year average resale rate of multi family households: 4

Average number of persons per single family household: 4

Average number of persons per multi family household: 3

BMP 4.0 & BMP 5.0 CII & Landscape

Total water use (in Acre Feet) by CII accounts: 6362

Number of accounts with dedicated irrigation meters: 876

Number of CII accounts without meters or with Mixed Use Meters: 3,904

Number of CII accounts: 3,904

Comments: The 3,904 CII accounts have mixed use meters.

Best Management Practices (BMP's)
2010 Monitoring Report

The fields in red are required.

Agency name: Helix Water District

Division name (Reporting unit): Helix Water District

Reporting unit number: 128

Primary contact:

First name: Jeff

Last name: Barnes

Email: jeff.barnes@helixwater.org

WATER SOURCES

2010

Service Area Population: 267922

Potable Water

Own Supply Source Name	AF/YEAR	Water Supply Type	Water Supply Description
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	

Imported Supply Source Name	AF/YEAR	Water Supply Type	Water Supply Description
Helix #5 FCF	56.90	Surface	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	

Exported Water Name	AF/YEAR	Where Exported?

The fields in red are required.

Agency name: Helix Water District

Division name (Reporting unit): Helix Water District

Reporting unit number: 128

Primary contact:

First name: Jeff

Last name: Barnes

Email: jeff.barnes@helixwater.org

2010

Service Area Population: 267922

Non- Potable Water

Own Supply Source Name	AF/YEAR	Water Supply Type	If you select Other for type, enter Water Supply Description
Well 101	133.50	Groundwater	
Lake Jennings	3,848.50	Surface	
El Capitan	3,887.90	Surface	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	

Imported Supply Source Name	AF/YEAR	Water Supply Type	Water Supply Description
Helix #1 FCF	10,504.30	Surface	
Helix #6 FCF	8,274.90	Surface	
Helix #7 FCF	8,337.00	Surface	
Helix #8 FCF	8,537.60	Surface	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	

Exported Water Name	AF/YEAR	Where Exported? such as groundwater recharge, retail,

The fields in red are required.

Agency name: Helix Water District

Division name (Reporting unit): Helix Water District

Reporting unit number: 128

Primary contact:

First name: Jeff

Last name: Barnes

Email: jeff.barnes@helixwater.org

Water Uses 2010

Potable Water Billed

Make sure to enter numbers in AF/Year.

Customer Type	Meter Accounts	Metered Water Delivered	Un-metered Accounts	Un-metered Water Delivered	Description
Single-Family	46,308.00	16,333.49	0.00		
Multi-Family	4,883.00	9,271.42	0.00		
Commercial	3,283.00	3,817.16	0.00		
Other	237.00	710.68	0.00		Government class
Dedicated Irrigation	853.00	1,662.86	0.00		
Agricultural	5.00	7.91	0.00		New class created in FY 2010
Fire Lines	0.00	0.00	775.00	1,395.00	Includes flushing, breaks, system leaks.
Other	79.00	13.15	0.00		Temporary/Construction class
Other					
Other					
Other					
Other					
Other					

Potable Water Un-Billed

Customer Type	Meter Accounts	Metered Water Delivered	Un-metered Accounts	Un-metered Water Delivered	Description
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					

The fields in red are required.

Agency name: Helix Water District

Reporting unit name (District name): Helix Water District

Reporting unit number: 128

Primary contact:

First name: Jeff

Last name: Barnes

Email: jeff.barnes@helixwater.org

You must enter the reporting unit number that we have on record for your agency. Click here to open a table to obtain this number.

Link to FAQs

2010

BMP 1.1 Operations Practices

Comments:

Each of the land use agencies within the Helix Water District service area have adopted model water-efficient landscape ordinances for new development. Helix met with staff from each agency and facilitated the development of the ordinances.

See the complete MOU: View MOU

See the coverage requirements for this BMP:

Conservation Coordinator

Conservation Coordinator (•) Yes ( ) No

Contact Information

First Name	Jeff
Last Name	Barnes
Title	Water Conservation Specialist
Phone	(619) 667-6202
Email	jeff.barnes@helixwater.org

Note that the contact information may be the same as the primary contact information at the top of the page. If this is your case, excuse the inconvenience but please enter the information again.

Water Waste Prevention

Water Agency shall do one or more of the following:

a. Enact and enforce an ordinance or establish terms of service that prohibit water waste
b. Enact and enforce an ordinance or establish terms of service for water efficient design in new development
c. Support legislation or regulations that prohibit water waste
d. Enact an ordinance or establish terms of service to facilitate implementation of water shortage response measures
e. Support local ordinances that prohibit water waste
f. Support local ordinances that establish permits requirements for water efficient design in new

To document this BMP, provide the following:

a. A description of, or electronic link to, any ordinances or terms of service
b. A description of, or electronic link to, any ordinances or requirements adopted by local jurisdictions or regulatory agencies with the water agency's service area.
c. A description of any water agency efforts to cooperate with other entities in the adoption or enforcement of local requirement
d. description of agency support positions with respect to adoption of legislation or regulations

You can show your documentation by providing files, links (web addresses), and/or entering a description.

File name(s): Email files to natalie@cuwcc.org: Drought Response Policy & Procedure

Web address(s) URL: comma-separated list: http://www.hwd.com/about/policies.pdf

Enter a description:

The fields in red are required.

Agency name: Helix Water District

Reporting unit name (District name): Helix Water District

Reporting unit number: 128

Primary contact:

First name: Jeff

Last name: Barnes

Email: jeff.barnes@helixwater.org

You must enter the reporting unit number that we have on record for your agency. Click here to open a table to obtain this number.

Link to FAQs

2010 BMP 1.2 Water Loss Control

View MOU

AWWA Water Audit

Agency to complete a Water Audit & Balance Using The AWWA Software ◉ Yes ○ No

Email to natalie@cuwcc.org - Worksheets (AWWA Water Audit). Enter the name of the file below:

HelixWD 2009-10 Audit

Water Audit Validity Score from AWWA spreadsheet: 94%

Agency Completed Training In The AWWA Water Audit Method ○ Yes ◉ No

Agency Completed Training In The Component Analysis Process ○ Yes ◉ No

Completed/Updated the Component Analysis (at least every 4 years)? ○ Yes ◉ No

Component Analysis Completed/Updated Date:

Water Loss Performance

Agency Repaired All Reported Leaks & Breaks To The Extent Cost Effective ◉ Yes ○ No

Recording Keeping Requirements:

Date/Time Leak Reported	Leak Location
Type of Leaking Pipe Segment or Fitting	Leak Running Time From Report to Repair
Leak Volume Estimate	Cost of Repair

Agency Located and Repaired Unreported Leaks to the Extent Cost Effective ○ Yes ◉ No

Type of Program Activities Used to Detect Unreported Leaks

Annual Summary Information

Complete the following table with annual summary information (required for reporting years 2-5 only)

Total Leaks Repaired	Economic Value Of Real Loss	Economic Value Of Apparent Loss	Miles Of System Surveyed For Leaks	Pressure Reduction Undertaken for loss reduction	Cost Of Interventions	Water Saved (AF/Year)
			0			

Comments:

AWWA WLCC Free Water Audit Software: Reporting Worksheet

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WAS v4.0

Back to Instructions

? Click to access definition

Water Audit Report for: Helix Water District
Reporting Year: FY 2010 7/2009 - 6/2010

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: ACRE-FEET PER YEAR

WATER SUPPLIED		<< Enter grading in column 'E'		
Volume from own sources:	7	7,869.853	acre-ft/yr	
Master meter error adjustment (enter positive value):				acre-ft/yr
Water imported:	10	31,514.415	acre-ft/yr	
Water exported:	10	6,172.900	acre-ft/yr	
WATER SUPPLIED:		33,211.367	acre-ft/yr	

AUTHORIZED CONSUMPTION				
Billed metered:	10	31,817.840	acre-ft/yr	
Billed unmetered:	10	3.710	acre-ft/yr	
Unbilled metered:	10	29.190	acre-ft/yr	
Unbilled unmetered:	10	33.230	acre-ft/yr	
AUTHORIZED CONSUMPTION:		31,883.970	acre-ft/yr	

Click here: ? for help using option buttons below

Pcnt: Value: 33.230

Use buttons to select percentage of water supplied OR value

WATER LOSSES (Water Supplied - Authorized Consumption)		1,327.397	acre-ft/yr
Apparent Losses			
Unauthorized consumption:		83.028	acre-ft/yr
Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed			
Customer metering inaccuracies:	10	79.817	acre-ft/yr
Systematic data handling errors:	9	10.000	acre-ft/yr
Apparent Losses:		172.846	
Real Losses			
Real Losses = Water Losses - Apparent Losses:		1,154.552	acre-ft/yr
WATER LOSSES:		1,327.397	acre-ft/yr

Pcnt: 0.25% Value:

Choose this option to enter a percentage of billed metered consumption. This is NOT a default value

NON-REVENUE WATER		
NON-REVENUE WATER:	1,389.817	acre-ft/yr

= Total Water Loss + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA				
Length of mains:	10	721.5	miles	
Number of active AND inactive service connections:	10	55,649		
Connection density:		77	conn./mile main	
Average length of customer service line:	10	0.0	ft	(pipe length between curbstop and customer meter or property boundary)
Average operating pressure:	10	85.0	psi	

COST DATA			
Total annual cost of operating water system:	10	$55,073,100	$/Year
Customer retail unit cost (applied to Apparent Losses):	9	$2.92	$/100 cubic feet (ccf)
Variable production cost (applied to Real Losses):	10	$782.90	$/acre-ft/yr

PERFORMANCE INDICATORS

Financial Indicators

Non-revenue water as percent by volume of Water Supplied:	4.2%
Non-revenue water as percent by cost of operating system:	2.1%
Annual cost of Apparent Losses:	$219,851
Annual cost of Real Losses:	$903,899

Operational Efficiency Indicators

Apparent Losses per service connection per day:	2.77	gallons/connection/day
Real Losses per service connection per day*:	18.52	gallons/connection/day
Real Losses per length of main per day*:	N/A	
Real Losses per service connection per day per psi pressure:	0.22	gallons/connection/day/psi
? Unavoidable Annual Real Losses (UARL):	380.08	million gallons/year
? Infrastructure Leakage Index (ILI) [Real Losses/UARL]:	0.99	

* only the most applicable of these two indicators will be calculated

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 94 out of 100 *****

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

1: Volume from own sources
2: Unauthorized consumption
3: Customer retail unit cost (applied to Apparent Losses)

For more information, click here to see the Grading Matrix worksheet

AWWA WLCC Free Water Audit Software: Water Balance

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Water Audit Report For:	Report Yr:
Helix Water District	FY 2010

Own Sources (Adjusted for known errors) 7,869.853	Water Exported 6,172.900		Billed Water Exported		
	Water Supplied 33,211.367	Authorized Consumption 31,883.970	Billed Authorized Consumption 31,821.550	Billed Metered Consumption (inc. water exported) 31,817.840	Revenue Water 31,821.550
				Billed Unmetered Consumption 3.710	
			Unbilled Authorized Consumption 62.420	Unbilled Metered Consumption 29.190	Non-Revenue Water (NRW) 1,389.817
				Unbilled Unmetered Consumption 33.230	
		Water Losses 1,327.397	Apparent Losses 172.846	Unauthorized Consumption 83.028	
				Customer Metering Inaccuracies 79.817	
				Systematic Data Handling Errors 10.000	
Water Imported 31,514.415			Real Losses 1,154.552	Leakage on Transmission and/or Distribution Mains Not broken down	
				Leakage and Overflows at Utility's Storage Tanks Not broken down	
				Leakage on Service Connections Not broken down	

The fields in red are required.

Agency name: Helix Water District

Reporting unit name (District name): Helix Water District

Reporting unit number: 128

Primary contact:

First name: Jeff

Last name: Barnes

Email: jeff.barnes@helixwater.org

You must enter the reporting unit number that we have on record for your agency. Click here to open a table to obtain this number.

BMP 1.3 Metering with Commodity

2010

Link to FAQs

See the complete MOU: View MOU

See the coverage requirements for this BMP:

Implementation

Does your agency have any unmetered service connections? ○ Yes ◉ No

If YES, has your agency completed a meter retrofit plan? ○ Yes ○ No

Enter the number of previously unmetered accounts fitted with meters during reporting year:

Are all new service connections being metered? ◉ Yes ○ No

Are all new service connections being billed volumetrically? ◉ Yes ○ No

Has your agency completed and submitted electronically to the Council a written plan, policy or program to test, repair and replace meters? ◉ Yes ○ No

Please Fill Out The Following Matrix

Account Type	# Metered Accounts	# Metered Accounts Read	# Metered Accounts Billed by Volume	Billing Frequency Per Year	# of estimated bills/yr
Single-Family	46,308	46,308	46,308	Bi-monthly	769
Multi-Family	4,883	4,883	4,883	Bi-monthly	112
Commericial	3,283	3,283	3,283	Bi-monthly	88
Other	237	237	237	Bi-monthly	13
Dedicated Irrigatic	853	853	853	Bi-monthly	12
Agricultural	5	5	5	Bi-monthly	0
Fire Lines	0	0	0	Bi-monthly	0
Other	79	79	79	Monthly	36
Other				Other	
Other				Other	

Number of CII Accounts with Mixed-use Meters: 3,283

Number of CII Accounts with Mixed-use Meters Retrofitted with Dedicated Irrigation Meters during Reporting Period: 0

Feasibility Study

Has your agency conducted a feasibility study to assess the merits of a program to provide incentives to switch mixed-use accounts to dedicated landscape meters? ○ Yes ◉ No

If YES, please fill in the following information:

A. When was the Feasiblity Study conducted

B. Describe, upload or provide an electronic link to the Feasibility Study Upload File

File name(s): Email files to natalie@cuwcc.org

Web address(s) URL: comma-separated list

Comments:

The first "Other" account type is the Government class and the second is Constructio

The fields in red are required.

Agency name: Helix Water District

Reporting unit name (District name): Helix Water District

Reporting unit number: 128

Primary contact:

First name: Jeff

Last name: Barnes

Email: jeff.barnes@helixwater.org

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CUWCC 2010

BMP 1.4 Retail Conservation Pricing

Link to FAQs

View MOU

If you are reporting more rate structures than this form allows, add the structures to a spreadsheet and send the file to natalie@cuwcc.org.

Implementation (Water Rate Structure)

Enter the Water Rate Structures that are assigned to the majority of your customers, by customer class

Rate Structure	Customer Class	Total Revenue Commodity Charges	Total Revenue Customer Meter/Service (Fixed Charges)
Increasing Block	Single-Family	19,491,176.86	10,910,513.88
Uniform	Multi-Family	11,368,691.41	2,311,437.60
Uniform	Commercial	4,717,786.93	1,553,052.50
Uniform	Other	871,210.84	238,449.89
Increasing Block Se	Dedicated Irrigation	2,118,197.61	585,545.57
Non-Volumetric Fla	Fire Lines	0.00	349,764.20
Select a Rate Struc	Select a Customer Ty		

Implementation Option (Conservation Pricing Option)

- (•) Use Annual Revenue As Reported
- ( ) Use Canadian Water & Wastewater Association Rate Design Model

If CWWA is select, enter the file name and email the spreadsheet to natalie@cuwcc.org

Retail Waste Water (Sewer) Rate Structure by Customer Class

Agency Provide Sewer Service ( ) Yes (•) No

Select the Retail Waste Water(Sewer) Rate Structure assigned to the majority of your customers within a specific customer class.

Rate Structure	Customer Class	Total Revenue Commodity Charges	Total Revenue Customer Meter/Service (Fixed Charges)
Select a Rate Struc	Other		
Select a Rate Struc	Other		
Select a Rate Struc	Other		
Select a Rate Struc	Other		
Select a Rate Struc	Other		
Select a Rate Struc	Other		
Select a Rate Struc	Other		

Comments:

The "Other" customer class is the Government class. Agricultural class is includ

The fields in red are required.

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Reporting unit name (District name): Helix Water District

Reporting unit number: 128

Primary contact:

First name: Jeff

Last name: Barnes

Email: jeff.barnes@helixwater.org

Click here to open a table that displays your agency name reporting unit name and reporting unit number. Please ensure that you enter the correct information.

Link to FAQs

2010

BMP 2.1 Public Outreach - Retail Reporting

View MOU

Is a Wholesale Agency Performing Public Outreach?

Are there one or more wholesale agencies performing public outreach which can be counted to help your agency comply with the BMP? (●) Yes ( ) No

Enter the name(s) of the wholesale agency (comma delimited): San Diego County Water Authority

Is your agency performing public outreach?

Report a minimum of 4 water conservation related contacts your agency had with the public during the year.

Public Information Programs List

Did at least one contact take place during each quarter of the reporting year? ☑

Number of Public Contacts	Public Information Programs
180,000	Newsletter articles on conservation
180,000	Flyers and/or brochures (total copies), bill stuffers, messages printed on bill, information packets
600	General water conservation information
24,000	Website
500	Landscape water conservation media campaigns

Contact with the Media

Are there one or more wholesale agencies performing media outreach which can be counted to help your agency comply with the BMP? (●) Yes ( ) No

Enter the name(s) of the wholesale agency (comma delimited): San Diego County Water Authority

OR Retail Agency (Contacts with the Media)

Media Contacts List

Did at least one contact take place during each quarter of the reporting year? ☑

Number of Media Contacts	Did at least one contact take place during each quarter of the reporting year?	Media Contact Types
11		Articles or stories resulting from outreach
260		News releases
6		Newspaper contacts
2		Radio contacts
5		Television contacts
		Select a type of media contact

Is a Wholesale Agency Performing Website Updates?

Did one or more CUWCC wholesale agencies agree to assume your agency's responsibility for meeting the requirements of and for CUWCC reporting of this BMP? ○Yes ⊙No

Enter the name(s) of the wholesale agency (comma delimited)

Is Your Agency Performing Website Updates?

Enter your agency's URL (website address): www.hwd.com

Describe a minimum of four water conservation related updates to your agency's website that took place during the year:

1. Rebates Available 12/11/09
2. Free Conservation Surveys 08/10/09
3. Rain Catchment - Personal Story 05/30/10
4. So, you've killed your lawn--what now? 09/10/09
5. Free Professional Landscape Drawings Available 02/16/10

Did at least one Website Update take place during each quarter of the reporting year? ⊙Yes ○No

Public Outreach Annual Budget

Enter budget for public outreach programs. You may enter total budget in a single line or brake the budget into discrete categories by entering many rows. Please indicate if personnel costs are included in the entry.

Category	Amount		Personnel Costs Included? If yes, check the box.	Comments	
Personnel	$161,400		✓	2 full-time; 2 half-time; 2 interns	
Outreach	$58,000			brochures, inserts, materials and programs	
Water Conserva	$82,800			Partner Funding for Water Conservation Gard	

Comments:

Each news release went to 52 outlets.

The fields in red are required.

Agency name: Helix Water District

Reporting unit name (District name): Helix Water District

Reporting unit number: 128

Primary contact:

First name: Jeff

Last name: Barnes

Email: jeff.barnes@helixwater.org

Click here to open a table that displays your agency name reporting unit name and reporting unit number. Please ensure that you enter the correct information.

Link to FAQs

2010

BMP 2.1 Public Outreach Cont'd

View MOU

Public Outreach Expenses

Enter expenses for public outreach programs. Please include the same kind of expenses you included in the question related to your budget (Section 2.1.7, above). For example, if you included personnel costs in the budget entered above, be sure to include them here as well.

Expense Category	Expense Amount	Personnel Costs Included?	
Personnel	$158,198.96	✓	If yes, check the check box.
Outreach	$39,074.05		
Water Conservation Garden	$78,925.00		

Additional Public Information Program

Please report additional public information contacts. List these additional contacts in order of how your agency views their importance / effectiveness with respect to conserving water, with the most important/ effective listed first (where 1 = most important).

Were there additional Public Outreach efforts? ⊙Yes ○No

Public Outreach Additional Information

Public Information Programs	Importance
Model Landscape Ordinance adoption coordination w/cities, county, SDC Water Auth	1
Outreach to irrigation meter accounts that are on water budgets	2
Outreach to home owners to repurpose their landscaping to water efficient plant selec	3

Social Marketing Programs

Branding

Does your agency have a water conservation "brand," "theme" or mascot? ○Yes ⊙No

Describe the brand, theme or mascot.

"Otrix" the ozone Molecule

Market Research

Have you sponsored or participated in market research to refine your message? ○Yes ⊙No

Market Research Topic	
Brand Message	
Brand Mission Statement	

Community Committees

Do you have a community conservation committee? ○ Yes ⊙ No

Enter the names of the community committees:

Training

Training Type	# of Trainings	# of Attendees	Description of Other

Social Marketing Expenditures

Public Outreach Social Marketing Expenses

Expense Category	Expense Amount	Description

Partnering Programs - Partners

Name	Type of Program
☑ CLCA?	Landscape Drawing Project
☐ Green Building Programs?	
☐ Master Gardeners?	
☐ Cooperative Extension?	
☑ Local Colleges?	Water Conservation Garden at Cuyamaca College; also a conservation partner with Cuyamaca College
☐ Other	

☐ Retail and wholesale outlet; name(s) and type(s) of programs:

Rainbird, Hunter, Hydroscape	Provided instructors for smart controller and nozzle seminars

Partnering Programs - Newsletters

Number of newsletters per year: 3

Number of customers per year	56,000

Partnering with Other Utilities

Describe other utilities your agency partners with, including electrical utilities	Otay Water District, Sweetwater authority, Padre Dam Municipal Water District, Lakeside Water District, City of San Diego, San Diego County Water Authority

Conservation Gardens

Describe water conservation gardens at your agency or other high traffic areas or new	Helix Water District is a founder of The Water Conservation Garden located on the campus of Cuyamaca College in Rancho San Diego. It is a 5-acre garden of which the sole purpose is to model and encourage water efficient gardening and landscaping in San Diego County.

Landscape contests or awards

Describe water wise landscape contest or awards program conducted by your agency	Helix Water District participated in the Annual Water Agency California-Friendly Landscape Contest.

Comments:

The fields in red are required.

Agency name: Helix Water District

Reporting unit name (District name): Helix Water District

Reporting unit number: 128

Primary contact:

First name: Jeff

Last name: Barnes

Email: jeff.barnes@helixwater.org

Click here to open a table that displays your agency name reporting unit name and reporting unit number. Please ensure that you enter the correct information.

Link to FAQs

2010

BMP 2.2 School Education Programs, Retail Agencies

View MOU

School Programs

Is a wholesale agency implementing school programs which can be counted to help your agency comply with this BMP? ⊙Yes ○No

Enter Wholesaler Names, separated by commas: San Diego County Water Authority

☑ Materials meet state education framework requirements?

Description of Materials: All materials comport with California State Content Standards. In-class presentations K-4; Water Treatment Plant Tours 5th; "Water Times" (MWD materials) 6th; no 7/8th program due to staffing and budget restrictions

☑ Materials distributed to K-6 Students?

Description of materials distributed to K-6 Students: All materials comport with California State Content Standards. In-class presentations K-4; Water Treatment Plant Tours 5th; "Water Times" (MWD materials) 6th

Number of students reached: 7,216

☐ Materials distributed to 7-12 Students?

Description of materials distributed to 7-12 Students: None due to budget restrictions and staffing constraints

Number of Distribution: 0

Annual budget for school education program: $38,000 + salaries

Description of all other water supplier education programs: San Diego County Water Authority supports the Mobile Splash Lab; 6th grade materials are produced by Metropolitan Water District of Southern California

School Program Activities

Classroom presentations:

Number of presentations: 175 Number of attendees: 4,857

Large group assemblies:

Number of presentations: 0 Number of attendees: 0

Children's water festivals or other events:

Number of presentations: 3 Number of attendees: 600

Cooperative efforts with existing science/water education programs (various workshops, science fair awards or judging) and follow-up:

Number of presentations: 0 Number of attendees: 0

Other methods of disseminating information (i.e. themed age-appropriate classroom loaner kits):

Description: Pre-school kits to all Head Start Programs (990 students) and 12 Lemon Grove Public Pre-schools (1,200 students); High School kit available upon request

Number distributed:

Staffing children's booths at events & festivals:

Number of booths: 3 — Number of attendees: 6000

Water conservation contests such as poster and photo:

Description: Annual "Water is Life" poster contest K-6 (73 entries)
Annual High School Photo Contest (193 entries) - This program has gone regional with the participation of Otay Water District and Sweetwater Authority to be able to award a "Best in Region" each year

Number distributed:

Offer monetary awards/funding or scholarships to students:

Number Offered: Varies according to requestts — Total Funding: $7,300

Teacher training workshops:

Number of presentations: 2 — Number of attendees: 23

Fund and/or staff student field trips to treatment facilities, recycling facilities, water conservation gardens, etc.:

Number of tours or field trips: 76 — Number of participants: 2,359

College internships in water conservation offered:

Number of internships: 2 — Total funding: $16 per hour

Career fairs/workshops:

Number of presentations: — Number of attendees:

Additional program(s) supported by agency but not mentioned above:

Description:
1. Bookmark the District - distributed 40,000 water conservation bookmarks to schools, libraries, bookstores, and The Water Conservation Garden - this program has gone regional with the addition of Otay Water District which distributed 20,000
2. Four professionally drawn water-wise landscape plans were produced in conjunction with the Model landscaope Ordinance adoption, as well as a model landscape brochure; partners were: Cities of La mesa, El Cajon, Lemon Grove,, Santee, County of San Diego, Otay, Padre Dam, Lakeside, Sweetwater water districts, and the San Diego County Water Authority
3. Summer Library Program for Pre-Schoo - K - (275 participants)

Number of events (if applicable): — Number of participants:

Total reporting period budget expenditures for school education programs (include all agency costs): $103,920.00 (material and salaries)

Comments

Best Management Practices (BMP's)
2009 Monitoring Report

The fields in red are required.

Agency name: Helix Water District

Division name (Reporting unit): Helix Water District

Reporting unit number: 128

Primary contact:

First name: Jeff

Last name: Barnes

Email: jeff.barnes@helixwater.org

WATER SOURCES

2009

Service Area Population: 264659

Potable Water

Own Supply Source Name	AF/YEAR	Water Supply Type	Water Supply Description
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	

Imported Supply Source Name	AF/YEAR	Water Supply Type	Water Supply Description
Helix #5 FCF	1,368.30	Surface	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	

Exported Water Name	AF/YEAR	Where Exported?

The fields in red are required.

Agency name: Helix Water District

Division name (Reporting unit): Helix Water District

Reporting unit number: 128

Primary contact:

First name: Jeff

Last name: Barnes

Email: jeff.barnes@helixwater.org

2009

Service Area Population: 264659

Non- Potable Water

Own Supply Source Name	AF/YEAR	Water Supply Type	If you select Other for type, enter Water Supply Description
Well 101	174.60	Groundwater	
Lake Jennings	6,710.20	Surface	
El Capitan	953.90	Surface	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	

Imported Supply Source Name	AF/YEAR	Water Supply Type	Water Supply Description
Helix #1 FCF	16,727.20	Surface	
Helix #6 FCF	15,451.60	Surface	
Helix #7 FCF	15,400.70	Surface	
Helix #8 FCF	8,495.50	Surface	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	

Exported Water Name	AF/YEAR	Where Exported? such as groundwater recharge, retail,

The fields in red are required.

Agency name: Helix Water District

Division name (Reporting unit): Helix Water District

Reporting unit number: 128

Primary contact:

First name: Jeff

Last name: Barnes

Email: jeff.barnes@helixwater.org

Water Uses 2009

Potable Water Billed

Make sure to enter numbers in AF/Year.

Customer Type	Meter Accounts	Metered Water Delivered	Un-metered Accounts	Un-metered Water Delivered	Description
Single-Family	46,305.00	19,292.88	0.00		
Multi-Family	4,864.00	9,759.67	0.00		
Commercial	3,291.00	4,265.00	0.00		
Other	246.00	875.05	0.00		Government class
Dedicated Irrigation	831.00	2,115.57	0.00		
Fire Lines	0.00	0.00	773.00	1,330.00	Includes flushing, breaks, system leaks.
Other	88.00	18.04	0.00		Temporary/Construction class
Other					
Other					
Other					
Other					
Other					
Other					

Potable Water Un-Billed

Customer Type	Meter Accounts	Metered Water Delivered	Un-metered Accounts	Un-metered Water Delivered	Description
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					

The fields in red are required.

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Reporting unit number: 128

Primary contact:

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You must enter the reporting unit number that we have on record for your agency. Click here to open a table to obtain this number.

Link to FAQs

2009

BMP 1.1 Operations Practices

Comments:

Each of the land use agencies within the Helix Water District service area have adopted model water-efficient landscape ordinances for new development. Helix met with staff from each agency and facilitated the development of the ordinances.

See the complete MOU: View MOU

See the coverage requirements for this BMP:

Conservation Coordinator

Conservation Coordinator (•) Yes ( ) No

Contact Information

First Name	Jeff
Last Name	Barnes
Title	Water Conservation Specialist
Phone	(619) 667-6202
Email	jeff.barnes@helixwater.org

Note that the contact information may be the same as the primary contact information at the top of the page. If this is your case, excuse the inconvenience but please enter the information again.

Water Waste Prevention

Water Agency shall do one or more of the following:

a. Enact and enforce an ordinance or establish terms of service that prohibit water waste
b. Enact and enforce an ordinance or establish terms of service for water efficient design in new development
c. Support legislation or regulations that prohibit water waste
d. Enact an ordinance or establish terms of service to facilitate implementation of water shortage response measures
e. Support local ordinances that prohibit water waste
f. Support local ordinances that establish permits requirements for water efficient design in new

To document this BMP, provide the following:

a. A description of, or electronic link to, any ordinances or terms of service
b. A description of, or electronic link to, any ordinances or requirements adopted by local jurisdictions or regulatory agencies with the water agency's service area.
c. A description of any water agency efforts to cooperate with other entities in the adoption or enforcement of local requirement
d. description of agency support positions with respect to adoption of legislation or regulations

You can show your documentation by providing files, links (web addresses), and/or entering a description.

File name(s): Email files to natalie@cuwcc.org: Drought Response Policy & Procedure

Web address(s) URL: comma-separated list: http://www.hwd.com/about/policies.pdf

Enter a description:

The fields in red are required.

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Link to FAQs

View MOU

2009 BMP 1.2 Water Loss Control

Did your agency complete a pre-screening system audit in 2009? Yes (●) No ( )

If yes, answer the following:

Determine metered sales in AF: 36,327.55

Definition: other accountable uses not included in metered sales, such as unbilled water use, fire suppression, etc.

Determine system verifiable uses AF: 68.00

Determine total supply into the system in AF: 37,656.51

Does your agency keep necessary data on file to verify the answers above? Yes (●) No ( )

Did your agency complete a full-scale system water audit during 2009? Yes (●) No ( )

Does your agency maintain in-house records of audit results or the completed AWWA worksheet for the completed audit which could be forwarded to CUWCC? Yes (●) No ( )

Did your agency operate a system leak detection program? Yes ( ) No (●)

Comments:

The fields in red are required.

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Last name: Barnes

Email: jeff.barnes@helixwater.org

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Link to FAQs

2009 BMP 1.2 Water Loss Control

View MOU

AWWA Water Audit

Agency to complete a Water Audit & Balance Using The AWWA Software ⊙ Yes ○ No

Email to natalie@cuwcc.org - Worksheets (AWWA Water Audit). Enter the name of the file below:

HelixWD 2008-09 Audit

Water Audit Validity Score from AWWA spreadsheet: 94%

Agency Completed Training In The AWWA Water Audit Method ○ Yes ⊙ No

Agency Completed Training In The Component Analysis Process ○ Yes ⊙ No

Completed/Updated the Component Analysis (at least every 4 years)? ○ Yes ⊙ No

Component Analysis Completed/Updated Date

Water Loss Performance

Agency Repaired All Reported Leaks & Breaks To The Extent Cost Effective ⊙ Yes ○ No

Recording Keeping Requirements:

Date/Time Leak Reported	Leak Location
Type of Leaking Pipe Segment or Fitting	Leak Running Time From Report to Repair
Leak Volume Estimate	Cost of Repair

Agency Located and Repaired Unreported Leaks to the Extent Cost Effective ○ Yes ⊙ No

Type of Program Activities Used to Detect Unreported Leaks

Annual Summary Information

Complete the following table with annual summary information (required for reporting years 2-5 only)

Total Leaks Repaired	Economic Value Of Real Loss	Economic Value Of Apparent Loss	Miles Of System Surveyed For Leaks	Pressure Reduction Undertaken for loss reduction	Cost Of Interventions	Water Saved (AF/Year)
			0			

Comments:

AWWA WLCC Free Water Audit Software: Reporting Worksheet

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WAS v4.0

Back to Instructions

? Click to access definition

Water Audit Report for: Helix Water District
Reporting Year: 2009 7/2008 - 6/2009

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: ACRE-FEET PER YEAR

WATER SUPPLIED

<< Enter grading in column 'E'

Volume from own sources:	?	7	7,838.720	acre-ft/yr
Master meter error adjustment (enter positive value):	?			acre-ft/yr
Water imported:	?	10	38,750.890	acre-ft/yr
Water exported:	?	10	8,933.100	acre-ft/yr
WATER SUPPLIED:			37,656.510	acre-ft/yr

AUTHORIZED CONSUMPTION

Click here: ? for help using option buttons below

					Pcnt:	Value:
Billed metered:	?	10	36,327.546	acre-ft/yr		
Billed unmetered:	?	10	4.000	acre-ft/yr		
Unbilled metered:	?	10	30.000	acre-ft/yr		
Unbilled unmetered:	?	10	34.000	acre-ft/yr		34.000
AUTHORIZED CONSUMPTION:	?		36,395.546	acre-ft/yr		

Use buttons to select percentage of water supplied OR value

WATER LOSSES (Water Supplied - Authorized Consumption) 1,260.964 acre-ft/yr

Apparent Losses

					Pcnt:	Value:
Unauthorized consumption:	?		94.141	acre-ft/yr	0.25%	

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Customer metering inaccuracies:	?	10	91.122	acre-ft/yr	0.25%	
Systematic data handling errors:	?	9	10.000	acre-ft/yr		
Apparent Losses:	?		195.263			

Choose this option to enter a percentage of billed metered consumption. This is NOT a default value

Real Losses

Real Losses = Water Losses - Apparent Losses:	?		1,065.701	acre-ft/yr
WATER LOSSES:			1,260.964	acre-ft/yr

NON-REVENUE WATER

NON-REVENUE WATER:	?	1,324.964	acre-ft/yr

= Total Water Loss + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	?	10	721.1	miles	
Number of active AND inactive service connections:	?	10	55,626		
Connection density:			77	conn./mile main	
Average length of customer service line:	?	10	25.0	ft	(pipe length between curbstop and customer meter or property boundary)
Average operating pressure:	?	10	85.0	psi	

COST DATA

Total annual cost of operating water system:	?	10	$55,481,100	$/Year
Customer retail unit cost (applied to Apparent Losses):	?	9	$2.92	$/100 cubic feet (ccf)
Variable production cost (applied to Real Losses):	?	10	$698.23	$/acre-ft/yr

PERFORMANCE INDICATORS

Financial Indicators

Non-revenue water as percent by volume of Water Supplied:	3.5%
Non-revenue water as percent by cost of operating system:	1.9%
Annual cost of Apparent Losses:	$248,365
Annual cost of Real Losses:	$744,104

Operational Efficiency Indicators

Apparent Losses per service connection per day:	3.13	gallons/connection/day
Real Losses per service connection per day*:	17.10	gallons/connection/day
Real Losses per length of main per day*:	N/A	
Real Losses per service connection per day per psi pressure:	0.20	gallons/connection/day/psi
? Unavoidable Annual Real Losses (UARL):	441.19	million gallons/year
? Infrastructure Leakage Index (ILI) [Real Losses/UARL]:	0.79	

* only the most applicable of these two indicators will be calculated

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 94 out of 100 *****

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

1: Volume from own sources
2: Unauthorized consumption
3: Customer retail unit cost (applied to Apparent Losses)

For more information, click here to see the Grading Matrix worksheet

AWWA WLCC Free Water Audit Software: Water Balance

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Water Audit Report For:	Report Yr:
Helix Water District	2009

Own Sources (Adjusted for known errors) 7,838.720	Water Exported 8,933.100		Billed Water Exported		
	Water Supplied 37,656.510	Authorized Consumption 36,395.546	Billed Authorized Consumption 36,331.546	Billed Metered Consumption (inc. water exported) 36,327.546	Revenue Water 36,331.546
				Billed Unmetered Consumption 4.000	
			Unbilled Authorized Consumption 64.000	Unbilled Metered Consumption 30.000	Non-Revenue Water (NRW) 1,324.964
				Unbilled Unmetered Consumption 34.000	
		Water Losses 1,260.964	Apparent Losses 195.263	Unauthorized Consumption 94.141	
				Customer Metering Inaccuracies 91.122	
				Systematic Data Handling Errors 10.000	
Water Imported 38,750.890			Real Losses 1,065.701	Leakage on Transmission and/or Distribution Mains Not broken down	
				Leakage and Overflows at Utility's Storage Tanks Not broken down	
				Leakage on Service Connections Not broken down	

The fields in red are required.

Agency name: Helix Water District

Reporting unit name (District name): Helix Water District

Reporting unit number: 128

Primary contact:

First name: Jeff

Last name: Barnes

Email: jeff.barnes@helixwater.org

You must enter the reporting unit number that we have on record for your agency. Click here to open a table to obtain this number.

BMP 1.3 Metering with Commodity

Link to FAQs

See the complete MOU: View MOU

See the coverage requirements for this BMP:

Implementation

Does your agency have any unmetered service connections? ○ Yes ◉ No

If YES, has your agency completed a meter retrofit plan? ○ Yes ○ No

Enter the number of previously unmetered accounts fitted with meters during reporting year:

Are all new service connections being metered? ◉ Yes ○ No

Are all new service connections being billed volumetrically? ◉ Yes ○ No

Has your agency completed and submitted electronically to the Council a written plan, policy or program to test, repair and replace meters? ◉ Yes ○ No

Please Fill Out The Following Matrix

Account Type	# Metered Accounts	# Metered Accounts Read	# Metered Accounts Billed by Volume	Billing Frequency Per Year	# of estimated bills/yr
Single-Family	46,305	46,305	46,305	Bi-monthly	230
Multi-Family	4,864	4,864	4,864	Bi-monthly	37
Commericial	3,291	3,291	3,291	Bi-monthly	30
Other	246	246	246	Bi-monthly	2
Dedicated Irrigatic	831	831	831	Bi-monthly	7
Agricultural	5	5	5	Bi-monthly	0
Fire Lines	0	0	0	Bi-monthly	0
Other	88	88	88	Monthly	13
Other				Other	
Other				Other	

Number of CII Accounts with Mixed-use Meters: 3,291

Number of CII Accounts with Mixed-use Meters Retrofitted with Dedicated Irrigation Meters during Reporting Period: 0

Feasibility Study

Has your agency conducted a feasibility study to assess the merits of a program to provide incentives to switch mixed-use accounts to dedicated landscape meters? ○ Yes ◉ No

If YES, please fill in the following information:

A. When was the Feasiblity Study conducted

B. Email or provide a link to the feasibility study (or description of):

File name(s): Email files to natalie@cuwcc.org Enter the file name here e.g. WaterWastePreventionOrdinan

Web address(s) URL: comma-separated list Enter the URL to your documentation.

General Comments about BMP 1.3: The first "Other" account type is the Government class and the second is Constructio

The fields in red are required.

Agency name: Helix Water District

Reporting unit name (District name): Helix Water District

Reporting unit number: 128

Primary contact:

First name: Jeff

Last name: Barnes

Email: jeff.barnes@helixwater.org

You must enter the reporting unit number that we have on record for your agency. Click here to open a table to obtain this number.

Link to FAQs

View MOU

BMP 1.4 Retail Conservation Pricing

2009

If you are reporting more rate structures than this form allows, add the structures to a spreadsheet and send the file to natalie@cuwcc.org.

Implementation (Water Rate Structure)

Enter the Water Rate Structures that are assigned to the majority of your customers, by customer class

Rate Structure	Customer Class	Total Revenue Commodity Charges	Total Revenue Customer Meter/Service (Fixed Charges)
Increasing Block	Single-Family	20,073,383.73	9,673,153.42
Uniform	Multi-Family	9,979,757.29	2,106,708.79
Uniform	Commercial	4,358,219.44	1,413,981.92
Uniform	Other	1,448,973.56	316,116.65
Increasing Block Se	Dedicated Irrigation	1,596,249.67	443,512.81
Non-Volumetric Fla	Fire Lines	0.00	316,116.65
Select a Rate Struc	Select a Customer Ty		

Implementation Option (Conservation Pricing Option)

- (•) Use Annual Revenue As Reported
- ( ) Use Canadian Water & Wastewater Association Rate Design Model

If CWWA is select, enter the file name and email the spreadsheet to natalie@cuwcc.org

Retail Waste Water (Sewer) Rate Structure by Customer Class

Agency Provide Sewer Service ( ) Yes (•) No

Select the Retail Waste Water(Sewer) Rate Structure assigned to the majority of your customers within a specific customer class.

Rate Structure	Customer Class	Total Revenue Commodity Charges	Total Revenue Customer Meter/Service (Fixed Charges)
Select a Rate Struc	Other		
Select a Rate Struc	Other		
Select a Rate Struc	Other		
Select a Rate Struc	Other		
Select a Rate Struc	Other		
Select a Rate Struc	Other		
Select a Rate Struc	Other		

Comments:

The "Other" customer class is the Government class. Agricultural class is included in

The fields in red are required.

Agency name: Helix Water District

Reporting unit name (District name): Helix Water District

Reporting unit number: 128

Primary contact:

First name: Jeff

Last name: Barnes

Email: jeff.barnes@helixwater.org

Click here to open a table that displays your agency name reporting unit name and reporting unit number. Please ensure that you enter the correct information.

Link to FAQs

2009

BMP 2.1 Public Outreach - Retail Reporting

View MOU

Is a Wholesale Agency Performing Public Outreach?

Are there one or more wholesale agencies performing public outreach which can be counted to help your agency comply with the BMP? (•) Yes ( ) No

Enter the name(s) of the wholesale agency (comma delimited): San Diego County Water Authority

Is your agency performing public outreach?

Report a minimum of 4 water conservation related contacts your agency had with the public during the year.

Public Information Programs List

Did at least one contact take place during each quarter of the reporting year? ✓

Number of Public Contacts	Public Information Programs
270,000	Newsletter articles on conservation
216,000	Flyers and/or brochures (total copies), bill stuffers, messages printed on bill, information packets
18,000	Website
21,000	Landscape water conservation media campaigns
1,000	General water conservation information

Contact with the Media

Are there one or more wholesale agencies performing media outreach which can be counted to help your agency comply with the BMP? (•) Yes ( ) No

Enter the name(s) of the wholesale agency (comma delimited): San Diego County Water Auithority

OR Retail Agency (Contacts with the Media)

Media Contacts List

Did at least one contact take place during each quarter of the reporting year? ✓

Number of Media Contacts	Media Contact Types
12	Articles or stories resulting from outreach
6	News releases
5	Newspaper contacts
6	Radio contacts
2	Television contacts
	Select a type of media contact

Is a Wholesale Agency Performing Website Updates?

Did one or more CUWCC wholesale agencies agree to assume your agency's responsibility for meeting the requirements of and for CUWCC reporting of this BMP? ○Yes ⊙No

Enter the name(s) of the wholesale agency (comma delimited)

Is Your Agency Performing Website Updates?

Enter your agency's URL (website address): www.hwd.com

Describe a minimum of four water conservation related updates to your agency's website that took place during the year:

1. Constant updates on rebate status
2. Landscape contest announcement: www.hwd.com and www.landscapecontest.com
3. Free water conservation survey
4. Waer Shortage level 2 announcment

Did at least one Website Update take place during each quarter of the reporting year? ⊙Yes ○No

Public Outreach Annual Budget

Enter budget for public outreach programs. You may enter total budget in a single line or brake the budget into discrete categories by entering many rows. Please indicate if personnel costs are included in the entry.

Category	Amount		Personnel Costs Included? If yes, check the box.	Comments	
Personnel	167,300		✓	2 half-time; 2 full time (1/2 of their time); 2 int	
Outreach	33,000			Brochures, inserts, other materials and outrea	
Water Conserva	82,800			Partner funding - Water Conservation Garden	

Comments:

Media Releases go to 52 outlets; 5 newsletter articles sent to 54,000 customers; 4 bill stuffers sent to 54,000; 1500 website hits per month x 12; landscape media

The fields in red are required.

Agency name: Helix Water District

Reporting unit name (District name): Helix Water District

Reporting unit number: 128

Primary contact:

First name: Jeff

Last name: Barnes

Email: jeff.barnes@helixwater.org

Click here to open a table that displays your agency name reporting unit name and reporting unit number. Please ensure that you enter the correct information.

Link to FAQs

2009

BMP 2.1 Public Outreach Cont'd

View MOU

Public Outreach Expenses

Enter expenses for public outreach programs. Please include the same kind of expenses you included in the question related to your budget (Section 2.1.7, above). For example, if you included personnel costs in the budget entered above, be sure to include them here as well.

Expense Category	Expense Amount	Personnel Costs Included?	
Personnel	$147,396.19	✓	If yes, check the check box.
Outreach	$48,446.88		
Water Conservation Garden	$78,900		

Additional Public Information Program

Please report additional public information contacts. List these additional contacts in order of how your agency views their importance / effectiveness with respect to conserving water, with the most important/ effective listed first (where 1 = most important).

Were there additional Public Outreach efforts? ⊙ Yes ○ No

Public Outreach Additional Information

Public Information Programs	Importance	
High User Workshops	1	
HOA Workshops	2	

Social Marketing Programs

Branding

Does your agency have a water conservation "brand," "theme" or mascot? ⊙ Yes ○ No

Describe the brand, theme or mascot. "Otrix" the ozone molecule

Market Research

Have you sponsored or participated in market research to refine your message? ○ Yes ⊙ No

Market Research Topic	
Brand Message	
Brand Mission Statement	

Community Committees

Do you have a community conservation committee? ○ Yes ⊙ No

Enter the names of the community committees:

Training

Training Type	# of Trainings	# of Attendees	Description of Other
Irrigation	$3	$67	Smart Controller and Rotating Nozzles

Social Marketing Expenditures

Public Outreach Social Marketing Expenses

Expense Category	Expense Amount	Description

Partnering Programs - Partners

Name	Type of Program
☑ CLCA?	Staff participated in Certified Landscape Water Management program
☐ Green Building Programs?	
☐ Master Gardeners?	
☐ Cooperative Extension?	
☑ Local Colleges?	Partner with Water Conservation Garden at Cuyamaca College
☐ Other	

☑ Retail and wholesale outlet; name(s) and type(s) of programs:

Rainbird, Torro, Hydroscape	Provided instructors and demonstration products for controller/nozzle trainings

Partnering Programs - Newsletters

Number of newsletters per year: 3

Number of customers per year	54,000

Partnering with Other Utilities

Describe other utilities your agency partners with, including electrical utilities	Otay Water District, Padre Dam Municipal Water District, Sweetwater Authority, City of San Diego, San Diego County Water Authority

Conservation Gardens

Describe water conservation gardens at your agency or other high traffic areas or new	Helix Water District is one of the founders of The Water Conservation Garden located on the grounds of Cuyamaca College in Rancho San Diego. Helix continues to support this agency with extensive funding, in kind donations, and supplemental personnel.

Landscape contests or awards

Describe water wise landscape contest or awards program conducted by your agency	Helix Water District participates in the Annual California-Friendly Landscape Contest, which during this year included 14 San Diego County Water Agencies and was partially funded by the San Diego County Water Authority.

Comments:

The fields in red are required.

Agency name: Helix Water District

Reporting unit name (District name): Helix Water District

Reporting unit number: 128

Primary contact:

First name: Jeff

Last name: Barnes

Email: jeff.barnes@helixwater.org

Click here to open a table that displays your agency name reporting unit name and reporting unit number. Please ensure that you enter the correct information.

Link to FAQs

2009

BMP 2.2 School Education Programs, Retail Agencies

View MOU

School Programs

Is a wholesale agency implementing school programs which can be counted to help your agency comply with this BMP? ⊙Yes ○No

Enter Wholesaler Names, separated by commas: San Diego County Water Authority

☑ Materials meet state education framework requirements?

Description of Materials: In-class presentations K-4: Water Treatment Plant Tour 5th; "Water Times" 6th; Pre-school kit for every Head Start in the District; High School kit - loaned on demand

☑ Materials distributed to K-6 Students?

Description of materials distributed to K-6 Students: In-class presentations K-4: Water Treatment Plant Tour 5th; "Water Times" 6th;

Number of students reached: 7,764

☑ Materials distributed to 7-12 Students?

Description of materials distributed to 7-12 Students: Mystery Water Lab 7/8th

Number of Distribution: 452

Annual budget for school education program: $36,800 + salaries

Description of all other water supplier education programs: Pre-school kit for every head Start (990 students) and 12 Lemon Grove public pre-schools (1020 students; High School kit - loaned on request

School Program Activities

Classroom presentations:

Number of presentations: 236 Number of attendees: 5,521

Large group assemblies:

Number of presentations: 0 Number of attendees: 0

Children's water festivals or other events:

Number of presentations: 3 Number of attendees: 6,000

Cooperative efforts with existing science/water education programs (various workshops, science fair awards or judging) and follow-up:

Number of presentations: 0 Number of attendees: 0

Other methods of disseminating information (i.e. themed age-appropriate classroom loaner kits):

Description: Partial funding for Mobile Splash lab - 3 schools - 450 students; pre-school and high school kits (see above); Summer Library program - 215 students

Number distributed:

Staffing children's booths at events & festivals:

Number of booths: 5 | Number of attendees: 1,000 interface with students

Water conservation contests such as poster and photo:

Description: Annual "Water is Life Poster Contest K-6 - 97 entries
Annual High School Poster Contest - 157 entries
Rotating show of photos in the lobby of admin building each summer

Number distributed:

Offer monetary awards/funding or scholarships to students:

Number Offered: Varries according to requests | Total Funding: $7,300

Teacher training workshops:

Number of presentations: 2 | Number of attendees: 17

Fund and/or staff student field trips to treatment facilities, recycling facilities, water conservation gardens, etc.:

Number of tours or field trips: 72 | Number of participants: 2,243

College internships in water conservation offered:

Number of internships: 2 | Total funding: $12 per hour

Career fairs/workshops:

Number of presentations: | Number of attendees:

Additional program(s) supported by agency but not mentioned above:

Description:
1. Bookmark the District - Distributed 40,000 water conservation bookmarks to schools, libraries, bookstores and the Water Conservation Garden
2. Summer Library Program - pre-school - K (215 participants)
3. Presentations to "First Five" parents of pre-schoolers in underserved areas (4 presentations - 52 parents)

Number of events (if applicable): | Number of participants:

Total reporting period budget expenditures for school education programs (include all agency costs): $97,209.89 (materials and salaries

Comments

Appendix B

GPCD Consumption & Target Data

California Urban Water Conservation Council

Main Data

Input cells:
Calculated cells:

Data Entry in acre-feet unless otherwise noted

Volume from Own Sources

Fiscal Year Ending	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	ANNUAL TOTAL (INPUT)	METER ADJUST-MENT (%)	CALCULATED TOTAL
2010													2,865.930		2,865.930
2009													1,260.800		1,260.800
2008													3,256.720		3,256.720
2007													3,648.390		3,648.390
2006													10,594.030		10,594.030
2005													6,256.980		6,256.980
2004													2,010.210		2,010.210
2003													1,586.860		1,586.860
2002													2,156.390		2,156.390
2001													2,660.410		2,660.410
2000													4,335.690		4,335.690
1999													11,331.210		11,331.210
1998													7,962.120		7,962.120
1997													4,669.420		4,669.420
1996													11,392.920		11,392.920
1995															0.000
1994															0.000
1993															0.000
1992															0.000
1991															0.000
1990															0.000

Volume from Imported Sources

Fiscal Year Ending	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	ANNUAL TOTAL (INPUT)	METER ADJUST-MENT (%)	CALCULATED TOTAL
2010													30,345.440		30,345.440
2009													36,395.710		36,395.710
2008													37,186.350		37,186.350
2007													38,439.560		38,439.560
2006													29,607.790		29,607.790
2005													32,528.490		32,528.490
2004													40,195.620		40,195.620
2003													38,113.230		38,113.230
2002													40,073.180		40,073.180
2001													37,388.660		37,388.660
2000													38,477.340		38,477.340
1999													28,485.200		28,485.200
1998													29,170.800		29,170.800
1997													36,201.980		36,201.980
1996													29,799.610		29,799.610
1995															0.000
1994															0.000
1993															0.000
1992															0.000
1991															0.000
1990															0.000

Volume of Water Exported to Another Water Utility or Jurisdiction

Fiscal Year Ending	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	ANNUAL TOTAL (INPUT)	METER ADJUST-MENT (%)	CALCULATED TOTAL
2010															0.000
2009															0.000
2008															0.000
2007															0.000
2006															0.000
2005															0.000
2004															0.000
2003															0.000
2002															0.000
2001															0.000
2000															0.000
1999															0.000
1998															0.000
1997															0.000
1996															0.000
1995															0.000
1994															0.000
1993															0.000
1992															0.000
1991															0.000
1990															0.000

Recycled Water Delivered

NOTE: Only 2008 recycled water delivered is required; other years are optional

Fiscal Year Ending	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	ANNUAL TOTAL (INPUT)	METER ADJUST-MENT (%)	CALCULATED TOTAL
2010															0.000
2009															0.000
2008															0.000
2007															0.000
2006															0.000
2005															0.000
2004															0.000
2003															0.000
2002															0.000
2001															0.000
2000															0.000
1999															0.000
1998															0.000
1997															0.000
1996															0.000
1995															0.000
1994															0.000
1993															0.000
1992															0.000
1991															0.000
1990															0.000

Change in Distribution System Storage

Fiscal Year Ending	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN
2010												
2009												
2008												
2007												
2006												
2005												
2004												
2003												
2002												
2001												
2000												
1999												
1998												
1997												
1996												
1995												
1994												
1993												
1992												
1991												
1990												

Fiscal Year Ending	ANNUAL CHANGE IN STORAGE	CALCULATED Net Change in Storage
2010		0.000
2009		0.000
2008		0.000
2007		0.000
2006		0.000
2005		0.000
2004		0.000
2003		0.000
2002		0.000
2001		0.000
2000		0.000
1999		0.000
1998		0.000
1997		0.000
1996		0.000
1995		0.000
1994		0.000
1993		0.000
1992		0.000
1991		0.000
1990		0.000

Indirect Recycled Water Use

(use this calculator to help generate values)

Fiscal Year Ending	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN
2010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1999	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1998	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1997	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1996	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1995	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1994	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1993	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1992	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1991	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1990	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Fiscal Year Ending	ANNUAL TOTAL (INPUT)	CALCULATED TOTAL
2010		0.000
2009		0.000
2008		0.000
2007		0.000
2006		0.000
2005		0.000
2004		0.000
2003		0.000
2002		0.000
2001		0.000
2000		0.000
1999		0.000
1998		0.000
1997		0.000
1996		0.000
1995		0.000
1994		0.000
1993		0.000
1992		0.000
1991		0.000
1990		0.000

Water Delivered for Agricultural Use (values entered will be subtracted from base daily GPCD water use)

Fiscal Year Ending	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	ANNUAL TOTAL (INPUT)	METER ADJUST-MENT (%)	CALCULATED TOTAL
2010															0.000
2009															0.000
2008															0.000
2007															0.000
2006															0.000
2005															0.000
2004															0.000
2003															0.000
2002															0.000
2001															0.000
2000															0.000
1999															0.000
1998															0.000
1997															0.000
1996															0.000
1995															0.000
1994															0.000
1993															0.000
1992															0.000
1991															0.000
1990															0.000

Industrial Process Water Delivered (values entered will be subtracted from base daily GPCD water use and baseline CII GPCD)

Fiscal Year Ending	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	ANNUAL TOTAL (INPUT)	METER ADJUST-MENT (%)	CALCULATED TOTAL
2010															0.000
2009															0.000
2008															0.000
2007															0.000
2006															0.000
2005															0.000
2004															0.000
2003															0.000
2002															0.000
2001															0.000
2000															0.000
1999															0.000
1998															0.000
1997															0.000
1996															0.000
1995															0.000
1994															0.000
1993															0.000
1992															0.000
1991															0.000
1990															0.000

Gross Water Use

Fiscal Year Ending	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	ANNUAL TOTAL USAGE
2010	2,767.614	2,767.614	2,767.614	2,767.614	2,767.614	2,767.614	2,767.614	2,767.614	2,767.614	2,767.614	2,767.614	2,767.614	33,211.370
2009	3,138.043	3,138.043	3,138.043	3,138.043	3,138.043	3,138.043	3,138.043	3,138.043	3,138.043	3,138.043	3,138.043	3,138.043	37,656.510
2008	3,370.256	3,370.256	3,370.256	3,370.256	3,370.256	3,370.256	3,370.256	3,370.256	3,370.256	3,370.256	3,370.256	3,370.256	40,443.070
2007	3,507.329	3,507.329	3,507.329	3,507.329	3,507.329	3,507.329	3,507.329	3,507.329	3,507.329	3,507.329	3,507.329	3,507.329	42,087.950
2006	3,350.152	3,350.152	3,350.152	3,350.152	3,350.152	3,350.152	3,350.152	3,350.152	3,350.152	3,350.152	3,350.152	3,350.152	40,201.820
2005	3,232.123	3,232.123	3,232.123	3,232.123	3,232.123	3,232.123	3,232.123	3,232.123	3,232.123	3,232.123	3,232.123	3,232.123	38,785.470
2004	3,517.153	3,517.153	3,517.153	3,517.153	3,517.153	3,517.153	3,517.153	3,517.153	3,517.153	3,517.153	3,517.153	3,517.153	42,205.830
2003	3,308.341	3,308.341	3,308.341	3,308.341	3,308.341	3,308.341	3,308.341	3,308.341	3,308.341	3,308.341	3,308.341	3,308.341	39,700.090
2002	3,519.131	3,519.131	3,519.131	3,519.131	3,519.131	3,519.131	3,519.131	3,519.131	3,519.131	3,519.131	3,519.131	3,519.131	42,229.570
2001	3,337.423	3,337.423	3,337.423	3,337.423	3,337.423	3,337.423	3,337.423	3,337.423	3,337.423	3,337.423	3,337.423	3,337.423	40,049.070
2000	3,567.753	3,567.753	3,567.753	3,567.753	3,567.753	3,567.753	3,567.753	3,567.753	3,567.753	3,567.753	3,567.753	3,567.753	42,813.030
1999	3,318.034	3,318.034	3,318.034	3,318.034	3,318.034	3,318.034	3,318.034	3,318.034	3,318.034	3,318.034	3,318.034	3,318.034	39,816.410
1998	3,094.410	3,094.410	3,094.410	3,094.410	3,094.410	3,094.410	3,094.410	3,094.410	3,094.410	3,094.410	3,094.410	3,094.410	37,132.920
1997	3,405.950	3,405.950	3,405.950	3,405.950	3,405.950	3,405.950	3,405.950	3,405.950	3,405.950	3,405.950	3,405.950	3,405.950	40,871.400
1996	3,432.711	3,432.711	3,432.711	3,432.711	3,432.711	3,432.711	3,432.711	3,432.711	3,432.711	3,432.711	3,432.711	3,432.711	41,192.530
1995	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1994	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1993	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1992	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1991	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1990	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

California Urban Water Conservation Council

Population

Input cells:
Calculated cells:

Enter population data for the service area.

YEAR	POPULATION
2010	267,922
2009	264,659
2008	262,252
2007	260,100
2006	258,883
2005	260,023
2004	260,626
2003	259,804
2002	258,633
2001	257,244
2000	251,792
1999	250,312
1998	248,846
1997	247,389
1996	245,940
1995	244,500
1994	
1993	
1992	
1991	
1990	

Please note:

The GPCD calculation is very sensitive to errors in population. Please review the guidance document ***Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use*** for additional information and direction in order to acquire the most accurate population estimates.

Population data are only required for years that contain water use data.

If you see "<--Enter Population" this indicates you have entered water use data for this timeframe but not population. Please add population data to enable a calculation of GPCD and associated targets.

253,192 Average population, for the baseline period selected, in the GPCD Matrix worksheet

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GPCD Matrix

Fiscal Year Ending	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	ANNUAL GPCD
2010	110.7	110.7	110.7	110.7	110.7	110.7	110.7	110.7	110.7	110.7	110.7	110.7	110.7
2009	127.0	127.0	127.0	127.0	127.0	127.0	127.0	127.0	127.0	127.0	127.0	127.0	127.0
2008	137.7	137.7	137.7	137.7	137.7	137.7	137.7	137.7	137.7	137.7	137.7	137.7	137.7
2007	144.5	144.5	144.5	144.5	144.5	144.5	144.5	144.5	144.5	144.5	144.5	144.5	144.5
2006	138.6	138.6	138.6	138.6	138.6	138.6	138.6	138.6	138.6	138.6	138.6	138.6	138.6
2005	133.2	133.2	133.2	133.2	133.2	133.2	133.2	133.2	133.2	133.2	133.2	133.2	133.2
2004	144.6	144.6	144.6	144.6	144.6	144.6	144.6	144.6	144.6	144.6	144.6	144.6	144.6
2003	136.4	136.4	136.4	136.4	136.4	136.4	136.4	136.4	136.4	136.4	136.4	136.4	136.4
2002	145.8	145.8	145.8	145.8	145.8	145.8	145.8	145.8	145.8	145.8	145.8	145.8	145.8
2001	139.0	139.0	139.0	139.0	139.0	139.0	139.0	139.0	139.0	139.0	139.0	139.0	139.0
2000	151.8	151.8	151.8	151.8	151.8	151.8	151.8	151.8	151.8	151.8	151.8	151.8	151.8
1999	142.0	142.0	142.0	142.0	142.0	142.0	142.0	142.0	142.0	142.0	142.0	142.0	142.0
1998	133.2	133.2	133.2	133.2	133.2	133.2	133.2	133.2	133.2	133.2	133.2	133.2	133.2
1997	147.5	147.5	147.5	147.5	147.5	147.5	147.5	147.5	147.5	147.5	147.5	147.5	147.5
1996	149.5	149.5	149.5	149.5	149.5	149.5	149.5	149.5	149.5	149.5	149.5	149.5	149.5
1995													
1994													
1993													
1992													
1991													
1990													

Recycled water accounts for 0 % of 2008 deliveries, therefore select a a 10 year baseline period using the selection buttons below

Baseline Ending In...		Baseline 10-years	N/A	N/A	N/A	N/A	N/A
		◉	○	○	○	○	○
2010	○	135.7					
2009	○	139.8					
2008	○	141.3					
2007	○	140.9					
2006	○	141.2					
2005	◉	**142.3**					
2004	○	143.3					
		Min Value	Max Value				

	Ending in...	Baseline 5-years
◉	2010	131.7
○	2009	136.2
○	2008	139.7
○	2007	139.4

Base daily per capita water use (10-15yr baseline)	142.3
Base daily per capita water use (5yr baseline)	131.7

User selection buttons:
Use the buttons to indicate the chosen baseline period

California Urban Water Conservation Council

TARGETS / COMPLIANCE
(CUWCC MOU)

Baseline / Initial GPCD
(Use option buttons to select)

GPCD in 2006 ◉	138.6
Baseline GPCD (1997 to 2006) ○	141.2
GPCD in 2010	110.7
GPCD Target for 2018	113.7

Potable Water GPCD for each Year in the Baseline Period

Year	GPCD
2006	138.6
2005	133.2
2004	144.6
2003	136.4
2002	145.8
2001	139.0
2000	151.8
1999	142.0
1998	133.2
1997	147.5

Biennial GPCD Compliance Table

Year	Report	Target		Highest Acceptable Bound	
		% Base	GPCD	% Base	GPCD
2010	1	96.4%	133.6	100%	138.6
2012	2	92.8%	128.7	96.4%	133.6
2014	3	89.2%	123.7	92.8%	128.7
2016	4	85.6%	118.7	89.2%	123.7
2018	5	82.0%	113.7	82.0%	113.7

Monthly GPCD Data for Weather Normalization

Fiscal Year Ending	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN
2010	110.7	110.7	110.7	110.7	110.7	110.7	110.7	110.7	110.7	110.7	110.7	110.7
Baseline avg*	141.2	141.2	141.2	141.2	141.2	141.2	141.2	141.2	141.2	141.2	141.2	141.2

* The average for each month is based on the baseline period 1997 to 2006

California Urban Water Conservation Council

TARGETS / COMPLIANCE
(SBx7-7)

Input cells:
Calculated cells:

Target Summary	2020	2015
Method 1	113.8	128.1
Method 2	N/A	N/A
Method 3	125.1	133.7
Method 4	0.0	0.0
	Min Value	Max Value

GPCD in 2010	110.7
Base daily per capita water use (10-15yr baseline)	142.3
Base daily per capita water use (5yr baseline)	131.7
Max. allowable GPCD target in 2020 (95% x 5yr baseline)	125.1

Method 1: Baseline per Capita Water Use

80% x Base daily per capita water use (10-15yr baseline): 113.8

2015 Target: 128.1
2020 Target: **113.8**

Method 2: Performance Standards

TM 2 Indoor Water Use allowance: 0.0
TM 6 Landscaped Area Water Use: 0.0
TM 7 Baseline CII Water Use: 0.0

2015 Target: N/A
2020 Target: **N/A**

Method 3: Hydrologic Region Targets

Enter the percentage of your service area population in each hydrologic region

Region	Region Name	% Population	GPCD Target
1	North Coast		137
2	San Francisco Bay		131
3	Central Coast		123
4	South Coast	100.0%	149
5	Sacramento River		176
6	San Jacinto		174
7	Tulare lake		188
8	North Lahontan		173
9	South Lahontan		170
10	Colorado River		211
		100.0%	

2015 Target: 133.7
2020 Target (reduced): **125.1**

Method 4:

To be Developed

Appendix C

Helix Water District Drought Response Policy and Procedure

SECTION 4.9 DROUGHT RESPONSE POLICY AND PROCEDURE

4.9-1 POLICY

Article 10, Section 2 of the California Constitution declares that waters of the state are to be put to beneficial use, that waste, unreasonable use, or unreasonable method of use of water be prevented, and that water be conserved for the public welfare.

Conservation of current water supplies and minimization of the effects of water supply shortages that are the result of drought are essential to the public health, safety and welfare.

Regulation of the time of certain water use, manner of certain water use, design of rates, method of application of water for certain uses, installation and use of water-saving devices, provide an effective and immediately available means of conserving water.

California Water Code Sections 375 et seq. authorizes water suppliers to adopt and enforce a comprehensive water conservation program.

Adoption and enforcement of a comprehensive water conservation program will allow the Helix Water District to delay or avoid implementing measures such as water rationing or more restrictive water use regulations pursuant to a declared water shortage emergency as authorized by California Water Code Sections 350 et seq.

San Diego County is a semi-arid region and local water resources are scarce. The region is dependent upon imported water supplies provided by the San Diego County Water Authority, which obtains a substantial portion of its supplies from the Metropolitan Water District of Southern California. Because the region is dependent upon imported water supplies, weather and other conditions in other portions of this state and of the southwestern United States affect the availability of water for use in San Diego County.

The San Diego County Water Authority has adopted an Urban Water Management Plan that includes water conservation as a necessary and effective component of the Water Authority's programs to provide a reliable supply of water to meet the needs of the Water Authority's 24 member public agencies, including the Helix Water District. The Water Authority's Urban Water Management Plan also includes a contingency analysis of actions to be taken in response to water supply shortages. This policy is consistent with the Water Authority's Urban Water Management Plan.

As anticipated by its Urban Water Management Plan, the San Diego County Water Authority, in cooperation and consultation with its member public agencies, has adopted a Drought Management Plan, which establishes a progressive program for responding to water supply limitations resulting from drought conditions. This policy is intended to be consistent with and to implement the Water Authority's Drought Management Plan.

The Water Authority's Drought Management Plan contains three stages containing regional actions to be taken to lessen or avoid supply shortages. This policy contains drought response levels that correspond with the Drought Management Plan stages.

The Helix Water District, due to the geographic and climatic conditions within its territory and its dependence upon water imported and provided by the San Diego County Water Authority, may experience shortages due to drought conditions, regulatory restrictions

enacted upon imported supplies and other factors. The Helix Water District has adopted an Urban Water Management Plan that includes water conservation as a necessary and effective component of its programs to provide a reliable supply of water to meet the needs of the public within its service territory. The Helix Water District's Urban Water Management Plan also includes a contingency analysis of actions to be taken in response to water supply shortages. This policy is consistent with the Urban Water Management Plan adopted by the Helix Water District.

The water conservation measures and progressive restrictions on water use and method of use identified by this policy provide certainty to water users and enable Helix Water District to control water use, provide water supplies, and plan and implement water management measures in a fair and orderly manner for the benefit of the public.

4.9-2 DECLARATION OF NECESSITY AND INTENT

The District in this Declaration of Necessity and Intent finds the following:

4.9-2(A) This policy and procedure establishes water management requirements necessary to conserve water, enable effective water supply planning, assure reasonable and beneficial use of water, prevent waste of water, prevent unreasonable use of water, prevent unreasonable method of use of water within the Helix Water District in order to assure adequate supplies of water to meet the needs of the public, and further the public health, safety, and welfare, recognizing that water is a scarce natural resource that requires careful management not only in times of drought, but at all times.

4.9-2(B) This policy and procedure establishes regulations to be implemented during times of declared water shortages, or declared water shortage emergencies. It establishes four levels of drought response actions to be implemented in times of shortage, with increasing restrictions on water use in response to worsening drought conditions and decreasing available supplies.

4.9-2(C) Level 1 condition drought response measures are voluntary and will be reinforced through local and regional public education and awareness measures that may be funded in part by Helix Water District. During drought response condition Levels 2 through 4, all conservation measures and water-use restrictions are mandatory and become increasingly restrictive in order to attain escalating conservation goals.

4.9-2(D) During a Drought Response Level 2 condition or higher, the water conservation measures and water use restrictions established by this policy are mandatory and violations may be subject to criminal, civil, and administrative penalties and remedies specified in this policy.

4.9-3 DEFINITIONS

The following words and phrases whenever used in this Section shall have the meaning defined below:

4.9-3(A) "Grower" refers to those engaged in the growing or raising, in conformity with recognized practices of husbandry, for the purpose of commerce, trade, or

industry, or for use by public educational or correctional institutions, of agricultural, horticultural or floricultural products, and produced: (1) for human consumption or for the market, or (2) for the feeding of fowl or livestock produced for human consumption or for the market, or (3) for the feeding of fowl or livestock for the purpose of obtaining their products for human consumption or for the market. "Grower" does not refer to customers who purchase water subject to the Metropolitan Interim Agricultural Water Program or the Water Authority Special Agricultural Rate programs.

4.9-3(B) "Water Authority" means the San Diego County Water Authority.

4.9-3(C) "DMP" means the Water Authority's Drought Management Plan in existence on the effective date of this policy and as readopted or amended from time to time, or an equivalent plan of the Water Authority to manage or allocate supplies during shortages.

4.9-3(D) "Metropolitan" means the Metropolitan Water District of Southern California.

4.9-3(E) "Person" means any natural person, corporation, public or private entity, public or private association, public or private agency, government agency or institution, school district, college, university, or any other user of water provided by the Helix Water District.

4.9-3(F) "Conservation offset" means the implementation of proven conservation techniques which, when installed, will result in a reduction equal to demand of the proposed use. Calculation of demand and saving shall be performed or verified by the member agency or the General Manager based upon non-drought conditions.

4.9-3(G) "Potable water" means water delivered by a member agency or the San Diego County Water Authority which meets drinking water standards.

4.9-4 APPLICATIONS

4.9-4(A) The provisions of this policy apply to any person in the use of any water provided by the Helix Water District.

4.9-4(B) This policy is intended solely to further the conservation of water. It is not intended to implement any provision of federal, state, or local statutes, ordinances, or regulations relating to protection of water quality or control of drainage or runoff. Refer to the local jurisdiction or Regional Water Quality Control Board for information on any stormwater ordinances and stormwater management plans.

4.9-4(C) Nothing in this policy is intended to affect or limit the ability of Helix Water District to declare and respond to an emergency, including an emergency that affects the ability of the District to supply water.

4.9-4(D) The provisions of this policy do not apply to use of water from private wells or to recycled water.

4.9-4(E) Nothing in this policy shall apply to use of water that is subject to a special supply program, such as the Metropolitan Interim Agricultural Water Program or the Water Authority Special Agricultural Rate programs. Violations of the conditions of special supply programs are subject to the penalties established under the applicable program. A person using water subject to a special supply program and other water provided by the Helix Water District is subject to this policy in the use of the other water.

4.9-5 DROUGHT RESPONSE LEVEL 1 – DROUGHT WATCH CONDITION

4.9-5(A) A Drought Response Level 1 condition is also referred to as a "Drought Watch" condition. A Level 1 condition applies when the Water Authority notifies its member agencies that due to drought or other supply reductions, there is a reasonable probability there will be supply shortages and that a consumer demand reduction of up to 10 percent is required in order to ensure that sufficient supplies will be available to meet anticipated demands. The General Manager shall declare the existence of a Drought Response Level 1 and take action to implement the Level 1 conservation practices identified in this policy.

4.9-5(B) During a Level 1 Drought Watch condition, Helix Water District will increase its public education and outreach efforts to emphasize increased public awareness of the need to implement the following water conservation practices. [The same water conservation practices become mandatory if the District declares a Level 2 Drought Alert condition]:

(1) Stop washing down paved surfaces, including but not limited to sidewalks, driveways, parking lots, tennis courts, or patios, except when it is necessary to alleviate safety or sanitation hazards.

(2) Stop water waste resulting from inefficient landscape irrigation, such as runoff, low head drainage, or overspray, etc. Similarly, stop water flows onto non-targeted areas, such as adjacent property, non-irrigated areas, hardscapes, roadways, or structures.

(3) Irrigate residential and commercial landscape before 10 a.m. and after 6 p.m. only. Consider limiting lawn watering and landscape irrigation using sprinklers to no more than ten (10) minutes per day. Irrigation run time should be adjusted to avoid runoff.

(4) Use a hand-held hose equipped with a positive shut-off nozzle or bucket to water landscaped areas, including trees and shrubs located on residential and commercial properties that are not irrigated by a landscape irrigation system.

(5) Irrigate nursery and commercial grower's products before 10 a.m. and after 6 p.m. only. Watering is permitted at any time with a hand-held hose equipped with a positive shut-off nozzle, a bucket, or when a drip/micro-irrigation system/equipment is used. Irrigation of nursery propagation beds is permitted at any time. Watering of livestock is permitted at any time.

(6) Use re-circulated water to operate ornamental fountains.

(7) Wash vehicles using a bucket and a hand-held hose with positive shut-off nozzle, mobile high pressure/low volume wash system, or at a commercial site that re-circulates (reclaims) water on-site. Avoid washing during hot conditions when additional water is required due to evaporation.

(8) Serve and refill water in restaurants and other food service establishments only upon request.

(9) Offer guests in hotels, motels, and other commercial lodging establishments the option of not laundering towels and linens daily.

(10) Repair all water leaks within five (5) days of notification by the Helix Water District unless other arrangements are made with the General Manager.

4.9-5(C) During a Drought Response Level 2 condition or higher, all persons shall be required to implement the conservation practices established in a Drought Response Level 1 condition.

4.9-6 DROUGHT RESPONSE LEVEL 2 – DROUGHT ALERT CONDITION

4.9-6(A) A Drought Response Level 2 condition is also referred to as a "Drought Alert" condition. A Level 2 condition applies when the Water Authority notifies its member agencies that due to cutbacks caused by drought or other reduction in supplies, a consumer demand reduction of up to 20 percent is required in order to have sufficient supplies available to meet anticipated demands. The Helix Water District Board of Directors shall declare the existence of a Drought Response Level 2 condition and implement the mandatory Level 2 conservation measures identified in this policy.

4.9-6(B) All persons using Helix Water District water shall comply with Level 1 Drought Watch water conservation practices during a Level 2 Drought Alert, and shall also comply with the following additional conservation measures:

(1) Limit residential and commercial landscape irrigation to no more than three (3) assigned days per week on a schedule established by the General Manager and posted by the Helix Water District. This section shall not apply to commercial growers or nurseries.

(2) Limit lawn watering and landscape irrigation using sprinklers to no more than ten (10) minutes per watering station per assigned day. Irrigation run time shall be adjusted to avoid runoff. This provision does not apply to landscape irrigation systems using water efficient devices, including but not limited to: weather based controllers, drip/micro-irrigation systems and stream rotor sprinklers.

(3) Water landscaped areas, including trees and shrubs located on residential and commercial properties, and not irrigated by a landscape irrigation system governed by Section 4.9-6(B)(1), on the same schedule set forth in Section 4.9-6(B)(1) by using a bucket, hand-held hose with positive shut-off nozzle, or low-volume non-spray irrigation.

(4) Repair all leaks within seventy-two (72) hours of notification by the Helix Water District unless other arrangements are made with the General Manager.

4.9-7 DROUGHT RESPONSE LEVEL 3 – DROUGHT CRITICAL CONDITION

4.9-7(A) A Drought Response Level 3 condition is also referred to as a "Drought Critical" condition. A Level 3 condition applies when the Water Authority notifies its member agencies that due to increasing cutbacks caused by drought or other reduction of supplies, a consumer demand reduction of up to 40 percent is required in order to have sufficient supplies available to meet anticipated demands. The Helix Water District Board of Directors shall declare the existence of a Drought Response Level 3 condition, and shall declare a water shortage emergency pursuant to California Water Code Section 350, and shall implement the Level 3 conservation measures identified in this policy.

4.9-7(B) All persons using Helix Water District water shall comply with Level 1 Drought Watch and Level 2 Drought Alert water conservation practices during a Level 3 Drought Critical condition and shall also comply with the following additional mandatory conservation measures:

(1) Limit residential and commercial landscape irrigation to no more than two (2) assigned days per week on a schedule established by the General Manager and posted by the Helix Water District. During the months of November through May, landscape irrigation is limited to no more than once per week on a schedule established by the General Manager and posted by the Helix Water District. This section shall not apply to commercial growers or nurseries.

(2) Water landscaped areas, including trees and shrubs located on residential and commercial properties, and not irrigated by a landscape irrigation system governed by Section 4.9-7(B)(1), on the same schedule set forth in Section 4.9-7(B)(1) by using a bucket, hand-held hose with a positive shut-off nozzle, or low-volume non-spray irrigation.

(3) Stop filling or re-filling ornamental lakes or ponds, except to the extent needed to sustain aquatic life, provided that such animals are of significant value and have been actively managed within the water feature prior to declaration of a drought response level under this policy.

(4) Stop washing vehicles except at commercial carwashes that re-circulate water, or by high pressure/low volume wash systems.

(5) Repair all leaks within forty-eight (48) hours of notification by the Helix Water District unless other arrangements are made with the General Manager.

4.9-7(C) Upon the declaration of a Drought Response Level 3 condition, no new potable water service shall be provided, no new temporary meters or permanent meters shall be provided, and no statements of immediate ability to serve or provide potable water service (such as, will serve letters, certificates, or letters of availability) shall be issued, except under the following circumstances:

(1) A valid, unexpired building permit has been issued for the project; or

(2) The project is necessary to protect the public's health, safety, and welfare; or

(3) The applicant provides substantial evidence of an enforceable commitment that water demands for the project will be offset prior to the provision of a new water meter(s) to the satisfaction of Helix Water District.

This provision shall not be construed to preclude the resetting or turn-on of meters to provide continuation of water service or to restore service that has been interrupted for a period of one year or less.

4.9-7(D) Upon the declaration of a Drought Response Level 3 condition, Helix Water District will suspend consideration of annexations to its service area.

4.9-7(E) The Helix Water District may establish a water allocation for property served by the District using a method that does not penalize persons for the implementation of conservation methods or the installation of water saving devices. If the Helix Water District establishes a water allocation it shall provide notice of the allocation by including it in the regular billing statement for the fee or charge or by any other mailing to the address to which the District customarily mails the billing statement for fees or charges for on-going water service. Following the effective date of the water allocation as established by the Helix Water District, any person that uses water in excess of the allocation shall be subject to a penalty for each billing unit of water in excess of the allocation. The penalty for excess water usage shall be cumulative to any other remedy or penalty that may be imposed for violation of this policy. The Helix Water District Board of Directors, by resolution, shall establish the amount of the penalty in accordance with applicable law.

4.9-8 DROUGHT RESPONSE LEVEL 4 – DROUGHT EMERGENCY CONDITION

4.9-8(A) A Drought Response Level 4 condition is also referred to as a "Drought Emergency" condition. A Level 4 condition applies when the Water Authority Board of Directors declares a water shortage emergency pursuant to

California Water Code Section 350 and notifies its member agencies that Level 4 requires a demand reduction of more than 40 percent in order for the Helix Water District to have maximum supplies available to meet anticipated demands. The Helix Water District shall declare a Drought Emergency in the manner and on the grounds provided in California Water Code Section 350.

4.9-8(B) All persons using Helix Water District water shall comply with conservation measures required during Level 1 Drought Watch, Level 2 Drought Alert, and Level 3 Drought Critical conditions and shall also comply with the following additional mandatory conservation measures:

(1) Stop all landscape irrigation, except crops and landscape products of commercial growers and nurseries. This restriction shall not apply to the following categories of use:

(a) Maintenance of trees and shrubs that are watered on the same schedule set forth in Section 4.9-7(B)(1) by using a bucket, hand-held hose with a positive shut-off nozzle, or low-volume non-spray irrigation;

(b) Maintenance of existing landscaping necessary for fire protection as specified by the Fire Marshal of the local fire protection agency having jurisdiction over the property to be irrigated;

(c) Maintenance of existing landscaping for erosion control;

(d) Maintenance of plant materials identified to be rare or essential to the well being of rare animals;

(e) Maintenance of landscaping within active public parks and playing fields, day care centers, school grounds, cemeteries, and golf course greens, provided that such irrigation does not exceed two (2) days per week according to the schedule established under Section 4.9-7(B)(1);

(f) Watering of livestock; and,

(g) Public works projects and actively irrigated environmental mitigation projects.

(2) Repair all water leaks within twenty-four (24) hours of notification by the Helix Water District unless other arrangements are made with the General Manager.

4.9-8(C) The Helix Water District may establish a water allocation for property served by the District. If the Helix Water District establishes a water allocation it shall provide notice of the allocation by including it in the regular billing statement for the fee or charge or by any other mailing to the address to which the District customarily mails the billing statement for fees or charges for on-going water service. Following the effective date of the water allocation as

established by the Helix Water District, any person that uses water in excess of the allocation shall be subject to a penalty for each billing unit of water in excess of the allocation. The penalty for excess water usage shall be cumulative to any other remedy or penalty that may be imposed for violation of this policy. The Helix Water District Board of Directors, by resolution, shall establish the amount of the penalty in accordance with applicable law.

4.9-9 CORRELATION BETWEEN DROUGHT MANAGEMENT PLAN AND DROUGHT RESPONSE LEVELS

4.9-9(A) The correlation between the Water Authority's DMP stages and the Helix Water District's drought response levels identified in this policy is described herein. Under DMP Stage 1, the Helix Water District would implement Drought Response Level 1 actions. Under DMP Stage 2, the Helix Water District would implement Drought Response Level 1 or Level 2 actions. Under DMP Stage 3, the Helix Water District would implement Drought Response Level 2, Level 3, or Level 4 actions.

4.9-9(B) The drought response levels identified in this policy correspond with the Water Authority DMP as identified in the following table:

Drought Response Levels	Use Restrictions	Conservation Target	DMP Stage
1 - Drought Watch	Voluntary	Up to 10%	Stage 1 or 2
2 - Drought Alert	Mandatory	Up to 20%	Stage 2 or 3
3 - Drought Critical	Mandatory	Up to 40%	Stage 3
4 - Drought Emergency	Mandatory	Above 40%	Stage 3

4.9-10 PROCEDURES FOR DETERMINATION AND NOTICATION OF DROUGHT RESPONSE LEVEL

4.9-10(A) The existence of a Drought Response Level 1 condition may be declared by the General Manager upon a written determination of the existence of the facts and circumstances supporting the determination. A copy of the written determination shall be filed with the Clerk or Secretary of the Helix Water District and provided to the Helix Water District Board of Directors. The General Manager may post in the lobby of the Administration Office and publish a notice of the determination of existence of Drought Response Level 1 condition in one or more newspapers, including a newspaper of general circulation within the Helix Water District. The District may also post notice of the condition on its website.

4.9-10(B) The existence of Drought Response Level 2 or Level 3 conditions may be declared by resolution of the Helix Water District Board of Directors adopted at a regular or special public meeting held in accordance with state law. The mandatory conservation measures applicable to Drought Response Level 2 or Level 3 conditions shall take effect on the tenth (10) day after the date the response level is declared. Within five (5) days following the declaration of the response level, the Helix Water District shall publish a copy of the resolution in a newspaper used for publication of official notices.

4.9-10(C) The existence of a Drought Response Level 4 condition may be declared in accordance with the procedures specified in California Water Code Sections 351 and 352. The mandatory conservation measures applicable to Drought Response Level 4 conditions shall take effect on the tenth (10) day after the date the response level is declared. Within five (5) days following the declaration of the response level, the Helix Water District shall publish a copy of the resolution in a newspaper used for publication of official notices. If the District establishes a water allocation, it shall provide notice of the allocation by including it in the regular billing statement for the fee or charge or by any other mailing to the address to which the Helix Water District customarily mails the billing statement for fees or charges for on-going water service. Water allocation shall be effective on the fifth (5) day following the date of mailing or at such later date as specified in the notice.

4.9-10(D) The Helix Water District Board of Directors may declare an end to a Drought Response Level by the adoption of a resolution at any regular or special meeting held in accordance with state law.

4.9-11 HARDSHIP VARIANCE

4.9-11(A) If, due to unique circumstances, a specific requirement of this policy would result in undue hardship to a person using District water or to property upon which District water is used, that is disproportionate to the impacts to Helix Water District water users generally or to similar property or classes of water uses, then the person may apply for a variance to the requirements as provided in this Section.

4.9-11(B) The variance may be granted or conditionally granted, only upon a written finding of the existence of facts demonstrating an undue hardship to a person using District water or to property upon which District water is used, that is disproportionate to the impacts to Helix Water District water users generally or to similar property or classes of water use due to specific and unique circumstances of the user or the user's property.

(1) Application. Application for a variance shall be a form prescribed by Helix Water District and shall be accompanied by a non-refundable processing fee in the amount of $250.

(2) Supporting Documentation. The application shall be accompanied by photographs, maps, drawings, and other information, including a written statement of the applicant.

(3) Required Findings for Variance. An application for a variance shall be denied unless the approving authority finds, based on the information provided in the application, supporting documents, or such additional information as may be requested, and on water use information for the property as shown by the records of the Helix Water District, all of the following:

(a) That the variance does not constitute a grant of special privilege inconsistent with the limitations upon other Helix Water District customers.

(b) That because of special circumstances applicable to the property or its use, the strict application of this policy would have a disproportionate impact on the property or use that exceeds the impacts to customers generally.

(c) That the authorizing of such variance will not be of substantial detriment to adjacent properties, and will not materially affect the ability of the Helix Water District to effectuate the purpose of this Section and will not be detrimental to the public interest.

(d) That the condition or situation of the subject property or the intended use of the property for which the variance is sought is not common, recurrent or general in nature.

(4) Approval Authority. The General Manager or his/her designee shall exercise approval authority and act upon any completed application no later than 10 days after submittal and may approve, conditionally approve, or deny the variance. The applicant requesting the variance shall be promptly notified in writing of any action taken. Unless specified otherwise at the time a variance is approved, the variance applies to the subject property during the term of the mandatory drought response.

(5) Appeals to Helix Water District Board of Directors. An applicant may appeal a decision or condition of the General Manager on a variance application to the Helix Water District Board of Directors within 10 days of the decision upon written request for a hearing. The request shall state the grounds for the appeal. At a public meeting, the Helix Water District Board of Directors shall act as the approval authority and review the appeal de novo by following the regular variance procedure. The decision of the Helix Water District Board of Directors is final.

4.9-12 VIOLATIONS AND PENALTIES

4.9-12(A) Any person, who uses, causes to be used, or permits the use of water in violation of this policy is guilty of an offense punishable as provided herein.

4.9-12(B) Each day that a violation of this policy occurs is a separate offense.

4.9-12(C) Administrative fines may be levied for each violation of a provision of this policy as follows:

(1) One hundred dollars for a first violation.

(2) Two hundred dollars for a second violation of any provision of this policy within one year.

(3) Five hundred dollars for each additional violation of this policy within one year.

4.9-12(D) Violation of a provision of this policy is subject to enforcement through installation of a flow-restricting device in the meter.

4.9-12(E) Willful violations of the mandatory conservation measures and water use restrictions as set forth in Section 4.9-8 and applicable during a Level 4 Drought Emergency condition may be enforced by discontinuing service to the property at which the violation occurs as provided by Water Code Section 356.

4.9-12(F) All remedies provided for herein shall be cumulative and not exclusive.

4.9-12(G) Nonpayment of penalties shall be processed under the policies of Section 2.5.

4.9-13 PROCEDURES FOR NOTICE AND APPEAL OF WATER CONSERVATION PENALTIES

4.9-13(A) If the District General Manager or his or her designee, determines to impose a fine on a person ("violator") who has violated any provision of Section 4.9 of the Helix Water District Policies and Procedures, he or she shall cause a written notice of the violation to be sent to the violator. The notice shall provide in sufficient detail the violation(s), the amount of the penalty being imposed, and the date or times by which the penalty shall be paid to the District. Service of any notice required under this Section 4.9-13 shall be made by the following means:

(1) personal service in the same manner as a summons in a civil action; or

(2) registered United States mail, which service shall be completed at the time of deposit into the United States mail.

4.9-13(B) A violator may appeal the imposition of any penalty imposed pursuant to Section 4.9 of the Helix Water District Policies and Procedures as follows:

(1) A violator may appeal the imposition of any penalty by completing and submitting in writing to the District Board Secretary a form provided by the District for such purpose. All appeals shall be submitted to the District Board Secretary within thirty (30) calendar days of the date of the notice of the imposition of the penalty.

(2) The District General Manager, or his or her designee, shall review the appeal and any related information provided by the violator, and, if necessary, cause an investigation and report to be made concerning the imposition of any penalty. The District General Manager, or his or her designee, shall have twenty (20) calendar days from the submission of the appeal to render a decision on whether to grant the

appeal and mail notice thereof to the violator. If the General Manager, or his or her designee, grants the appeal and determines that any penalty was imposed in error or should be reduced, within fifteen (15) calendar days of such determination the General Manager, or his or her designee, shall;

(a) refund the penalty or any portion thereof, if paid by the violator, for which the appeal was granted, including any additional penalties related thereto; or,

(b) determine and fix the correct amount of penalty for the violator, including any additional penalties related thereto, and give written notice thereof.

(3) The decision of the General Manager, or his or her designee, may be appealed by the violator to the Board of Directors. Such appeal must be submitted in writing and filed with the District Secretary within fifteen (15) calendar days of the date of decision of the General Manager, or his or her designee. The Board of Directors shall conduct a hearing on such appeal at its next regularly scheduled Board of Directors meeting; provided, however, the Board of Directors shall have received the notice of appeal at least fifteen (15) calendar days prior to such meeting. If the appeal is not submitted within at least fifteen (15) calendar days prior to a regularly scheduled Board of Directors meeting, then the hearing shall be held at the next following regularly scheduled Board of Directors meeting. A notice of the hearing shall be mailed to the violator at least ten (10) calendar days before the date fixed for the hearing. The Board of Directors shall review the decision of the District General Manager, or his or her designee, de novo. The determination of the Board of Directors shall be conclusive and constitute a final order. Notice of the determination by the Board of Directors shall be mailed to the violator within ten (10) calendar days of such determination.

(a) If the appeal is granted in whole or in part, within ten (10) calendar days from the date of mailing of the notice of determination by the Board of Directors, the District shall;
  (i) refund the penalty or any portion thereof if paid by the violator, including any other penalties related thereto for which the appeal was granted; or,
  (ii) determine and impose the correct amount of the penalty for the violator, including any other penalties related thereto.

(b) If the appeal is denied or granted in part, the violator shall have twenty (20) calendar days from the date of the mailing of the notice of determination by the Board of Directors to pay the penalty, and any other penalties, if any, fixed by the Board of Directors.

4.9-13(C) Until the conclusion of the appeal process, all provisions and decisions under appeal shall remain in full force and effect until the conclusion of the appeal process.

4.9-14 EFFECTIVE DATE

This policy is effective immediately upon adoption or as otherwise established by state law for Helix Water District.

4.9-15 WATER CONSERVATION/PRINCIPLES OF WATER BUDGETS HELIX WATER DISTRICT

4.9-15(A) General

Water budgets will be assigned to all Irrigation Classes. A water budget is a tool to encourage appropriate water use during all seasons. Water budgets assign target usage for each billing cycle. Water budgets will be tied to a tiered rate billing structure. Accounts that use more water than their assigned budget target will be billed at a higher tier or tiers than the target usage tier. These higher tiers are referred to as water conservation rates.

4.9-15(B) Requirements

(1) Water budgets are based on a property's irrigated landscape area.

(2) Water budgets are assigned on a per meter basis for sites with more than one meter. The site is responsible for providing Helix staff with a map or description of the landscape areas served by each meter.

4.9-15(C) Procedure

(1) Budgets will be calculated by Helix staff using the formula below in compliance with the Maximum Applied Water Allowance (MAWA) as outlined in California's Model Landscape Ordinance:

Example, Level I: $$\frac{LA \times (0.7 \times ETo) \times 0.62}{748}$$

= Water budget in HCF

(a) LA=Irrigated landscape area in square feet
(b) 0.7=ET Adjustment Factor
(c) ETo=Reference Evapotranspiration from the closest CIMIS station (Escondido or Otay Lake) in inches per year
(d) 0.62=Conversion factor (to gallons per square foot)
(e) 1.0=ET Adjustment Factor for schools or public sites with functional use turf (e.g. parks, picnic areas, athletic fields)
(f) The ET Adjustment Factor may be modified as the District Water Shortage Levels change (See Table A below.)
(g) The California Irrigation Management Information System lists the historical ETo figures on-line at

http://www.cimis.water.ca.gov. Helix water budget calculations will be in compliance with these figures.

Table A: Water Shortage Level ET Adjustment Factor

Water Shortage Level	I	II	III	IV
ET Adjustment Factor	0.7	TBD	TBD	TBD

* TBD = To be determined by the Board.

(2) Water budgets are calculated on a bi-monthly billing cycle basis.

4.9-15(D) Compliance

(1) If a customer believes that the assigned budget is too low, given their site conditions, they may apply for a variance to their water budget for potential adjustments to the irrigated landscape area, plant type or other special circumstances approved by the General Manager or his/her designee.

(2) Newly planted low-water-use landscapes (with a crop coefficient of less than 50%) are eligible to apply for an increased water budget during its establishment period not to exceed three years. The watering schedule must be reduced to comply with the site's standard water budget within three years. All requests are subject to field verification.

(3) If the District is unable to confirm a customer's landscaped areas served by each meter, the District will calculate and assign a water budget using 75 percent of the customer's average historical use over the last three calendar years, until such time the required information is provided and confirmed.

(4) The policy for assigning water budgets will become effective as of September 1, 2009.

Appendix D

Water Shortage Contingency Analysis
Revenue and Expenditure Summary

Helix Water District
Revenues & Expenditures by Drought Stages

fixed revenue/expenses in black
variable revenue/expenses in blue

	2010-11 BUDGET	10% Reduced Supply	25% Reduced Supply	50% Reduced Supply
WATER PRODUCTION A.F.:	34,200	30,780	25,650	17,100
REVENUE:				
Water Billings-Commodity Charges	40,813,400	36,732,060	30,610,050	20,406,700
Water Billings-Base Charges	16,142,500	16,142,500	16,142,500	16,142,500
Water Treatment Charge	1,420,000	1,278,000	1,065,000	710,000
Lake Jennings Recreation Activities	626,100	626,100	626,100	626,100
Other Collections	6,253,700	6,253,700	6,253,700	6,253,700
TOTAL REVENUE	65,255,700	61,032,360	54,697,350	44,139,000
EXPENSE:				
Water Purchases	22,262,900	20,036,610	16,697,175	11,131,450
Raw Water Pumping	225,900	203,310	169,425	112,950
Water Treatment	2,297,600	2,067,840	1,723,200	1,148,800
Filtered Water Pumping	2,030,700	1,827,630	1,523,025	1,015,350
Distribution System Maintenance	3,524,000	3,524,000	3,524,000	3,524,000
Engineering	1,136,000	1,136,000	1,136,000	1,136,000
Customer Service	1,217,500	1,217,500	1,217,500	1,217,500
Administrative & General	18,586,300	18,586,300	18,586,300	18,586,300
Bond Service	1,907,000	1,907,000	1,907,000	1,907,000
Insurance & Damages	455,600	455,600	455,600	455,600
Less Recaptured Overhead	(250,000)	(250,000)	(250,000)	(250,000)
Subtotal	53,393,500	50,711,790	46,689,225	39,984,950
Operating Income	11,862,200	10,320,570	8,008,125	4,154,050
Less PAYGO Capital Expenditures	(9,474,000)	(9,474,000)	(8,474,000)	(7,474,000)
General Funds	-	-	-	-
Revenue from increased water rates over normal annual rate increase	-		467,526	730,984
Rate Stabilizaton Fund	-		300,000	2,800,000
Surplus(Deficiency)	2,388,200	846,570	301,651	211,034

Appendix E

Notice of Public Hearing

WO 2920

The San Diego Union-Tribune. SIGN ON SAN DIEGO enlace. Classifieds

P.O. Box 120191, San Diego, CA 92112-0191

AFFIDAVIT OF PUBLICATION

HELIX WATER DISTRICT
7811 UNIVERSITY AVENUE
LA MESA, CA 91941-4927

STATE OF CALIFORNIA) ss.
County of San Diego)

The Undersigned, declares under penalty of perjury under the laws of the State of California: That she is a resident of the County of San Diego. That she is and at all times herein mentioned was a citizen of the United States, over the age of twenty-one years, and that she is not a party to, nor interested in the above entitled matter; that she is Chief Clerk for the publisher of

The San Diego Union-Tribune

a newspaper of general circulation , printed and published daily in the City of San Diego, County of San Diego, and which newspaper is published for the dissemination of local news and intelligence of a general character, and which newspaper at all the times herein mentioned had and still has a bona fide subscription list of paying subscribers, and which newspaper has been established, printed and published at regular intervals in the said City of San Diego, County of San Diego, for a period exceeding one year next preceding the date of publication of the notice hereinafter referred to, and which newspaper is not devoted to nor published for the interests, entertainment or instruction of a particular class, profession, trade, calling, race, or denomination, or any number of same; that the notice of which the annexed is a printed copy, has been published in said newspaper in accordance with the instructions of the person(s) requesting publication, and not in any supplement thereof on the following dates, to wit:

Jun 2, 2011, Jun 9, 2011

Chief Clerk for the Publisher

5-10-2011
Date

Affidavit of Publication of

Legal Advertisement
Ad # 0010519054
ORDERED BY: DONNA BONNIN

NOTICE OF PUBLIC HEARING OF THE HELIX WATER DISTRICT BOARD OF DIRECTORS TO CONSIDER ADOPTION OF THE 2010 URBAN WATER MANAGEMENT PLAN

In accordance with Sections 10610 through 10656 of the California Water Code, notice is hereby given that the Board of Directors of the Helix Water District will hold a public hearing regarding its water conservation plan entitled "2010 Urban Water Management Plan." The purpose of the hearing will be to receive public comment on the proposed plan prior to adoption.

The draft plan is available for public review at http://www.hwd.com/pubs/uwmp.pdf. Copies are also available at the District's office, 7811 University Avenue, La Mesa, California.

The public hearing will be held at 2:05 p.m. on Wednesday, June 15, 2011, in the District's Boardroom at 7811 University Avenue, La Mesa, California.

For further information regarding the plan, contact Donna Bartlett-May at (619) 667-6232. Written comments will be received at the above address through the end of the Public Hearing on June 15, 2011.

Dated: June 1, 2011
Donna Bartlett-May,
Board Secretary

Appendix F

Resolution Adopting the 2010 Urban Water Management Plan

RESOLUTION NO. 11-34 OF THE BOARD OF DIRECTORS OF HELIX WATER DISTRICT ADOPTING THE HELIX WATER DISTRICT 2010 URBAN WATER MANAGEMENT PLAN

WHEREAS, Water Code §10610 et. seq., the Urban Water Management Planning Act, mandates that every urban supplier of water providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually, prepare an Urban Water Management Plan (Plan), the primary objective of which is to plan for the conservation and efficient use of water; and

WHEREAS, Water Code §10621 requires that an amendment to said Plan be adopted by December 31 in years ending in five and zero, after public review and hearing, and filed with the California Department of Water Resources (DWR) within 30 days of the adoption; and

WHEREAS, the filing deadline for the 2010 Plan was deferred to July 1, 2011 as a result of revisions to DWR's Urban Water Management Plan Guidebook; and

WHEREAS, the Helix Water District did prepare and file said Plan with the California Department of Water Resources in December, 2005; and

WHEREAS, Water Code §10621 requires that said Plan be periodically reviewed at least once every five years, and that the urban water supplier shall make any amendments or changes to its plan which are indicated by the review; and

WHEREAS, the District is an urban water supplier providing water to more than 260,000 customers, and has therefore, prepared and circulated for public review a Draft 2010 Urban Water Management Plan, in compliance with the requirements of the Urban Water Management Planning Act, and a properly noticed public hearing regarding said Draft Plan was held by the Board of Directors on June 15, 2011, and a Final Plan prepared;

NOW, THEREFORE, IT IS HEREBY RESOLVED, DETERMINED, AND ORDERED, by the Board of Directors of Helix Water District as follows:

1. The 2010 Urban Water Management Plan is hereby adopted.

2. The General Manager is hereby authorized and directed to file the 2010 Urban Water Management Plan with the California Department of Water Resources within 30 days after this date, in accordance with the Urban Water Management Planning Act (Water Code §10610 et. seq.)

3. The General Manager is hereby authorized and directed to implement the Water Conservation Programs as detailed in the adopted 2010 Urban Water Management Plan, including recommendations to the Board of Directors regarding necessary procedures, rules, and regulations to carry out effective and equitable water conservation programs.

PASSED, ADOPTED AND APPROVED this 15th day of June, 2011, by the following vote:

AYES: Directors Verbeke, Linden, Hedberg, Muse, and Smith

NOES: None

ABSENT: None

HELIX WATER DISTRICT ORGANIZED NOV. 1, 1913 SAN DIEGO COUNTY CALIFORNIA

ATTEST:

Secretary

President