2010

City of San Fernando
Urban Water Management Plan

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2010

URBAN WATER MANAGEMENT PLAN

City of San Fernando, CA

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SECTION 1: INTRODUCTION

1.1 PURPOSE AND SUMMARY

This is the 2010 Urban Water Management Plan (UWMP) for the City of San Fernando (City). This plan has been prepared in compliance with the Urban Water Management Planning Act (Act), which has been codified at California Water Code sections 10610 through 10657 and can be found in Appendix B to this 2010 Plan.

As part of the Act, the legislature declared that waters of the state are a limited and renewable resource subject to ever increasing demands; that the conservation and efficient use of urban water supplies are of statewide concern; that successful implementation of plans is best accomplished at the local level; that conservation and efficient use of water shall be actively pursued to protect both the people of the state and their water resources; that conservation and efficient use of urban water supplies shall be a guiding criterion in public decisions; and that urban water suppliers shall be required to develop water management plans to achieve conservation and efficient use.

The Act requires "every urban water supplier providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually, to prepare and adopt, in accordance with prescribed requirements, an urban water management plan." These plans must be filed with the California Department of Water Resources (DWR) every five years describing and evaluating reasonable and practical efficient water uses, reclamation, and conservation activities. (*See generally* Wat. Code § 10631.)

The Act has been amended on several occasions since its initial passage in 1983. New requirements of the Act due to SBx7-7 state that per capita water use within an urban water supplier's service area must decrease by 20% by the year 2020 in order to receive grants or loans administered by DWR or other state agencies. The legislation sets an overall goal of reducing per capita urban water use by 20% by December 31, 2020. The state shall make incremental progress towards this goal by reducing per capita water use by at least 10% by December 31, 2015. Each urban retail water supplier shall develop water use targets and an interim water use target by July 1, 2011. Effective 2016, urban retail water suppliers who do not meet the water conservation requirements established by this bill are not eligible for state water grants or loans. An urban retail water supplier shall include in its water management plan the baseline daily per capita water use, interim water use target, and compliance daily per capita water use. DWR, through a public process and in consultation with the California Urban Water Conservation Council, shall develop technical methodologies and criteria for the consistent implementation of this part. These new requirements are included in **Section 4: Water Demands.**

As part of the City's past and current sustainability goals, the City is currently implementing all facets of this plan to achieve its target conservation by 2020.

1.2 COORDINATION

In preparing this 2010 Plan, the City has encouraged broad community participation.

Copies of the City's draft plan were made available for public review at City Hall and the local public libraries in the City. The City noticed a public hearing to review and accept comments on the draft plan with more than two weeks in advance of the hearing. The notice of the public hearing was published in the local press and mailed to City Clerk. On June 20, 2011, the City held a noticed public hearing to review and accept comments on the draft plan. Notice of the public hearing was published in the local press. Following the consideration of public comments received at the public hearing, the City adopted the 2010 Plan on June 20, 2011. A copy of the City Council resolution approving the 2010 Plan is included in **Appendix D**.

As required by the Act, the 2010 Plan is being provided by the City to the California Department of Water Resources, the California State Library, and the public within 30 days of the City's adoption.

Table 1.1
Coordination and Public Involvement

	Participated In Plan Preparation	Contacted for Assistance	Commented on Draft	Notified of Public Hearing	Attended Public Hearing
City Water Dept. Staff	x	x	x	x	x
City Public Works Dept Staff		x	x	x	x
City Manager's Office				x	x
City Council				x	x
The Metropolitan Water District of Southern California		x		x	x
LA County Dept. of Public Works				x	
LADWP				x	
LACSD				x	
Interested General Public			x	x	x

1.3 FORMAT OF THE PLAN

The chapters in this 2010 Plan correspond to the items presented in the Act and are as follows:

Section 1 - Introduction

This chapter describes the City's planning process, the history of the development of the City's water supply system, its existing service area, the local climate, population served and the City's water distribution system.

Section 2 – Water Supply Resources

This chapter describes the existing water supplies available to the City, including imported water purchased from the Metropolitan Water District of Southern California ("MWD") and local groundwater extracted from the West Coast Basin. In addition, this chapter discusses potential future water supplies, including transfers and exchanges, recycled water, and desalinated water.

Section 3 – Water Quality

This chapter discuss water quality issues with the City's imported and groundwater sources and the effect of water quality on management strategies and supply reliability.

Section 4 – Water Demand

This chapter describes past, current and projected water usage within the City's service area. This chapter also discusses the requirement of the Water Conservation Act of 2009 (SBx7-7).

Section 5 – Reliability Planning

This chapter presents an assessment of the reliability of the City's water supplies by comparing projected water demands with expected available water supplies under three different hydrologic conditions: normal year; a single dry year; and multiple dry years. This 2010 Plan concludes that if projected imported and local supplies are developed as anticipated, no water shortages are anticipated in the City's service area during the planning period.

Section 6 – Demand Management

This chapter addresses the City's implementation of the current Best Management Practices (BMPs). The BMPs correspond to the 14 Demand Management Measures (DMMs) listed in the UWMP Act and are described in this section.

Section 7 – Contingency Planning

This chapter describes the City's response plan to water shortages (City Ordinance No. 479), as well as those efforts that will be utilized in the event of a water supply interruption, such as drought. The City's water shortage contingency plan was developed in consultation and coordination with other MWD member agencies. In addition, MWD's Water Surplus and Drought Management Plan (WSDM) is also described.

Appendices

The appendices contain references and specific documents that contain the data used to prepare this 2010 Plan.

1.4 WATER SYSTEM HISTORY

In the early 1900s, much of the western Los Angeles area was unincorporated, which prompted the City of Los Angeles to offer a reliable imported water supply (via the Los Angeles Aqueduct) as an incentive for annexation to the City of Los Angeles. For many areas, this was a welcomed opportunity for many communities. In 1911 however, the City of San Fernando was incorporated and remained autonomous by relying on groundwater to meet its water needs.

Figure 1.1: Metropolitan Water District (MWD)

Due to the continued development of Southern California, several water agencies came together to form the Metropolitan Water District (MWD) in 1928. MWD was

originally created to build the Colorado River Aqueduct to supplement the water supplies of the original founding members. In 1972, MWD augmented its supply sources to include deliveries from the State Water Project via the California Aqueduct. Today, the MWD serves more than 145 cities and 94 unincorporated communities through its 26 member agencies.

Figure 1.2: San Fernando Valley

As a result of the City's urban growth, the City of San Fernando realized the benefits of reliable imported supplies and became a member agency of MWD in 1971 (due to an earthquake that destroyed the City's wells). Today, the City of San Fernando is one of 15 retail water agencies served by MWD and receives imported water to supplement its groundwater supplies on an as-needed basis only. Typically, the City has been able to meet 100 percent of its demand from its groundwater wells. Occasionally, the City experiences water quality issues (primarily due to high nitrate levels) with its wells which cause the City to purchase imported water.

1.5 WATER SERVICE AREA

The City is located in the San Fernando Valley northwest of downtown Los Angeles and is bounded on all sides by the City of Los Angeles. The City's total area is 1,550 acres or 2.42 square miles and overlies both the San Fernando and Sylmar groundwater basins. The water service area comprises the entire City limits and serves all of the City's residents. The City is primarily a residential community but also has a mixture of commercial, industrial, and landscape water users. **Figure 1.4** on Page 1-6 shows the City limits and the Water Service area.

1.6 CLIMATE

The City has a Mediterranean climate with moderate, dry summers with an average temperature of about 80°F and cool, wet winters with an average temperature of 67°F. The average rainfall for the City is approximately 16 inches. Evapotranspiration (ETo) in the region averages about 50 inches annually. **Table 1.2** lists the average rainfall for the City.

Table 1.2
Climate Characteristics
(WorldClimate.com)

Month	Rainfall (in)
Jan	3.7
Feb	3.1
Mar	2.2
Apr	1.5
May	0.2
Jun	0.1
Jul	0.0
Aug	0.0
Sep	0.2
Oct	0.4
Nov	2.0
Dec	2.6
Totals:	**16.1**

Overall, the City's service area receives slightly higher than average rainfall (about 2 inches) than other cities in Southern California.

1.7 POPULATION

According to the most recent population figures from the California Department of Finance (taken from 2010 US Census counts), the current resident population of the City is approximately 23,650 persons. Since the City's service area accounts for all of the City's total residents, the total current resident population served by the City's water system is approximately 23,650 persons. Population growth over the past 25 years, as determined by MWD forecasts, is expected to be about 0.3%. Population projections in accordance with this growth rate over the next 25 years are shown in **Table 1.3**:

Table 1.3
Service Area Population Projections

Year	Service Area Population
2015	24,005
2020	24,365
2025	24,730
2030	25,101
2035	25,478

Since the City is a not a major commercial center for the region, daytime populations estimates are not significantly higher than the City's resident population. However, the City does experience some increases in daytime population that affect overall water consumption.

1.8 WATER SYSTEM

Imported Water

The City's imported water supply is delivered through its 18-inch connection to MWD. Imported water is conveyed from Northern California via the State Water Project and treated by MWD at its Joseph Jensen Treatment Plant. The City's imported water supply does not consist of water received from the Colorado River.

Figure 1.3: Jensen Treatment Plant

Groundwater

The City produces groundwater from four active wells (2A, 3, 4A, & 7A). The wells extract groundwater from the Sylmar Groundwater Basin and range in capacity from 450 gpm to 2,100 gpm.

Figure 1.4: Well No. 2A

Distribution System

The City distributes water to approximately 5,000 service customers through a 66.5 mile network of distribution mains ranging from 4 to 20 inches in size. The water system consists of two pressure zones that provide modified pressure to customers. The water service area and zoning map are shown in **Figures 1.5** and **1.6** on the following page.

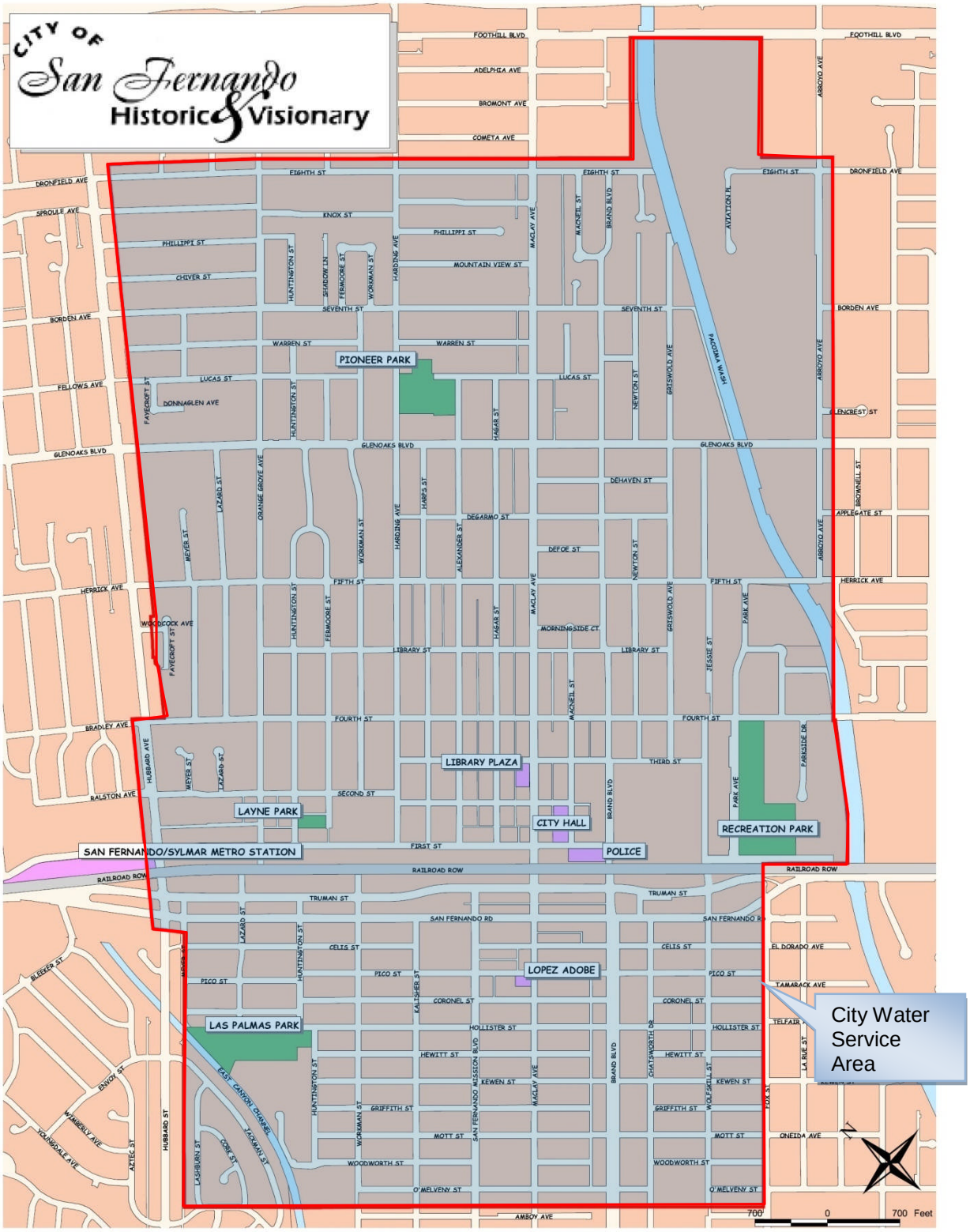

Figure 1.5: City of San Fernando Water Service Area

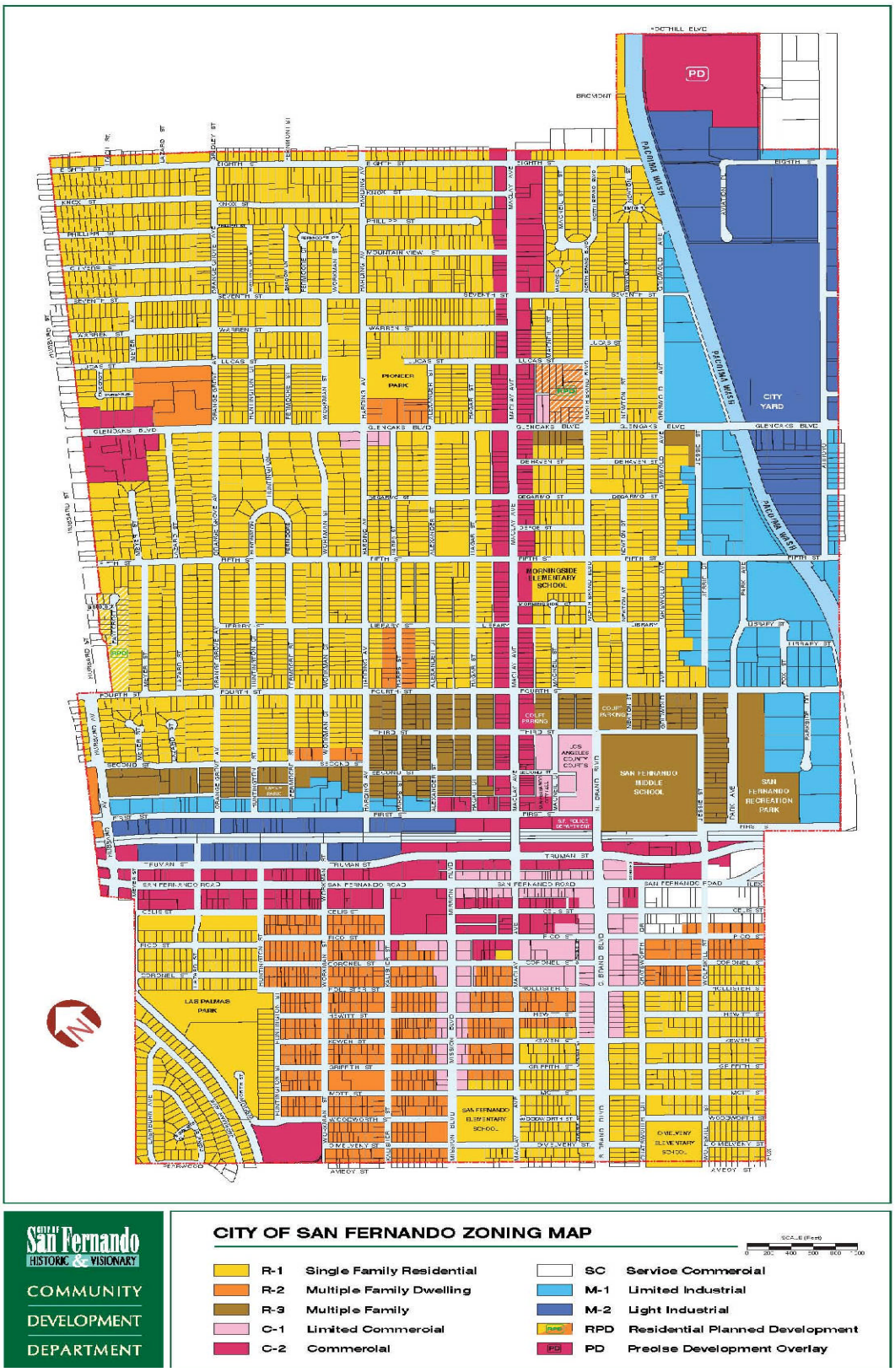

Figure 1.6: City of San Fernando Zoning Map

Water Storage

For storage needs, the City of San Fernando maintains 4 storage reservoirs with a combined storage capacity of 8.9 MG. The City's reservoirs are designated as 3A, 4, and are located both in the City limits and in adjacent to the City's well facilities. **Table 1.4** lists the City's reservoirs.

Figure 1.6: Reservoirs At Well No. 4A Site

Table 1.4
City of San Fernando Reservoirs

Reservoir	Description	Capacity (MG)
2	Concrete/ Partially Underground	3.0
3A	Concrete/ Partially Underground	2.5
4	Concrete/ Partially Underground	1
5	Concrete/ Partially Underground	2.4
Total Capacity:		**8.9 MG**

Emergency Interconnections

In addition to its imported water connection with MWD, the City's water system has a 6-inch emergency connection with the City of Los Angeles Department of Water and Power (LADWP) distribution system. During emergencies, this connection enables the City to provide a minimum amount of water to its citizens.

SECTION 2: WATER SOURCES & SUPPLIES

2.1 INTRODUCTION

The City's water supply sources consist of imported water from the Metropolitan Water District (MWD) and groundwater produced from the Sylmar Groundwater Basin.

2.2 WATER SUPPLY SOURCES

Imported Water

Southern California has access to imported water from the Colorado River and the Sacramento-San Joaquin River Delta in Northern California. These two water systems provide Southern California with over 2 million acre-feet (MAF) of water annually for urban uses. The Colorado River supplies California with 4.4 MAF annually for agricultural and urban uses with approximately 3.85 MAF used for agriculture in Imperial and Riverside Counties. The remaining unused portion (600,000 - 800,000 AF) is used for urban purposes in MWD's service area.

Figure 2.1: Parker Dam at Colorado River

In addition to the Colorado River, the Sacramento-San Joaquin River Delta provides a significant amount of supply annually to Southern California. The Delta is located at the confluence of the Sacramento and San Joaquin Rivers east of the San Francisco Bay and is the West Coast's largest estuary. The Delta supplies Southern California with over 1 MAF of water annually.

Figure 2.2: Sacramento-San Joaquin Delta

The use of water from the Colorado River and the Sacramento-San Joaquin Delta continues to be a critical issue. In particular, Colorado River water allotments have been debated among the seven basin states and various regional water agencies at both the federal and state levels. The use of Delta water has been debated as competing uses for water supply and ecological habitat have jeopardized the Delta's ability to meet either need and have threatened the estuary's ecosystem.

MWD utilizes two separate aqueduct systems (one for each source of supply) to obtain its supplies. These two aqueduct systems convey water from each source into two separate reservoirs whereupon MWD pumps the water to one of its five treatment facilities. One of these aqueduct systems is known as the Colorado River Aqueduct (CRA). The CRA was constructed as a first

order of business shortly after MWD's incorporation in 1928. The CRA is 242 miles long and carries water from the Colorado River to Lake Matthews and is managed by MWD.

Figure 2.3: Colorado River Aqueduct

In addition to the CRA, MWD receives water from northern California via the California Aqueduct. Also known as the State Water Project, the California Aqueduct is 444 miles long and carries water from the Delta to Southern California and is operated by the Department of Water Resources.

Figure 2.4: California Aqueduct

The previously mentioned aqueducts supply Southern California with a significant amount of its water and are crucial to its sustainability. In addition to these two water systems, there are also several other aqueducts that are vital to the State. The major aqueducts in California are shown in **Figure 2.5** on page 2-3. Overall, about 67% of MWD's imported water comes from the SWP and 33% comes from the CRA. However, due to the City's location, the City receives imported water from the West Branch of the California Aqueduct and does not have access to imported water from the CRA.

Imported Water Purchases

As a wholesale agency, MWD distributes imported water to 26 member agencies throughout Southern California as shown in **Figure 2.6**. The City is one of 15 retail agencies served by MWD. The City has one 18-inch imported connection to MWD with a capacity of 2,200 gpm (about 2,900 AFY). **Table 2.1** presents the City's five-year historic imported water purchases from 2005 to 2010:

Table 2.1
Imported Water Supply 2005-2009
(Purchases from MWD)

Year	Purchases (AF)
2009	0
2008	0
2007	901
2006	206
2005	597
Average:	**341**

As can be noted from **Table 2.1** above, the City imports water on an as-need basis only. The City currently has a preferential right of 0.10% of MWD's supplies and a Tier 1 limit of 630 AFY.

Figure 2.5: Aqueduct Systems in California (Figure A.2-5 in MWD's 2010 RUWMP)

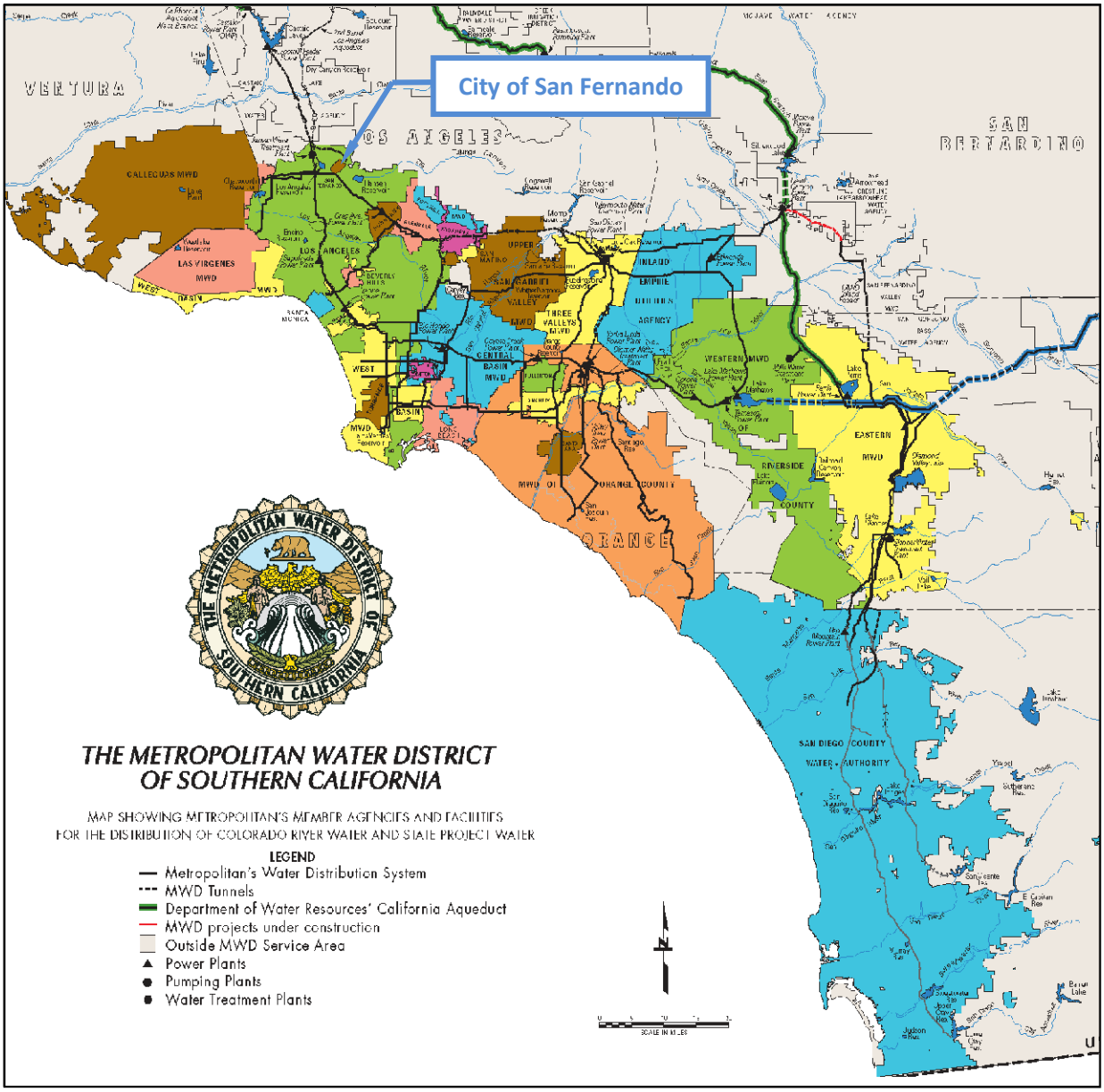

Figure 2.4: MWD Service Area Map

Groundwater

The City obtains its groundwater supply from the Sylmar Groundwater Basin. The Basin is located in the San Fernando Valley and underlies the City of San Fernando and unincorporated communities of the City of Los Angeles. The Basin is part of the Upper Los Angeles River Area (ULARA) basins. These basins together have a surface area of 145,000 acres (226 square miles) of flat to hilly terrain. The Sylmar Basin is separated from the San Fernando Basin by the Sylmar Fault zone. The Sylmar Basin is bounded to the north and northeast by the San Gabriel Mountains, and to the north and northwest by the Santa Susana Mountains as shown in **Figure 2.7 below**.

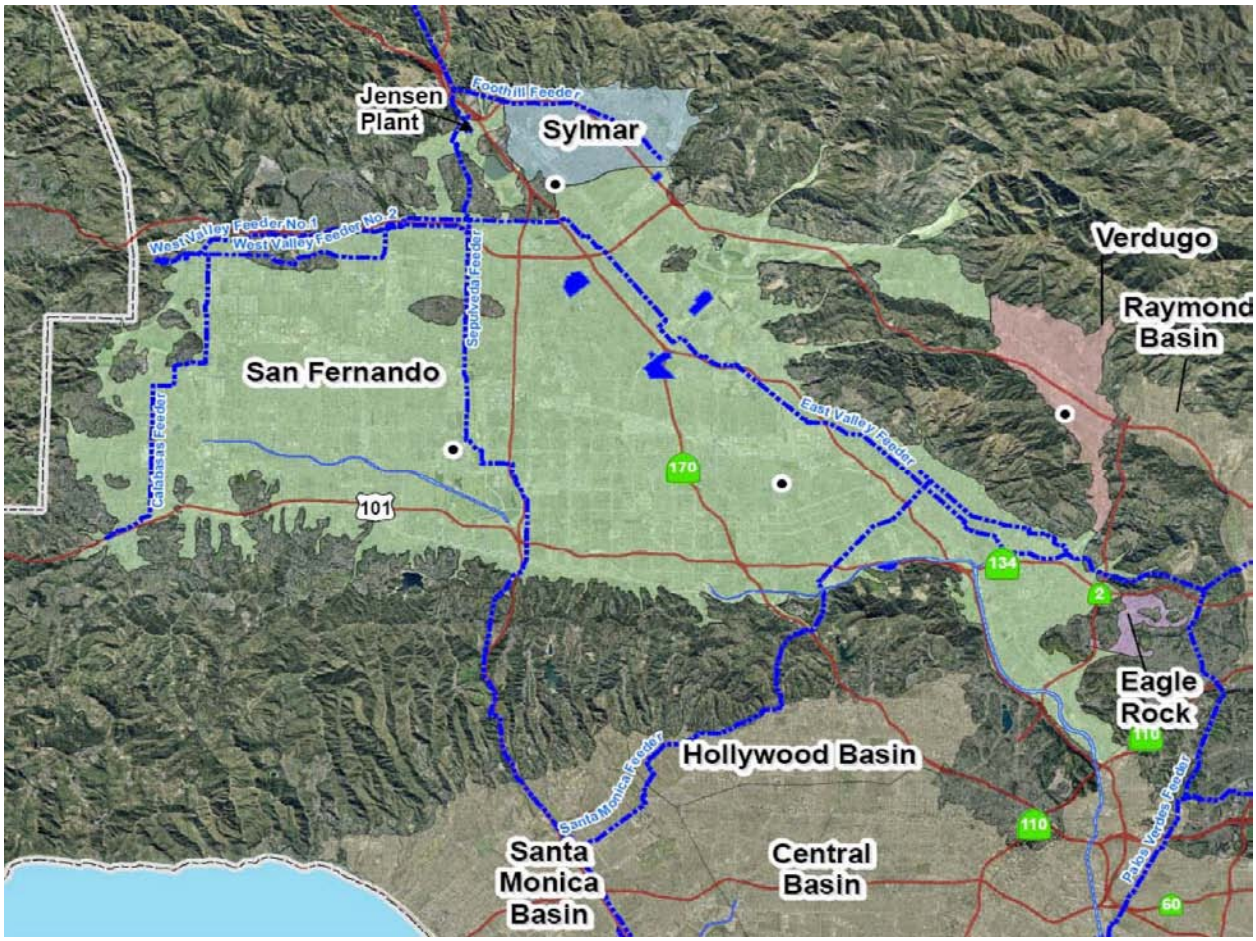

Figure 2.7: ULARA Groundwater Basins

Water-bearing deposits of the Sylmar Basin include unconsolidated and semi-consolidated marine and alluvial sediments deposited over time. The water-bearing sediments consist of the lower Pleistocene Saugus Formation, Pleistocene and Holocene age alluvium (CSWRB 1962). The ground-water in this basin is mainly unconfined with some confinement within the Saugus Formation in the western part of the basin and in the Sylmar and Eagle Rock areas (CSWRB 1962). The average specific yield for deposits within the basin varies from about 14 to 22 percent (DPW 1934). Well yield averages about 1,220 gpm with a maximum of about 3,240 gpm.

Groundwater in the Basin is replenished naturally by percolation from precipitation, receiving an average annual precipitation of about 19 inches, and by stream flow and subsurface inflows from the Santa Susana and San Gabriel Mountains. Since the basin is mostly urbanized and soil surfaces have been paved to construct roads, homes, buildings, and flood channels, natural replenishment to the basin's water-bearing formations is limited to only a small portion of basin soils. Since the Basin does not receive any artificial recharge through injection wells or spreading basins, groundwater production is limited by low safe-yield limits.

Groundwater levels in the Sylmar Basin are typically at or above mean sea level (MSL), with water levels of about 1,000 feet underneath the City of San Fernando. A few portions of the Basin, however, contain deeper aquifers with groundwater as deep as 6,000 feet below surface levels.

Figure 2.7: San Fernando & Sylmar Basins (Sylmar near base of San Gabriel foothills)

Groundwater flow in the Sylmar Basin is generally from the Santa Susana and San Gabriel Mountains in the north towards the south/southeast into the San Fernando Basin in the south as water levels are substantially higher in the Sylmar Basin. However, there are no stipulations regarding these outflows into the San Fernando Basin.

The total storage in the Sylmar Basin is estimated to be about 310,000 AF. The natural safe yield is estimated to be about 6,810 AFY according to a December 2006 assessment. In the 1984 Sylmar Basin Judgment, the Cities of Los Angeles and San Fernando were granted an equal share to the safe yield of the Sylmar Basin, which stood

at 6,210 AFY at the time the judgment was issued. Since then, the safe yield limit was increased twice and currently stands at 6,810 AFY according to the December 2006 provision. Additionally, San Fernando and Los Angeles each has the right to store water in the Sylmar basin and the right to extract equivalent amounts.

The Sylmar Basin is an adjudicated basin and the management of water resources and operations in the Basin is provided by the ULARA Watermaster. The California Department of Health Services helps monitor groundwater quality and contaminant levels.

The key characteristics of the Sylmar Basin are summarized below in **Table 2.2**:

Table 2.2
Sylmar Basin
Summary of Characteristics

Item	Amount
Depth to Groundwater	50-6,000 ft.
Depth of Producing Zones	180-1,050 ft.
Storage	310,000 AF
Natural Safe Yield	6,810 AFY
Adjudicated Rights	6,810 AFY
Municipal Wells	6
Recharge Spreading Basins	0
Desalters	0

Groundwater Production

The City maintains four active wells (2A, 3, 4A, & 7A) for groundwater extraction. In the past ten years, the City has upgraded all of its wells with the exception of Well 4A, which currently has a capacity of 450 gpm. Currently, Well 2A is the Cty's most productive well with a rated capacity of 2,100 gpm. Occasionally, the City's groundwater facilities experience contamination issues that can affect their supply reliability. To remediate contamination issues and to maintain supply reliability, the City has a blending plan and uses imported water as-needed to blend raw well discharge before it enters the City's distribution system.

Figure 2.9: City Well 3 Facility

The City's groundwater well characteristics are summarized below in **Table 2.3**:

Table 2.3
City Groundwater Wells

Well No.	Capacity (gpm)
2A	2,100
3	1200
4A	450
7A	900
Total Capacity:	**4,650**

To monitor the City's groundwater extraction, each of the City's wells are equipped with flowmeters to measure well production. Well production is recorded monthly by City water staff and reported

annually to the Department of Water Resources (DWR). The City completes DWR's Form No. 38 (Public Water System Statistics) on an annual basis as part of their reporting and documentation efforts. The total groundwater production since 2005 is shown below in **Table 2.4**:

Table 2.4
Groundwater Production (2005-2009)

Year	Production (AF)
2009	3,395
2008	3,652
2007	2,856
2006	3,493
2005	3,063
Average:	**3,292**

2.3 WATER SUPPLY SUMMARY

Over the past five years, the City's groundwater pumping ability has led the City to be mostly independent of imported water, particularly in the past few years. Due to rising costs of imported water, the continued reliance of groundwater vs. imported water will provide cost savings for the City.

2.4 PROJECTED SUPPLY OUTLOOK

The City expects to maintain their low levels of imported water purchases through groundwater production from its well facilities. The it is unlikely that the City will add to these supply sources to include recycled water, as the infrastructure is not in place to receive recycled water. **Table 2.5** displays the City's projected supply availability outlook based on the City's adjudicated groundwater rights and preferential right of 0.10% of MWD's annual supplies:

Table 2.5
Projected Water Supply Availability

Year	Imported (AF)	Ground (AF)
2015	3,485	3,405
2020	3,810	3,405
2025	4,089	3,405
2030	3,947	3,405
2035	3,814	3,405

Although the City's groundwater rights are fixed at 3,405 AFY, the City's overall water supply reliability is expected to remain consistent or improve slightly due to limited population growth coupled with conservation. The City will also continue to benefit indirectly from regional conservation efforts and also through MWD's efforts to augment its supplies and improve reservoir storage capacities. **Section 5: Reliability Planning** discusses reliability issues and compares the City's projected water supply availability to projected demands for normal, dry, and multiple dry years through 2035.

2.5 ALTERNATE WATER SOURCES

This section provides an overview of alternative water sources (non-potable supplemental supplies) and their potential uses. Alternative water sources including recycled water, graywater, and desalinated seawater.

Recycled Water

Recycled water is the re-use of treated wastewater for non-potable and indirect potable re-use applications. Wastewater is

treated to different levels of purification based on the usage need. Recycled water is often used to irrigate landscapes, replenish groundwater aquifers, and provide industrial users with an alternative water supply to meet their non-personal water use needs.

Recycled Water Potential in the City

Municipal wastewater is generated in the City's service area from a combination of residential, commercial, and industrial sources. The quantities of wastewater generated are generally proportional to the population and the water used in the service area. Treated wastewater from the Under a contract entered into in 1969, the City's wastewater is collected and discharged to the City of Los Angeles for treatment and disposal. The contract provides the City with purchased capacity rights in the Hyperion Treatment Plant in El Segundo, for average daily flow of 1.14 mgd and an instantaneous peak flow of 3.2 cfs.

Figure 2.7: Wastewater Treatment at Hyperion in Playa Del Ray, CA

Due to the high costs involved in constructing recycled water infrastructure, the City has not considered using recycled water in the past and the City currently does not use recycled water. As a result, the City has not considered any formal plans nor has specifically identified any potential recycled water users. If the City were to use recycled water in the future (with help from LADWP or MWD), the City would benefit as typical recycled water users (large landscapes, City parks & medians, and dual-plumbed buildings) could receive recycled water. If the City anticipates receiving recycled water in the near future, the City could prepare an optimization plan which identifies specific recycled water customers. Currently, the City encourages the efficient use of potable water while raising awareness of alternative water sources such as recycled water.

Graywater

Graywater systems have been used in California to provide a source of water supply for subsurface irrigation and also as a means to reduce overall water use. Graywater consists of water discharged from sinks, bathtubs, dishwashers, and clotheswashers. Graywater systems consist of an underground tank and pumping system. Graywater is currently legal for subsurface irrigation in the State of California. However, strict regulations and high installation costs have impeded installation of professional graywater systems and has the unintended consequence of undocumented and noncompliant use of graywater.

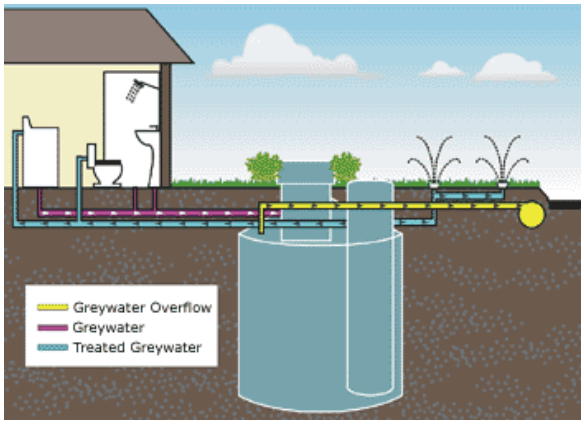

Figure 2.13: Graywater System

The promotion of graywater systems as a means to reduce the City's overall water use is not recommended since the use of graywater is currently limited to subsurface irrigation and therefore the overall service area-wide reduction in water use (in AF) would be minimal at best. With the recent passage of SB 1258, however, graywater use is expected to be expanded to include use for toilet flushing, and may have its place as a potential water supply. The City does not currently have a formal program in place to support graywater use.

Desalinated Seawater

Seawater desalination is a process whereby seawater is treated to remove salts and other contents to develop both potable and non-potable supplies. There are over 10,000 desalination facilities worldwide that produce over 13 million AFY. Desalinated water can add to Southern California's supply reliability by diversifying its water supply sources and mitigating against possible supply reductions due to conservation. With its Seawater Desalination Program (SDP), the MWD facilitates progress and provides financial incentives for the development of seawater desalination facilities within its service area. A total of five member agencies submitted projects totaling 142,000 AFY. In 2004, MWD adopted an Integrated IRP update which included a desalination goal of 150,000 AFY by the year 2025. Currently, the five member agency projects are in various levels of development.

Figure 2.3: Seawater Desalination Plant

The economics of building and operating an oceanfront desalinization plant would prohibit its construction in the City, as most oceanfront plants are constructed adjacent to existing power plants, and take advantage of the existing discharge. Since the City is not located adjacent to the Ocean, there are no plans to incorporate desalinated seawater into its supply sources.

2.6 TRANSFER OR EXHCHANGES

The City owns rights to extract 3,405 AF of groundwater annually; however the City may experience at times reliability issues with its wells due to mechanical or water quality issues that limits the City's groundwater production. Conversely, the City may extract amounts in excess of 3,405 AFY based on the Sylmar Basin Judgment (up to 10%) or based on leases with the City of Los Angeles. The City may consider short-term or long term leases of its groundwater either to or from the City of Los Angles, based on the need. Additionally, the City has a 6-inch interconnection with the City of Los Angeles which is capable of transferring water to the City during short-term emergencies.

Over the long term, the City expects to reduce dependency on imported water while increasing water use efficiency. Groundwater is expected provide the majority of the City's water supplies while imported water will be purchased to meet the gap between total demand and groundwater production. Since the City' population is not expected to increase significantly, the City does not foresee a need to lease or purchase groundwater rights as a long-term practice.

2.7 PLANNED SUPPLY PROJECTS

The City continually reviews practices that will provide its customers with adequate and reliable supplies. Due to this fact, the City currently intends to construct a de-nitrification Plant to treat Wells #3 & #7A. Although Wells #3 & #7A have had nitrate readings slightly above the MCL of 45 mg/l, these wells are currently off. Therefore, there has been no risk to the public.

The City of San Fernando’s local groundwater source from the Sylmar Basin provides a reliable local water source which is an asset utilized to minimize the City’s dependence on imported water. The City will continue effective operation and maintenance efforts to ensure all well sites and water infrastructure are used in an efficient manner.

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SECTION 3: WATER QUALITY

3.1 WATER QUALITY SUMMARY

In 1974, Congress passed the Safe Drinking Water Act in order to protect public health by regulating the nation's drinking water supply. As required by the Safe Drinking Water Act, the City provides annual Water Quality Reports to its customers. Currently all of the water that the City distributes to its customers meet federal EPA standards and California Department of Health Services (CDHS) Standards.

Figure 3.1: Health Standards Protect Drinking Water

The quality of water distributed to the City's water system is directly related to the quality of the supply sources from which they obtains their water. This section explores the quality of the City's supply sources and examines important water contaminants that are actively monitored as part of its efforts to supply safe drinking water to its customers.

3.2 QUALITY OF SOURCES

The two main sources of the City's water supply as mentioned in Section 2 are imported water from MWD and groundwater from the Sylmar Basin. Thus the quality of water delivered to the City's customers is directly related to the quality of these two sources.

Water received by MWD is treated at five separate treatment plants and tests its water for contaminants. Metropolitan recognizes that water quality is a concern to not only public health but also to their future water supply. Due to these concerns, MWD has identified a number of water quality issues with its two main sources in their 2010 Regional Urban Water Management Plan (RUWMP).

In addition to its imported water, the City also manages its groundwater quality by providing wellhead treatment of blending to meet California Department of Health Services (CDHS) standards. The resulting quality of water delivered to the City's customers is a result of the efforts of both the City and MWD.

3.3 WATER QUALITY CONCERNS

MWD's two main supply sources have different water quality issues. However, only water from the Bay-Delta in Northern California concerns the City. Some of the key water quality issues with water obtained from the Bay-Delta via the SWP are discussed as follows:

Total Organic Carbon and Bromide

Water containing high levels of Total Organic Carbon and Bromide, once treated with disinfectants such as chlorine or ozone, can lead to the production of Disinfection byproducts (DBPs). DBPs are known to cause certain cancers and pose a significant

concern to the City's imported water supply. The EPA currently regulates DBPs with strict standards. MWD manages DBP concentration by participating in the CALFED Bay-Delta Program to safeguard SWP source water and also by providing advanced treatment operations.

Nutrients (Algal Productivity)

Elevated nutrient levels in the SWP can adversely affect the City's imported water quality by stimulating biomass growth such as algae and aquatic weeds. Nutrients can also provide a source of food leading to the growth of nuisance biological species. This can lead to taste and odor concerns and can impede normal treatment operations.

Figure 3.2: Algal Growth in State Water Project

MWD offsets the nutrient rich SWP water by blending it with CRA water in MWD's blend reservoirs. Although nutrient loading is a concern, MWD does not expect there to be any effects on its supplies from the SWP.

Arsenic

Arsenic is a naturally occurring element found in rocks, soil, water, and air. It is used in wood preservatives, alloying agents, certain agricultural applications, semi-conductors, paints, dyes, and soaps. Arsenic can get into water from the natural erosion of rocks, dissolution of ores and minerals, runoff from agricultural fields, and discharges from industrial processes. Long-term exposure to elevated levels of arsenic in drinking water has been linked to certain cancers, skin pigmentation changes, and hyperkeratosis (skin thickening).

The MCL for arsenic in domestic water supplies was lowered to 10 µg/L, with an effective date of January 2006 in the federal regulations, and an effective date of November 2008 in the California regulations. The standard impacts both groundwater and surface water supplies. Historically, Metropolitan's water supplies have had low levels of this contaminant and would not require treatment changes or capital investment to comply with this new standard.

Other Emerging Imported Water Concerns

As the technology to discover contaminants advances, the City faces ongoing threats to its drinking water as new contaminants are discovered and existing contaminants are more readily detected. Some of the current contaminants not previously mentioned which pose a threat to the City's imported water supplies include, but are not limited to: Chromium VI, N-nitrosodimethylamine (NDMA), and Pharmaceuticals & Personal Care Products (PPCPs). Continued mitigation efforts may, however, lead to a decrease in the threat level of these contaminants, as has been demonstrated through past mitigation efforts.

Summary of Imported Water Quality

Although MWD water meets all regulatory requirements, MWD understands the need for strong testing and quality assurance for its customers. To achieve this, MWD maintains five treatment plants which serve Southern California. Three of the five

treatment plants blend a mix of water from both sources to achieve maximum water quality. In state-of the-art laboratory to ensure the safety of its water and to maintain compliance with federal and state water quality regulations. In addition to the central laboratory, there are five satellite facilities at Metropolitan's water treatment plants.

Figure 3.3: MWD's Treatment Techniques Ensure Water Quality

Groundwater Quality

In addition to imported water quality concerns, the City is also concerned with groundwater quality pumped from the Sylmar Basin. In general, groundwater in the main producing aquifers of the basins of the ULARA Basins has significant contamination issues. However, groundwater produced from the Sylmar Basin typically has better quality than groundwater produced form other ULARA Basins. Some of the main constituents of concern that have affected well production in the Sylmar Basin include perhlorate, nitrate and VOCs (TCE), which have been detected in various wells over the past five years. In particular, TCE levels have caused the City of Los Angeles to remove a well from service due to TCE levels in the Sylmar Basin. Other ULARA constituents of concern include high TDS and total hexavalent chromium. **Table 3.1** summarizes the main constituents of concern in the ULARA Basins:

Table 3.1
ULARA Groundwater Basins
Constituents of Concern

Constituent	Units	Range	Description
TDS Secondary MCL = 500	mg/L	280 to 729	Highest levels reported in the North Hollywood area of the San Fernando Basin.
Nitrate (as N) Primary MCL = 10	mg/L	2.6 to 79.2	Highest levels reported in the Verdugo Basin and eastern portion of the San Fernando Basin
VOCs (TCE and PCE) TCE Primary MCL = 5 PCE Primary MCL = 5	µg/L	<5 to over 100	The highest concentrations in Glendale and Burbank areas of the eastern San Fernando Basin are being treated. Other areas in the San Fernando Basin, which have levels significantly above the MCL, are currently being addressed through treatment or other means, while long-term solutions are being developed.
Total and Hexavalent Chromium Total Cr MCL = 50 Hexavalent Cr MCL = TBD	µg/L	ND to 423	Highest concentrations are in the Burbank and Glendale areas. These areas are currently being investigated. The city of Los Angeles discontinued pumping from one San Fernando Basin production well after total hexavalent chromium levels as high as 423 µg/L were detected.
Perchlorate Notification Level = 6	µg/L	ND to 8.9	Detected in 2 wells above notification level since 2000.

3.4 WATER QUALITY EFFECTS

The previous section summarized the general water quality issues of MWDs imported water and the Basin's groundwater supplies. The same water quality concerns apply to the City's water supply. Groundwater that requires treatment is either provided wellhead treatment or is blended to meet state and federal standards. Due to the mitigation actions undertaken by the City and MWD, therefore, the City does not anticipate any reductions in its water supplies due to water quality issues. Future regulatory changes enacted by the EPA and/or the State legislature will be met through additional mitigation actions in order to meet the standards and to maintain water supply to the City's customers. Additionally, during times of groundwater supply reduction to due water quality concerns the city will import water to meet demand until mitigation actions are complete and the City is operating its groundwater facilities at full capacity. Thus, the City does not expect water quality to be a major factor in its overall supply reliability or management considerations.

SECTION 4: WATER DEMANDS

4.1 INTRODUCTION

Water use within the City is variable and depends on a number of factors which range from irrigation to industrial use and from inefficient plumbing to water losses. Changes in residential plumbing fixtures and customer usage habits can significantly affect water usage for most agencies. This section explores the water usage trends within the City and quantifies total usage per customer type. In addition, the provisions of the Water Conservation Act of 2009 (SBx7-7) are explored in detail.

4.2 CURRENT CITY WATER NEEDS

The City of San Fernando, like many other cities of Southern California, began as an agricultural area and throughout the years has transformed into a suburban town. Initially the land uses in the City were primarily agricultural with some residential. By 1920 the City's population reached 3,204 persons and the City continued to grow at a rate of about 275 people per year until 1990, when the population growth rate began to level off.

The City's population growth rate has decreased in the past 20 years and is currently at under 0.5 percent annually. The City is approaching ultimate "built-out" with remaining expected future water demands primarily attributable to possible land use changes in residential densities and in-fill land development projects. Due in part to this slowed growth, the City's water use over the past 15 years has been fairly consistent and recent total water consumption reported for calendar year 2009 is slightly less than total water consumption reported for calendar years 1995 through 1997. As a result, the City of San Fernando's local groundwater sources and imported supply capacity put the City in a position of providing a reliable source of quality water for its water users due to this consistency of water demands

Figure 4.1: Residential Irrigation

The City of San Fernando supports water conservation while maintaining the beauty of its community parks, schools, and recreational facilities both in the private and in the public sector. Since the City is zoned mainly for residential use and the majority of residential water consumption in the City is used for non-personal purposes (i.e. irrigation, car washing, etc), the City has a significant number of residential lots which require consistent irrigation to maintain landscapes. Of the water used for personal purposes, the majority of water consumed is attributable to toilet flushing and clothes washing.

In the commercial and institutional sector, water needs vary as customers range from restaurants to offices and from retail stores

to schools. Office buildings and retail stores require significantly less water than restaurants and schools and are not usually the key focus of water conservation efforts.

In order to maintain civic pride and a sense of community, City parks and other City right of ways (medians, etc.) require consistent irrigation. To prevent water waste the City follows a irrigation schedule that limits the length of irrigation to avoid overspray runoff and also eliminates evapotranspiration from daytime watering.

Figure 4.2: City Recreation Park

Overall water use characteristics within the City's service area reflect regional water use characteristics within Southern California. As a result of these water needs, the City has enacted conservation policies similar to other agencies which limits or restricts non-personal water use during periods of drought to conserve water use for the more important health and safety needs of its customers. The City's conservation policies are discussed in greater detail in **Sections 6 and 7**.

4.3 HISTORIC WATER DEMAND

Water demands within the City's service area over the past five years are met by groundwater from the Sylmar Groundwater Basin and imported water from MWD. Annual water use since 2005 has ranged from about 3,395 AFY to 3,757 AF as shown below in **Table 4.1**:

Table 4.1
Five-Year Historic Total Water Consumption

Year	Consumption (AF)
2009	3,395
2008	3,653
2007	3,757
2006	3,699
2005	3,650
Average:	**3,631**

As indicated by **Table 4.1** above, annual water use fluctuates each year and is dependent on climatologic conditions.

4.4 WATER USE STATISTICS

The City maintains records of water consumption and bills its customers on a monthly basis for its water service. the City currently has 5,085 service connections with a mixture of residential, commercial, institutional, industrial, and landscape irrigation customers. Over 80 percent of the total metered connections are residential (single & multi-family). Commercial accounts comprise nearly 10 percent of the City's metered connections. Industrial accounts make up about 4 percent of the total metered connections and have the highest consumption rate at about 1.5 AFY per connection. Water sales data is compiled by City water staff and recorded on DWR's Form No. 38 (Public Water System Statistics) and submitted to DWR annually. The total number of service connections and total water consumption since 2005 is shown below in **Tables 4.2** and **4.3**:

Table 4.2
Number of Service Connections 2005-2010

Sector	2005	2006	2007	2008	2009
Single Family Residential	3,768	3,738	3,746	3,834	3,834
Multi-Family Residential	466	462	463	397	397
Commercial/Institutional	425	481	481	480	480
Industrial	165	191	191	189	189
Landscape Irrigation	72	69	70	70	70
Other	100	108	116	115	115
Total Connections:	**4,996**	**5,049**	**5,067**	**5,085**	**5,085**

Table 4.3
Water Sales 2005-2010

Sector	2005	2006	2007	2008	2009
Single Family Residential	1,421	2,176	2,010	2,067	3,834
Multi-Family Residential	249	---	248	166	397
Commercial/Institutional	472	469	460	474	480
Industrial	405	263	273	271	189
Landscape Irrigation	173	0	0	0	70
Other	65	139	143	70	115
Total Sales:	**2,784**	**3,046**	**3,134**	**3,048**	**5,085**
Unaccounted For Water (%)	866 (24%)	653 (18%)	623 (17%)	605 (17%)	-1,689 (33%)
Total Water Use (Total Water Into System)	**3,650**	**3,699**	**3,757**	**3,653**	**3,396**

As indicated by **Table 4.3** above, the City's unaccounted for water in this time period is nearly 20% per year. This amount of water loss is within the high end of the typical range for water losses in public water systems. The reasons for water losses may be from a difference in accuracy of the meter at the production side compared to the service meters, periodic main line flushing, reservoir and other water system maintenance that is typical in the operation and maintenance of a water system.

4.5 WATER CONSERVATION ACT

SBx7-7 Background

Due to supply concerns in the San Joaquin Delta, the California Legislature drafted the Water Conservation Act of 2009 (SBx7-7) to enforce statewide water conservation. The new legislation called for a 20% reduction in water use by the year 2020. SBx7-7 also amended the water code to call for reporting changes in the 2010 Urban Water Management Plans and allows the Department of Water Resources (DWR) to enforce compliance to the new water use standards. The new reporting requirements allow provisions for agencies located within different Hydrologic Regions to satisfy the requirements of the new legislation.

Figure 4.3: California's 2020 Water Conservation Goals

In addition to an overall statewide 20% water use reduction, the objective of SBx7-7 is to reduce water use in within each hydrologic region in accordance with the agricultural and urban water needs of each region. Currently, the Department of Water Resources (DWR) recognizes 10 separate hydrologic regions in California as shown in **Figure 4.3**. Each hydrologic region has been established for planning purposes and corresponds to the State's major drainage areas. The City of San Fernando is located in the South Coast Hydrologic Region (HR), which includes

all of Orange County, most of San Diego and Los Angeles Counties, parts of Riverside, San Bernardino, and Ventura counties, and a small amount of Kern and Santa Barbara Counties. The South Coast HR is shown below in **Figure 4.4.** Per capita water use, measured in gallons per capita per day (GPCD), in the South Coast HR varies between different water agencies, depending on the geographic and economic conditions of the agency's service area. Regions with more affluence typically consume more water and therefore have higher per capita water use numbers. The South Coast Hydrologic Region has an overall baseline per capita water use of 180 GPCD and DWR has established a regional target of 149 GPCD for the region as a compliance target to satisfy SBx7-7 legislation.

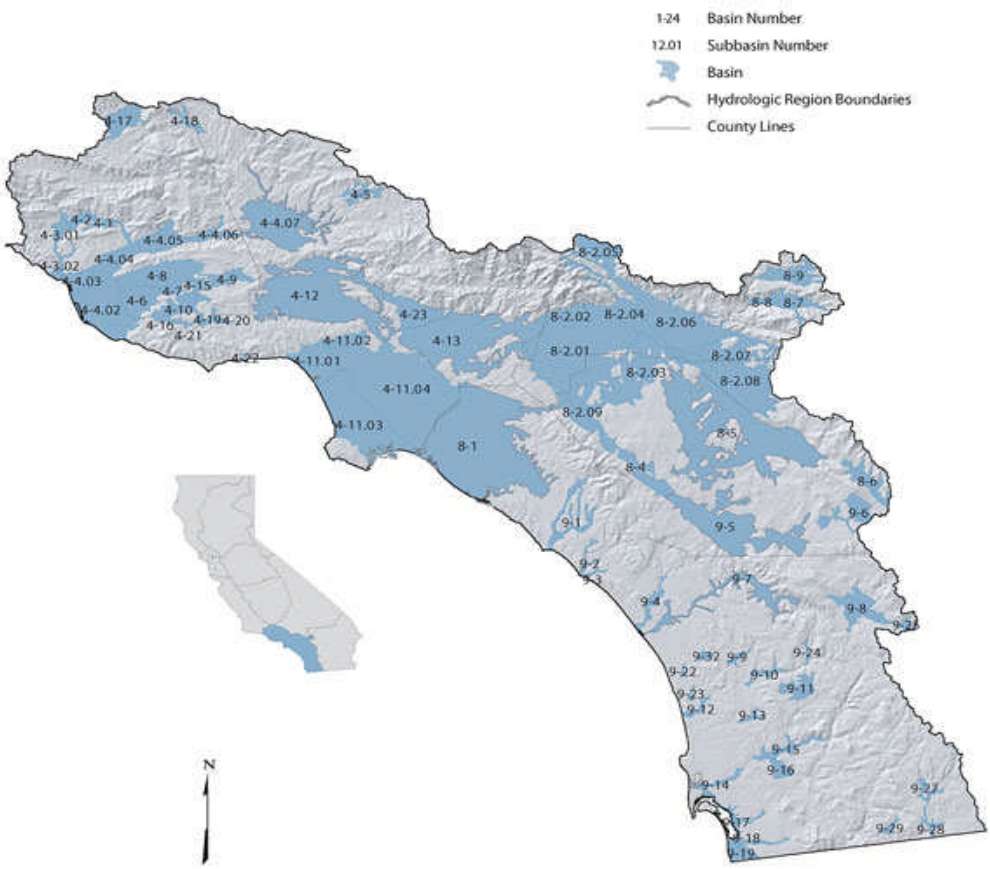

Figure 4.4: South Coast Hydrologic Region

SBx7-7 Methodologies

To satisfy the provisions of SBx7-7, the City must establish a per capita water use target for the year 2020 as well as an interim target. DWR has provided guidelines for determining these targets in its *Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use* and also in the 2010 UWMP Guidebook (Section D). The City's baseline water use is based on the City's historic water use and is determined by the procedure on the following page:

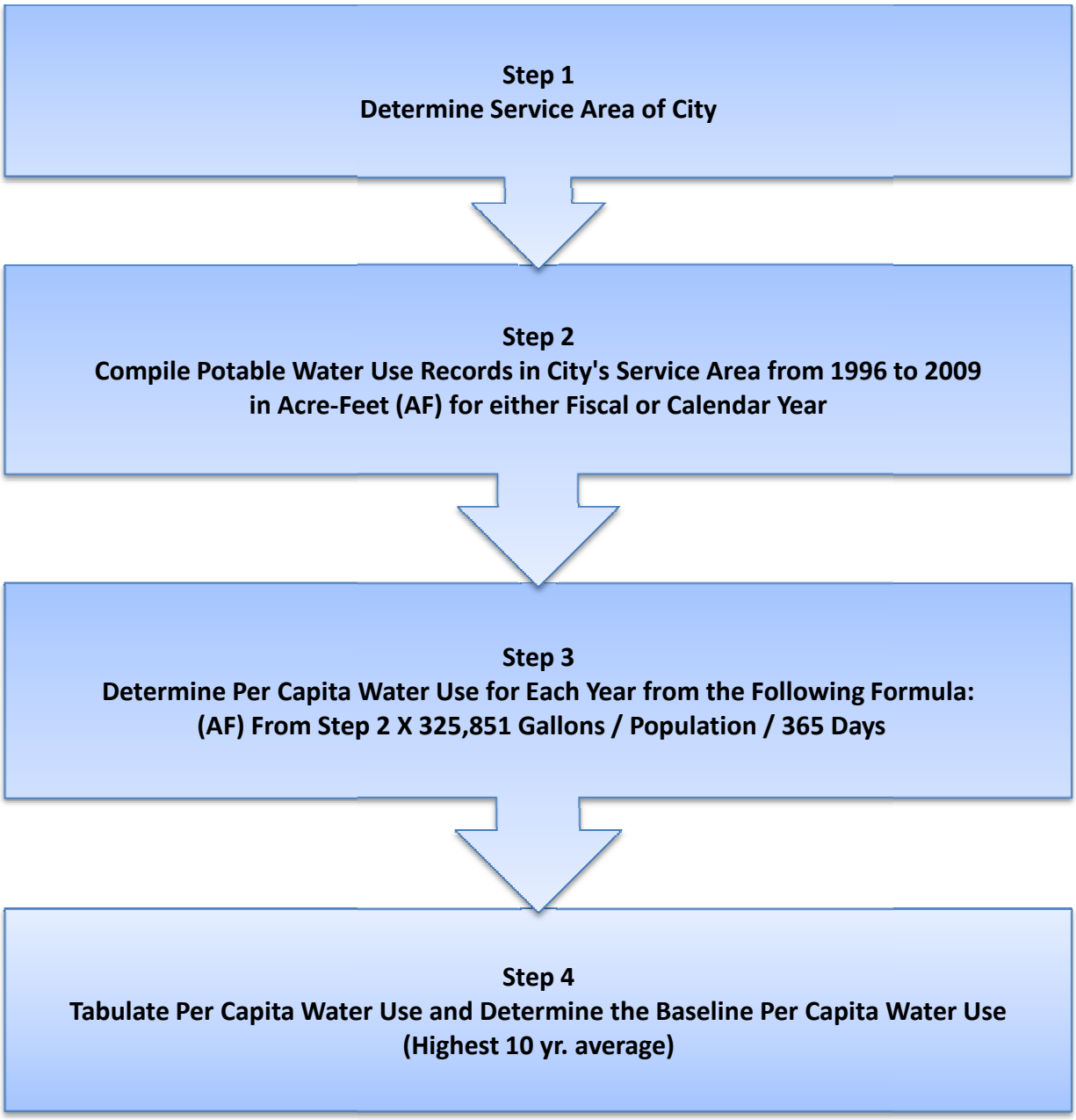

Figure 4.5: Procedure for Determining Baseline Per Capita Water Use

In the same fashion, the City is responsible for determining a five-year baseline water use in accordance with DWR's guidelines. The *Methodologies* guidebook makes provisions which allow a water supplier to meet the target requirements by achieving any one of a number of target requirements, provided that the water supplier's per capita water use is low enough relative to the region within which it supplies water. The basic options include a minimum reduction requirement of 5% (Water Code § 10620), a 5% Reduction from the Regional (South Coast HR) target (Water Code § 10608.20 (b) (3)), or a strict 20% reduction.

These options have been established in order

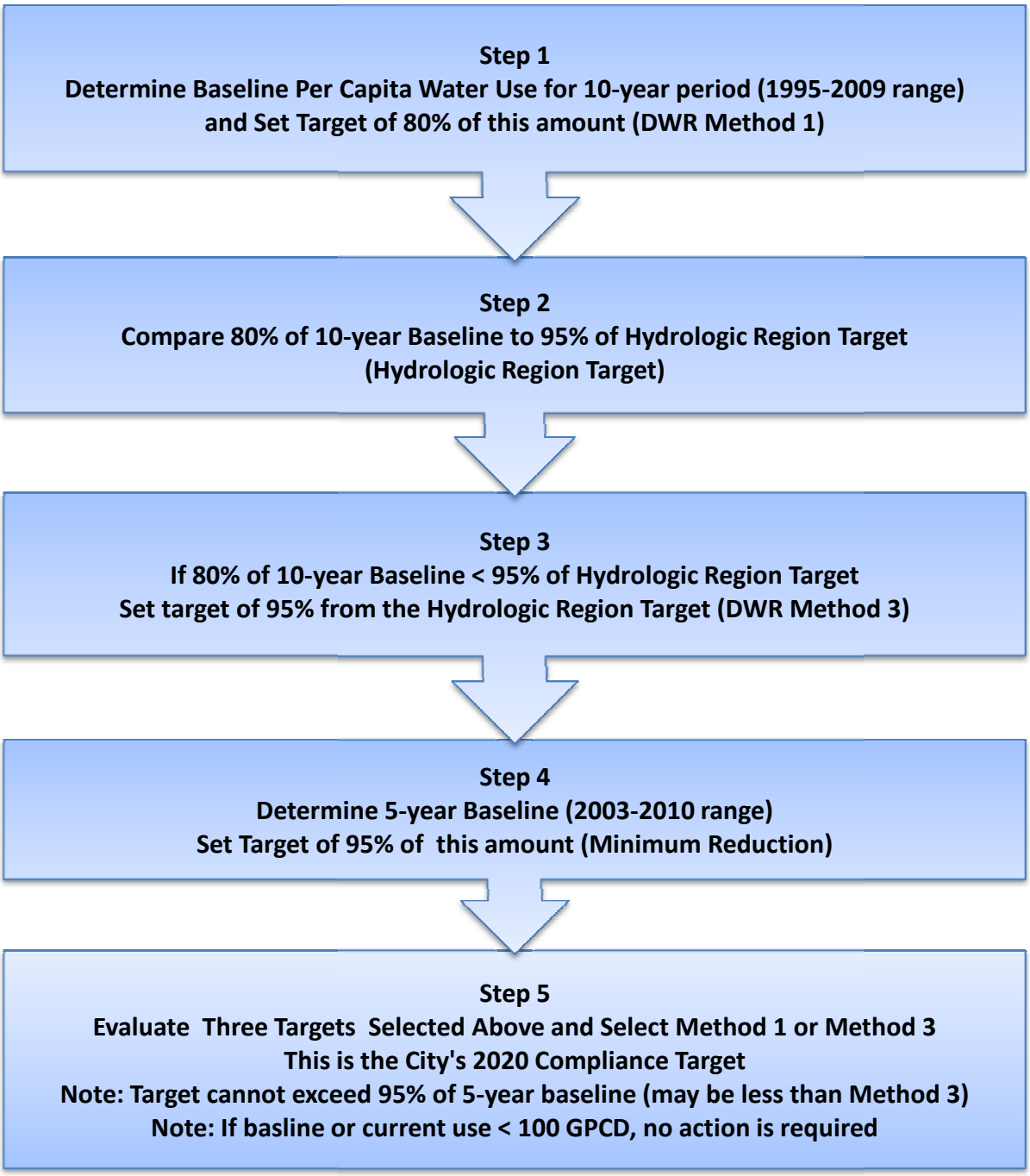

Figure 4.6: Procedure for Determining 2020 Water Use Target

to avoid placing any undue hardship on water agencies that have already been implementing water conservation measures for some time. The basic procedure for determining the applicable water reduction target is illustrated above by **Figure 4.6** above. If an agency's 10-year baseline is slightly higher than the Hydrologic Region's Target, that agency still must achieve a 5% reduction from its 5-yr. baseline. If an agency has a per capita water use of 100 GPCD or less, that agency will not have to adhere to any reduction targets as that agency is already water efficient.

SBx7-7 Targets

Due to the options available to water agencies, some neighbor agencies within the South Coast HR with moderate water usages, such as Los Angeles, (baseline of 150.6 GPCD) will not have to adhere to stringent reduction requirements. **Table 4.4** below shows an example of these options available to the City of Los Angeles:

Table 4.4
Reduction Example for Los Angeles
(Baseline = 150.6 GPCD)

Min. Reduction Requirement (5% of 5-year baseline) (10608.22)	20% Target (10608.20) (b)(1)	5% Reduction from Regional Target (10608.20) (b)(3)
143.07	120.5	141.5
	2020 Per Capita Target:	**141.5**
	Interim (2015) Target:	**146.1**

As indicated by the above table, the City of Los Angeles cannot select a minimum reduction requirement of 143.07 GPCD (5% from its baseline) as this amount is greater than 141.5 GPCD (5% reduction from the South Coast HR's regional target). However, since Los Angeles's 20% reduction target (120.5 GPCD) is less than the minimum reduction requirement that is required by DWR (141.5 GPCD), it is feasible to select 141.5 GPCD as its 2020 water use target.

Like the City of Los Angeles, water consumption characteristics in the City of San Fernando are low to moderate due to socio-economic conditions and a commitment to efficient water use. This indicates that the City will not have to adhere to the strict provisions of SBx7-7.

To determine the City of San Fernando's historic per capita water use and to set 10-yr. and 5-yr. baselines, water use data was gathered from 1995-2009 and the City's baseline was determined as shown below in **Table 4.5:**

Table 4.5
City of San Fernando
Historic Water Use

Year	Total Potable Consumption (AF)	Per Capita (GPCD)
2009	3,395	128
2008	3,653	138
2007	3,757	142
2006	3,699	140
2005	3,650	139
2004	3,894	148
2003	3,791	145
2002	3,786	145
2001	3,649	140
2000	3,735	144
1999	3,996	155
1998	3,324	129
1997	3,575	139
1996	3,564	139
1995	3,460	135
	10 yr. Baseline (1995-2004) (SB7: 10608.20)	**142**
	5 yr. Baseline (2003-2007) (SB7: 10608.22)	**143**
	South Coast HR:	**180**

In order to determine the correct compliance target, the City's baseline water use will be compared to the regional compliance target as in the Los Angeles example in order to determine the applicable reduction amounts per the

SBx7-7 additions to the water code. The legal stipulations applicable to the City and the required target to be enforced by DWR is shown below in **Table 4.6:**

Table 4.6
City of San Fernando
SBx7-7 2020 Water Use Targets

Min. Reduction Requirement (10608.22)	20% Target (10608.20) (b)(1)	5% Reduction from Regional Target (10608.20) (b)(3)
136	114	141.5
	2020 Per Capita Target:	136
	Interim (2015) Target:	140
	2009 Per Capita Water Use:	128

As indicated by the above table, the City can select a minimum reduction requirement of 136 GPCD (5% from its five year baseline) as this amount is less than 141.5 GPCD (5% reduction from the South Coast HR's regional target). Therefore 10608.22 applies to the City. In addition, since the City's 20% reduction target (114 GPCD) far exceeds 136 GPCD, it is feasible for the City to select 136 GPCD as its 2020 water use target. Therefore, the City's compliance target for 2020 per capita water consumption is 136 GPCD in accordance with 10608.22.

Although the requirements of SBx7-7 seem stringent, it is noteworthy to mention that the City has seen an increase in water efficiency from 1995-2010. This is due in part to a greater achievement of conservation measures, saturation of water-saving plumbing fixtures, and overall water conservation awareness.

SBx7-7 Impacts

By maintaining low consumption rates and 100% local sustainability, the City can participate in Statewide efforts to conserve Sacramento-San Joaquin Bay-Delta Water and to protect the ecological habitat of the region. Although ecological motives are debatable, ensuring a reliable supply of water for human use is a top priority. Through conservation measures and the use of renewable, local groundwater supplies, the City can reduce demand for Bay-Delta water.

Figure 4.7: Bay-Delta Water Must Be Preserved

With increased public awareness of conservation requirements, it is likely that the public will begin to understand the importance of water conservation and will begin to use water even more efficiently.

4.6 PROJECTED WATER DEMAND

Future water use projections must consider significant factors on water demand, such as climate patterns, among other less significant factors which affect water demand. Although redevelopment is expected to be an ongoing process, it is not expected to significantly impact water use since the City is already near a "built-out" condition. Rainfall, however, will continue

to be a major influence on demand as drought conditions will increase demand at a time when these supplies are limited and may therefore result in water use restrictions in accordance with the City's Water conservation policies (see **Section 7** for prohibitions on water use). As the City's population continues to grow mildly over time and as water conservation measures continue to be implemented, the City should experience only mild increases in its water consumption over the long term due mostly to overall population increases (along with very limited redevelopment). Per capita consumption rates, however, should be expected to remain under 136 GPCD (in accordance with SBx7-7) and trend further below the 2009 rate of 128 GPCD (in accordance with water use trends in the City). For planning purposes, the City's projected water use for 2015-2035 is broken down by sector in **Table 4.7**. The residential sector includes low-income housing units as the Housing Element for the City of San Fernando (2009) lists 87 low and very low income housing units to meet the City's Housing Needs Assessment. The estimated residential per unit water demand is 0.61 acre-feet/unit/year and thus 53 acre-feet/year is needed to supply these projected lower income housing units. These water demands are included in future water demand projections for single family and multi-family homes listed in **Table 4.7** below.

Table 4.7
Projected Water Demand By Sector 2015-2035
(Based on SBx7-7 Conservation Rate of 136 GPCD)

Sector	2015	2020	2025	2030	2035
Single Family Residential	1,971	2,000	2,030	2,061	2,092
Multi-Family Residential	220	223	226	230	233
Commercial/Institutional	447	453	460	467	474
Industrial	288	293	297	301	306
Landscape Irrigation	36	37	37	38	38
Other	104	106	108	109	111
Total Sales:	**3,066**	**3,112**	**3,159**	**3,206**	**3,254**
Unaccounted For Water (%)	537	545	553	561	570
Total Water Use (Total Water Into System)	**3,603**	**3,657**	**3,712**	**3,767**	**3,824**

SECTION 5: RELIABILITY PLANNING

5.1 INTRODUCTION

Drought conditions continue to be a critical issue for Southern California's water supply. As the population of Southern California continues to increase and as environmental regulations restrict imported and local water supplies, it is important that each agency manage its water consumption in the face of drought. Even during times of seasonal drought, each agency ought to anticipate a surplus of supply. This can be accomplished through conservation and supply augmentation, and additionally through prohibitions under penalty of law during times of seasonal or catastrophic shortage in accordance with local ordinances.

This section discusses local and regional efforts to ensure a reliable supply of water and compares projected supply to projected demand. Demand and supply projections are provided in **Tables 5.4- 5.10**.

5.2 HISTORIC DROUGHTS

Climate data has been recorded in California since 1858. Since then, California has experienced several periods of severe drought: 1928-34, 1976-77 and 1987-91, and most recently in 2007-2009. California has also experienced several periods of less severe drought. The year 1977 is considered to be the driest year of record in the Four Rivers Basin by DWR. These rivers flow into the Delta and are the source of water for the SWP. Southern California sustained few adverse impacts from the 1976-77 drought, but the 1987-91 drought created considerably more concern.

As a result of previous droughts, the State legislature has enacted, among other things, the Urban Water Management Planning Act, which requires the preparation of this plan. Subsequent amendments to the Act have been made to ensure the plans are responsive to drought management. In 1991. several water agencies came together to form the California Urban Water Conservation Council (CUWCC) to manage the impacts of drought through the promotion of water conservation.

Figure 5.1: Lake Oroville: Drought Conditions

The recent drought of 2007-2009 has resulted in significant impacts on the State's water supplies. The Water Conservation Act of 2009 (SBx7-7) was signed into law by Gov. Schwarzenegger which requires mandatory water conservation up to 20% by 2020.

At the local level, water agencies have enacted their own ordinances to deal with the impacts of drought. The City has enacted several water conservation policies as part of the City's municipal code that manage water supply during droughts. Prohibition on water use and penalties for excessive use exist to preserve water supply during droughts.

5.3 REGIONAL SUPPLY RELIABILITY

As a result of continued challenges to its water supplies, DWR and MWD understand the importance of reliable water supplies. Both agencies strive to meet the water needs of Southern California by developing new projects to increase the capacity of its supplies while encouraging local water agencies to develop local supply projects to meet the needs of its customers. Due to the potential impacts of droughts, DWR and MWD are committed to developing and maintaining high-capacity storage reservoirs, such as Castaic Lake (serving the San Fernando Valley Area), to meet the needs of the region during times of drought and emergency.

Figure 5.2: Lake Castaic (terminus reservoir of Western Branch of SWP)

DWR operates Castaic Lake, a 324,000 AF reservoir, to avoid the repercussions of reduced supplies from drought periods. In addition, MWD operates several additional storage reservoirs in Riverside, San Bernardino, and San Diego Counties, including its flagship 800,000 AF Diamond Valley Lake, to store water obtained from the SWP and the CRA. Storage reservoirs like these are a key component of Southern California's supply capability and are crucial since the SWP and CRA have become more restricted which could render the City's supplies more vulnerable to shortage.

Colorado River Aqueduct Reliability

Water supply from the CRA continues to be a critical issue for Southern California as MWD competes with several agricultural

water agencies in California for unused water rights to the Colorado River. Although California's allocation has been established at 4.4 million acre-feet (MAF) per yer, MWD's allotment stands at 550,000 AFY with additional amounts which increase MWD's allotment to 842,000 AFY if there is any unused water from the agricultural agencies.

MWD recognizes that due to competition from other states and other agencies within California has decreased the CRA's supply reliability. In 2003, the Quantification Settlement Agreement (QSA) was signed which facilitated the transfer of water from agricultural agencies to urban uses.

State Water Project Reliability

The reliability of the SWP impacts Metropolitan's member agencies' ability to plan for future growth and supply. DWR's Bulletin 132-03, December 2004, provides certain SWP reliability information, and in 2002, the DWR Bay-Delta Office prepared a report specifically addressing the reliability of the SWP.35 This report, The State Water Project Delivery Reliability Report, provides information on the reliability of the SWP to deliver water to its contractors assuming historical precipitation patterns.

On an annual basis, each of the 29 SWP contractors including Metropolitan request an amount of SWP water based on their anticipated yearly demand. In most cases, Metropolitan's requested supply is equivalent to its full Table A Amount (a table indicating annual allocations to SWP contractors). After receiving the requests, DWR assesses the amount of water supply available based on precipitation, snow pack on northern California watersheds, volume of water in storage, projected carry over storage, and Sacramento-San Joaquin Bay Delta regulatory requirements. For example, the SWP annual delivery of water to contractors has ranged from 552,600 AFY in 1991 to 3.5 MAF in 2000. Due to the uncertainty in water supply, contractors are not typically guaranteed their full Table A Amount, but instead a percentage of that amount based on the available supply.

Each December, DWR provides the contractors with their first estimate of allocation for the following year. As conditions develop throughout the year, DWR revises the allocations.

Figure 5.3: State Water Project (SWP)

Due to the variability in supply for any given year, it is important to understand the reliability of the SWP to supply a specific amount of water each year to the contractors.

5.4 CURRENT RESERVOIR LEVELS

Statewide, storage reservoir levels rise and fall due to seasonal climate changes which induce increase in demand. During periods of drought, reservoir levels can drop significantly and can limit the amount of supplies available. As a result, both DWR and MWD monitor their reservoir levels regularly. In 2009, conditions of several key reservoirs indicated drought conditions. Currently, reservoir levels are high as indicated by **Figures 5.4** and **5.5**:

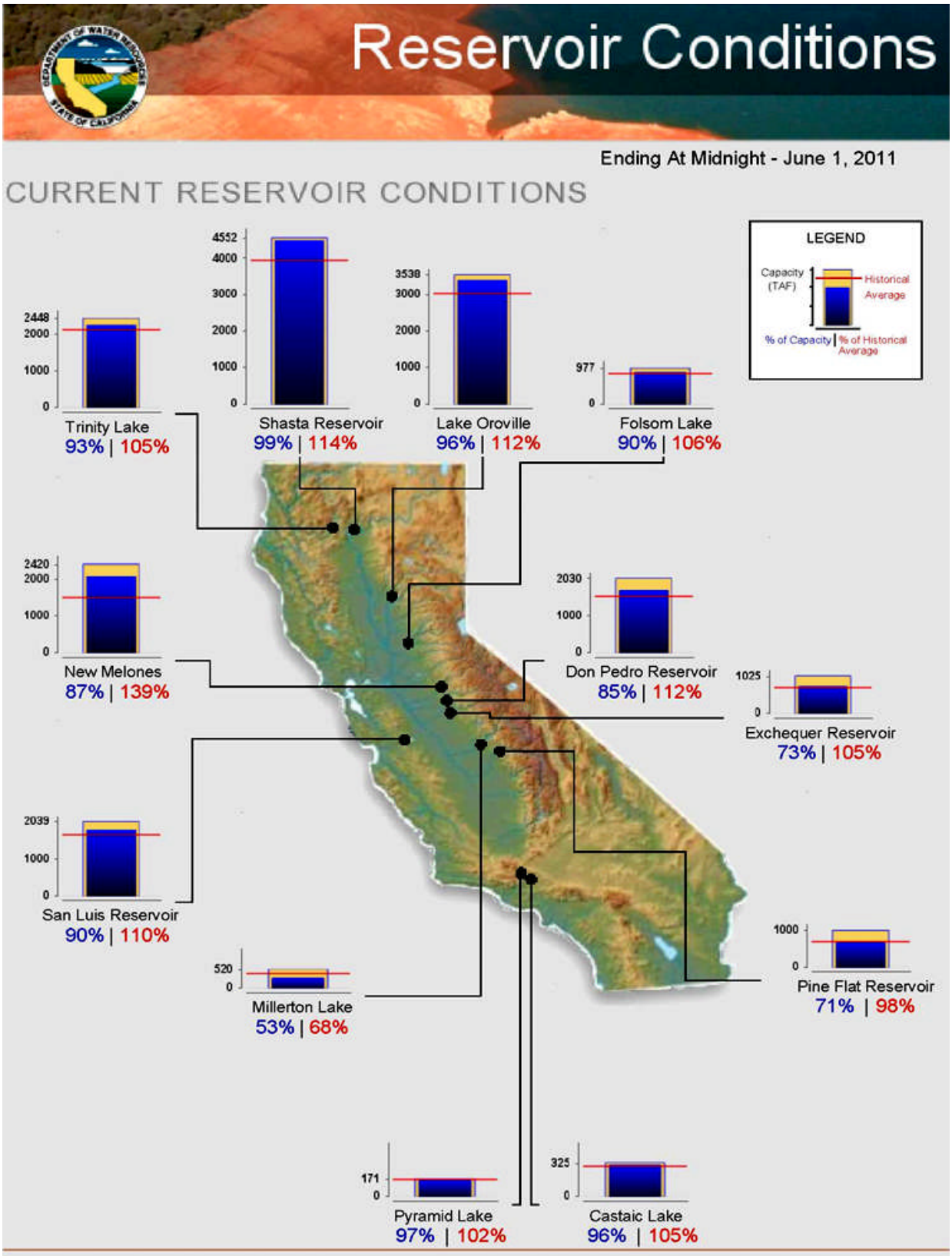

Figure 5.4: California State Reservoir Levels

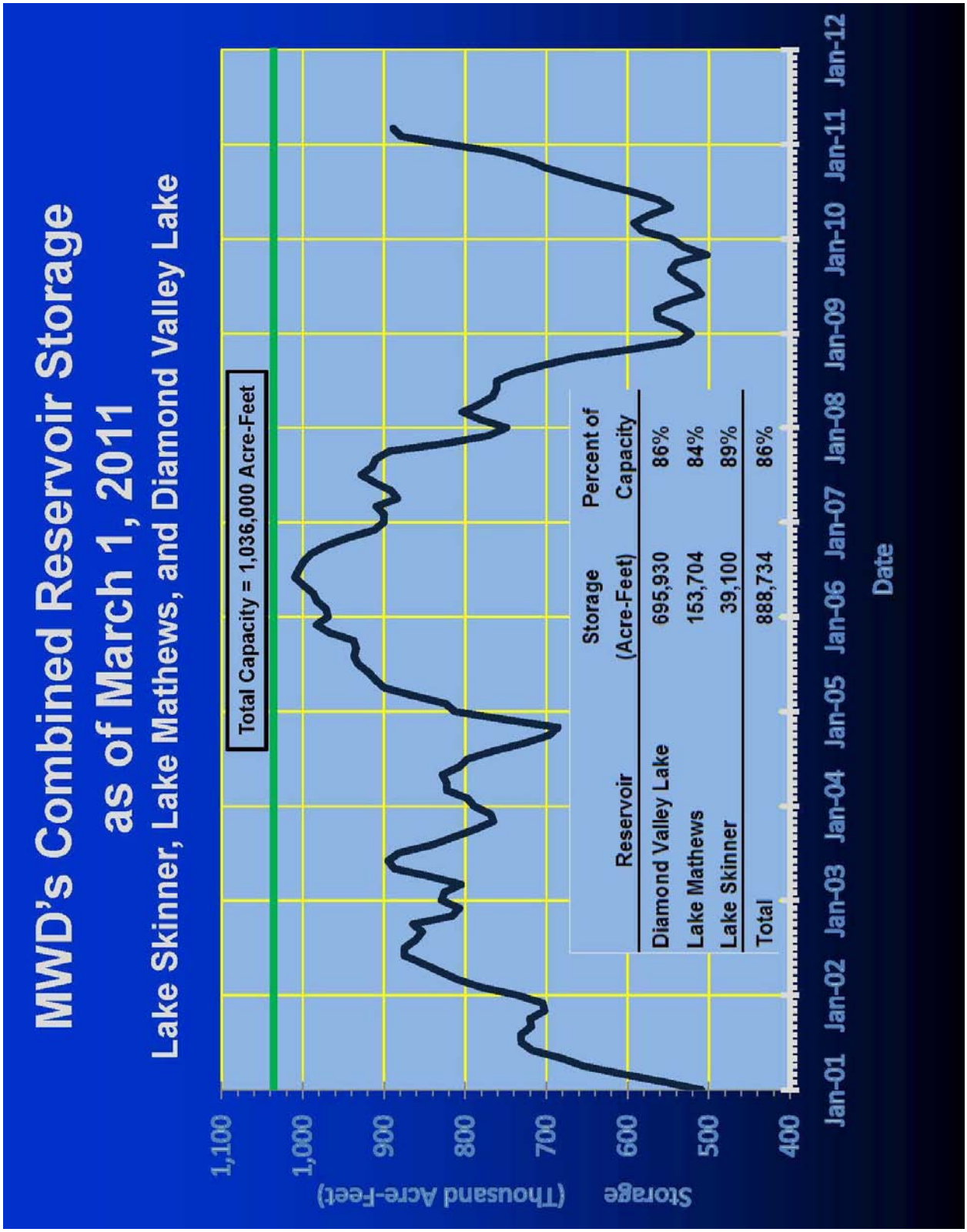

Figure 5.5: MWD Reservoir Levels

5.5 SUPPLY VS. DEMAND

As the City obtains its water sources from local groundwater and imported water, the City's water supply reliability is based on the capacity and vulnerability of its infrastructure in addition to the seasonal demand changes brought about by periods of drought. Population growth will also continue to be a factor in future reliability projections. Since the City is nearly 100% sustainable from local groundwater sources, having continued access to imported water increases the City's supply reliability.

Regional Supply Reliability

Southern California is expected to experience an increase in regional demands in the years 2015 through 2035 as a result of population growth. Although increases in demand are expected, they are limited due to the requirements of SBx7-7 which provides a cap on water consumption rates (i.e. per capita water use). It can be reasonably expected that the majority of agencies will be at or near their compliance targets by 2020 and thereafter as conservation measures are more effectively enforced.

MWD's reliability of supply has an indirect impact on the City. **Tables 2.9-2.11** of MWD's 2010 RUWMP show supply reliability projections for average and single dry years through the year 2035. The data in these tables is important to effectively project and analyze supply and demand over the next 25 years for many regional agencies. It is noteworthy that Projected Supplies During a Single Dry Year and Multiple Dry Years indicates MWD's projected supply will exceed its projected single dry year and multiple dry year demands in all years. Likewise, for average years, MWD supply exceeds projected demands for all years. The data contained in these tables has an indirect effect on the City's imported supply capacity and thus this data will also be used to develop the City's projected supply and demand over the next 25 years.

City Supply Reliability

To project future supply and demand comparisons, it will be assumed that demand will increase annually based on population growth and a constant of 136 GPCD in accordance with SBx7-7 requirements. **Table 5.1** contains the projected populations that will be used to project demand:

Table 5.1
City of San Fernando
Service Area Population Projections

Year	Population
2015	24,005
2020	24,365
2025	24,730
2030	25,101
2035	25,478
Demand = Population x GPCD Rate	

During times of drought, demand will increase at a time when supply will decrease. To project demands during drought periods, the following factors measured from actual demand data from 2002-2004 will be assumed:

- **Single Dry Year Demand Increase**: 106.3% of Normal (2004)
- **Multiple Dry Year Demand Increases (Years 1, 2, & 3)**: 103.4%, 103.5%, 106.3% of Normal

Table 5.2
MWD Regional Imported Water Supply Reliability Projections
Average and Single Dry Years

Row	Region Wide Projections	2015	2020	2025	2030	2035
Supply Information						
A	Projected Supply During an Average Year[1]	3,485,000	3,810,000	4,089,000	3,947,000	3,814,000
B	Projected Supply During a Single Dry Year[1]	2,.457,000	2,782,000	2,977,000	2,823,000	2,690,000
C = B/A	Projected Supply During a Single Dry Year as a % of Average Supply	**70.5%**	**73.0%**	**72.8%**	**71.5%**	**70.5%**
Demand Information						
D	Projected Demand During an Average Year	2,006,000	1,933,000	1,985,000	2,049,000	2,106,000
E	Projected Demand During a Single Dry Year	2,171,000	2,162,000	2,201,000	2,254,000	2,319,000
F = E/D	Projected Demand During a Single Dry Year as a % of Average Demand	**108.2%**	**111.8%**	**110.9%**	**110.0%**	**110.1%**
Surplus Information						
G = A-D	Projected Surplus During an Average Year	1,479,000	1,877,000	2,104,000	1,898,000	1,708,000
H = B-E	Projected Surplus During a Single Dry Year	286,000	620,000	776,000	569,000	371,000
Additional Supply Information						
I = A/D	Projected Supply During an Average Year as a % of Demand During an Average Year	**173.7%**	**197.1%**	**206.0%**	**192.6%**	**181.1%**
J = A/E	Projected Supply During an Average Year as a % of Demand During Single Dry Year	**160.5%**	**176.2%**	**185.8%**	**175.1%**	**164.5%**
K = B/E	Projected Supply During a Single Dry Year as a % of Single Dry Year Demand (including surplus)	**113.2%**	**128.7%**	**135.3%**	**125.2%**	**116.0%**

Table 5.3
MWD Regional Imported Water Supply Reliability Projections
Average and Multiple Dry Years

Row	Region Wide Projections	2015	2020	2025	2030	2035
Supply Information						
A	Projected Supply During an Average Year[1]	3,485,000	3,810,000	4,089,000	3,947,000	3,814,000
B	Projected Supply During Multiple Dry Year Period*	2,248,000	2,417,000	2,520,000	2,459,000	2,415,000
C = B/A	Projected Supply During Multiple Dry Year as a % of Average Supply	**64.5%**	**63.4%**	**61.6%**	**62.3%**	**63.3%**
Demand Information						
D	Projected Demand During an Average Year	2,006,000	1,933,000	1,985,000	2,049,000	2,106,000
E	Projected Demand During Multiple Dry Year Period[2]	2,236,000	2,188,000	2,283,000	2,339,000	2,399,000
F = E/D	Projected Demand During Multiple Dry Year Period as a % of Average Demand	**111.5%**	**113.2%**	**115.0%**	**114.2%**	**113.9%**
Surplus Information						
G = A-D	Projected Surplus During an Average Year	1,479,000	1,877,000	2,104,000	1,898,000	1,708,000
H = B-E	Projected Surplus During Multiple Dry Year Period	12,000	229,000	237,000	120,000	16,000
Additional Supply Information						
I = A/D	Projected Supply During an Average Year as a % of Demand During an Average Year	**173.7%**	**197.1%**	**206.0%**	**192.6%**	**181.1%**
J = A/E	Projected Supply During an Average Year as a % of Demand During Multiple Dry Year	**155.9%**	**174.1%**	**179.1%**	**168.7%**	**159.0%**
K = B/E	Projected Supply During a Multiple Dry Year as a % of Multiple Dry Year Demand (including surplus)	**100.5%**	**110.5%**	**110.4%**	**105.1%**	**100.7%**

Table 5.4
City of San Fernando Water Supply Availability & Demand Projections
Normal Water Year

Water Sources	2015	2020	2025	2030	2035
Available Supply					
Imported Water	3,485	3,810	4,089	3,947	3,814
Groundwater	3,405	3,405	3,405	3,405	3,405
Total Supply	**6,890**	**7,215**	**7,494**	**7,352**	**7,219**
% of Normal Year	100%	100%	100%	100%	100%
Demand					
Imported Water	252	307	362	419	476
Groundwater	3,405	3,405	3,405	3,405	3,405
Total Demand	**3,657**	**3,712**	**3,767**	**3,824**	**3,881**
% of 2005-2009 Avg. Demand (6,151)	100.7%	102.2%	103.8%	105.3%	106.9%
Supply/Demand Comparison					
Supply/ Demand Difference	3,233	3,503	3,727	3,528	3,338
Difference as % of Supply	46.92%	48.56%	49.73%	47.99%	46.23%
Difference as % of Demand	88.41%	94.38%	98.92%	92.27%	85.99%

Table is intended only to show City will be able to meet demand for all years per the following*:

1. Total Demand based on 136 GPCD (SBx7-7) multiplied by population projections of Table 5.1

2. Imported Water Supply represents supply available to City, if needed, based on City's preferential right of 0.10% multiplied by Table 5.2 Row A

3. Groundwater Supply/Demand based on City's adjudicated right of 3,405 AFY

*This Table not intended to be a projection of City's actual groundwater production. City may pump amounts different from its adjudicated right of 3,405 AFY based on leases to or from other agencies. The City may also overdraft up to 10% of this amount.

*This Table is not intended to be a projection of City's actual demand. Demand of 136 GPCD is a conservative estimate based on SBx7-7 limits. Actual demand is likely to be below the SBx7-7 limit of 136 GPCD in accordance with water efficiency trends in the City (2009 = 128 GPCD).

Table 5.5
City of San Fernando Water Supply Availability & Demand Projections
Single Dry Year

Water Sources	2015	2020	2025	2030	2035
Available Supply					
Imported Water	2,457	2,781	2,977	2,822	2,689
Groundwater	3,405	3,405	3,405	3,405	3,405
Total Supply	**5,862**	**6,186**	**6,382**	**6,227**	**6,094**
Normal Year Supply	6,890	7,215	7,494	7,352	7,219
% of Normal Year	85%	86%	85%	85%	84%
Demand					
Imported Water	471	529	588	648	709
Groundwater	3,405	3,405	3,405	3,405	3,405
Total Demand	**3,876**	**3,934**	**3,993**	**4,053**	**4,114**
Normal Year Demand	3,657	3,712	3,767	3,824	3,881
% of Normal Year	106.3%	106.3%	106.3%	106.3%	106.3%
Supply/Demand Comparison					
Supply/Demand Difference	1,986	2,252	2,388	2,174	1,980
Difference as % of Supply	33.87%	36.40%	37.43%	34.91%	32.49%
Difference as % of Demand	51.22%	57.23%	59.81%	53.63%	48.12%

Table is intended only to show City will be able to meet demand for all years per the following*:

1. Total Demand based on 136 GPCD (SBx7-7) multiplied by population projections of Table 5.1 and by single dry year increase of 106.3%

2. Imported Water Supply represents supply available to City, if needed, based on City's preferential right of 0.10% multiplied by Table 5.2 Row B

3. Groundwater Supply/Demand based on City's adjudicated right of 3,405 AFY

*This Table not intended to be a projection of City's actual groundwater production. City may pump amounts different from its adjudicated right of 3,405 AFY based on leases to or from other agencies. The City may also overdraft up to 10% of this amount.

*This Table is not intended to be a projection of City's actual demand. Demand of 136 GPCD is a conservative estimate based on SBx7-7 limits. Actual demand is likely to be below the SBx7-7 limit of 136 GPCD in accordance with water efficiency trends in the City (2009 = 128 GPCD).

Table 5.6
City of San Fernando Water Supply Availability & Demand Projections
Multiple Dry Years (2011-2015)

Water Sources	2011	2012	2013	2014	2015
Available Supply					
	Normal Years		**Multiple Dry Years**		
Imported Water	3,485	3,485	2,248	2,248	2,248
Groundwater	3,405	3,405	3,405	3,405	3,405
Total Supply	**6,890**	**6,890**	**5,653**	**5,653**	**5,653**
Normal Year Supply	6,890	6,890	6,890	6,890	6,890
% of Normal Year	100%	100%	82%	82%	82%
Demand					
	Normal Years		**Multiple Dry Years**		
Imported Water	209	219	354	369	482
Groundwater	3,405	3,405	3,405	3,405	3,405
Total Demand	**3,614**	**3,624**	**3,759**	**3,774**	**3,887**
Normal Year Demand	3,614	3,624	3,635	3,646	3,657
% of Normal Year	100%	100%	103.4%	103.5%	106.3%
Supply/Demand Comparison					
	Normal Years		**Multiple Dry Years**		
Supply/Demand Difference	3,276	3,266	1,894	1,879	1,766
Difference as % of Supply	47.55%	47.40%	33.50%	33.24%	31.23%
Difference as % of Demand	90.67%	90.10%	50.38%	49.79%	45.42%

Table is intended only to show City will be able to meet demand for all years per the following*:

1. Total Demand based on 136 GPCD (SBx7-7) multiplied by population projections of Table 5.1 and by multiple dry year increases of 103.4%, 103.5%, and 106.3%

2. Imported Water Supply represents supply available to City, if needed, based on City's preferential right of 0.10% multiplied by Table 5.3 Row B

3. Groundwater Supply/Demand based on City's adjudicated right of 3,405 AFY

*This Table not intended to be a projection of City's actual groundwater production. City may pump amounts different from its adjudicated right of 3,405 AFY based on leases to or from other agencies. The City may also overdraft up to 10% of this amount.

*This Table is not intended to be a projection of City's actual demand. Demand of 136 GPCD is a conservative estimate based on SBx7-7 limits. Actual demand is likely to be below the SBx7-7 limit of 136 GPCD in accordance with water efficiency trends in the City (2009 = 128 GPCD).

Table 5.7
City of San Fernando Water Supply Availability & Demand Projections
Multiple Dry Years (2016-2020)

Water Sources	2016	2017	2018	2019	2020
Available Supply					
	Normal Years		**Multiple Dry Years**		
Imported Water	3,810	3,810	2,416	2,416	2,416
Groundwater	3,405	3,405	3,405	3,405	3,405
Total Supply	**7,215**	**7,215**	**5,821**	**5,821**	**5,821**
Normal Year Supply	7,215	7,215	7,215	7,215	7,215
% of Normal Year	100%	100%	81%	81%	81%
Demand					
	Normal Years		**Multiple Dry Years**		
Imported Water	263	274	410	426	541
Groundwater	3,405	3,405	3,405	3,405	3,405
Total Demand	**3,668**	**3,679**	**3,815**	**3,831**	**3,946**
Normal Year Demand	3,668	3,679	3,690	3,701	3,712
% of Normal Year	100%	100%	103.4%	103.5%	106.3%
Supply/Demand Comparison					
	Normal Years		**Multiple Dry Years**		
Supply/Demand Difference	3,547	3,536	2,005	1,990	1,875
Difference as % of Supply	49.16%	49.01%	34.45%	34.19%	32.21%
Difference as % of Demand	96.71%	96.12%	52.55%	51.95%	47.52%

Table is intended only to show City will be able to meet demand for all years per the following*:

1. Total Demand based on 136 GPCD (SBx7-7) multiplied by population projections of Table 5.1 and by multiple dry year increases of 103.4%, 103.5%, and 106.3%

2. Imported Water Supply represents supply available to City, if needed, based on City's preferential right of 0.10% multiplied by Table 5.3 Row B

3. Groundwater Supply/Demand based on City's adjudicated right of 3,405 AFY

*This Table not intended to be a projection of City's actual groundwater production. City may pump amounts different from its adjudicated right of 3,405 AFY based on leases to or from other agencies. The City may also overdraft up to 10% of this amount.

*This Table is not intended to be a projection of City's actual demand. Demand of 136 GPCD is a conservative estimate based on SBx7-7 limits. Actual demand is likely to be below the SBx7-7 limit of 136 GPCD in accordance with water efficiency trends in the City (2009 = 128 GPCD).

Table 5.8
City of San Fernando Water Supply Availability & Demand Projections
Multiple Dry Years (2021-2025)

Water Sources	2021	2022	2023	2024	2025
Available Supply					
	Normal Years		**Multiple Dry Years**		
Imported Water	4,089	4,089	2,519	2,519	2,519
Groundwater	3,405	3,405	3,405	3,405	3,405
Total Supply	**7,494**	**7,494**	**5,924**	**5,924**	**5,924**
Normal Year Supply	7,494	7,494	7,494	7,494	7,494
% of Normal Year	100%	100%	79%	79%	79%
Demand					
	Normal Years		**Multiple Dry Years**		
Imported Water	318	329	468	483	600
Groundwater	3,405	3,405	3,405	3,405	3,405
Total Demand	**3,723**	**3,734**	**3,873**	**3,888**	**4,005**
Normal Year Demand	3,723	3,734	3,745	3,756	3,767
% of Normal Year	100%	100%	103.4%	103.5%	106.3%
Supply/Demand Comparison					
	Normal Years		**Multiple Dry Years**		
Supply/Demand Difference	3,771	3,760	2,051	2,036	1,919
Difference as % of Supply	50.32%	50.17%	34.63%	34.37%	32.40%
Difference as % of Demand	101.30%	100.69%	52.97%	52.36%	47.92%

Table is intended only to show City will be able to meet demand for all years per the following*:

1. Total Demand based on 136 GPCD (SBx7-7) multiplied by population projections of Table 5.1 and by multiple dry year increases of 103.4%, 103.5%, and 106.3%

2. Imported Water Supply represents supply available to City, if needed, based on City's preferential right of 0.10% multiplied by Table 5.3 Row B

3. Groundwater Supply/Demand based on City's adjudicated right of 3,405 AFY

*This Table not intended to be a projection of City's actual groundwater production. City may pump amounts different from its adjudicated right of 3,405 AFY based on leases to or from other agencies. The City may also overdraft up to 10% of this amount.

*This Table is not intended to be a projection of City's actual demand. Demand of 136 GPCD is a conservative estimate based on SBx7-7 limits. Actual demand is likely to be below the SBx7-7 limit of 136 GPCD in accordance with water efficiency trends in the City (2009 = 128 GPCD).

Table 5.9
City of San Fernando Water Supply Availability & Demand Projections
Multiple Dry Years (2026-2030)

Water Sources	2026	2027	2028	2029	2030
Available Supply					
	Normal Years		**Multiple Dry Years**		
Imported Water	3,947	3,947	2,459	2,459	2,459
Groundwater	3,405	3,405	3,405	3,405	3,405
Total Supply	**7,352**	**7,352**	**5,864**	**5,864**	**5,864**
Normal Year Supply	7,352	7,352	7,352	7,352	7,352
% of Normal Year	100%	100%	80%	80%	80%
Demand					
	Normal Years		**Multiple Dry Years**		
Imported Water	374	385	526	541	660
Groundwater	3,405	3,405	3,405	3,405	3,405
Total Demand	**3,779**	**3,790**	**3,931**	**3,946**	**4,065**
Normal Year Demand	3,779	3,790	3,801	3,813	3,824
% of Normal Year	100%	100%	103.4%	103.5%	106.3%
Supply/Demand Comparison					
	Normal Years		**Multiple Dry Years**		
Supply/Demand Difference	3,573	3,562	1,933	1,918	1,799
Difference as % of Supply	48.60%	48.45%	32.97%	32.70%	30.68%
Difference as % of Demand	94.57%	93.98%	49.19%	48.60%	44.26%

Table is intended only to show City will be able to meet demand for all years per the following*:

1. Total Demand based on 136 GPCD (SBx7-7) multiplied by population projections of Table 5.1 and by multiple dry year increases of 103.4%, 103.5%, and 106.3%

2. Imported Water Supply represents supply available to City, if needed, based on City's preferential right of 0.10% multiplied by Table 5.3 Row B

3. Groundwater Supply/Demand based on City's adjudicated right of 3,405 AFY

*This Table not intended to be a projection of City's actual groundwater production. City may pump amounts different from its adjudicated right of 3,405 AFY based on leases to or from other agencies. The City may also overdraft up to 10% of this amount.

*This Table is not intended to be a projection of City's actual demand. Demand of 136 GPCD is a conservative estimate based on SBx7-7 limits. Actual demand is likely to be below the SBx7-7 limit of 136 GPCD in accordance with water efficiency trends in the City (2009 = 128 GPCD).

Table 5.10
City of San Fernando Water Supply Availability & Demand Projections
Multiple Dry Years (2031-2035)

Water Sources	2031	2032	2033	2034	2035
Available Supply					
	Normal Years		**Multiple Dry Years**		
Imported Water	3,814	3,814	2,414	2,414	2,414
Groundwater	3,405	3,405	3,405	3,405	3,405
Total Supply	**7,219**	**7,219**	**5,819**	**5,819**	**5,819**
Normal Year Supply	7,219	7,219	7,219	7,219	7,219
% of Normal Year	100%	100%	81%	81%	81%
Demand					
	Normal Years		**Multiple Dry Years**		
Imported Water	430	442	585	600	721
Groundwater	3,405	3,405	3,405	3,405	3,405
Total Demand	**3,835**	**3,847**	**3,990**	**4,005**	**4,126**
Normal Year Demand	3,835	3,847	3,858	3,870	3,881
% of Normal Year	100%	100%	103.4%	103.5%	106.3%
Supply/Demand Comparison					
	Normal Years		**Multiple Dry Years**		
Supply/Demand Difference	3,384	3,372	1,830	1,814	1,693
Difference as % of Supply	46.87%	46.71%	31.44%	31.17%	29.10%
Difference as % of Demand	88.22%	87.66%	45.86%	45.28%	41.04%

Table is intended only to show City will be able to meet demand for all years per the following*:

1. Total Demand based on 136 GPCD (SBx7-7) multiplied by population projections of Table 5.1 and by multiple dry year increases of 103.4%, 103.5%, and 106.3%

2. Imported Water Supply represents supply available to City, if needed, based on City's preferential right of 0.10% multiplied by Table 5.3 Row B

3. Groundwater Supply/Demand based on City's adjudicated right of 3,405 AFY

*This Table not intended to be a projection of City's actual groundwater production. City may pump amounts different from its adjudicated right of 3,405 AFY based on leases to or from other agencies. The City may also overdraft up to 10% of this amount.

*This Table is not intended to be a projection of City's actual demand. Demand of 136 GPCD is a conservative estimate based on SBx7-7 limits. Actual demand is likely to be below the SBx7-7 limit of 136 GPCD in accordance with water efficiency trends in the City (2009 = 128 GPCD).

Based on the data contained in **Tables 5.4-5.10**, the City can expect to meet future demands through 2035 for all climatologic classifications. The worst case scenario is during single and multiple dry year conditions from 2030-2035, during which the City would require imported water in excess of its Tier 1 purchasing limit of 630 AFY (much less than their preferential right of 0.1%). Projected groundwater supply capacities are typically drought-proof for short term dry periods of up to three years and thus the City's groundwater supply is not expected to be significantly affected as indicated in **Tables 5.4-5.10**.

5.6 VULNERABILITY OF SUPPLY

Due to the semi-arid nature of the City's climate and as a result of past drought conditions, the City is vulnerable to water shortages due to its climatic environment and seasonally hot summer months. While the data shown in **Tables 5.4** through **5.10** identifies water availability during single and multiple dry year scenarios, response to a future drought would follow the water use efficiency mandates of the City's water conservation policies along with implementation of the appropriate stage of regional plans such as the WSDM Plan (MWD). These programs are discussed in **Section 7**.

5.7 WATER SUPPLY OPPORTUNITIES

City Projects

The City continually reviews practices that will provide its customers with adequate and reliable supplies. Due to this fact, the City currently intends to construct a de-nitrification Plant to treat Wells #3 & #7A. Although Wells #3 & #7A have had nitrate readings slightly above the MCL of 45 mg/l, these wells are currently off. Therefore, there has been no risk to the public.

The City of San Fernando's local groundwater source from the Sylmar Basin provides a reliable local water source which is an asset utilized to minimize the City's dependence on imported water. The City will continue effective operation and maintenance efforts to ensure all well sites and water infrastructure are used in an efficient manner.

Regional Projects (MWD)

MWD is implementing water supply alternative strategies for the region and on behalf of member agencies to ensure available water in the future. Some of these strategies include:

- Conservation
- Water recycling & groundwater recovery
- Storage/groundwater management programs within the region
- Storage programs related to the SWP and the Colorado River
- Other water supply management programs outside of the region

MWD has made investments in conservation and supply augmentation as part of its long-term water management strategy. MWD's approach to a long-term water management strategy was to develop an Integrated Resource Plan (IRP) to include many supply sources. A brief description of the various programs implemented by MWD to improve reliability is included **Table 5.11** below:

Table 5.11
MWD IRP 2010 Regional Resources Status

Supply	Description	
Colorado River Aqueduct (CRA)	Metropolitan holds a basic apportionment of Colorado River water and has priority for an additional amount depending on availability of surplus supplies. Water management programs supplement these apportionments.	
State Water Project (SWP)	Metropolitan receives water delivered under State Water Contract provisions, including Table A contract supplies, use of carryover storage in San Luis Reservoir, and Article 21 interruptible supplies.	
Conservation	Metropolitan and the member agencies sponsor numerous conservation programs in the region that involve research and development, incentives, and consumer behavior modification.	
	Code-Based Conservation	Water savings resulting from plumbing codes and other institutionalized water efficiency measures.
	Active Conservation	Water saved as a direct result of programs and practices directly funded by a water utility, e.g., measures outlined by the California Urban Water Conservation Council's (CUWCC) Best Management Practices (BMPs). Water savings from active conservation completed through 2008 will decline to zero as the lifetime of those devices is reached. This will be offset by an increase in water savings for those devices that are mandated by law, plumbing codes or other efficiency standards.
	Price Effect Conservation	Reductions in customer use attributable to changes in the real (inflation adjusted) cost of water.
Local Resources	*Groundwater*	Member-agency produced groundwater from the groundwater basins within the service area.
	Groundwater Recovery	Locally developed and operated, groundwater recovery projects treat contaminated groundwater to meet potable use standards. Metropolitan offers financial incentives to local and member agencies through its Local Resources Program for recycled water and groundwater recovery. Details of the local resources programs are provided in **Appendix A.6**.
	Los Angeles Aqueduct (LAA)	A major source of imported water is conveyed from the Owens Valley via the LAA by Los Angeles Department of Water and Power (LADWP). Although LADWP imports water from outside of Metropolitan's service area, Metropolitan classifies water provided by the LAA as a local resource because it is developed and controlled by a local agency.
	Recycling	Recycled water projects recycle wastewater for M&I use.
	Surface Water	Surface water used by member agencies comes from stream diversions and rainwater captured in reservoirs.
Groundwater Conjunctive Use Storage Programs	Metropolitan sponsors various groundwater storage programs, including, cyclic storage programs, long-term replenishment storage programs, and contractual conjunctive use programs. Details of the groundwater storage programs are provided in **Appendix A.4**.	
Surface Water Storage	Metropolitan reservoirs (Diamond Valley Lake, Lake Mathews, Lake Skinner) and flexible storage in California Department of Water Resources (DWR) reservoirs (Castaic Lake, Lake Perris). Details of the surface storage reservoirs are provided in **Appendix A.5**.	
Central Valley Storage & Transfers	Central Valley storage programs consist of partnerships with Central Valley water districts to allow Metropolitan to store SWP supplies in wetter years for return in drier years. Metropolitan's Central Valley transfer programs consist of partnerships with Central Valley Project and SWP settlement contractors to allow Metropolitan to purchase water in drier years. Details of the Central Valley Storage and Transfer programs are provided in **Appendix A.3**.	

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SECTION 6: CONSERVATION MEASURES

6.1 INTRODUCTION

As a result of diminished existing supplies and difficulty in developing new supplies, water conservation is important to Southern California's sustainability. Therefore, the City acknowledges that efficient water use is the foundation of its current and future water planning and operations policies.

To conserve California's water resources, several public water agencies, and other interested parties of the California Urban Water Conservation Council (CUWCC) drafted the Memorandum of Understanding Regarding Urban Water Conservation (MOU) in 1991. The MOU establishes 14 Best Management Practices (BMPs) which are defined roughly as policies, programs, practices, rules, regulations, or ordinances that result in the more efficient use or conservation of water.

The 14 BMPs coincide with the 14 Demand Management Measures (DMMs) defined in the UWMP Act. The BMPs are intended to reduce long-term urban demands from what they would have been without their implementation and are in addition to programs which may be instituted during occasional water supply shortages.

6.2 CUWCC MEMBERSHIP

In 2006, the City became a signatory of the CUWCC by signing the MOU and has expedited implementation of water conservation measures. The City actively implements all 14 of the measures with good faith effort by achieving and maintaining the staffing, funding, and in general, the priority levels necessary to achieve the level of activity called for in each BMP's definition as described in the MOU. Water conservation is an integral part of the City's water policies.

Figure 6.1: Water Waste is Prohibited by City Code

As a member of CUWCC, the City is required to submit Bi-Annual Reports to the CUWCC which document the implementation of each BMP. The City has maintained compliance with the BMPs since becoming a signatory. Appendix E includes the CUWCC reports.

6.3 CONSERVATION MEASURES

As signatory to the MOU, the City has committed to use good-faith efforts to implement the 14 Demand Management Measures. In addition, the city has continued to work with the Metropolitan Water District to increase the effectiveness of its DMM programs and educate children on the importance of water conservation.

Overall, the city's conservation efforts as a member of CUWCC have led to efficient water use. These measurements have been updated to include the most recent data and implementation schedule for the DMM's. The city's 14 DMM's are summarized in **Table 6.1** on the following page:

Table 6.1
City Demand Management Measures
(CUWCC Best Management Practices)

Demand Management Measure		Description
DMM No. 1: Water Survey Programs for Single and Multi-Family Residential Customers		The City's water surveys are aimed at developing residential customer water use efficiency for both landscape and indoor water use.
DMM No. 2: Residential Plumbing Retrofit		The City's residential plumbing retrofit programs involve providing customers with water efficient plumbing devices such as low-flow showerheads.
DMM No. 3: System Water Audits, Leak Detection, and Repair		Conducted by water operations/maintenance staff, these programs aim at reducing water losses through a water agency's mains.
DMM No. 4: Metering With Commodity Rates		Providing water meters and charging for service is a key component to the City's water conservation policies.
DMM No. 5: Large Landscape Conservation Programs and Incentives		Smart timers and drip irrigation systems are among the devices used in the City to achieve landscape water use efficiency.
DMM No. 6: High-Efficiency Washing Machine Rebate Programs		Through this program, the City's customers can receive a rebate towards the purchase of a high-efficiency washing machine.
DMM No. 7: Public Information Programs	CALIFORNIA WATER AWARENESS CAMPAIGN	These programs provides the public information to promote water conservation and water conservation-related benefits.

Table 6.1 (cont.)
City Demand Management Measures
(CUWCC Best Management Practices)

Demand Management Measure		Description
DMM No. 8: School Education Programs		The City partners with MWD to provide children an opportunity learn the importance of water conservation
DMM No. 9: Conservation Programs for Comm./Indust./Institutional Accounts		Through this program, the City assists water using establishments in upgrading their plumbing devices.
DMM No. 10: Wholesale Agency Programs		Through this program, MWD provides the City with resources to advance water conservation efforts and effectiveness
DMM No. 11: Conservation Pricing		Through this program, the City provides economic incentives to customers to use water efficiently.
DMM No. 12: Water Conservation Coordinator		Through this program, the City establishes a conservation coordinator who oversees the City's water conservation measures.
DMM No. 13: Water Waste Prohibition		The City has ordinances in place which prohibit the waste of water and penalizes wasteful water use.
DMM No. 14: Residential Ultra Low Flush Toilet Replacement Program		Through this program, the City assists customers in replacing their existing toilets with water efficient models.

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SECTION 7: CONTINGENCY PLANNING

7.1 INTRODUCTION

Water supplies may be interrupted or reduced significantly in a number of ways including droughts, earthquakes, and power outages which hinder a water agencies ability to effectively delivery water. Drought impacts increase with the length of a drought, as carry-over supplies in reservoirs are depleted and water levels in groundwater basins decline. The ability to manage water supplies in times of drought or other emergencies is an important part of water resources management for a community. Although the majority of the City's water supply is produced locally, response to an emergency will be a coordinated effort of its own staff in conjunction with other local and regional water agencies.

During water shortage emergencies, the City will implement its Water Conservation Ordinance which imposes up to a 50 percent mandatory reduction in the total water use to conserve supplies. The City will also work in conjunction with MWD to implement water shortage plans on a regional level.

7.2 RESPONSE PLAN

In recent years, the San Fernando City Council adopted water conservation policies which provide for phases of water shortage severity based on predicted or actual water supply reductions. The City implements certain initiatives to optimize water supply during water shortages or drought conditions. In the event of a water shortage, the director of utilities will declare the appropriate water conservation stage by resolution.

The objectives of the response plan are to:

1. Prioritize essential uses of available water
2. Avoid irretrievable loss of natural resources
3. Manage current water supplies to meet ongoing and future needs
4. Maximize local municipal water supplies
5. Eliminate water waste city-wide
6. Create equitable demand reduction targets; and
7. Minimize adverse financial effects

The following priorities for use of available water are listed in order from highest to lowest priority:

1. Health and Safety including: consumption and sanitation for all water users; fire suppression; hospitals, emergency care, nursing and other convalescent homes and other similar health care facilities; shelters and water treatment
2. Institutions, including government facilities and schools such as public safety facilities, essential government operations, public pools and recreation areas
3. All non-essential commercial and residential water uses
4. Landscaped areas of significance, including parks, cemeteries, open spaces, government-facility landscaped areas and green belt areas
5. New water demand

Stages of Action

The City has a legal responsibility to provide for the health and safety water needs of the community. The City will manage water supplies to minimize the social and economic impacts of water shortages. The Water Conservation Ordinance is designed to provide a minimum of 50 percent of normal supply during a severe or extended water shortage. The City's two potable water sources are local groundwater and imported deliveries through MWD. Rationing stages may be triggered by a shortage in one source or a combination of sources, and shortages may trigger a stage at any time. **Table 7.1** shows the stages of action of the ordinance:

Table 7.1
Water Shortage Reduction Targets

Shortage Stage	Restriction Type	Total Water Supply Reduction Percentage
Phase 1	Mandatory	5-10%
Phase 2	Mandatory	20%
Phase 3	Mandatory	50%

The City Council may declare that a Phase 1, 2, or 3 water supply shortage exists and that the actions outlined in the Conservation Ordinance are necesssary. The type of event which may prompt a Phase 1, 2, or 3 water supply shortage may include, among other factors, moderate to severe drought, state or local emergency, a natural disaster that critically impacts the water treatment or water distribution system, a localized event that critically impacts the water supply, groundwater or surface water quality issues (reduced ability to provide water treatment), or MWD requests extraordinary water conservation efforts in order to avoid mandatory water allocations per the Water Supply Allocation Plan (WSAP).

Metropolitan WSDM Plan

In addition to the provisions of the Conservation Ordinance, the City will also work in conjunction with MWD to implement conservation measures within the framework of MWD's Water Surplus and Drought Management (WSDM) Plan. The WSDM Plan was developed in 1999 by MWD with assistance and input with its member agencies. The plan addresses both surplus and shortage contingencies.

The WSDM Plan guiding principle is to minimize adverse impacts of water shortage and ensure regional reliability. The plan guides the operations of water resources (local resources, Colorado River, SWP, and regional storage) to ensure regional reliability. It identifies the expected sequence of resource management actions MWD will take during surpluses and shortages of water to minimize the probability of severe shortages that require curtailment of full-service demands. Mandatory allocations are avoided to the extent practicable, however, in the event of an extreme shortage an allocation plan will be implemented in accordance with the principles of the WSAP.

Figure 7.1: Severe Droughts Highlight the Importance of Conservation Ordinances

7.3 THREE-YEAR MINIMUM SUPPLY

Due to the surface and subsurface inflows from the Santa Susana and San Gabriel Mountains and natural percolation, the Sylmar Basin has moderate dry season groundwater supply protection. Additionally, due to the stipulations of the Sylmar Judgment, the City may extract up to 10% in excess of its adjudicated right of 3,405 AFY. If the City leases additional groundwater from the City of Los Angeles, this will result in even greater supply reliability benefits during dry seasons that may occur during the course of the City's lease. Furthermore, since the City will continue to have access to imported water, the City may import water to meet demand, if necessary. Imported water supplies, like groundwater, are subject to demand increases and reduced supplies during dry years. However, MWD modeling in its 2010 Regional UWMP, as referenced in **Tables 5.2** through **5.10** in **Section 5**, results in 100 percent reliability for full-service demands through the year 2035 for all climatic conditions.

Table 7.2
Projected 3-yr Minimum Water Supply (AF)

Source	Yr. 1	Yr. 2	Yr. 3
Total	5,653	5,653	5,653

Based on the above analysis, the City should expect 100% supply reliability during a three year drought period over the next three years.

7.4 CASTROPHIC INTERRUPTIONS

The City of San Fernando has an Emergency Operations Center that can be activated in times of local and regional emergencies. The City maintains its equipment and vehicles in good repair in preparation for responding to emergency conditions. The water system is designed with redundant features in its production, storage and distribution systems, and it has been recently automated by the installation of a telemetry and control system.

The City has prepared an Emergency Response Plan, which describes the actions the City will take during a catastrophic interruption of water supplies including, a regional power outage, an earthquake, a fire, emergency chlorination, damage or destruction to its facilities and other disaster.

Figure 7.2: Reservoirs Provide Emergency Supplies

Due to the planning efforts of the MWD, large reservoirs are capable of supplying the City's (and the region's) water needs for several months under provided that the water use restrictions of each agency are met. Lake Castaic is a large nearby reservoir that can provide emergency supplies of up to 324,000 AF of emergency and non-emergency supplies.

During times of seasonal or catastrophic supply interruptions, the City also will work in conjunction with regional water supply agencies such as LADWP, and MWD to facilitate the flow of information and requests for mutual-aid within MWD's 5,100-square mile service area. In the event of groundwater supply loss, all supply could be imported from MWD (in recognition of the City's preferential right). Additional emergency services in the State of California include the Master Mutual Aid Agreement, California Water Agencies Response Network (WARN) and Plan Bulldozer. The Master Mutual Aid Agreement includes all public agencies that have signed the agreement and is planned out of the California Office of Emergency Services. WARN includes all public agencies that have signed the agreement to WARN and provides mutual aid assistance. It is managed by a State Steering Committee. Plan Bulldozer provides mutual aid for construction equipment to any public agency for the initial time of disaster when danger to life and property exists.

7.5 PROHIBITIONS

Mandatory Prohibitions

In accordance with the City's conservation policies, the City has enacted several water use restrictions which are enacted during times of shortage as part of the City's Municipal Code. Restrictions are based on severity of shortage include, but are not limited to, the following:

- Limits on Watering Days
- No filling of ornamental lakes/ponds
- No washing down of driveways
- No filling of swimming pools
- Limits on washing of vehicles

The City's water-use prohibitions are included in the City's Municipal Code.

Consumption Reduction Methods

In addition to the City's demand management measures, the following is a list of some of the consumption reduction methods that the City may implement during a water shortage:

- Reduce pressure in water mains
- Flow restrictions
- Restrict building permits
- Restrict for only priority uses
- Water Shortage pricing
- Mandatory rationing

Penalties or Charges

Violation of the regulations and restrictions on water use in accordance with the City's Conservation Plan will result in penalties punishable by fees and additional water restrictions as follows:

- 1st violation: $50.00
- 2nd violation: $100.00
- 3rd violation: $200.00 along with a flow-restrictor at the customer's expense. Third violation constitutes a misdemeanor.
- 4th violation: termination of service along with a $100.00 fee for termination.

7.6 FISCAL IMPACTS

The City's water rate structure is designed to provide adequate reserves to allow operation of the system during periods of low consumption due to water shortages. The rates have been designed to recover fixed costs through the monthly service charge based on meter size, and commodity charge based on water usage. The City generates a positive revenue stream from continued water sales and maintains a reserve fund. This structure minimizes the City's vulnerability to funding shortages when water consumption levels are reduced.

7.7 COUNCIL RESOLUTOIN

The City's conservation plan and municipal code is included in Appendix G.

7.7 MECHANISMS TO DERMINE ACTUAL WATER USE REDUCTIONS

Under normal water supply conditions, water production figures are recorded daily and reported monthly to the Sylmar Watermaster. Quarterly totals are reported to the Watermaster and are included in the Watermaster's Annual Reports. In addition, the City meters all service connections in its distribution system and monitors water consumption on a regular basis. The City takes into consideration factors that may affect consumption, such as precipitation. The City prepares annual reports that include water production and consumption for its distribution system. Such reports are used to determine reductions in water use and take into consideration seasonal and annual fluctuations in water production

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Appendix A: References

City of San Fernando 2010 Urban Water Management Plan

References

1. City of San Fernando. "2005 Urban Water Management Plan"
2. Metropolitan Water District of Southern California. "2010 MWD Regional Urban Water Management Plan (RUWMP)" December, 2010
3. Metropolitan Water District of Southern California. "2010 MWD Integrated Resources Plan (IRP) Update" July, 2010
4. http://www.worldclimate.com/ "Weather, rainfall, and temperature data"
5. Metropolitan Water District of Southern California. "Chapter IV - Groundwater Basin Reports San Fernando Valley Basins - Upper Los Angeles River Area Basins" September, 2007
6. California Department of Water Resources. "San Fernando Valley Groundwater Basin" (Bulletin 118) February, 2004
7. California Department of Water Resources. "Guidebook to Assist Urban Water Suppliers to Prepare a 2010 Urban Water Management Plan" February, 2011
8. City of San Fernando. "Common Sense Conservation Program" Ordinance No. 6091
9. City of San Fernando. City Municipal Code Regarding Water
10. City of San Fernando. Water Production/Sales Data

Appendix B: UWMP Act

City of San Fernando 2010 Urban Water Management Plan

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

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

CHAPTER 1. GENERAL DECLARATION AND POLICY

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

CHAPTER 2. DEFINITIONS

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

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

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

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

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

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

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

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

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

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

10620.

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

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

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

(d)

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

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

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

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

10621.

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

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

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

Article 2. Contents of Plans

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

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

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

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

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

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

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

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

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

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

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

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

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

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

(e)

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

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

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

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

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

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

(B) Residential plumbing retrofit.

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

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

(E) Large landscape conservation programs and incentives.

(F) High-efficiency washing machine rebate programs.

(G) Public information programs.

(H) School education programs.

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

(J) Wholesale agency programs.

(K) Conservation pricing.

(L) Water conservation coordinator.

(M) Water waste prohibition.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Article 2.5 Water Service Reliability

10635.

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

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

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

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

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

Articl 3. Adoption and Implementation of Plans

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

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

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

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

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

10644.

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

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

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

CHAPTER 4. MISCELLANEOUS PROVISIONS

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

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

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

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

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

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

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

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

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

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

10657.

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

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

Appendix C: DWR UWMP Checklist

City of San Fernando 2010 Urban Water Management Plan

Table I-1 Urban Water Management Plan checklist, organized by legislation number

No.	UWMP requirement [a]	Calif. Water Code reference	Subject [b]	Additional clarification	UWMP location
1	Provide baseline daily per capita water use, urban water use target, interim urban water use target, and compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data.	10608.20(e)	System Demands		**Section 4.5**
2	*Wholesalers:* Include an assessment of present and proposed future measures, programs, and policies to help achieve the water use reductions. *Retailers:* Conduct at least one public hearing that includes general discussion of the urban retail water supplier's implementation plan for complying with the Water Conservation Bill of 2009.	10608.36 10608.26(a)	System Demands	Retailer and wholesalers have slightly different requirements	**Section 1.2** **Appendix D**
3	Report progress in meeting urban water use targets using the standardized form.	10608.40	Not applicable	Standardized form not yet available	**Not Applicable**
4	Each urban water supplier shall coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.	10620(d)(2)	Plan Preparation		**Section 1.2** **Appendix D**
5	An urban water supplier shall describe in the plan water management tools and options used by that entity that will maximize resources and minimize the need to import water from other regions.	10620(f)	Water Supply Reliability . . .		**Section 2** **Section 4.5** City is limited to 3,405 AFY and expects to continue conservation
6	Every urban water supplier required to prepare a plan pursuant to this part shall, at least 60 days prior to the public hearing on the plan required by Section 10642, notify any city or county within which the supplier provides water supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan. The urban water supplier may consult with, and obtain comments from, any city or county that receives notice pursuant to this subdivision.	10621(b)	Plan Preparation		**Section 1.2** **Appendix D**
7	The amendments to, or changes in, the plan shall be adopted and filed in the manner set forth in Article 3 (commencing with Section 10640).	10621(c)	Plan Preparation		**Section 1.1** **Section 1.2** **Appendix D**
8	Describe the service area of the supplier	10631(a)	System Description		**Section 1.5**
9	(Describe the service area) climate	10631(a)	System Description		**Section 1.6**

No.	UWMP requirement [a]	Calif. Water Code reference	Subject [b]	Additional clarification	UWMP location
10	(Describe the service area) current and projected population . . . The projected population estimates shall be based upon data from the state, regional, or local service agency population projections within the service area of the urban water supplier . . .	10631(a)	System Description	Provide the most recent population data possible. Use the method described in "Baseline Daily Per Capita Water Use." See Section M.	**Section 1.7** Projections based on most recent US Census and City's growth rate.
11	. . . (population projections) shall be in five-year increments to 20 years or as far as data is available.	10631(a)	System Description	2035 and 2040 can also be provided to support consistency with Water Supply Assessments and Written Verification of Water Supply documents.	**Section 1.7**
12	Describe . . . other demographic factors affecting the supplier's water management planning	10631(a)	System Description		**Section 1.7** City does not have significant daytime populations or other demographic factors.
13	Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments described in subdivision (a).	10631(b)	System Supplies	The 'existing' water sources should be for the same year as the "current population" in line 10. 2035 and 2040 can also be provided to support consistency with Water Supply Assessments and Written Verification of Water Supply documents.	**Section 2** Groundwater Imported Water

No.	UWMP requirement [a]	Calif. Water Code reference	Subject [b]	Additional clarification	UWMP location
14	(Is) groundwater . . . identified as an existing or planned source of water available to the supplier . . .?	10631(b)	System Supplies	Source classifications are: surface water, groundwater, recycled water, storm water, desalinated sea water, desalinated brackish groundwater, and other.	**Section 2** Yes groundwater is a source of supply
15	(Provide a) copy of any groundwater management plan adopted by the urban water supplier, including plans adopted pursuant to Part 2.75 (commencing with Section 10750), or any other specific authorization for groundwater management. Indicate whether a groundwater management plan been adopted by the water supplier or if there is any other specific authorization for groundwater management. Include a copy of the plan or authorization.	10631(b)(1)	System Supplies		**Groundwater Management Plan is not available.**
16	(Provide a) description of any groundwater basin or basins from which the urban water supplier pumps groundwater.	10631(b)(2)	System Supplies		**Section 2.2 "Groundwater"**
17	For those basins for which a court or the board has adjudicated the rights to pump groundwater, (provide) a copy of the order or decree adopted by the court or the board	10631(b)(2)	System Supplies		**Appendix F**
18	(Provide) a description of the amount of groundwater the urban water supplier has the legal right to pump under the order or decree.	10631(b)(2)	System Supplies		**City may pump up to 3,405 AFY**
19	For basins that have not been adjudicated, (provide) information as to whether the department has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current official departmental bulletin that characterizes the condition of the groundwater basin, and a detailed description of the efforts being undertaken by the urban water supplier to eliminate the long-term overdraft condition.	10631(b)(2)	System Supplies		**Not Applicable**
20	(Provide a) detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.	10631(b)(3)	System Supplies		**Section 2.2 "Groundwater"** ***Groundwater Production*** **Pages 2-8**

No.	UWMP requirement [a]	Calif. Water Code reference	Subject [b]	Additional clarification	UWMP location
21	(Provide a) detailed description and analysis of the amount and location of groundwater that is projected to be pumped by the urban water supplier. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.	10631(b)(4)	System Supplies	Provide projections for 2015, 2020, 2025, and 2030.	**Section 2.4 Table 2.3** **Section 5.4 (Tables 5.4-5.10)**
22	Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage, to the extent practicable, and provide data for each of the following: (A) An average water year, (B) A single dry water year, (C) Multiple dry water years.	10631(c)(1)	Water Supply Reliability . . .		**Section 5 (Tables 5.4-5.10)**
23	For any water source that may not be available at a consistent level of use - given specific legal, environmental, water quality, or climatic factors - describe plans to supplement or replace that source with alternative sources or water demand management measures, to the extent practicable.	10631(c)(2)	Water Supply Reliability . . .		**Section 5; Section 7** During times of groundwater or imported supply interruption, City will import or extract water and implement its Conservation Plan
24	Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.	10631(d)	System Supplies		**Section 2.6**
25	Quantify, to the extent records are available, past and current water use, and projected water use (over the same five-year increments described in subdivision (a)), identifying the uses among water use sectors, including, but not necessarily limited to, all of the following uses: (A) Single-family residential; (B) Multifamily; (C) Commercial; (D) Industrial; (E) Institutional and governmental; (F) Landscape; (G) Sales to other agencies; (H) Saline water intrusion barriers, groundwater recharge, or conjunctive use, or any combination thereof;(I) Agricultural.	10631(e)(1)	System Demands	Consider “past” to be 2005, present to be 2010, and projected to be 2015, 2020, 2025, and 2030. Provide numbers for each category for each of these years.	**Section 4.3** **Section 4.4** **Section 4.6**

No.	UWMP requirement [a]	Calif. Water Code reference	Subject [b]	Additional clarification	UWMP location
26	(Describe and provide a schedule of implementation for) each water demand management measure that is currently being implemented, or scheduled for implementation, including the steps necessary to implement any proposed measures, including, but not limited to, all of the following: (A) Water survey programs for single-family residential and multifamily residential customers; (B) Residential plumbing retrofit; (C) System water audits, leak detection, and repair; (D) Metering with commodity rates for all new connections and retrofit of existing connections; (E) Large landscape conservation programs and incentives; (F) High-efficiency washing machine rebate programs; (G) Public information programs; (H) School education programs; (I) Conservation programs for commercial, industrial, and institutional accounts; (J) Wholesale agency programs; (K) Conservation pricing; (L) Water conservation coordinator; (M) Water waste prohibition;(N) Residential ultra-low-flush toilet replacement programs.	10631(f)(1)	DMMs	Discuss each DMM, even if it is not currently or planned for implementation. Provide any appropriate schedules.	**Section 6** City is a member of CUWCC and submits annual reports
27	A description of the methods, if any, that the supplier will use to evaluate the effectiveness of water demand management measures implemented or described under the plan.	10631(f)(3)	DMMs		**Section 6** City is a member of CUWCC and submits annual reports
28	An estimate, if available, of existing conservation savings on water use within the supplier's service area, and the effect of the savings on the supplier's ability to further reduce demand.	10631(f)(4)	DMMs		**Section 6** City is a member of CUWCC and submits annual reports
29	An evaluation of each water demand management measure listed in paragraph (1) of subdivision (f) that is not currently being implemented or scheduled for implementation. In the course of the evaluation, first consideration shall be given to water demand management measures, or combination of measures, that offer lower incremental costs than expanded or additional water supplies. This evaluation shall do all of the following: (1) Take into account economic and noneconomic factors, including environmental, social, health, customer impact, and technological factors; (2) Include a cost-benefit analysis, identifying total benefits and total costs; (3) Include a description of funding available to implement any planned water supply project that would provide water at a higher unit cost; (4) Include a description of the water supplier's legal authority to implement the measure and efforts to work with other relevant agencies to ensure the implementation of the measure and to share the cost of implementation.	10631(g)	DMMs	See 10631(g) for additional wording.	**Not Applicable (See Section 6)** City is a member of CUWCC and submits annual reports

No.	UWMP requirement [a]	Calif. Water Code reference	Subject [b]	Additional clarification	UWMP location
30	(Describe) all water supply projects and water supply programs that may be undertaken by the urban water supplier to meet the total projected water use as established pursuant to subdivision (a) of Section 10635. The urban water supplier shall include a detailed description of expected future projects and programs, other than the demand management programs identified pursuant to paragraph (1) of subdivision (f), that the urban water supplier may implement to increase the amount of the water supply available to the urban water supplier in average, single-dry, and multiple-dry water years. The description shall identify specific projects and include a description of the increase in water supply that is expected to be available from each project. The description shall include an estimate with regard to the implementation timeline for each project or program.	10631(h)	System Supplies		**Section 2.7** **Section 5.7**
31	Describe the opportunities for development of desalinated water, including, but not limited to, ocean water, brackish water, and groundwater, as a long-term supply.	10631(i)	System Supplies		**Section 2.5** No plans for desalination.
32	Include the annual reports submitted to meet the Section 6.2 requirement (of the MOU), if a member of the CUWCC and signer of the December 10, 2008 MOU.	10631(j)	DMMs	Signers of the MOU that submit the annual reports are deemed compliant with Items 28 and 29.	**Section 6** City is a member of CUWCC and submits annual reports
33	Urban water suppliers that rely upon a wholesale agency for a source of water shall provide the wholesale agency with water use projections from that agency for that source of water in five-year increments to 20 years or as far as data is available. The wholesale agency shall provide information to the urban water supplier for inclusion in the urban water supplier's plan that identifies and quantifies, to the extent practicable, the existing and planned sources of water as required by subdivision (b), available from the wholesale agency to the urban water supplier over the same five-year increments, and during various water-year types in accordance with subdivision (c). An urban water supplier may rely upon water supply information provided by the wholesale agency in fulfilling the plan informational requirements of subdivisions (b) and (c).	10631(k)	System Demands	Average year, single dry year, multiple dry years for 2015, 2020, 2025, and 2030.	**Section 2** **Section 5.5** Tables 5.4-5.10 deal with imported water supply available from MWD. Groundwater supply is also shown up 2035.

No.	UWMP requirement [a]	Calif. Water Code reference	Subject [b]	Additional clarification	UWMP location
34	The water use projections required by Section 10631 shall include projected water use for single-family and multifamily residential housing needed for lower income households, as defined in Section 50079.5 of the Health and Safety Code, as identified in the housing element of any city, county, or city and county in the service area of the supplier.	10631.1(a)	System Demands		**Section 4.6**
35	Stages of action to be undertaken by the urban water supplier in response to water supply shortages, including up to a 50 percent reduction in water supply, and an outline of specific water supply conditions which are applicable to each stage.	10632(a)	Water Supply Reliability . . .		**Section 7.2** ***Stages of Action***
36	Provide an estimate of the minimum water supply available during each of the next three water years based on the driest three-year historic sequence for the agency's water supply.	10632(b)	Water Supply Reliability . . .		**Section 7.3**
37	(Identify) actions to be undertaken by the urban water supplier to prepare for, and implement during, a catastrophic interruption of water supplies including, but not limited to, a regional power outage, an earthquake, or other disaster.	10632(c)	Water Supply Reliability . . .		**Section 7.4**
38	(Identify) additional, mandatory prohibitions against specific water use practices during water shortages, including, but not limited to, prohibiting the use of potable water for street cleaning.	10632(d)	Water Supply Reliability . . .		**Section 7.5**
39	(Specify) consumption reduction methods in the most restrictive stages. Each urban water supplier may use any type of consumption reduction methods in its water shortage contingency analysis that would reduce water use, are appropriate for its area, and have the ability to achieve a water use reduction consistent with up to a 50 percent reduction in water supply.	10632(e)	Water Supply Reliability . . .		**Section 7.5**
40	(Indicated) penalties or charges for excessive use, where applicable.	10632(f)	Water Supply Reliability . . .		**Section 7.5**
41	An analysis of the impacts of each of the actions and conditions described in subdivisions (a) to (f), inclusive, on the revenues and expenditures of the urban water supplier, and proposed measures to overcome those impacts, such as the development of reserves and rate adjustments.	10632(g)	Water Supply Reliability . . .		**Section 7.6**
42	(Provide) a draft water shortage contingency resolution or ordinance.	10632(h)	Water Supply Reliability . . .		**Section 7.7** **Appendix G**
43	(Indicate) a mechanism for determining actual reductions in water use pursuant to the urban water shortage contingency analysis.	10632(i)	Water Supply Reliability . . .		**Section 7.8**

No.	UWMP requirement [a]	Calif. Water Code reference	Subject [b]	Additional clarification	UWMP location
44	Provide, to the extent available, information on recycled water and its potential for use as a water source in the service area of the urban water supplier. The preparation of the plan shall be coordinated with local water, wastewater, groundwater, and planning agencies that operate within the supplier's service area	10633	System Supplies		**Section 2.5** No current recycled water use
45	(Describe) the wastewater collection and treatment systems in the supplier's service area, including a quantification of the amount of wastewater collected and treated and the methods of wastewater disposal.	10633(a)	System Supplies		**Section 2.5**
46	(Describe) the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.	10633(b)	System Supplies		**Section 2.5**
47	(Describe) the recycled water currently being used in the supplier's service area, including, but not limited to, the type, place, and quantity of use.	10633(c)	System Supplies		**Section 2.5** **Section 8** No current recycled water use
48	(Describe and quantify) the potential uses of recycled water, including, but not limited to, agricultural irrigation, landscape irrigation, wildlife habitat enhancement, wetlands, industrial reuse, groundwater recharge, indirect potable reuse, and other appropriate uses, and a determination with regard to the technical and economic feasibility of serving those uses.	10633(d)	System Supplies		**Section 2.5**
49	(Describe) The projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years, and a description of the actual use of recycled water in comparison to uses previously projected pursuant to this subdivision.	10633(e)	System Supplies		**Section 2.5**
50	(Describe the) actions, including financial incentives, which may be taken to encourage the use of recycled water, and the projected results of these actions in terms of acre-feet of recycled water used per year.	10633(f)	System Supplies		**Section 2.5**
51	(Provide a) plan for optimizing the use of recycled water in the supplier's service area, including actions to facilitate the installation of dual distribution systems, to promote recirculating uses, to facilitate the increased use of treated wastewater that meets recycled water standards, and to overcome any obstacles to achieving that increased use.	10633(g)	System Supplies		**Section 2.5**

No.	UWMP requirement [a]	Calif. Water Code reference	Subject [b]	Additional clarification	UWMP location
52	The plan shall include information, to the extent practicable, relating to the quality of existing sources of water available to the supplier over the same five-year increments as described in subdivision (a) of Section 10631, and the manner in which water quality affects water management strategies and supply reliability.	10634	Water Supply Reliability . . .	For years 2010, 2015, 2020, 2025, and 2030	**Section 3**
53	Every urban water supplier shall include, as part of its urban water management plan, an assessment of the reliability of its water service to its customers during normal, dry, and multiple dry water years. This water supply and demand assessment shall compare the total water supply sources available to the water supplier with the total projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and multiple dry water years. The water service reliability assessment shall be based upon the information compiled pursuant to Section 10631, including available data from state, regional, or local agency population projections within the service area of the urban water supplier.	10635(a)	Water Supply Reliability . . .		**Section 5**
54	The urban water supplier shall provide that portion of its urban water management plan prepared pursuant to this article to any city or county within which it provides water supplies no later than 60 days after the submission of its urban water management plan.	10635(b)	Plan Preparation		**To be performed after plan is adopted in June**
55	Each urban water supplier shall encourage the active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan.	10642	Plan Preparation		**Ongoing** Public Notification sent out. 60-day notice to County/City of LA. Proof of Notice & Public Hearing
56	Prior to adopting a plan, the urban water supplier shall make the plan available for public inspection and shall hold a public hearing thereon. Prior to the hearing, notice of the time and place of hearing shall be published within the jurisdiction of the publicly owned water supplier pursuant to Section 6066 of the Government Code. The urban water supplier shall provide notice of the time and place of hearing to any city or county within which the supplier provides water supplies. A privately owned water supplier shall provide an equivalent notice within its service area.	10642	Plan Preparation		**Ongoing** Public Notification sent out. 60-day notice to County/City of LA. Proof of Notice & Public Hearing
57	After the hearing, the plan shall be adopted as prepared or as modified after the hearing.	10642	Plan Preparation		**Proof of Adoption/Resolution included in Appendix D**

No.	UWMP requirement [a]	Calif. Water Code reference	Subject [b]	Additional clarification	UWMP location
58	An urban water supplier shall implement its plan adopted pursuant to this chapter in accordance with the schedule set forth in its plan.	10643	Plan Preparation		**Section 1.1**
59	An urban water supplier shall submit to the department, the California State Library, and any city or county within which the supplier provides water supplies a copy of its plan no later than 30 days after adoption. Copies of amendments or changes to the plans shall be submitted to the department, the California State Library, and any city or county within which the supplier provides water supplies within 30 days after adoption.	10644(a)	Plan Preparation		**To be performed**
60	Not later than 30 days after filing a copy of its plan with the department, the urban water supplier and the department shall make the plan available for public review during normal business hours.	10645	Plan Preparation		**To be performed**

a The UWMP Requirement descriptions are general summaries of what is provided in the legislation. Urban water suppliers should review the exact legislative wording prior to submitting its UWMP.

b The Subject classification is provided for clarification only. It is aligned with the organization presented in Part I of this guidebook. A water supplier is free to address the UWMP Requirement anywhere with its UWMP, but is urged to provide clarification to DWR to facilitate review.

Appendix D: Coordination, Public Notice, & City Council Resolution Adopting 2010 UWMP

City of San Fernando 2010 Urban Water Management Plan

RESOLUTION NO. 7439

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF SAN FERNANDO ADOPTING ALL COMPONENTS OF THE 2010 URBAN WATER MANAGEMENT PLAN

WHEREAS, the California State Legislature enacted Assembly Bill 797 - Urban Water Management Planning Act, requiring preparation of water management plans by urban water purveyors serving a specified number of customers; and

WHEREAS, the City of San Fernando falls under the requirements of AB 797 and must prepare and adopt an updated urban water management plan every five years for its service area; and

WHEREAS, this plan (Exhibit "A") was prepared in compliance with California Water Code, Division 6, Part 2.6 describing and evaluating reasonable and practical efficient water uses, reclamation, and conservation activities; and

WHEREAS, the people served by the City of San Fernando Water Department benefit from the implementation of effective water conservation programs that help to manage available water supplies;

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF SAN FERNANDO DOES HEREBY RESOLVE, FIND, DETERMINE AND ORDER AS FOLLOWS:

Section 1: That the above recitals are all true and correct.

Section 2: That the City Clerk shall certify to the passage and adoption of this Resolution and the minutes of this meeting shall so reflect the presentation of the Engineer's Report.

PASSED, APPROVED, AND ADOPTED this 20th day of June, 2011.

Mario F. Hernández, Mayor

ATTEST:

Elena G. Chávez, City Clerk

STATE OF CALIFORNIA)
COUNTY OF LOS ANGELES) SS
CITY OF SAN FERNANDO)

I HEREBY CERTIFY that the foregoing resolution was approved and adopted at a regular meeting of the City Council held on the 20th day of June, 2011; by the following vote, to wit:

AYES: Hernández, Esqueda, De La Torre, Ballin, Lopez - 5

NOES: None

ABSENT: None

Elena G. Chávez

Elena G. Chávez, City Clerk

Appendix E: CUWCC Reports

City of San Fernando 2010 Urban Water Management Plan

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

Reporting Unit:	BMP Form Status:	Year:
City of San Fernando	**100% Complete**	**2008**

A. Implementation

	1. Based on your signed MOU date, 05/05/1991, your Agency STRATEGY DUE DATE is no later than:	6/19/1996
	2. Has your agency developed and implemented a targeting/ marketing strategy for SINGLE-FAMILY residential water use surveys?	● Yes ○ No
	a. If YES, when was it implemented? (Enter 4-digit year mm/dd/yyyy)	04/01/2007
	3. Has your agency developed and implemented a targeting/ marketing strategy for MULTI-FAMILY residential water use surveys?	● Yes ○ No
	a. If YES, when was it implemented? (Enter 4-digit year mm/dd/yyyy)	04/01/2007

B. Water Survey Data

Survey Counts		Single Family Accounts	Multi-Family Units
	1. Number of surveys offered:	3816	397
	2. Number of surveys completed:	100	10
Indoor Survey:		**SF Accounts**	**MF Units**
	3. Check for leaks, including toilets, faucets and meter checks	○ Yes ● No	○ Yes ● No
	4. Check showerhead flow rates, aerator flow rates, and offer to replace or recommend replacement, if necessary	○ Yes ● No	○ Yes ● No
	5. Check toilet flow rates and offer to install or recommend installation of displacement device or direct customer to ULFT replacement program, as neccesary; replace leaking toilet flapper, as necessary	○ Yes ● No	○ Yes ● No

Outdoor Survey:	SF Accounts	MF Units
6. Check irrigation system and timers	○ Yes ● No	○ Yes ● No
7. Review or develop customer irrigation schedule	○ Yes ● No	○ Yes ● No
8. Measure landscaped area (Recommended but not required for surveys)	○ Yes ● No	○ Yes ● No
9. Measure total irrigable area (Recommended but not required for surveys)	○ Yes ● No	○ Yes ● No
10. Which measurement method is typically used (Recommended but not required for surveys)	○ Image-Based ○ Measuring Tape ○ Odometer Wheel ○ Pacing ○ Other ● None	
11. Were customers provided with information packets that included evaluation results and water savings recommendations?	○ Yes ● No	○ Yes ● No
12. Have the number of surveys offered and completed, survey results, and survey costs been tracked?	○ Yes ● No	○ Yes ● No
a. If yes, in what form are surveys tracked?	○ Database ○ Spreadsheet ○ Manual Activity ● None	
b. Describe how your agency tracks this information.		

n/a

C. Water Survey Program Expenditures

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

D. "At Least As Effective As"

	1. Is your AGENCY implementing an "at least as effective as" variant of this BMP?	● Yes ○ No
	a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."	
	Mail survey results have been received and analyzed. Results will be used as reference when developing programs in the future.	

E. Comments

BMP 13: Water Waste Prohibition

Reporting Unit:	BMP Form Status:	Year:
City of San Fernando	**100% Complete**	**2008**

A. Requirements for Documenting BMP Implementation

1. Is a water waste prohibition ordinance in effect in your service area?	● Yes ○ No

a. If YES, describe the ordinance:

Sec. 94-299. Prohibitions.
(a) Gutter flooding. No person shall cause or permit any water furnished to any property within the city to run or to escape from any hose, pipe, valve, faucet, sprinkler or irrigation device into any gutter or otherwise to escape from the property if such running or escaping can reasonably be prevented.
(b) Washing hard-surfaced areas. No person shall use any water furnished to any property within the city to wash sidewalks, walks, driveways and parking lots by hosing.
(c) Irrigation. No person shall water or irrigate any shrubbery, trees, lawns, grass, ground covers, plants, vines, gardens, vegetables, flowers or other vegetation between the hours of 10:00 a.m. and 4:00 p.m.
(d) Ornamental facilities. No person shall refill any fountain, pool or other facility containing water solely for ornamental purposes emptied during the effectiveness of this division.
(e) Leaks. No person shall permit leaks of water which he has the authority to eliminate.
(f) Restaurants. Restaurants shall only serve water to customers upon request.
(g) Wasting generally. No person shall cause or permit water under his control to be wasted.
(Code 1957, þ 28.11)

2. Is a copy of the most current ordinance(s) on file with CUWCC?

- ○ Yes
- ● No

a. List local jurisdictions in your service area in the first text box and water waste ordinance citations in each jurisdiction in the second text box:

City of San Fernando	(a) The public works director, the fire chief and water superintendent have the duty and are authorized to enforce this division and shall have all the powers and authority contained in Penal Code þ 836.5, including the power to issue written notice to appear. (b) Each law enforcement officer shall, in connection with his duties imposed by law, diligently enforce this division. (Code 1957, þ 28.13)

B. Implementation

1. Indicate which of the water uses listed below are prohibited by your agency or service area.

a. Gutter flooding	● Yes ○ No
b. Single-pass cooling systems for new connections	○ Yes ● No
c. Non-recirculating systems in all new conveyor or car wash systems	○ Yes ● No
d. Non-recirculating systems in all new commercial laundry systems	○ Yes ● No
e. Non-recirculating systems in all new decorative fountains	○ Yes ● No
f. Other, please name	○ Yes ● No

2. Describe measures that prohibit water uses listed above:

n/a

Water Softeners:

3. Indicate which of the following measures your agency has supported in developing state law:

a. Allow the sale of more efficient, demand-initiated regenerating DIR models.	○ Yes ● No
b. Develop minimum appliance efficiency standards that:	
i.) Increase the regeneration efficiency standard to at least 3,350 grains of hardness removed per pound of common salt used.	○ Yes ● No
ii.) Implement an identified maximum number of gallons discharged per gallon of soft water produced.	○ Yes ● No
c. Allow local agencies, including municipalities and special districts, to set more stringent standards and/or to ban on-site	○ Yes

districts, to set more stringent standards and/or to ban on-site regeneration of water softeners if it is demonstrated and found by the agency governing board that there is an adverse effect on the reclaimed water or groundwater supply.	● No
4. Does your agency include water softener checks in home water audit programs?	○ Yes ● No
5. Does your agency include information about DIR and exchange-type water softeners in educational efforts to encourage replacement of less efficient timer models?	○ Yes ● No

C. Water Waste Prohibition Program Expenditures

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

D. "At Least As Effective As"

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

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

The city will be working on the ordinances for water shortage

E. Comments

BMP 12: Conservation Coordinator

Reporting Unit:	BMP Form Status:	Year:
City of San Fernando	**100% Complete**	**2008**

A. Implementation

	1. Does your Agency have a conservation coordinator?	● Yes ○ No
	2. Is a coordinator position supplied by another agency with which you cooperate in a regional conservation program ?	○ Yes ● No
	a. Partner agency's name:	
	3. If your agency supplies the conservation coordinator:	
	a. What percent is this conservation coordinator's position?	20%
	b. Coordinator's Name	Joyce Workman
	c. Coordinator's Title	Management Analyst
	d. Coordinator's Experience and Number of Years	n/a
	e. Date Coordinator's position was created (mm/dd/yyyy)	11/13/2007
	4. Number of conservation staff (FTEs), including Conservation Coordinator.	2

B. Conservation Staff Program Expenditures

?	1. Staffing Expenditures (In-house Only)	14600
?	2. BMP Program Implementation Expenditures	31960

C. "At Least As Effective As"

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

n/a

D. Comments

n/a

BMP 11: Conservation Pricing

Reporting Unit:	BMP Form Status:	Year:
City of San Fernando	**100% Complete**	**2008**

A. Implementation

Water Service Rate Structure Data by Customer Class

Select the ***Rate Structure*** assigned to the majority of your customers within a specific customer class.

Volumetric Revenue is defined as the revenue derived from the charges based on amount of water use. Water agencies typically refer to these as "commodity charges." Do NOT include: flat fees, monthly service charges, meter charges, minimum usage charges, and other revenue that is not dependant on the amount of water the customer consumes. An example of a "minimum usage" charge might be: customers are charged at least 6 units per month even if they use only 2 units.

1. Single Family Residential	
a. Rate Structure	Increasing Block
b. Total Revenue from Volumetric Rates	0
c. Total Revenue from Customer Meter/Service (fixed) charges	0
2. Multi-Family Residential	
a. Rate Structure	Increasing Block
b. Total Revenue from Volumetric Rates	0
c. Total Revenue from Customer Meter/Service (fixed) charges	0
3. Commercial	
a. Rate Structure	Increasing Block
b. Total Revenue from Volumetric Rates	0
c. Total Revenue from Customer Meter/Service (fixed) charges	0
4. Industrial	
a. Rate Structure	Increasing Block

b. Total Revenue from Volumetric Rates	0
c. Total Revenue from Customer Meter/Service (fixed) charges	0
5. Institutional / Government	
a. Rate Structure	Increasing Block
b. Total Revenue from Volumetric Rates	0
c. Total Revenue from Customer Meter/Service (fixed) charges	0
6. Dedicated Irrigation (potable)	
a. Rate Structure	Increasing Block
b. Total Revenue from Volumetric Rates	0
c. Total Revenue from Customer Meter/Service (fixed) charges	0
7. Recycled-Reclaimed	
a. Rate Structure	Service Not
b. Total Revenue from Volumetric Rates	0
c. Total Revenue from Customer Meter/Service (fixed) charges	0
8. Raw	
a. Rate Structure	Service Not
b. Total Revenue from Volumetric Rates	0
c. Total Revenue from Customer Meter/Service (fixed) charges	0
9. Other	
a. Rate Structure	Service Not
b. Total Revenue from Volumetric Rates	0
c. Total Revenue from Customer Meter/Service (fixed) charges	0

B. Implementation Options

	Select Either Option 1 or Option 2:	
	1. Option 1: Use Annual Revenue As Reported V/(V+M) >= 70% V = Total annual revenue from volumetric rates M = Total annual revenue from customer meter/service (fixed) charges	● Option 1 ○ Option 2
	2. Option 2: Use Canadian Water & Wastewater Association Rate Design Model V/(V+M) >= V'/(V'+M') V = Total annual revenue from volumetric rates M = Total annual revenue from customer meter/service (fixed) charges V' = The uniform volume rate based on the signatory's long-run incremental cost of service M' = The associated meter charge	
	a. If you selected Option 2, has your agency submitted to the Council a completed Canadian Water & Wastewater Association rate design model?	○ Yes ● No
	b. Value for V' (uniform volume rate based on agency's long-run incremental cost of service) as determined by the Canadian Water & Wastewater Association rate design model:	n/a
	c. Value for M' (meter charge associated with V' uniform volume rate) as determined by the Canadian Water & Wastewater Association rate design model:	n/a

C. Retail Wastewater (Sewer) Rate Structure Data by Customer Class

	1. Does your agency provide sewer service? (If YES, answer questions 2 - 7 below, else continue to section D.)	● Yes ○ No
	2. Single Family Residential	
	a. Sewer Rate Structure	Increasing Block
	b. Annual Revenue Requirement	0
	c. Total Revenue from Customer Commodity Charges	0
	3. Multi-Family Residential	
	a. Sewer Rate Structure	Increasing Block

	b. Annual Revenue Requirement	0
	c. Total Revenue from Customer Commodity Charges	0
	4. Commercial	
	a. Sewer Rate Structure	Increasing Block
	b. Annual Revenue Requirement	0
	c. Total Revenue from Customer Commodity Charges	0
	5. Industrial	
	a. Sewer Rate Structure	Increasing Block
	b. Annual Revenue Requirement	0
	c. Total Revenue from Customer Commodity Charges	0
	6. Institutional / Government	
	a. Sewer Rate Structure	Increasing Block
	b. Annual Revenue Requirement	0
	c. Total Revenue from Customer Commodity Charges	0
	7. Recycled-reclaimed water	
	a. Sewer Rate Structure	Service Not
	b. Annual Revenue Requirement	0
	c. Total Revenue from Customer Commodity Charges	0

D. At Least As Effective As

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

BMP 09: Conservation Programs for CII Accounts

Reporting Unit:	BMP Form Status:	Year:
City of San Fernando	**100% Complete**	**2008**

A. Implementation

1. Has your agency identified and ranked COMMERCIAL customers according to use?	● Yes ○ No
2. Has your agency identified and ranked INDUSTRIAL customers according to use?	● Yes ○ No
3. Has your agency identified and ranked INSTITUTIONAL customers according to use?	● Yes ○ No

Implement ONE or BOTH of the following TWO options:
• Option A: CII Water Use Survey and Customer Incentives Program
• Option B: CII Conservation Program Targets
NOTE: An agency MUST indicate implementation of at least one option to achieve 100% completion and to submit this form. An agency MUST fill out both sections if it wants to preserve the ability of complying with either option.

Option A: CII Water Use Survey and Customer Incentives Program

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

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

CII Survey Components	Commercial Accounts	Industrial Accounts	Institutional Accounts

	e. Site Visit	○ Yes ○ No	○ Yes ○ No	○ Yes ○ No
	f. Evaluation of all water-using apparatus and processes	○ Yes ○ No	○ Yes ○ No	○ Yes ○ No
	g. Customer report identifying recommended efficiency measures, paybacks and agency incentives	○ Yes ○ No	○ Yes ○ No	○ Yes ○ No
	Agency CII Customer Incentives	**Budget ($/Year)**	**No. Awarded to Customers**	**Total $ Amount Awarded**
	h. Rebates			
	i. Loans			
	j. Grants			
	k. Others			

Option B: CII Conservation Program Targets

	5. Does your agency track CII program interventions and water savings for the purpose of complying with BMP 9 under this option?	○ Yes ● No
	6. Does your agency document and maintain records on how savings were realized and the method of calculation for estimated savings?	○ Yes ● No

7. System Calculated annual savings (AF/year):

	CII Programs	Avg Savings (AF/yr)	# Devices	Savings/ Device
	a. Ultra Low Flush Toilets	.035004		0.00
	b. Dual Flush Toilets	.041748		0.00
	c. High Efficiency Toilets	.041748		0.00
	d. High Efficiency Urinals	.069086		0.00
	e. Non-Water Urinals	.0921146		0.00
	f. Commercial Clothes Washers (only coin-op; not industrial)	.116618		0.00
	g. Cooling Tower Controllers	1.03225		

	g. Cooling Tower Controllers	1.03225		0.00
	h. Food Steamers	.25		0.00
	i. Ice Machines	.834507		0.00
	j. Pre-Rinse Spray Valves	.084701		0.00
	k. Steam Sterilizer Retrofits	1.538		0.00
	l. X-ray Film Processors	2.57		0.00
	TOTAL System Calculated Savings:			0.00

8. Estimated annual savings (AF/yr) from agency programs not including the devices listed in Option B. 7., above:

CII Programs	Annual Savings (AF/yr)
a. Site-verified actions taken by agency.	
b Non-site-verified actions taken by agency.	x 25%

Note: agencies may credit 100% of estimated annual savings of interventions that have been site verified and 25% of estimated annual savings of interventions that have not been site verified. (BMP 9 E.4.c.)

TOTAL CII Program Performance Target Savings: 0.00 AF/Yr

B. Conservation Program Expenditures for CII Accounts

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

C. "At Least As Effective As"

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

○ Yes
● No

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

n/a

D. Comments

the city is currently in the process of developing a plan to track this information.

BMP 08: School Education Programs

Reporting Unit:	BMP Form Status:	Year:
City of San Fernando	**100% Complete**	**2008**

A. Implementation

1.How is your school education program implemented?

- ○ Wholesaler
- ○ Retailer
- ○ Mixed
- ○ None

Wholesaler sponsors:

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

Grade	Are grade-appropriate materials distributed?	No. of class presentations	No. of students reached	No. of teachers' workshops
Grades K-3rd	○ Yes ○ No			
Grades 4th-6th	○ Yes ○ No			
Grades 7th-8th	○ Yes ○ No			
High School	○ Yes ○ No			

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

- ○ Yes
- ○ No

4. When did your Agency begin implementing this program? (Year must be four digit mm/dd/yyyy)

B. School Education Program Expenditures

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

C. "At Least As Effective As"

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

- ● Yes
- ○ No

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

Sponsor the Solar Cup and provide funding to San Fernando High School.

D. Comments

BMP 07: Public Information Programs

Reporting Unit:	BMP Form Status:	Year:
City of San Fernando	**100% Complete**	**2008**

A. Implementation

1. How is your public information program implemented?

- ○ Wholesaler
- ○ Retailer
- ● Mixed
- ○ None

Wholesaler sponsors: MWD

2. Describe the program and how it's organized.

The City partnered with the MWD to arranged one CFLT workshops at the city's newsly constucted California Friendly Heritage Park. However, due to insufficient registrants, the workshop got cancelled.

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

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

B. Conservation Information Program Expenditures

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

C. "At Least As Effective As"

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

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

D. Comments

BMP 06: High-Efficiency Washing Machine Rebate Programs

Reporting Unit:	BMP Form Status:	Year:
City of San Fernando	**100% Complete**	**2008**

A. Coverage Goal

		Single Family	Multi Family
	1. Number of **residential** dwelling units in the agency service area.		
	2. Coverage Goal = Total Dwelling Units x 0.0768		Pts

B. Implementation

	1. Does your agency offer rebates for **residential** high-efficiency washers with water factors of 9.5 or less?	○ Yes ● No

			Total Value ofFinancial Incentives				
	HEW Water Factor	No.of Financial Incentives Issued	Retail Water Agency	Wholesaler/ Grants	Energy Utilities	TOTAL	Points Awarded
	2. Greater than 8.5 but not exceeding 9.5						
	3. Greater than 6.0 but not exceeding 8.5						
	4. Less than or equal to 6.0						
	TOTALS:						

C. Past Credit Points

For incentives issued before July 1, 2004, select ONE of the following options:

NOTE: Agency shall not receive credit for any HEW incentives where the agency did not provide a financial incentive of $25 or more.

Method One: Points based on HEW Water Factor

			Total Value of Financial Incentives				
	HEW Water Factor	**No.of Financial Incentives Issued**	Retail Water Agency	Wholesaler/ Grants	Energy Utilities	TOTAL	**Points Awarded**
	2. Greater than 8.5 but not exceeding 9.5						
	3. Greater than 6.0 but not exceeding 8.5						
	4. Less than or equal to 6.0						

Method Two: Agency earns 1 point for each HEW

	4. Total HEWs installed		0				
	Past Cr TOTALS:	0				0	0

D. Rebate Program Expenditures

	1. Average or Estimated Administration and Overhead	
	2. Is the financial incentive offered per HEW at least equal to the marginal benefits of the water savings per HEW?	○ Yes ○ No

E. "At Least As Effective As"

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

- (●) Yes
- ( ) No

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

Due to the city budget, the city made the rebate info available at the city hall public counter, local venues, and water bill insert.

F. Comments

BMP 05: Large Landscape Conservation Programs and Incentives

Reporting Unit:	BMP Form Status:	Year:
City of San Fernando	**100% Complete**	**2008**

A. Water Use Budgets

1. Number of Dedicated Irrigation Meter Accounts:	100
2. Number of Dedicated Irrigation Meter Accounts with Water Budgets:	0
3. Budgeted Use for Irrigation Meter Accounts with Water Budgets (AF):	0
4. Actual Use for Irrigation Meter Accounts with Water Budgets (AF):	0
5. Does your agency provide water use notices to accounts with budgets each billing cycle?	○ Yes ● No

B. Landscape Surveys

1. Has your agency developed a marketing / targeting strategy for landscape surveys?	○ Yes ● No
a. If YES, when did your agency begin implementing this strategy? (Year must be four digit mm/dd/yyyy)	n/a
b. Description of marketing / targeting strategy:	
n/a	
2. Number of Surveys Offered:	0
3. Number of Surveys Completed:	0
4. Indicate which of the following Landscape Elements are part of your survey:	
a. Irrigation System Check	○ Yes ● No
b. Distribution Uniformity Analysis	○ Yes ● No
c. Review / Develop Irrigation Schedules	○ Yes ● No

	d. Measure Landscape Area	○ Yes ● No
	e. Measure Total Irrigable Area	○ Yes ● No
	f. Provide Customer Report / Information	○ Yes ● No
?	5. Do you track survey offers and results?	○ Yes ● No
	6. Does your agency provide follow-up surveys for previously completed surveys?	○ Yes ● No
?	a. If YES, describe below:	

C. Other BMP 5 Actions

?	1. An agency can provide mixed-use accounts with ETo-based landscape budgets in lieu of a large landscape survey program. Does your agency provide mixed-use accounts with landscape budgets?	● Yes ○ No
	2. Number of CII mixed-use accounts with landscape budgets.	0
	From BMP 4 report: Number of CII accounts with mixed-use meters retrofitted with dedicated irrigation meters during reporting period.	0
	Total number of change-outs from mixed-use to dedicated irrigation meters since Base Year.	0
	3. Do you offer landscape irrigation training?	● Yes ○ No
?	4. Does your agency offer financial incentives to improve landscape water use efficiency? If YES, describe below:	○ Yes ● No

	Type of Financial Incentive	Budget (Dollars/ Years)	Number Awarded to Customers	Total Amount Award

	a. Rebates			
	b. Loans			
	c. Grants			

	5. Do you provide landscape water use efficiency information to new customers and customers changing services?	● Yes ○ No
	a. If YES, describe below:	
	new customers are given brochures for landscaping conservation when they turn on their service. brochures are also provided at the front counter for all the customers.	
	6. Do you have irrigated landscaping at your facilities?	● Yes ○ No
	a. If yes, is it water-efficient?	● Yes ○ No
	b. If yes, does it have dedicated irrigation metering?	● Yes ○ No
?	7. Do you provide customer notices at the start of the irrigation season?	○ Yes ● No
?	8. Do you provide customer notices at the end of the irrigation season?	○ Yes ● No

D. Landscape Conservation Program Expenditures

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

E. "At Least As Effective As"

?	1. Is your AGENCY implementing an "at least as effective as" variant of this BMP?	● Yes ○ No
	a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."	
	Due to the budget, the city has implemented bill insert action during the fiscal year with rebate and water shortage information.	

F. Comments

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

Reporting Unit:	BMP Form Status:	Year:
City of San Fernando	**100% Complete**	**2008**

A. Implementation

	1. Does your agency have any unmetered service connections?	○ Yes ● No
	a. If YES, has your agency completed a meter retrofit plan?	○ Yes ● No
	b. If YES, number of previously unmetered accounts fitted with meters during report year:	n/a
	2. Are all new service connections being metered?	● Yes ○ No
	3. Are all new service connections being billed volumetrically with meters?	● Yes ○ No
	4. Has your agency completed and submitted electronically to the Council a written plan, policy or program to test, repair & replace meters?	● Yes ○ No
	5. Please fill out the following matrix:	

	Account Type	# Metered Accounts	# Accounts Read	# Accounts Vol Billing	Billing Frequency	# Vol Estimates
	a. Single Family	3816	3816	3816	6	0
	b. Multi-Family	397	397	397	6	0
	c. Commercial	480	480	480	6	0
	d. Industrial	185	185	185	6	5
	e. Institutional	72	72	72	6	0
	f. Landscape Irrigation	185	185	185	6	1

B. Feasibility Study

?	1. 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

	a. If YES, when was the feasibility study conducted? (mm/dd/yy)	n/a
	b. Describe the feasibility study:	
	n/a	
	2. Number of CII accounts with mixed-use meters:	10
	3. Number of CII accounts with mixed-use meters retrofitted with dedicated irrigation meters during reporting year	0

C. "At Least As Effective As"

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

D. Comments

BMP 03: System Water Audits, Leak Detection and Repair

Reporting Unit:	BMP Form Status:	Year:
City of San Fernando	**100% Complete**	**2008**

A. Implementation

	1. Does your agency own or operate a water distribution system?	● Yes ○ No
	- IF YOU ANSWERED NO TO #1, YOU ARE DONE WITH THE FORM. - IF YOU ANSWERED YES TO #1, PLEASE ANSWER THE FOLLOWING QUESTIONS.	
	2. Has your agency completed a pre-screening system audit for this reporting year?	● Yes ○ No
	3. If YES, enter the values (AF/Year) used to calculate verifiable use as a percent of total production:	
	a. Determine metered sales (AF)	3000
	b. Determine other system verifiable uses (AF)	142
	c. Determine total supply into the system (AF)	3133
	d. Using the numbers above, if (Metered Sales + Other Verifiable Uses) / Total Supply is < 0.9 then a full-scale system audit is required. *(This number will automatically calculate when you Save the Session)*	1.003
	4. Does your agency keep necessary data on file to verify the values entered in question 3?	● Yes ○ No
	5. Did your agency complete a full-scale system water audit during this report year?	● Yes ○ No
	6. Does your agency maintain in-house records of audit results or completed AWWA audit worksheets for the completed audit which could be forwarded to CUWCC?	● Yes ○ No
	7. Does your agency operate a system leak detection program?	● Yes ○ No

a. If yes, describe the leak detection program:

Based on water statistics audit report of water sold and water produced, if there were any differences identified they were forwarded to the water department for investigation.

B. Survey Data

1. Total number of miles of distribution system line:	66
2. Number of miles of distribution system line surveyed:	0

C. "At Least As Effective As"

1. Is your agency implementing an "at least as effective as" variant of this BMP?	○ Yes ● No

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

D. Comments

BMP 02: Residential Plumbing Retrofit

Reporting Unit:	BMP Form Status:	Year:
City of San Fernando	**100% Complete**	**2008**

A. Implementation

1. Is there an enforceable ordinance in effect in your service area requiring replacement of high-flow showerheads and other water use fixtures with their low-flow counterparts?	○ Yes ● No
a. If YES, list local jurisdictions in your service area and code or ordinance in each:	
2. Has your agency satisfied the 75% saturation requirement for single-family housing units?	● Yes ○ No
3. Estimated percent of single-family households with low-flow showerheads:	16 %
4. Has your agency satisfied the 75% saturation requirement for multi-family housing units?	● Yes ○ No
5. Estimated percent of multi-family households with low-flow showerheads:	0 %
6.a. If YES to 2 OR 4 above, did your survey methodology fully comply with the requirements of BMP 2?	● Yes ○ No
b. If YES to 2 OR 4 above, please describe how saturation was determined, including the dates and results of any survey research.	

In 1990 the City delivered water conservation kits which included flow restrictors and water displacement bags to all residential units in the City.

B. Low-Flow Device Distribution Information

1. Has your agency developed a targeting/ marketing strategy for distributing low-flow devices?	● Yes ○ No
a. If YES, when did your agency begin implementing this strategy? (Use four-digit year, mm/dd/yyyy)	07/01/1990
b. Common targeting/ marketing methods.	

- [x] Bill Messages
- [ ] Bill Stuffer
- [x] Direct Mail to Owners
- [x] Direct Mail to Residents
- [x] Door-to-Door
- [ ] Other
- [ ] PSAs
- [ ] Telemarketing

c. Describe your targeting/ marketing strategy.

In 1990 the City delivered water conservation kits which included flow restrictors and water displacement bags to all residential units in the City.

Low-Flow Devices Distributed/ Installed	SF Account	MF Units
2. Number of low-flow showerheads distributed:	750	0
3. Number of toilet-displacement devices distributed:	0	0
4. Number of toilet flappers distributed:	0	0
5. Number of faucet aerators distributed:	0	0

6. Does your agency track the distribution and cost of low-flow devices?	● Yes ○ No
a. If YES, in what format are low-flow devices tracked?	○ Database ● Spreadsheet ○ Manual Activity ○ None

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

Distribution of showerheads at the water desk were tracked by excel spreadsheet.

C. Low-Flow Device Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures		

	1. Budgeted Expenditures		
	2. Actual Expenditures		

D. "At Least As Effective As"

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

E. Comments

BMP 14: Residential ULFT Replacement Programs

Reporting Unit:	BMP Form Status:	Year:
City of San Fernando	**100% Complete**	**2008**

A. Implementation

Number of Non-Efficient Toilets Replaced With 1.6 gpf Toilets

		Single-Family Accounts	Multi-Family Units
	1. Does your Agency have program(s) for replacing high-water-using toilets with ultra-low flush toilets (1.6 gpf)?	● Yes ○ No	● Yes ○ No
	Replacement Method	**SF Accounts**	**MF Units**
	2. Rebate	0	0
	3. Direct Install	n/a	n/a
	4. CBO Distribution	n/a	n/a
	5. Other	n/a	n/a
	Total	**0**	**0**

Number of Non-Efficient Toilets Replaced With 1.28 gpf HETs

		Single-Family Accounts	Multi-Family Units
	6. Does your Agency have program(s) for replacing high-water-using toilets with high-efficiency toilets (1.2 gpf)?	● Yes ○ No	● Yes ○ No
	Replacement Method	**SF Accounts**	**MF Units**
	7. Rebate	0	0
	8. Direct Install	n/a	n/a
	9. CBO Distribution	n/a	n/a
	10. Other	n/a	n/a
	Total	**0**	**0**

Number of Non-Efficient Toilets Replaced w/ 1.2 gpf HETs (dual-flush)

		Single-Family Accounts	Multi-Family Units
	11. Does your Agency have program(s) for replacing high-water-using toilets with dual flush toilets?	● Yes ○ No	● Yes ○ No
	Replacement Method	**SF Accounts**	**MF Units**
	12. Rebate	0	0
	13. Direct Install	n/a	n/a
	14. CBO Distribution	n/a	n/a
	15. Other	n/a	n/a
	Total	**0**	**0**
	The city does not have this information at this time.		
	The city does not have this information at this time.		

	18. Is a toilet retrofit on resale ordinance in effect for your service area?	○ Yes ● No
	19. List local jurisdictions in your service area in the left box and ordinance citations in each jurisdiction in the right box:	
	n/a	n/a

B. Residential ULFT Program Expenditures

?	1. Estimated cost per ULFT/HET replacement:	0

C. "At Least As Effective As"

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

D. Comments

The city is the process of developing better tracking of the information for this BMP. As of this reporting period the information is not available.

BMP 1 Coverage Requirement Status

Reporting Unit ID 83

Rep Unit Name: City of San Fernando

Date MOU Signed: 6/20/1994

Reporting Period: 07-08

Rep Unit Category: Retail Only

RU indicated "At least as effective as" implementation during report period: Yes

RU filed an exemption for this BMP during report period: No exemption request filed

If exemption filed, type:

Exhibit 1 Coverage Requirement

An agency must meet three conditions to satisfy strict compliance for BMP 1.

Condition 1: Adopt survey targeting and marketing strategy on time
Condition 2: Offer surveys to 20% of SF accounts and 20% of MF units during report period
Condition 3: Be on track to survey 15% of SF accounts and 15% of MF units within 10 years of implementation start date.

Test For Condition 1

Latest Year RU to Implement Targeting/Marketing Program: 1999

	Single Family	Multi Family
Year RU Reported Implementing Targeting/Marketing Program:		
RU Met Targeting/Marketing Coverage Requirement:		

Test For Condition 2

			Single Family	Multi Family
Latest Year Survey Program to Start:	1998	**Res Survey Offers (%)**	205.04%	188.60%
Select a Reporting Period:	07-08	**Survey Offers 20%**	Yes	Yes

Test For Condition 3

	Completed Residential Surveys	
	Single Family	Multi Family
Total Completed Surveys through 2008	100	10
Credit for Surveys Completed Prior to Implementation of Reporting Database		
Total + Credit	100	10
Res. Accounts in Base Year	3,688	456
RU Survey Coverage as % of Base Year Res Accounts	2.71%	2.19%
Coverage Requirement by Year 10 of Implementation per Exhibit 1	13.50%	13.50%
RU on Schedule to Meet 10 Year Coverage Requirement	No	No

BMP 1 Coverage Status Summary

Water supplier has selected an "At Least As Effective As" option for this BMP.

BMP 13 Coverage Requirement Status

Reporting Unit ID 83

Rep Unit Name: City of San Fernando

Date MOU Signed: 6/20/1994

Reporting Period: 07-08

Rep Unit Category: Retail Only

RU indicated "At least as effective as" implementation during report period: Yes

RU filed an exemption for this BMP during report period: No exemption request filed

If exemption filed, type:

Exhibit 1 Coverage Requirement

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

Test For Compliance

Agency or service area prohibits:

Report Year	Gutter Flooding	Single-Pass Cooling Systems	Single-Pass Car Wash	Single-Pass Laundry	Single-Pass Fountains	Other	RU has ordinance that meets coverage requirement
1999							
2000							
2001							
2002							
2003							
2004							
2005							
2006							
2007	yes	no	no	no	no	no	No
2008	yes	no	no	no	no	no	No

BMP 13 Coverage Status Summary

Water supplier has selected an "At Least As Effective As" option for this BMP.

BMP 12 Coverage Requirement Status

Reporting Unit ID 83

Rep Unit Name: City of San Fernando

Date MOU Signed: 6/20/1994

Reporting Period: 07-08

Rep Unit Category: Retail Only

RU indicated "At least as effective as" implementation during report period: No

RU filed an exemption for this BMP during report period: No exemption request filed

If exemption filed, type:

Exhibit 1 Coverage Requirement

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

Test For Compliance

Report Year	Report Period	Conservation Coordinator Position Staffed?	Total Staff on Team (incl. CC)
1999	99-00		
2000	99-00		
2001	01-02		
2002	01-02		
2003	03-04		
2004	03-04		
2005	05-06		
2006	05-06		
2007	07-08	yes	2
2008	07-08	yes	2

BMP 12 Coverage Status Summary

Water supplier has met the coverage requirements for this BMP.

BMP 11 Coverage Requirement Status

Reporting Unit ID 83

Rep Unit Name: City of San Fernando

Date MOU Signed: 6/20/1994

Reporting Period: 07-08

Rep Unit Category: Retail Only

RU indicated "At least as effective as" implementation during report period: No

RU filed an exemption for this BMP during report period: No exemption request filed

If exemption filed, type:

Exhibit 1 Coverage Requirement

Agency shall maintain rate structure consistent with BMP 11's definition of conservation pricing.

Test For Compliance

Fully metered?	**Yes**
Water Coverage Met?	**Yes**
Provide Sewer Service?	**yes**
Sewer Coverage Met?	**Yes**

BMP 11 Coverage Status Summary

Water supplier has met the coverage requirements for this BMP.

BMP 11 Sewer Coverage Status Summary

Water supplier has met the coverage requirements for this BMP.

BMP 9 Coverage Requirement Status

Reporting Unit ID 83

Rep Unit Name: City of San Fernando

Date MOU Signed: 6/20/1994

Reporting Period: 07-08

Rep Unit Category: Retail Only

RU indicated "At least as effective as" implementation during report period: No

RU filed an exemption for this BMP during report period: No exemption request filed

If exemption filed, type:

Exhibit 1 Coverage Requirement

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

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

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

OR

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

OR

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

Test For Condition 1

Ranked Commercial Customers	**yes**
Ranked Industrial Customers	**yes**
Ranked Institutional Customers	**yes**
Rank Coverage Met	**Yes**

Test For Condition 2a

	Commercial	Industrial	Institutional
Total Completed Surveys Reported through 2008			
Credit for Surveys Completed Prior to Implementation of Reporting Database			
Total + Credit			
CII Accounts in Base Year	410	174	72
RU Survey Coverage as % of Base Year CII Accounts	0.0%	0.0%	0.0%
Coverage Requirement by Year 9 of Implementation per Exhibit 1	7.7%	7.7%	7.7%
RU on Schedule to Meet 10 Year Coverage Requirement	No	No	No

BMP 9 Coverage Requirement Status

Test For Condition 2b

Coverage Year	Performance Target Savings (AF/Yr)	Performance Target Savings Coverage	Performance Target Savings Coverage Requirement	Coverage Requirement Met
1999	0	0%	0.5%	No
2000	0	0%	1%	No
2001	0	0%	1.7%	No
2002	0	0%	2.4%	No
2003	0	0%	3.3%	No
2004	0	0%	4.2%	No
2005	0	0%	5.3%	No
2006	0	0%	6.4%	No
2007	0	0%	7.7%	No
2008	0	0%	9%	No

Test For Condition 2c

Total BMP 9 Surveys + Credit	
BMP 9 Survey Coverage	0.0%
BMP 9 Performance Target Coverage	0.0%
BMP 9 Survey + Performance Target Coverage	0.0%
Combined Coverage Equals or Exceeds BMP 9 Survey Coverage Requirement?	No

BMP 9 Coverage Status Summary

Water supplier is not currently on track to meet the coverage requirements for this BMP.

BMP 8 Coverage Requirement Status

Reporting Unit ID 83

Rep Unit Name: City of San Fernando

Date MOU Signed: 6/20/1994

Reporting Period: 07-08

Rep Unit Category: Retail Only

RU indicated "At least as effective as" implementation during report period: Yes

RU filed an exemption for this BMP during report period: No exemption request filed

If exemption filed, type:

Exhibit 1 Coverage Requirement

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

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

Test For Condition 1

Report Year	Report Period	BMP 8 Implementation Year	RU Has School Education Program
1999	99-00	1	
2000	99-00	2	
2001	01-02	3	
2002	01-02	4	
2003	03-04	5	
2004	03-04	6	
2005	05-06	7	
2006	05-06	8	
2007	07-08	9	
2008	07-08	10	

BMP 8 Coverage Status Summary

Water supplier has selected an "At Least As Effective As" option for this BMP.

BMP 7 Coverage Requirement Status

Reporting Unit ID 83

Rep Unit Name: City of San Fernando

Date MOU Signed: 6/20/1994

Reporting Period: 07-08

Rep Unit Category: Retail Only

RU indicated "At least as effective as" implementation during report period: No

RU filed an exemption for this BMP during report period: No exemption request filed

If exemption filed, type:

Exhibit 1 Coverage Requirement

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

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

Test For Condition 1:07-08

Report Year	Report Period	BMP 7 Implementation Year	RU Has Public Information Program
1999	99-00	1	
2000	99-00	2	
2001	01-02	3	
2002	01-02	4	
2003	03-04	5	
2004	03-04	6	
2005	05-06	7	
2006	05-06	8	
2007	07-08	9	Yes
2008	07-08	10	Yes

BMP 7 Coverage Status Summary

Water supplier has met the coverage requirements for this BMP.

BMP 6 Coverage Requirement Status

Reporting Unit ID 83

Rep Unit Name: City of San Fernando

Date MOU Signed: 6/20/1994

Reporting Period: 07-08

Rep Unit Category: Retail Only

RU indicated "At least as effective as" implementation during report period: Yes

RU filed an exemption for this BMP during report period: No exemption request filed

If exemption filed, type:

Pre-2004 Exhibit 1 Coverage Requirement

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

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

Revised Exhibit 1 Coverage Requirement

An agency must meet two conditions to comply with BMP 6.

Condition 1: Offer cost-effective financial incentives for high-efficiency washers with Water Factors of 9.5 or less.

Condition 2: Meet Coverage Goal (CG=Total Dwelling Units x 0.0768) by July 1, 2008. Agencies signing the MOU after July 1, 2003, shall have a prorated Coverage Goal, based on implementation period of less than 4.0 years.

Test For Condition 1

Agency offered cost-effective financial incentives for high-efficiency washers with Water Factors of 9.5 or less: no

Test For Condition 2

Coverage Goal:

Total Coverage Points Awarded (incl. past credit): 0

% of Coverage Goal: ?

BMP 6 Coverage Status Summary

Water supplier has selected an "At Least As Effective As" option for this BMP.

BMP 5 Coverage Requirement Status

Reporting Unit ID 83

Rep Unit Name: City of San Fernando

Date MOU Signed: 6/20/1994

Reporting Period: 07-08

Rep Unit Category: Retail Only

RU filed an exemption for this BMP during report period: No exemption request filed

If exemption filed, type:

RU indicated "At least as effective as" implementation during report period: Yes

Exhibit 1 Coverage Requirement

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

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

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

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

Test For Condition 1

Report Year	Report Period	BMP 5 Implementation Year	No. of Irrigation Meter Accounts	No. of Irrigation Accounts with Budgets	Budget Coverage Ratio	90% Coverage Met by Year 4
1999	99-00	0				NA
2000	99-00	1				NA
2001	01-02	2				NA
2002	01-02	3				NA
2003	03-04	4				No
2004	03-04	5				No
2005	05-06	6				No
2006	05-06	7				No
2007	07-08	8	100	0	0.00	No
2008	07-08	9	100	0	0.00	No

Test For Condition 2a (survey offers)

Select Reporting Period: 07-08

Large Landscape Survey Offers as % of Mixed Use Meter CII Accounts: 0.0%

Survey Offers Equal or Exceed 20% Coverage Requirement: No

BMP 5 Coverage Requirement Status

Test For Condition 2a (surveys completed)

Total Completed Landscape Surveys Reported through 2008	0
Credit for Surveys Completed Prior to Implementation of Reporting Database	
Total + Credit	0
CII Accounts with Mixed Use Meters in Base Year	128
RU Survey Coverage as % of Base Year CII Accounts	0.0%
Coverage Requirement by Year 9 of Implementation per Exhibit 1	11.5%
RU on Schedule to Meet 10 Year Coverage Requirement	No

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

Report Year	Report Period	BMP 5 Implementation Year	Agency has mix-use budget program	No. of mixed-use budgets
1999	99-00	0		
2000	99-00	1		
2001	01-02	2		
2002	01-02	3		
2003	03-04	4		
2004	03-04	5		
2005	05-06	6		
2006	05-06	7		
2007	07-08	8	yes	0
2008	07-08	9	yes	0

Report Year	Report Period	BMP 4 Implementation Year	No. of mixed use CII accounts	No. of mixed use CII accounts fitted with irrig. meters
1999	99-00	1		
2000	99-00	2		
2001	01-02	3		
2002	01-02	4		
2003	03-04	5		
2004	03-04	6		
2005	05-06	7		
2006	05-06	8		
2007	07-08	9	10	0
2008	07-08	10	10	0

BMP 5 Coverage Requirement Status

Test For Condition 3

Report Year	Report Period	BMP 5 Implementation Year	RU offers financial incentives?	Loans		Grants		Rebates	
				No.	Total Amount	No.	Total Amount	No.	Total Amount
1999	99-00	0							
2000	99-00	1							
2001	01-02	2							
2002	01-02	3							
2003	03-04	4							
2004	03-04	5							
2005	05-06	6							
2006	05-06	7							
2007	07-08	8	no						
2008	07-08	9	no						

BMP 5 Coverage Status Summary

Water supplier has selected an "At Least As Effective As" option for this BMP.

BMP 4 Coverage Requirement Status

Reporting Unit ID 83

Rep Unit Name: City of San Fernando

Date MOU Signed: 6/20/1994

Reporting Period: 07-08

Rep Unit Category: Retail Only

RU indicated "At least as effective as" implementation during report period: No

RU filed an exemption for this BMP during report period: No exemption request filed

If exemption filed, type:

Exhibit 1 Coverage Requirement

For agencies signing the MOU prior to December 31, 1997:

100% of existing unmetered accounts to be metered and billed by volume of use by July 1, 2009.

For agencies signing the MOU after December 31, 1997:

100% of existing unmetered accounts to be metered and billed by volume of use by July 1, 2012 OR within six years of signing the MOU (whichever date is later). All retrofits must be completed no later than one year prior to the requirements of state law (January 1, 2025).

Tests For Compliance

Total Meter Retrofits Reported through 2008	0
No. of Unmetered Accounts in Base Year	0
Meter Retrofit Coverage as % of Base Year Unmetered Accounts	No Unmetered Accounts
Coverage Requirement by Year 10 of Implementation	90.0%
RU on Schedule to Meet 10 Year Coverage Requirement	Yes

BMP 4 Coverage Status Summary

Water supplier has met the coverage requirements for this BMP.

BMP 3 Coverage Requirement Status

Reporting Unit ID 83

Rep Unit Name: City of San Fernando

Date MOU Signed: 6/20/1994

Reporting Period: 07-08

Rep Unit Category: Retail Only

RU indicated "At least as effective as" implementation during report period: No

RU filed an exemption for this BMP during report period: No exemption request filed

If exemption filed, type:

Exhibit 1 Coverage Requirement

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

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

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

RU operates a water distribution system: Yes

Tests For Conditions 1 and 2

Report Year	Report Period	Pre Screen Completed	Pre Screen Result	Full Audit Indicated	Full Audit Completed
1999	99-00				
2000	99-00				
2001	01-02				
2002	01-02				
2003	03-04	Yes	90.0%	No	
2004	03-04				
2005	05-06				
2006	05-06				
2007	07-08	Yes	100.3%	No	Yes
2008	07-08	Yes	100.3%	No	Yes

BMP 3 Coverage Status Summary

Water supplier has met the coverage requirements for this BMP.

BMP 2 Coverage Requirement Status

Reporting Unit ID 83

Rep Unit Name: City of San Fernando

Date MOU Signed: 6/20/1994

Reporting Period: 07-08

Rep Unit Category: Retail Only

RU indicated "At least as effective as" implementation during report period: No

RU filed an exemption for this BMP during report period: No exemption request filed

If exemption filed, type:

Exhibit 1 Coverage Requirement

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

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

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

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

Test For Condition 1

		Single Family		Multi Family	
Report Year	Report Period	Reported Saturation	Saturation 75%?	Reported Saturation	Saturation 75%?
1999	99-00				
2000	99-00				
2001	01-02				
2002	01-02				
2003	03-04				
2004	03-04				
2005	05-06				
2006	05-06				
2007	07-08	16	Yes	0	Yes
2008	07-08	16	Yes	0	Yes

BMP 2 Coverage Requirement Status

Test For Condition 2

Report Year	Report Period	RU has ordinance requiring showerhead retrofit?
1999	99-00	
2000	99-00	
2001	01-02	
2002	01-02	
2003	03-04	
2004	03-04	
2005	05-06	
2006	05-06	
2007	07-08	No
2008	07-08	No

Test For Condition 3

1992 SF Accounts	Num. Showerheads Distributed to SF Accounts	Single Family Coverage Ratio	SF Coverage Ratio 10%
3,688	1,400	38.0%	Yes

1992 MF Accounts	Num. Showerheads Distributed to MF Accounts	Multi Family Coverage Ratio	MF Coverage Ratio 10%
456	0	0.0%	No

BMP 2 Coverage Status Summary

Water supplier has met the coverage requirements for this BMP.

BMP 14 Coverage Requirement Status

Reporting Unit ID: 83

Rep Unit Name: City of San Fernando

Base Year: 1997

Rep Unit Category: Retail Only

Exhibit 1 Coverage Requirement

An agency must meet one of the following conditions to be in compliance with BMP 14.

Condition 1: Retrofit-on-resale (ROR) in effect in service area
Condition 2: Water savings from toilet replacement programs equal to 90% of Exhibit 6 coverage requirement.

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

Coverage Year	BMP 14 Data Submitted to CUWCC	Exemption Filed with CUWCC	ALAEA	ROR Ordinance in Effect	Exhibit 6 Coverage Req'mt (AF)	Toilet Replacement Program Water Savings (AF)
1999	☐	☐	☐	☐	7	0
2000	☐	☐	☐	☐	21	0
2001	☐	☐	☐	☐	40	0
2002	☐	☐	☐	☐	63	0
2003	☐	☐	☐	☐	91	0
2004	☐	☐	☐	☐	122	0
2005	☐	☐	☐	☐	155	0
2006	☐	☐	☐	☐	191	0
2007	☒	☐	☐	☐	229	0
2008	☒	☐	☐	☐	268	0

BMP 14 Coverage Requirement Status

BMP 14 Coverage Status Summary: 2011

Water supplier is not currently on track to meet the coverage requirements for this BMP.

Appendix F: Sylmar Basin Judgment

City of San Fernando 2010 Urban Water Management Plan

IRA REINER, City Attorney
EDWARD C. FARRELL, Chief Assistant
City Attorney for Water and Power
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Attorneys for Plaintiff

ORIGINAL FILED
MAR 2 2 1984
COUNTY CLERK

SUPERIOR COURT OF THE STATE OF CALIFORNIA

FOR THE COUNTY OF LOS ANGELES

THE CITY OF LOS ANGELES, Plaintiff, vs. CITY OF SAN FERNANDO, et al., Defendants.	No. 650079 STIPULATION AND ORDER RE SYLMAR BASIN PURSUANT TO SECTION 10.2 OF JUDGMENT

The City of Los Angeles by and through Ira Reiner, City Attorney, Edward C. Farrell, Chief Assistant City Attorney for Water and Power, Ralph Guy Wesson, Assistant City Attorney, the City of San Fernando by and through City Attorneys Rutan and Tucker, Robert S. Bower and Arthur G. Kidman, Kisag and Dean Mordigian by Lawrence M. Dougherty, and Meurer Eng., Inc., by Roger or Charles Meurer, stipulate that the Court may enter an order as provided herein with regard to the following facts.

1. The Judgment requires in Section 10.2 that the Watermaster notify the Court and parties in the event the Sylmar Basin becomes overdrafted due to pumping by Los Angeles and San Fernando.

2. On August 26, 1983, the Watermaster reported to the Court pursuant to Section 10.2 of the Judgment that the Sylmar Basin was in a condition of overdraft (Attachment 1). In response to the Watermaster's letter and a Minute Order of this Court (Attachment 2), the Cities of Los Angeles and San Fernando responded by letters to the Court (Attachments 3 & 4), agreeing with the Watermaster's report on overdraft.

3. The Court has determined that pumping from the Sylmar Basin shall be reduced to the safe yield (6210 AF/YR at present) of the basin, effective October 1, 1984.

4. Sections 5.1.2 and 5.2.2 of the Judgment provide for the rights of the parties. The private parties within the Sylmar Basin, Defendants Kisag Moordigian and Meurer Engr. (successor to Hersch and Plumb), have decreed overlying water rights. However, Mr. Moordigian has not pumped since 1956-57 and has disposed of most of the lands originally involved in this proceeding. Meurer Engr. has pumped less than 0.5 AF/YR. since 1975-76, but may increase this amount slightly in the future. Even though the combined pumping of these private parties has been less than one acre-foot per year, provision for their rights pursuant to Section 5.1.2.2 of the Judgment is made

in this stipulation. That pumping which occurs pursuant to the overlying rights of the private parties is to be subtracted from the safe yield, with Los Angeles and San Fernando pumping the remainder.

5. Parties, City of Los Angeles and City of San Fernando, agree that pumping within the Sylmar Basin must be brought within the safe yield, determined to be 6,210 AF/YR at present. The Cities of Los Angeles and San Fernando have rights to native waters and import return waters within the Sylmar Basin. Their combined water rights to native and imported waters (Sections 5.1.2.3. and 5.2.2.1 of the Judgment) are nearly equal. Each has pumped approximately one-half of the total safe yield of the said basin for the past 14 years (1968-69 through 1982-83). The City of Los Angeles and the City of San Fernando stipulate herein that the Court may enter an order limiting each City's pumping to the following amounts less-one half of any rights exercised in accordance with paragraph 4 herein:

City of Los Angeles	-	3,105 AF/YR.
City of San Fernando	-	3,105 AF/YR.

6. Section 10.2 of the Judgment requires that a notice of hearing be set for this matter. However, the parties herein stipulate to waive notice and

hearing as to the matter stated herein and to the order of court attached.

7. At the time of the entry of the Final Judgment (January 26, 1979), the Sylmar Basin was declared not to be in a condition of overdraft (Section 4.2.6.2). Thus, the Final Judgment did not provide for safe yield operations of said basin during unusual circumstances, such as dry years or water system problems.

The parties recognize the importance of preserving the Sylmar Basin as a water production and groundwater storage resource. Los Angeles and San Fernando seek to permit flexibility in the use of this resource without causing damage to the basin.

To provide for water shortages due to unusual circumstances, such as weather conditions or water system operational problems, Los Angeles and San Fernando shall have the right in any year to overextract from the Sylmar Basin an amount not to exceed 10 percent of their allowed pumping, as provided in Section 5 herein. The 10 percent annual overextraction may continue from year to year, accumulatively not to exceed 1,000 ac-ft. for each city, so long as the unusual circumstances persist. When the unusual circumstances cease, the accumulated overextractions shall be replaced by underpumping, and must be done within a 6 yr.

period. The amount of such underpumping will not be required to exceed 10 percent of the annual allowed pumping of any party.

The party desiring to overextract from the basin shall notify the Watermaster of the circumstances considered to be unusual and shall justify the need for overextractions. The Watermaster shall review the existence and cessation of unusual circumstances and shall in his discretion approve the required overextraction and replacement operations.

8. Pursuant to Section 8.2.10 of the Judgment, a recalculation of the safe yield can be requested by any party in the event such recalculation appears to be necessary in accordance with the Watermaster's findings set forth in his annual report to the parties and Court.

9. All parties to this stipulation may make application to the Court regarding further evaluation or review of the parties pumping activities.

10. In any year, Los Angeles and San Fernando each have the right to store water in the Sylmar Basin by direct spreading or in-lieu practice (underpumping). The party causing the water to be stored shall have a right to extract an equivalent amount of groundwater from said basin. In addition to the safe yield pumping provided for herein, the

right to recapture stored water can be carried over into successive water years.

11. Provisions of this stipulation, in effect, amend the Judgment entered on January 26, 1979. Specific sections that are affected include the following: 4.2.6.2, 5.1.2.4, 5.2.2.1, 5.2.2.3, 9.5, and 10.2. To the extent that any inconsistency may exist between this stipulation and provisions of the Final Judgment, the provisions of this stipulation shall prevail.

DATED: March 21, 1984

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EDWARD C. FARRELL, Chief Assistant
City Attorney for Water and Power
STEPHEN R. POWERS, JR., Senior
Assistant City Attorney
RALPH GUY WESSON, Assistant
City Attorney

By
RALPH GUY WESSON
Attorneys for the City of Los Angeles
and its Department of Water and Power

APPROVED:
The City of San Fernando

By
Mayor

Attest
Donald E. Penman
City Clerk

ARTHUR KIDMAN
RUTAN AND TUCKER
Special Counsel

By
ARTHUR KIDMAN
Attorneys for the City of San Fernando

ROGER or CHARLES MEURER
MEURER ENG., INC.

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SUPERIOR COURT OF THE STATE OF CALIFORNIA

FOR THE COUNTY OF LOS ANGELES

THE CITY OF LOS ANGELES, Plaintiff, vs. CITY OF SAN FERNANDO, et al., Defendants.	No. 650079 ORDER OF COURT RE SYLMAR BASIN PURSUANT TO SECTION 10.2 OF JUDGMENT

Good cause appearing therefore and the court having reviewed the stipulation herein presented to the Court, and having fully approved the facts and settlement set forth therein, it is ordered, effective October 1, 1984, that:

1. The Cities of Los Angeles and San Fernando shall be limited in their pumping to bring the total pumping within the safe yield of the basin, less any rights exercised by the private parties, as follows:

   City of Los Angeles - 3,105 AF/YR.

   City of San Fernando - 3,105 AF/YR.

2. It is ordered that during years of unusual circumstances (as stated in paragraph 7 of the

stipulation), the parties (Los Angeles and San Fernando) shall have the right in any year to overextract from Sylmar Basin an amount not to exceed 10 percent of their allowed pumping, as set forth in paragraph 1 above.

The 10 percent overextraction may continue from year to year, accumulatively not to exceed 1,000 ac-ft, for each city, so long as the unusual circumstances continue. When the unusual circumstances cease, the accumulated overextraction shall be replaced by underpumping, and must be done within a 6 yr. period. The amount of such underpumping will not be required to exceed 10 percent of the annual allowed pumping of any party. The Wastermaster shall review the existence and cessation of these unusual circumstances (as detailed in paragraph 7 of the stipulation) and shall approve the required overextraction and replacement operations.

3. Any party to this stipulation may make application to the Court regarding pumping amounts stipulated hereto in the event hydrologic conditions in the Sylmar Basin change.

4. In any year, Los Angeles and San Fernando each have the right to store water in the Sylmar Basin by direct spreading or in-lieu practices (underpumping). The party causing the water to be stored shall have a right to extract an equivalent

amount of groundwater from said basin. In addition to the safe yield pumping provided for herein, the right to recapture stored water can be carried over into successive water years.

5. The Final Judgment, entered on January 26, 1979, is amended pursuant to changes set forth in this stipulation. The sections of the Judgment affected are listed in paragraph 11 of the stipulation.

DATED: March 22, 1984

HONORABLE HARRY L. HUPP
JUDGE OF THE SUPERIOR COURT

Appendix G: City Municipal Code & Ordinances

City of San Fernando 2010 Urban Water Management Plan

ORDINANCE NO. 1108

AN ORDINANCE OF THE CITY OF SAN FERNANDO PROHIBITING WATER WASTAGE AND PROVIDING PENALTIES FOR VIOLATION THEREOF, AND AMENDING PORTIONS OF CHAPTER 28 OF THE CODE OF THE CITY OF SAN FERNANDO, CALIFORNIA 1957.

THE COUNCIL OF THE CITY OF SAN FERNANDO DOES ORDAIN AS FOLLOWS:

SECTION 1: The City Council of the City of San Fernando hereby finds and determines that:

(1) This city, its industries, and residents rely to an extent upon water imported from outside the city boundaries;

(2) Many parts of the state rely heavily upon imported water;

(3) Rainfall for the current water year has been substantially below normal in the watersheds supplying these sources of imported water and there is a serious drought which is causing water shortages in many communities and farming areas of the state; and

(4) These shortages will cause this city, its residents, businesses, and industries to suffer adversely because (1) shortages in agricultural and industrial products may occur resulting in higher prices and (2) unemployment and decrease in economic activities may be felt statewide and, as a consequence, an active water conservation program is essential to protect against drought and help alleviate statewide shortages; and

(5) For the reasons expressed in this section, the City Council finds the water uses prohibited and restricted by this ordinance to be nonessential and to be injurious to the public health, if not suppressed or regulated, and to be waste

constituting a public nuisance and therefore should be prohibited pursuant to this city's authority to enact general police power regulations including its authority to prohibit nuisances.

SECTION 2: Definitions.

For the purposes of this ordinance, the following terms, phrases, words, and their derivations shall have the meaning given herein. When not inconsistent with the context, words used in the present tense include the future, words in the plural number include the singular number, and words in the singular number include the plural number. The word "shall" is always mandatory and not merely directory.

(1) "City" is the City of San Fernando.

(2) "Person" is any individual, firm, partnership, association, company, organization of any kind.

(3) "Water" is water supplied by the City of San Fernando.

SECTION 3: Application and Amendment City Code.

The provisions of this ordinance shall apply to all persons using water in this city, regardless of whether any person using water shall have a contract for water service.

That the number and caption of Sec. 28.9 of Chapter 28 of the Code of the City of San Fernando, California 1957, presently reading:

"Sec. 28.9. Violations; punishment"

be renumbered and amended to read:

"Sec. 28.15. Violations; punishment"

That Sections 4 through 9 of this ordinance are hereby added to said Chapter 28 of said Code and numbered respectively as Sec. 28.9, Sec. 28.10, Sec. 28.11, Sec. 28.12, Sec. 28.13, and Sec. 28.14, and said Code be and the same is hereby so amended.

SECTION 4: Prohibitions.

(1) Gutter flooding

No person shall cause or permit any water furnished to any property within the city to run or to escape from any hose, pipe, valve, faucet, sprinkler or irrigation device into any gutter or otherwise to escape from the property if such running or escaping can reasonably be prevented.

(2) Washing hard surfaced areas

No person shall use any water furnished to any property within the city to wash sidewalks, walkways, driveways, and parking lots, by hosing.

(3) Irrigation

No person shall water or irrigate any shrubbery, trees, lawns, grass, ground covers, plants, vines, gardens, vegetables, flowers, or other vegetation between the hours of 10:00 a.m. and 4:00 p.m.

(4) Ornamental facilities

No person shall refill any fountain, pool, or other facility containing water solely for ornamental purposes emptied during the effectiveness of this ordinance.

(5) Leaks.

No person shall permit leaks of water which he has the authority to eliminate.

(6) Restaurants

Restaurants shall only serve water to customers upon request.

(7) No person shall cause or permit water under his control to be wasted.

SECTION 5: Exemptions.

Persons may be exempted from application of this

ordinance to a certain type of use if the City of San Fernando's public works director issues a permit allowing such use and if such permit issuance is based on a finding that enforcement of the applicable restriction would either: (1) cause an unnecessary and undue hardship to the applicant or the public; or (2) would cause or threaten an emergency condition affecting the health, sanitation, fire protection, or safety of the applicant or the public.

The public works director may require the use of such water conservation devices or practices as he deems appropriate as a condition of the exemption permit. He shall promulgate a list of approved devices.

SECTION 6: Enforcment.

(1) The public works director, the fire chief, and water superintendent of the City of San Fernando have the duty and are hereby authorized to enforce the provisions of this ordinance and shall have all the powers and authority contained in California Penal Code Section 836.5, including the power to issue written notice to appear.

(2) Each law enforcement officer of the City of San Fernando shall, in connection with his duties imposed by law, diligently enforce the provisions of this ordinance.

SECTION 7: Penalties.

Prior to enforcement pursuant to the preceding section any person who is suspected of violating this ordinance shall be given a preliminary notice in writing of such violation, with the description of violation set forth in such preliminary notices. Such person shall have 24 hours to correct such violation, or terminate the use. If the violation is not corrected or the use terminated, the Water Division may forthwith either

(a) disconnect service; (b) install flow-restricting devices restricting water service, or (c) order issued a second preliminary notice. Service disconnected or restricted pursuant to (a) or (b) shall be restored only upon payment of the turnon and other charges fixed by Chapter 23 of the City Code or the rules and regulations of the Water Division of the City. Any person who has received a preliminary notice of violation of a particular provision of this ordinance and against whom the Water Division has taken action pursuant to this section and who has not corrected or terminated the use, or at a subsequent time violates the same provisions of this ordinance, regardless of whether the type of use was previously specified in any preliminary notice of violation, shall be guilty of a misdemeanor, punishable by a fine of not more than $300.00 or imprisonment in the county jail for not more than 30 days, or both such fine and imprisonment.

Each day any violation of this ordinance is committed or permitted to continue shall constitute a separate offense and shall be punishable as such hereunder.

SECTION 8: Nonapplication of ordinance.

This ordinance shall be inoperative to the extent any regulations and restrictions adopted pursuant to Division 1, Chapter 5, of the Water Code conflict.

SECTION 9: Severability of parts of ordinance.

It is hereby declared to be the intention of the City Council that the sections, paragraphs, sentences, clauses, and phrases of this ordinance are severable, and if any phrase, clause, sentence, paragraph, or section of this ordinance shall be declared unconstitutional or otherwise invalid by the valid judgment or decree of a court of competent jurisdiction, such

unconstitutionality or invalidity shall not affect any of the remaining phrases, clauses, sentences, paragraphs, and sections of this ordinance.

SECTION 10: Effective date.

This ordinance shall take effect thirty (30) days after the date of its adoption and, prior to the expiration of fifteen (15) days from the passage hereof, shall be published at least once in The San Fernando Valley Sun, a newspaper published and circulated in the City of San Fernando, and thereupon and thereafter the same shall be in full force and effect."

ADOPTED AND APPROVED this 20th day of June, 1977.

MAYOR

ATTEST:

CITY CLERK OF THE CITY
OF SAN FERNANDO.

STATE OF CALIFORNIA)
COUNTY OF LOS ANGELES) ss.
CITY OF SAN FERNANDO)

I, THERESE MARTIN, City Clerk of the City of San Fernando, do hereby certify that the foregoing ordinance was duly adopted by the Council of the City of San Fernando, California and signed by the Mayor of said City at a regular meeting of the City Council held on the 20th day of June, 1977, and that the same was passed by the following vote:

AYES: Diaz, Dick, Harris, Loomis, Sagor-5

NOES: None-0

ABSENT: None-0

Therese M. Martin
THERESE MARTIN, CITY CLERK OF
THE CITY OF SAN FERNANDO.

URGENCY ORDINANCE NO. U-1319

AN URGENCY ORDINANCE OF THE CITY COUNCIL OF THE CITY OF SAN FERNANDO PROVIDING REGULATIONS LIMITING THE ISSUANCE OF ANY PERMIT OR APPROVALS FOR DEVELOPMENT WHICH WOULD GENERATE ADDITIONAL SEWAGE DISCHARGE INTO THE HYPERION TREATMENT SYSTEM

THE CITY COUNCIL OF THE CITY OF SAN FERNANDO DOES HEREBY ORDAIN AS FOLLOWS:

WHEREAS, the City of Los Angeles operates a sewer system referred to as the Hyperion Treatment System; and

WHEREAS, the City of San Fernando utilizes the Hyperion Treatment System for disposal of its sewerage on a contractual basis with the City of Los Angeles; and

WHEREAS, the City of Los Angeles has sought the cooperation of the City of San Fernando and other entities addressing certain alleged emergency health and safety issues regarding the Hyperion Treatment System; and

WHEREAS, the City of Los Angeles has represented to the City of San Fernando that the alleged emergency health and safety issues regarding the Hyperion Treatment System are as follows:

1. The Hyperion Treatment System has the capacity to treat approximately 480 million gallons per day of sewage;
2. Said System is presently treating approximately 440 million gallons per day;
3. Over the past five (5) years the sewage being discharged into the Hyperion Treatment System has increased at the rate of approximately ten million gallons more per day per year with said increases growing over the last four (4) years;
4. Until expansion of the Tillman Water Reclamation Plant is completed the Hyperion Treatment System is limited to approximately 480 million gallons per day;

5. If said increased use of the Hyperion Treatment System continues, it will have reached its present full capacity before completion of additional facilities to handle additional capacities;

6. Uncontrolled future increases in the use of the Hyperion Treatment System could result in overloading the Treatment System with subsequent decrease in treatment quality leading to possible pollution of Santa Monica Bay and damage to the Hyperion Treatment System; and

7. The City of Los Angeles cannot remedy the current overload problems without the cooperation of the City of San Fernando in limiting the issuance of permits for development which would generate additional sewerage discharge into the Hyperion Treatment System.

WHEREAS, implicit in the City of Los Angeles' representations is the further representation that the City of Los Angeles has taken, and will continue to take, certain requisite actions to limit sewage flows and further development within the City of Los Angeles, itself, and within those entities which contract with the City of Los Angeles for sewerage disposal services; and

WHEREAS, an efficient operating Hyperion Treatment System is necessary for the health, safety, welfare and convenience of the citizens of the City of San Fernando in that the City of San Fernando utilizes the Hyperion Treatment System in the disposal of sewage; and

WHEREAS, the City of San Fernando wishes to voluntarily participate in the resolution of the sewage disposal problem by limiting the future discharge of sewage into the Hyperion Treatment System from development within its jurisdiction; and

WHEREAS, the limitation of future discharge into the sewage system necessarily involves limiting the number of building permits which may be issued for future growth in the City; and

WHEREAS, this ordinance will provide for the allocation of the limited number of building permits which will be available, on a rational basis consistent with the General Plan, a logical growth management policy, and other applicable criteria;

WHEREAS, the City Council finds that this ordinance is necessary for the immediate preservation of the public health, safety, welfare and convenience of its citizens.

NOW, THEREFORE, the City Council of the City of San Fernando does hereby ordain as follows:

SECTION 1: ESTABLISHMENT OF REGULATIONS.

The City Council hereby establishes regulations, as defined by this Ordinance, for the issuance of building permits, for any project which discharges sewage into the Hyperion Treatment System. The provisions of this Ordinance shall remain in effect until the San Fernando City Council determines that adequate capacity exists or that the representations by the City of Los Angeles, express or implied, regarding the extent of the alleged emergency or the necessity of the City of San Fernando's participation in its solution, are in any way inaccurate.

SECTION 2: DEFINITIONS.

The following words and phrases, whenever used in this Ordinance, shall be construed as defined in this Section. Words and phrases not defined herein shall be construed as defined in the San Fernando Municipal Code, if defined therein.

A. "Allotted Sewer Capacity" -- The determination made by the City Engineer or his designate as to how much additional treatment capacity in the Hyperion Treatment System can be allowed for the particular month involved, based on a monthly allotment of 2,168 gallons per day flow

rate plus any unused capacity from prior months, so as to attempt to keep the annual sewer use increase from Projects, tributary to the Hyperion Treatment System, within 26,017 gallons per day on an annual basis, provided, however, that such monthly allotment may be reduced or increased by the City Council based upon the recommendation of the City Engineer. The monthly allotment shall include Priority Projects. Ten percent (10%) of the monthly allotment shall be set aside for Priority Projects as determined pursuant to Section 6(b) hereof. The balance of the Allotted Sewer Capacity shall be allotted so as to provide thirty-five (35) percent of such allocation for residential Projects and sixty-five (65) percent of such allocation for all other Projects.

B. "Hyperion Treatment System" -- The systems of sewage conveyance lines that carry sewage to the Los Angeles-Glendale Water Reclamation Plant, the Tillman Water Reclamation Plant and/or the Hyperion Treatment plant and such plants.

C. "Low and Moderate Income Housing Projects" -- Except as provided herein: (1) As to rental units, any new construction or rehabilitation Project subject to a recorded rent regulatory agreement of a duration of at least thirty (30) years, provided such rent regulatory agreement provides that at least fifty (50) percent of the Project's units less one (1) unit be at rents affordable to households earning eighty (80) percent or less, or at least forty (40) percent of the Project's units be at rents affordable to households earning sixty (60) percent or less, or at least twenty (20) percent of the Project's units be at rents affordable to households earning fifty (50) percent or less of the Los Angeles County median income as determined periodically by the Federal Department of Housing and Urban Development ("HUD") and Section 142 and 143 of the Internal Revenue Code; or (2) As to owner occupied homes, any new construction Project consisting of home ownership by a first time

purchaser where the developer records a covenant which provides that at least forty (40) percent of the homes be at prices affordable to households earning one hundred fifteen (115) percent, or less, of the Los Angeles County median income, as determined and amended periodically by HUD and Sections 142 and 143 of the Internal Revenue Code. The term "home" or "homes" as used herein includes condominiums. The term "first time purchaser", as used herein shall be interpreted as defined by the City in the administration of its housing programs. Such regulatory agreement or covenant must be approved by the City. Also included within this definition are one hundred (100) percent low-income senior citizen, and one hundred (100) percent low-income family, housing Projects financed by HUD or the California Housing Finance Agency.

D. "Priority Projects" -- A Project as defined in Section 6 hereof.

E. "Project" -- The erection, construction, or changes of use, of any building or structure which requires the payment of a sewerage facilities charge.

F. "Replacement Project" -- A Project which completely replaces another building or structure and involves a use which does not increase the amount of sewage discharge over the amount of the building or structure it replaces.

G. "Sewage" -- The spent water received by the sewer system. From the standpoint of source, it may be a combination of the liquid and water-carried wastes from residences, commercial buildings, industrial plants and institutions.

SECTION 3: PROCEDURE.

Before the Building and Planning Department formally accepts a set of plans and specifications for checking as to a particular Project, the Department of Public Works shall determine if there is Allotted Sewer Capacity available for that month for such Project, provided, however, the Department of Public Works shall not make such determination

unless the Building and Planning Department has determined that such plans and specifications are acceptable for checking. If the Department of Public Works determines such capacity, based on Allotted Sewer Capacity, is available for such Project, and the appropriate sewerage facilities charge is paid, the Building and Planning Department may then accept the plans and specifications for checking upon the payment of a plan checking fee.

If the Department of Public Works determines that there is insufficient sewer capacity available for that month for such Project, the application shall be denied without prejudice to reapplication and the applicant shall be placed on a waiting list for the next available allotment for such Project after Priority Projects, provided, however, the Building and Planning Department may accept a set of plans and specifications for plan checking even if the application is so denied by the Department of Public Works if the owner of the real property which is being utilized for the Project consents thereto. The procedures provided for herein shall not be implemented until the administrative procedures provided for in Section 5 hereof are adopted.

If at the time the sewer connection permit is issued there has been an increase in the amount of sewerage facilities charge greater than the amount paid as provided above, such additional charge shall be paid before sewer connection permit issuance.

SECTION 4: EXCEPTIONS.

The provisions of this Ordinance shall not apply to any of the following Projects:

(a) Any Project that has been approved, or has a complete set of building plans on file, on or before July 5, 1988, and no subsequent changes are made to the Project or plans which increase the height, floor area or occupant load by more than five (5) percent.

(b) A proposed Project which will have a net zero flow addition of sewage through offsets, either onsite or offsite, within the City, by retrofit.

(c) A replacement Project which will have a net zero flow addition of sewage.

(d) Room additions to single family residential structures.

SECTION 5: ADMINISTRATIVE PROCEDURES.

An interdepartmental task force composed of representatives of the Department of Public Works and the Building and Planning Department, under the chairmanship of the City Engineer, shall develop administrative procedures, as necessary, for implementation of this Ordinance. Such administrative procedures shall be subject to approval, or amendment, by the City Council.

SECTION 6: PRIORITY PROJECTS.

Subject to the allottment percentages contained in Section 2.A, the City Engineer shall designate the following types of Projects to have the next monthly Allotted Sewer Capacity, in order of their application, provided, however, that those Priority Projects defined by Subsection (c) hereof, shall have first priority if the utilization of the septic system is found by the Los Angeles County Health Department or other appropriate governmental agency to constitute a health hazard:

(a) Low and Moderate Income Housing Projects, as defined in Section 2.C hereof;

(b) A Project the City Council, acting in its legislative capacity, finds by at least 2/3's vote and based on satisfactory evidence, will benefit the public health, safety or otherwise provide a public benefit. If the City Council fails to act on a written

request of an applicant for priority under this subsection within forty-five (45) days after such written request is filed with the City Clerk, said request shall be deemed denied. Projects coming within the provisions of this subsection will have available for their utilization five percent of the monthly Allotted Sewer Capacity. The procedures set out herein will be in effect until subsequently modified by the City Council by ordinance.

(c) Buildings now discharging sewage into an existing septic system at such time as they are connected to the sewerage system.

If any, or all, of the Priority Projects enunciated in this section are found to be unconstitutional, or invalid, by any court of competent jurisdiction, such invalidity shall not affect the remaining provisions of this section or this Ordinance which can be implemented without this invalid section, or part thereof, and to this end, the provisions of this section are declared severable.

SECTION 7: DISALLOWED PROJECTS.

Due to the alleged serious nature of the sewage capacity problems facing the City and the impact of heavy water-using projects on said capacity problems, the following uses shall not be allowed as new uses within the City: car washes (including, but not limited to, coin-operated and in bay car washes); food processing plants; gas stations; laboratories (commercial or industrial); laundromats; plating plants; waste dumps; and other similar-type uses. Property owners who wish to utilize their properties with any of the above uses may appeal to the City Council to allow said uses. The Council may, by 4/5s vote and based upon special circumstances, allow such uses in exceptional circumstances.

SECTION 8. APPEAL TO THE CITY COUNCIL.

Any person adversely affected by the decision of the City Engineer, the Department of Public Works or the Building and Planning Department may appeal to the City Council for a public hearing thereon. The grounds for such appeal shall be that the City Engineer, the Department of Public Works or the Building and Planning Department have not acted in accordance with the terms of the Ordinance, the Administrative Procedures adopted pursuant hereto, or have made incorrect factual determinations.

All appeals shall be filed by lodging with the City Clerk a written request for a public hearing and the grounds for the appeal. All such appeals shall be filed within fifteen (15) days of the disputed decision and shall be accompanied by a filing fee of $250.00.

SECTION 9. SEVERABILITY.

If any provision of this Ordinance is found to be unconstitutional or invalid by any court of competent jurisdiction, such invalidity shall not affect the remaining provisions of this Ordinance which can be implemented without this invalid provision, and, to this end, the provisions of the Ordinance are declared severable.

SECTION 10. The City Clerk of the City of San Fernando shall certify to the passage and adoption of this Ordinance and shall cause the same to be posted and published in the manner required by law.

PASSED, APPROVED, and ADOPTED this 15th day of Aug. 1988.

Ronald Gibson
MAYOR

ATTEST:

Donald E. Penman
CITY CLERK

STATE OF CALIFORNIA)
COUNTY OF LOS ANGELES) ss
CITY OF SAN FERNANDO)

I, DONALD E. PENMAN, City Clerk of the City of San Fernando, California, do hereby certify that the foregoing

Ordinance was adopted as an urgency ordinance at a regular meeting of the City Council of the City of San Fernando held on the 15th day of Aug, 1988, and was carried by the following roll call vote, to wit:

AYES: Acuna, Hansen, Margarito, Franco, Richardson - 5

NOES: None - 0

ABSENT: None - 0

Donald E. Penman
CITY CLERK

8/102/063060-0028/02

ORDINANCE NO. 1408

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF SAN FERNANDO ADOPTING RULES AND REGULATIONS FOR THE WATER DIVISION OF THE CITY OF SAN FERNANDO AND FIXING RATES AND CHARGES FOR SERVICE, PROVIDING FOR THE ANNUAL INCREASE THEREOF, PRESCRIBING PENALTIES FOR VIOLATIONS OF SUCH RULES AND REGULATIONS, AND RESCINDING CERTAIN RESOLUTIONS:

THE CITY COUNCIL OF THE CITY OF SAN FERNANDO DOES HEREBY ORDAIN AS FOLLOWS:

SECTION 1. Chapter 28 (water) of the Code of the City of San Fernando is hereby amended to add Article IV to read it its entirety as follows:

"ARTICLE IV WATER RATES AND CHARGES

SECTION 28.25 WATER RATES AND CHARGES

The following quantity water charge and service charge according to water meter size are hereby established and shall be charged and collected by the City for all water sold, supplied, distributed, or transported to or for consumers situated in the City and shall be applicable to all metered water within the City for which no other rate is specified:

		Per Meter Per Bi-Monthly Period
(1)	Commodity Charge	
	a. For each 100 cubic feet (1 unit) except as provided below.	$0.78
	b. Lifeline - For each 100 cubic feet (1 unit), up to 2,000 cubic feet, for households with combined annual household income of less than $15,300.00	$0.66
(2)	Service Charge (To be added to Commodity Charge)	

The service charge hereinafter set forth for the size of meter through which water is served shall be added to the commodity charge set forth above.

Size of Meter	Per Bi-monthly Period
3/4 inch and smaller	$ 15.50
Lifeline - 3/4 inch and smaller (for dwelling units with gross annual household income of less than $15,300.00)	
1 inch	$ 13.25
1-1/2 inch	$ 21.00
2 inch	$ 34.75
3 inch	$ 49.50
4 inch	$ 82.50
6 inch	$125.00
8 inch	$228.00
	$333.00

SECTION 28.26 LIFELINE RATE

A Lifeline Rate shall be available for any dwelling unit in which the household combined adjusted gross income (as used for purposes of the California Personal Income Tax Law) of all members of the household is less than fifteen thousand, three hundred dollars ($15,300) for the prior calendar year.

SECTION 28.27 FEES AND CHARGES

The following fees and charges will be collected as required:

1.	Security Deposit for new Applicant (Section 28.51)	$ 60.00
2.	Security Deposit (minimum) Delinquent Accounts (Section 28.73)	$100.00
3.	Delivery Fee per unit for Final Disconnection Notices (Section 28.71)	$ 5.00
4.	Administrative/Reconnection Fee (Sections 28.72, 28.76)	$ 30.00
5.	Tampering with Meter (Section 28.75)	$ 35.00
6.	Reinstallation Fee if Meter has been removed (Section 28.81)	$ 35.00
7.	Reinstallation Fee for Inactive Meter (Section 28.80)	$ 35.00

8. Returned Check Fee (Section 28.76) $ 10.00

SECTION 28.28 Purchased Water Adjustment

The commodity charges under each service scheduled in Section 28.25 shall be subject to an overriding unit adjustment to be applied to each 100 cubic feet of water sales to reflect changes in the "Cost of Purchased Water" as defined below.

Determination of the overriding unit adjustment shall be made from City accounting records six (6) times yearly for each of the twelve-calendar-month periods ending with the last day of January, March, May, July, September, and November as follows: the annual cost of all water purchased for distribution by the City shall be divided by the Department's total water sales (in units of 100 cubic feet) for the same twelve-month period. The quotient so obtained shall be expressed to the nearest $0.0001 per 100 cubic feet of water, and shall be multiplied by all units of 100 cubic feet of water sales as shown on customer billings for a period of water use regularly scheduled to end within the second and third billing months following the twelve-month period used for the unit adjustment computation. The resultant product in each case shall be expressed to the nearest $0.01 and, unless otherwise provided therein, shall be the total overriding adjustment to be added to each water service billing.

Cost of Purchased Water shall include the total cost to the City of all water delivered to the Department's system from the Metropolitan Water District or other suppliers. Reimbursements received by the City for purchased water costs which are or have been included in the calculation of the overriding unit adjustment, shall be included as a credit in the determination of the "Cost of Purchased Water" for the month in which such reimbursement is received.

SECTION 28.29 INSTALLATION AND CAPITAL FACILITY CHARGES

The following installation charges and capital facility charges are hereby established, and shall be charged and collected by the City for making all water connections for consumers situated within the City, and said rates shall be paid before such connections are made.

In the case of service connections larger than one inch (1"), the installation charges listed below shall constitute deposits against the actual cost of the labor, materials and equipment plus thirty-five percent (35%) overhead expended by the City in the installation. Upon the completion of such work, said actual cost, including overhead, shall be deducted from the paid deposit, and any excess of the deposit over such cost shall be refunded. In the event the actual cost, including overhead, exceeds such deposit, the applicant for such service connection shall, upon demand, pay the same to the City, and for failure to pay such excess to the City, the City shall have the right to refuse water service through such meter and to turn the water service off and/or disconnect the same.

User Classification	Capital Facility Charge	Installation Charge or Deposit	Total Connection Charge
(a) Residential (per dwelling unit)	$ 1,000	$ 2,500	$ 3,500
(b) Commercial/Institutional/ Industrial (Water meter size)			
3/4 inch	$ 1,000	$ 2,500	$ 3,500
1 inch	$ 1,700	$ 2,550	$ 4,250
1-1/2 inch	$ 3,400	$ 3,000	$ 6,400
2 inch	$ 5,400	$ 3,500	$ 8,900
3 inch	$10,100	$ 7,000	$17,100
4 inch	$16,800	$11,000	$27,800
6 inch	$33,600	$15,000	$48,600
8 inch and over	$53,700	$19,000	$72,700
(c) Fire Service Connection, Unmetered (1/3 of metered service + installation)			
Size			
2 inch	$ 1,800	$ 3,500	$ 5,300
3 inch	$ 3,300	$ 7,000	$10,300
4 inch	$ 5,600	$11,000	$16,600
6 inch	$11,200	$15,000	$26,200
8 inch and over	$17,900	$19,000	$36,900

The Fire Hydrant Installation Charges are set as follows:

1. Change fire hydrant top - remove single hydrant and install 4" X 4" or 4" X 2 1/2" double wet-barrel fire hydrant.

   Deposit* $ 1,500

2. New 6" wet-barrel fire hydrant 4" X 4", 4" X 2 1/2", including 6" Gate Valve, 6" lateral and appurtenances, connection to existing mains.

   Deposit* $ 5,000

* For service connections and installations wherein deposit is required, the actual cost of labor, equipment and materials plus 35 percent (35%) overhead shall be computed after completion of work. Said cost shall be deducted from said deposit and any excess of the deposit over such cost shall be refunded to the person originally making such

deposit. In the event the aggregate cost including City overhead exceeds such deposit, the applicant for such service connection shall upon demand, pay the additional amount to the City and for failure to pay such excess to the City, the City shall have the right to refuse water service through such meter and turn the water off and/or disconnect the same.

SECTION 28.30 EDDY VALVES AND METERS FOR CONSTRUCTION WORK

The following charges are hereby fixed and established for the use of water from construction meters furnished by the City:

Construction Water Rate:
$1.40 per one hundred cubic feet, plus
$1.50 charge per calendar day.

Deposit:
$850.00 for a 3" meter and eddy valve, or as determined by the Director for larger sizes.

Administration Charge:
$100.00 with a signed application by an authorized person.

Charges for water usage and daily fee shall be billed quarterly, or sooner if indicated by usage.

Said deposit for the construction meter shall be returned to the person depositing the same less charges for water and daily use, upon return of the device in satisfactory condition to the Water Superintendent.

Construction water rates will be charged to all contractors or persons that use the city water system for temporary water including contractors for city construction and maintenance projects.

SECTION 28.31 PRIVATE FIRE PROTECTION CHARGE

The rates herein set forth shall apply to a customer having a private on-site fire service used exclusively for fire protection, whether said lines be connected to automatic sprinkler system or hose attachment, but does not include on-site fire hydrants:

Size of Service	Bi-Monthly Charge For Service
2 inch or smaller	$ 47.00
3 inch	$ 70.00
4 inch	$ 93.00
6 inch	$141.00
8 inch	$187.00
10 inch	$233.00
12 inch	$280.00

SECTION 28.32 ON-SITE FIRE HYDRANT CHARGES

Private on-site fire hydrant rates shall be those shown on the following table:

Size of Hydrant	Bi-Monthly Charge Per Hydrant
4 inch	$ 57.00
6 inch	$ 84.00
8 inch	$112.00

Water consumption recorded by the detector check valve by-pass meter and used for purposes other than for fire sprinkler system testing or extinguishing purposes shall be discontinued immediately. Continued violation will result in the Water Department's shutting off the fire service or requiring a new meter to be installed at the customer's expense and changing the applicable water rate schedule to that shown under Section 28.25.

SECTION 28.33 BACKFLOW PREVENTION FEE

An administrative fee of $5.00 per month per connection shall be charged to all utility accounts that have a Backflow Prevention Device installed on the service connection to cover the cost of the administration of the annual inspection and testing program.

SECTION 28.34 ANNUAL INCREASE

On July 1, 1993 and on July 1 of each year thereafter, the then-existing rates imposed under this Article, Sections 28.25, 28.29, 28.31 and 28.32 shall automatically increase by the percentage increase, if any, in the Consumer Price Index for All Urban Consumers for Los Angeles - Anaheim - Riverside (1982-84 equals 100) as published by the United States Department of Labor, Bureau of Labor Statistics ("Index"), rounded to the nearest cent. Said increases shall be cumulative. In determining the percentage increase, the Index for the month of May immediately preceding the adjustment date shall be compared with the Index for the like month of the previous year. In no event, however, shall the rates imposed herein be adjusted downward to reflect a percentage decrease in the Index.

(SECTION 28.35 THRU 28.39 RESERVED)

SECTION 28.40 RIGHT OF ENTRY

Any authorized official or employee of the City shall have the right of entry into buildings or premises regulated by chapter 28 of the City Code during reasonable hours for the purpose of inspection, checking, changing, or reading water meters installed in such dwellings or premises. The employees of the City so designated shall be furnished with appropriate identification which shall be displayed on request.

If any authorized inspector, foreman, or employee of the City is refused admittance to any premises supplied by water by the City or on being admitted is hindered or prevented from making such

examination, reading, or inspection due to the maintenance on said premises, by a dog, or dogs, or animals, or for any other reason, the Water Superintendent or Director may cause the service of water to said premises to be discontinued after giving written notice to the owner or occupant of his intention to do so. Said notice shall be deemed served upon the owner or occupant thereof if it is mailed to his last known address and a copy thereof mailed to said premises if his mailing address is not at the same premises. The service of water may be discontinued until the owner or occupant has given satisfactory assurance to the Water Superintendent or Director that any inspector, foremen, or employee will not be hindered or prevented from making the examination, reading or inspection.

SECTION 28.41 WATER DEPARTMENT PROPERTY USE OR TRESPASS

It is unlawful for any person to open any fire hydrant, street hydrant, stop cock gate valve, or to interfere in any manner with any street water service, water connection, or any water meter attached to any service pipe connected with the water mains or to turn on or off water mains or water pipes of the City or to tap, break, or injure any water main or water pipe of the City or any reservoir or to tap any water service pipe or to take or draw water from any water main, pipe, or hydrant of the City without first having made written application for water service, as provided in this Chapter 28 and paying the established water rate or service charge. It shall be unlawful for any person to trespass upon the public property of the Water Department without written permission from the Water Superintendent, or Director.

SECTION 28.42 REPAIRS TO WATER MAINS, METER, AND LINES

The City shall at its own expense make all repairs necessary to water mains, meters, and pipe lines connecting with water mains. The City shall make no repair or do any work whatsoever on the water pipe line beyond the meter connection. Any repair made necessary by any act of negligence or carelessness by the consumer or any other person shall be charged to and collected from the consumer or the persons responsible. The City will in no case be liable for damage occasioned by water running from an open or faulty fixture or from broken or damaged pipe beyond the City's meter.

SECTION 28.43 TURNING WATER OFF OR ON IN EMERGENCY

The Water Department shall have the power and authority to turn off the water supply without notice in case of any emergency, disaster, or for the purpose of repair, replacement, construction, reconstruction of any water line or appurtenant part of the City's water system, or the installation of any meter, or for the failure to pay any water bill or other charge of the Water Department within the times and in the manner prescribed in this Chapter. The Director or Water Superintendent shall make reasonable effort to notify all consumers prior to such emergency that the water is to be turned off or on.

SECTION 28.44 SUPPLYING TO OTHER THAN OCCUPANT OF PREMISES

It is unlawful for any person to supply water to any other person other than the occupants of the premises of such consumer.

SECTION 28.45 STREET NUMBERS

No applicant for water service shall be entitled to the same until the building or premises where such water is to be furnished is numbered as required by Article VI of Chapter 23 of the City Code and such number given to the Water Department.

(SECTION 28.46 THRU 28.49 RESERVED)

SECTION 28.50 SERVICE APPLICATION FORM

Before any water will be supplied by the City to any person who requires service from the City owned water system to water pipes on any real property, the owner or occupant of the property shall make a written application in the Finance Department for such service and service connection upon a form provided in the Finance Department of the City.

SECTION 28.51 SERVICE APPLICATION DEPOSIT

A security deposit will be required unless the applicant for service has had a previous utility account with the City of San Fernando within the prior 24 months, and has regularly paid all bills for water from the City promptly for twelve (12) months immediately prior to closing that service account. If an applicant cannot qualify for credit under the above provisions, he shall make a security deposit in the amount set forth in Section 28.27. However, the owner of the property, or his authorized agent, may guarantee payment for the tenant and such guarantee shall be accepted provided the owner's credit has been established as provided herein. Where such service is for commercial uses, the security deposit required may be twice the average monthly bills of consumers of his class.

After twelve (12) payments have been made in the month in which they were due for monthly billing, or after six (6) payments have been made in the month in which they were due for bi-monthly billing, the deposit will be credited to the depositor.

SECTION 28.52 CONSUMER MOVING INTO LOCATION

When a consumer moves into a place of business or residence from which water service was not previously discontinued and does not call at the office and make proper arrangements for service within a period of three (3) days, the service will be discontinued and the administrative/reconnection service charge collected before service is again resumed.

SECTION 28.53 TURNING ON WATER SUPPLY

When turning on the water supply as requested and the house and property is vacant, the City will endeavor to ascertain if water is running on the inside of the building. If such is found to be the case, the meter will be left shut off at the curbcock on

the inlet side of the meter or on the outlet side at the customer hand valve between the house and the meter and a notice will be left at the property stating why water was not turned on. All property owners for their own convenience and safety must have a customer owned wheel valve at some convenient place between the meter and the building.

SECTION 28.54 WATER SERVICE DISCONTINUANCE

Upon notification by the owner or occupant of a building or premises to have the water shut off, the City shall have the water shut off on the supply side of the meter within forty-eight (48) hours of receiving written notice to discontinue service. At that time the meter reading shall be recorded and a bill rendered which shall include a cost for the amount of water used according to the rates and charges provided and for the prorated monthly minimum service charge due for the fractional part of the current billing period.

The person last accepting responsibility for the water utility account shall be responsible for all charges and fees until notification is received by the Service Office to close the account in the name of that person. A valid forwarding address is also required to relieve the consumer of liability for the water utility bill.

SECTION 28.55 TEMPORARY SERVICE

Any applicant for temporary service shall be required to deposit the estimated cost of the facilities required and the water to be used. Upon discontinuance of use, payment will be adjusted to the actual cost to the City of placing and removing meter, connection, etc. and the water consumed will be billed at regular rates.

SECTION 28.56 PERSONS RESPONSIBLE FOR PAYMENTS

The owner of any premises is and shall be responsible for payment of any and all water and service charges applicable to premises owned by him. It shall be and it is hereby made the duty of each such owner to ascertain from the City the amount and due date of any such charge applicable to the premises owned by him and to pay such charge when due and payable. It also shall be and it is hereby made the duty of all owners of all premises to inform the City immediately of all circumstances and of any change or changes in any circumstances which will in any way affect the applicability of any charge to premises owned by him or the amount of any such charge. In particular, but not by way of limitation, an owner of any premises shall immediately inform the city clerk of any sale or transfer of such premises by or to such owner.

Whenever the property is vacant or unoccupied and the owner or his authorized agent or lessee notifies the City in writing that until further notice no water will be required on said premises, then there shall be no charge for water on said premises from the time of notifying the city until further notice is given by such owner or agent or lessee that the discontinued service be resumed.

SECTION 28.57 PRIOR DELINQUENT BILLS

An applicant may be refused service if he has previous delinquent and unpaid bills for water service at another location served by the City, or other delinquent or unpaid City bills, licenses, fees, permits, or other charges.

SECTION 28.58 SUPPLANTED SERVICE

In the event the City Public Works Improvements interfere with existing water service to a consumer provided by a supplier other than the City, the City may, upon agreement of all parties affected, provide such water service instead of such other supplier. The City reserves the right and power to contract separately with any such consumer for the sale and delivery of water at times, places and prices to be fixed by the City Council. The Council may agree to furnish water to such consumer at prices equivalent to those paid by City consumer to the supplanted supplier if it finds the City benefits thereby.

(SECTION 28.59 RESERVED)

SECTION 28.60 BILLING

Meters shall be read as near monthly as possible where the billing is to be monthly and as near bi-monthly as possible where bi-monthly billing is to be used. The Finance Director shall, as soon as practical, after the first day of the month succeeding the month for which the charges were incurred in case of monthly billing, and the first day of the month succeeding the two month period in which the charges were incurred in the case of bi-monthly billing, mail or deliver to each consumer a statement of water service charges for the preceding month or two month period as the case may be. All charges shall be due and payable at the office of the City Treasurer on the first day of the next succeeding month following the month in which said charges were incurred and shall become delinquent at midnight on the last day of said month. In the event of bi-monthly billing by the City, then such water service charges shall become due on the first day of the first month following the bi-monthly period for which said charges are billed and the same shall become delinquent at midnight on the last day of said month.

Payment for such service charges made by United States Mail where the envelope containing such payments is properly addressed, bears sufficient postage, and is postmarked at any time prior to midnight of the day on which such charges would otherwise become delinquent shall be accepted as payment before delinquency. If the day on which the payment of charges would otherwise be delinquent falls on a Saturday, Sunday, or holiday, then the next full business day thereafter shall be considered as a day on which the delinquency occurs.

San Fernando City Hall is the only authorized paying station. If paid elsewhere, the City is not responsible if payment is delayed in reaching the office and penalties for late payment will be charged.

SECTION 28.61 NON-RECEIPT OF BILLS

The City is responsible for delivering the bills to the United States Postal Service. Failure of the consumer to receive a bill from the United States Postal Service does not relieve the consumer of the requirement for payment, nor is non-receipt of a bill cause to remove a penalty from the account.

SECTION 28.62 REGISTRATION FAILURE - BILL ESTIMATION

In the event that a water meter fails to register during any month a charge will be made upon the amount of water used during the same month of the previous year. In the event there was no meter at the premises in question during the previous year a charge will be made upon the estimate fixed by the Water Superintendent or Director which shall be paid by the consumer.

SECTION 28.63 WATER USE

In all cases the City will assume that water has been used where any person or persons have had the opportunity to use same and even though they may not have used any water during the month or billing period they will not be entitled to any rebate from the regular rate provided in such cases unless they have notified the City in writing to discontinue such service.

The City's regular rates for water shall be charged in every instance for premises vacated until the City shall have been notified in writing by the owner or his agent and filed with the Service Clerk in the Water Department of the discontinuance of the use of water upon such premises.

SECTION 28.64 LIABILITY

If after water service has been discontinued but before the service is reconnected for the new customer, the meter indicates water has been used, the owner of the property shall be responsible for charges incurred during the discontinued period.

SECTION 28.65 RECORDS

The City shall keep a complete set of books or accounts showing all financial transactions with reference to the City Water Department and shall make or cause to be made all collections for water service.

SECTION 28.66 DISPUTE SETTLEMENT

If a dispute arises between any water consumer and the City concerning water service or the amount of water bill to such consumer, the dispute may be settled subject to the approval of the City Council and the Finance Director. The provisions and procedures provided for in this section are permissive only and shall in no way effect any of the other provisions of this Article or bind the City to any set formula for settling disputes.

(SECTIONS 28.67 THRU 28.69 RESERVED)

SECTION 28.70 DELINQUENT PENALTIES

In each case where all or any part of any bill remains unpaid after the date on which it becomes delinquent a penalty of ten (10) percent of the total amount of such bill shall be added to such bill upon its becoming delinquent and collected from the consumer.

SECTION 28.71 DISCONNECTION NOTICE

A final notice of imminent disconnection of water service shall be made to the occupants of the premises before service is discontinued. A fee per unit for this notification will be charged to the account as pursuant to Section 28.27.

SECTION 28.72 DISCONNECTION FOR DELINQUENCY

If a bill for water service charges, penalties, and disconnection notice delivery fee is not paid, the water service shall be turned off after a final notice advising the customer of such shut off, on or before the expiration of approximately twenty (20) days following the date on which it becomes delinquent. A further administrative/reconnection fee, other delinquent or unpaid City bills, licenses, fees, permits, or other charges, and a security deposit shall be paid before the service is then reconnected, pursuant to Section 28.27. No checks shall be accepted for payment of disconnected accounts.

SECTION 28.73 DEPOSIT INCREASE FOR DELINQUENT ACCOUNTS

If a consumer who has made a deposit to guarantee the payment of water service charges fails to pay his delinquent bill or bills together with all added penalties and fees before the 20th day following the day in which such bill or bills become delinquent, the deposit shall be increased to the minimum set by Section 28.27, or increased to the equivalent of the delinquent amount including penalties, and fees.

SECTION 28.74 PAYMENT EXTENSIONS AND PENALTY AND FEE WAIVERS

If the Director of Finance, determines that an extension of time, or relief from any penalty for violation hereof should be granted, he, or his designee, may authorize in writing an extension of such time limits not to exceed thirty (30) days or authorize the waiver of penalties. Only one such extension or waiver shall be granted in a calendar year.

No extension of time may be granted to waive delinquent penalties.

SECTION 28.75 PENALTY FOR TURNING ON WATER

No person shall turn on water, or suffer it to be turned on, at any meter or other connection to the City's water distribution system after the same has been turned off by the city. Meter readings will be taken when meter is shut off and any increase in the reading will be considered proof that the meter had been turned on, even if found in the off position when checked. For each time the employees of the Water Department are required to again turn e water off, or determine that the meter had been turned on and

off, a tampering fee shall be charged pursuant to Section 28.27.

SECTION 28.76 RETURNED CHECKS

When a customer presents the City with a check or other negotiable instrument in payment of a water bill that is not negotiable either because of non-sufficient funds, closed account, or other reason, the customer, pursuant to Section 28.27, shall present the City with cash covering the amount of the check plus a penalty. If payment is not made, disconnection shall take place within forty-eight hours of notification of the customer with appropriate reconnection penalties.

(SECTION 28.77 THRU 28.79 RESERVED)

SECTION 28.80 CONNECTION

Upon the applicant for water service having complied with all the requirements relating to written application for service, the City will cause the property described to be connected to the City water main subject to the provisions of the City Code and the applicant shall bear the cost of the installation of service.

SECTION 28.81 CONNECTION SIZE

The City reserves the right to determine the size of the service connection and its location with respect to the boundaries of the premises to be served. The laying of the consumer pipe to the curb shall not be done until the service connection is installed. If the consumer lays his pipe to the curb before or after the service connection is installed and its location is more than five (5) feet from where the service connection enters the property, the consumer shall bear the extra cost of connecting the service connecting pipe to the consumer pipe.

SECTION 28.82 NUMBER REQUIRED - EXCEPTION

No more than one meter shall be installed on any lot or parcel of real property without the approval and consent of the Director or Water Superintendent.

SECTION 28.83 MULTIPLE METERS

For the purpose of making charges, all meters upon a consumer's premises will be considered separately and the reading thereof shall not be combined, except that where the Department shall, for operating necessity, install upon the consumer's premises in place of one meter two or more in parallel, then the reading of such two or more meters shall be combined for the purpose of making charges.

SECTION 28.84 CONNECTING SERVICE PIPE TO METER - PROPERTY RESTORATION

When any plumber or any other person connecting a water service pipe to the property side of a water meter uses water for testing the pipes, he shall leave the service box in as good condition as found and shall leave the water shut off, if found

shut off, and shall in writing notify the City at the time the connection is made. Any damage caused by the negligence or carelessness of any plumber or other person to any part of the meter box, or connection shall be paid by such plumber or person to the City on demand.

SECTION 28.85 CONNECTING SERVICE PIPE TO METER - BILLING

The Water Department may connect a meter to any water service or service pipe at any time it deems it expedient to do so and render a corrected bill from the date of installation of such meter according to the meter rates and charges.

SECTION 28.86 DISTANCE OF SEWER OR GAS SERVICE FROM WATER SERVICE

No sewer ditch, sewer pipe, gas pipe, or any other service pipe shall be installed or maintained nearer than three (3) feet to any water service pipe, water main, or water service meter of the City of San Fernando. Reference is hereby made to the City of San Fernando Water Construction Standards.

SECTION 28.87 CITY PROPERTY OWNERSHIP

All services and water meters installed by the Water Department shall remain at all times the property of the City and shall be maintained, repaired, and renewed by the City when rendered unserviceable by normal wear and tear when in its judgement such repairs are needed. Where water meter replacements, repairs, or adjustments are rendered necessary by a consumer's negligence or carelessness or any member of his family or any person in his employ, any expenses caused to the City thereby shall be charged to and collected from the consumer.

SECTION 28.88 CURBSTOP OR WATER METER SHUT OFF VALVE

Every service connection installed by the City shall be equipped with a curbstop or shut off valve on the inlet side of the water meter. Such valve or curbcock is intended for the exclusive City use in controlling the water supply through the service connection pipe. If the curbstop or shut off valve is damaged by the consumer's use to an extent requiring repair or replacement, such repair or replacement shall be at the consumer's expense. For ordinary usage, consumers shall provide their own valves between the meter and the first half or branch of the consumer service line.

SECTION 28.89 SHUT-OFF VALVE INSTALLATION

Consumers of water shall install at their own expense a shut-off valve inside the property line at a location accessible to the employees of the City in the Water Department.

SECTION 28.90 CHECK VALVE REQUIRED

If the placing of a check valve on the property side of the City's water facilities, or to the water meter of any consumer, is necessary in the opinion of the Water Superintendent for the water system safety and protection or appliances thereof, such consumer

shall be notified in writing by the Water Superintendent to have an approved check valve installed at his expense. If after five (5) days written notice such check valve has not been installed and working, then the service shall be discontinued and the water shut off until such a check valve is installed and the City notified. Service shall be restored only upon payment of required administrative / reconnection charge. After such check valve is installed, the consumer shall be required to provide an annual, or more frequent if required by the Director, inspection of the check valve by a qualified inspector and provide the City with a certificate showing that the check valve is functioning properly.

SECTION 28.91 BACKFLOW DEVICE

Refer to Article III of this Chapter.

SECTION 28.92 COMMON SERVICE CONNECTION -- PROHIBITED

No service connection for water shall be hereafter made for the purpose of supplying through a common service, two or more independent consumers occupying premises held under the same ownership unless said houses are on the same lot, or the property is what is known as a court, or apartment house, and then only provided the owner or owners of such premises shall agree in writing to pay all charges for water served thereto.

No water shall be served for two or more parcels of property separately owned through a common service pipe unless there is no water main contiguous to the premises from which service may be had; and further, unless the consumer first in order of service from the water main shall in writing guarantee the payment of water rates and charges for all parcels of property so served and for the monthly minimum charge under the terms of the City Code.

Water served through a meter shall not be transported through pipes, conduits, or hoses across lot lines or property lines except as noted above.

SECTION 28.93 VANDALISM TO WATER METERS

It shall be unlawful for any person, firm, or corporation, other than City employees and such person or persons who are authorized by the City, to connect or disconnect any water service or services from any building or premises in the City. And it shall be unlawful for any person or persons to in any manner tamper, meddle or interfere with any part of any water meter or service in the City. Any such vandalism to any City meter or other Water Department devise or equipment may result in tampering fees and/or legal action.

After the water meter is so connected to the water service or service pipe, any damage to such meter resulting from vandalism, carelessness, or negligence of the consumer or any member of his family or anyone employed by him or any damage which may result from hot water or steam from a boiler or otherwise shall be paid for by such consumer to the City, in case such bill is not paid, the water shall be shut off from the premises without further notice and the same shall not be turned on until all charges are paid.

SECTION 28.94 CUTTING OFF OR INTERFERING WITH WATER METER - PERMISSION REQUIRED

It is unlawful for any person to interfere with or cut off or remove a water meter from any water service where it has been installed without first receiving written permission from the Water Superintendent or Director. Such permission shall be granted only for the purpose of tests, replacements, repairs to meter or service pipes, and readjustments of service of similar emergency.

SECTION 28.95 REINSTALLATION FEE

Meters that have been out of service for six (6) months or more shall be removed and a service charge made for reinstallation.

SECTION 28.96 PENALTY FOR PROTECTING CITY'S PROPERTY

When it becomes necessary, in order to protect the City's interest and prevent the unauthorized use of water, to remove the water meter from the premises, a further penalty shall be imposed and collected before service is continued, provided that such removal or discontinuance is made necessary because of a violation of or by the failure on the part of the user or owner to perform some act required of him by the City Code.

SECTION 28.97 TESTING

Any consumer may demand that the meter, through which water is being furnished, be examined and tested by the Water Department for the purpose of ascertaining whether or not it is registering correctly the amount of water which is being delivered through it. Such demand shall be made in writing to the Water Department and shall be accompanied by a deposit. Upon receipt of such demand it shall be the duty of the Water Department to cause the meter to be examined and tested. If on examination and test the meter shall be found to register over three percent (3%) more water than actually passes through it, another meter shall be substituted for it and the deposit shall be repaid to the person making the application and the water bill or bills for the current period adjusted in such a manner as the Water Superintendent may deem fair and just. If the meter is found to register not over three percent (3%) fast, the deposit shall be forfeited to the City and the water bill or bills paid as rendered.

(SECTION 28.98 THRU 28.99 RESERVED)

SECTION 28.100 SIZE

The minimum size of water mains to be installed by the City or by others under the direction of the City's Water Department shall be eight (8) inches.

SECTION 28.101 WATER MAIN INSTALLATION AND EXTENSION - GENERALLY

The City Council reserves the right and power to fix and establish rules for the installation and extension of water mains within the City. After such main or pipe has been installed and accepted by the City, it shall thereafter be the property of the

city and maintained by the City.

SECTION 28.102 WATER MAIN INSTALLATION AND EXTENSION APPLICATION

Any person requesting a water main extension by the City shall deposit with the city a sum fixed by the Director equal to the estimated cost thereof plus the then current City's overhead cost attributable to such work.

The City upon completion of such work shall deduct from such deposit the actual cost and overhead attributable thereto and reimburse any remaining balance to the person depositing the same. In the event, for any reason, the deposit is not sufficient to pay the actual cost thereof, together with overhead attributable thereto, the person applying for such extension shall pay the excess forthwith on demand of the City and until paid the City may refuse to supply water for such extension. Where any such extension will thereafter provide the means of supplying water to property other than that owned by the applicant, the cost of such extension shall be spread by the City engineer on a square footage basis to all property that can be served therefrom. Any person thereafter connecting a meter on to such extension to serve water to any property not owned by the original applicant shall pay to the City, in addition to all meter and water charges, an extension charge equal to the property area in square feet charge as spread by the City Engineer above, multiplied by the square footage of his property fronting on the street served by such extension, which sum so collected shall be reimbursed to the original depositor who originally paid for the extension, provided the right to reimburse accrues with ten (10) years from the date extension was first completed.

SECTION 28.103 WATER SERVICE MAINTENANCE

The service connection extending from the water main to the water meter shall be maintained by the City. All pipes and fixtures extending or lying beyond the meter shall be installed and maintained by the property owner.

SECTION 28.104 WATER USE IN BOILER, HYDRAULIC ELEVATORS, POWER PUMPS, AND SIMILAR APPARATUS

It is unlawful for any person to draw any water from any pipes or water mains of the City directly into any stationary steam boiler, hydraulic elevator, power pump, or similar apparatus. If a consumer desires water from the City to be used in any stationary steam boiler, hydraulic elevator, power pump, or similar apparatus, the consumer shall first apply in writing to the City Council and if a permit is granted by the City Council such consumer shall provide a tank or reservoir of such capacity as required by standard practice. No such tank or reservoir shall be installed or used unless and until the plans and specifications have been examined and approved in writing by the Director or Water Superintendent.

(SECTIONS 28.105 THRU 28.109 RESERVED)

SECTION 28.110 FIRE HYDRANTS - PURPOSE

Fire hydrants are provided for the sole purpose of extinguishing fires and shall be opened and used only by the Fire Department or other officials of the City authorized to do so.

SECTION 28.111 FIRE HYDRANT SIZE

The minimum size of fire hydrants to be installed by the City or by others under the direction of the City's Water Department shall be six (6) inches inlet with 1 - 2.1/2" and 1 - 4" outlet. Reference is hereby made to the City of San Fernando Water Construction Standards.

SECTION 28.112 INSTALLATION OR CONNECTION WITH MAIN - PERMISSION REQUIRED

No fire hydrant shall be placed or installed or connected with the mains of the City by any person unless and until permission has been granted by the Director or Water Superintendent.

SECTION 28.113 LOCATION

Fire hydrants shall be located on private property and public right of way so that at all times the maximum length of hose required to reach from any combustible structure or material to the nearest hydrant shall be 150 feet in all zones except single family residential, in which the maximum length shall be 300 feet. All hydrants, pipes and appurtenances on private property will be dedicated to the City along with easements providing access for necessary operation.

SECTION 28.114 OPENING RESPONSIBILITIES

Every person authorized to open the fire hydrant shall replace the cap on the outlet, when the same is not in use, and leave the hydrant in as good as condition as when found. Such officer or person shall report to the Water Superintendent or Director any leaks or breaks or damage to the fire hydrant immediately upon discovery.

SECTION 28.115 USE OF FIRE HYDRANTS

All persons using water through fire hydrants or other hydrants owned or controlled by the City shall be required to obtain a permit to do so from the Water Department, which shall issue no such permit to any person who has violated any of the provisions of this Chapter or whose indebtedness to the Water Department for water used or damage to hydrants is delinquent.

SECTION 28.116 WATER USE IN CONSTRUCTION WORK

Contractors and any other person desiring to use water in construction work where connections must be made other than through a meter shall in each and every case make written application for and shall obtain a written permit for the same from the Water Superintendent before connecting with any water main, stand pipe,

or using water therefrom, and shall make the deposit required by the Water Superintendent sufficient in his opinion to cover the estimated cost of the water to be used. Such permit shall be exhibited upon the work for which it has been issued during the full time the water is being used pursuant to such permit.

SECTION 28.117 FIRE HYDRANT WRENCH

Every person authorized to open fire hydrants will be required to use official fire hydrant wrench and to furnish a cut off valve to regulate the flow of water beyond the fire hydrant and replace the caps on the outlets when the same are not in use. Failure to do so will be sufficient cause to prohibit further use of the hydrants and the refusal to grant subsequent permits for the use of fire hydrants."

SECTION 2.

The following resolution are hereby rescinded:

RESOLUTION NO. 4930 - ADOPTED MAY 2, 1977, AND
RESOLUTION NO. 4981 - ADOPTED FEBRUARY 6, 1978 AND
RESOLUTION NO. 5098 - ADOPTED DECEMBER 3, 1979 AND
RESOLUTION NO. 5161 - ADOPTED SEPTEMBER 15, 1980 AND
RESOLUTION NO. 5407 - ADOPTED OCTOBER 1, 1984, AND
RESOLUTION NO. 5413 - ADOPTED NOVEMBER 19, 1984, AND
RESOLUTION NO. 5718 - ADOPTED APRIL 20, 1987, AND
RESOLUTION NO. 5847 - ADOPTED JUNE 6, 1988 AND
RESOLUTION NO. 5895 - ADOPTED 6 February 1989.

SECTION 3.

That the schedule of charges set forth in this Resolution shall be effective September 25, 1992. All utility bills prepared after the effective date of this Resolution will reflect the new rates.

SECTION 4.

If any section, subsection, clause or phrase of this Ordinance is for any reason held to be unconstitutional, or otherwise invalid, such decision shall not affect the validity of the remaining sections of this Ordinance. The Council hereby declares that it would have passed this Ordinance and each section, subsection, clause and phrase thereof irrespective of the fact that any one or more other sections, subsections, clauses, or phrases be declared invalid.

SECTION 5. The City Clerk shall certify to the passage of this Ordinance and cause the same to be published as required by law, and the same shall take effect 30 days after its adoption.

PASSED, APPROVED AND ADOPTED by the City Council of the City of San Fernando at a regular meeting held on this 17th day of August, 1992.

Dr. José Hernandez
MAYOR

ATTEST:

CITY CLERK

APPROVED AS TO FORM:

CITY ATTORNEY

TO WIT:

I HEREBY CERTIFY that the foregoing Ordinance was duly adopted at a regular meeting of the City Council of the City of San Fernando on August 17, 1992, and carried by the following roll call vote:

AYES:	Acuna, Hernandez, Ojeda, Wysbeek - 4
NOES:	None - 0
ABSTAIN:	None - 0
ABSENT:	Chacon - 1

MARY STRENN, CITY CLERK

CC-121.PW

ORDINANCE NO. 1510

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF SAN FERNANDO AMENDING CHAPTER 28 (WATER) OF THE CITY CODE TO DECREASE INSTALLATION AND CAPITAL FACILITY CHARGES AND INCREASE RATES AND CHARGES FOR MONTHLY SERVICE.

THE CITY COUNCIL OF THE CITY OF SAN FERNANDO DOES HEREBY ORDAIN AS FOLLOWS:

SECTION 1. Section 28.4.1. ("Water Rates and Charges") of the Municipal Code is hereby amended to read in its entirety as follows:

"The following quantity water charge and service charge according to water meter size are hereby established and shall be charged and collected by the City for all water sold, supplied, distributed, or transported to or for consumers situated in the City and shall be applicable to all metered water within the City for which no other rate is specified:

(1) Commodity Charge	Per Meter Per Bi-Monthly Period
a. For each 100 cubic feet (1 unit) except as provided below.	$ 0.88
b. Lifeline – For each 100 cubic feet (1 unit), up to 2,000 cubic feet, for households with combined annual household income of less than $15,400.00	$ 0.75

(2) Service Charge (To be added to Commodity Charge)
The service charge hereinafter set forth for the size of meter through which water is served shall be added to the commodity charge set forth above.

Size of Meter	Per Bi-monthly Period
¾ inch and smaller	$21.00
Lifeline – ¾ inch and smaller (for dwelling units with gross annual household income of less than $15,400.00)	$17.75

1 inch	$ 28.75
1-1/2 inch	$ 48.50
2 inch	$ 69.50
3 inch	$116.75
4 inch	$178.25
6 inch	$325.75
8 inch	$476.50

SECTION 2. Section 28.29 ("Installation and capital facility charges") of the Municipal Code is hereby amended to read in its entirety as follows:

"The following installation charges and capital facility charges are hereby established, and shall be charged and collected by the city for making all water connections for consumers situated within the city, and said rates shall be paid before such connections are made.

In the case of service connections larger than one (1) inch, the installation charges listed below shall constitute deposits against the actual cost of the labor, materials and equipment plus (35) thirty-five percent overhead expended by the city in the installation. Upon the completion of such work, said actual cost, including overhead, shall be deducted from the paid deposit, and any excess or the deposit over such cost shall be refunded. In the event the actual cost, including overhead, exceeds such deposit, the applicant for such service connection shall, upon demand, pay the same to the city, and for failure to pay such excess to the city, the city shall have the right to refuse water service through such meter and to turn the water service off and/or disconnect the same.

User Classification	Capital Facility Charge	Installation Charge or Deposit	Total Connection Charge
(1) Residential (per dwelling unit)	$550.00	$1,450.00	$2,000.00
(2) Commercial/institutional/industrial (water meter size:)			
Size in inches			
¾	$ 550.00	$ 1,450.00	$ 2,000.00
1	920.00	1,500.00	2,420.00
1-1/2	1,840.00	2,200.00	4,040.00
2	2,940.00	2,500.00	5,440.00
3	5,500.00	5,000.00	10,500.00
4	9,170.00	7,800.00	16,970.00
6	18,340.00	10,600.00	28,940.00
8 and over	29,340.00	13,400.00	42,740.00
(3) Fire service connection, unmetered (1/3 of metered service plus installation:)			
Size in inches			
2	$ 970.00	$2,500.00	$ 3,470.00
3	1,815.00	5,000.00	6,815.00
4	3,026.00	7,800.00	10,826.00
6	6,052.00	10,600.00	16,652.00
8 and over	9,682.00	13,400.00	23,082.00

The fire hydrant installation charges are set as follows:

a. Change fire hydrant top -- Remove single hydrant and Install 4" x 4" or 4' x 2-1/2" double wet-barrel Fire hydrant $870.00

b. New 6" wet-barrel fire hydrant 4" x 4" 4" x 2-1/2", including 6" gate valve, 6" lateral and appurtenances, connection to existing main..... $2,900.00

*For service connections and installations wherein deposit is required, the actual cost of labor, equipment and materials plus thirty-five (35) percent overhead shall be computed after completion of work. Said cost shall be deducted from said deposit and any excess of the deposit over such cost shall be refunded to the person originally making such deposit. In the event the aggregate cost including city overhead exceeds such deposit, the applicant for such service connection shall upon demand, pay the additional amount to the city and for failure to pay such excess to the city, the city shall have the right to refuse water service through such meter and turn the water off and/or disconnect the same.

SECTION 3. Section 28.31. ("Private fire protection charge") of the Municipal Code is hereby amended to read in its entirety as follows:

"The rates herein set forth shall apply to a customer having a private on-site fire service used exclusively for fire protection, whether said lines be connected to automatic sprinkler system or hose attachment, but does not include on-site fire hydrants:

Size of Service (in inches)	Bi-Monthly Charge for Service
2 or smaller	$51.70
3	$77.00
4	$102.30
6	$155.10
8	$205.70
10	$256.30
12	$308.00

SECTION 4. Section 28.32. ("On-site fire hydrant charges") of the Municipal Code is hereby amended to read in its entirety as follows:

"Private on-site fire hydrant rates shall be those shown on the following table:

Size of Hydrant (in inches)	Bi-Monthly Charge per hydrant Service
4	$62.70
6	$92.40
8	$123.20

Water consumption recorded by the detector check valve by-pass meter and used for purposes other than for fire sprinkler system testing or extinguishing purposes shall be discontinued immediately. Continued violation will result in the water department's shutting off the fire service or requiring a new meter to be installed at the customer's expense and changing the applicable water rate schedule to that shown under section 28.4.1.

SECTION 5. The schedule of charges set forth in this Ordinance shall be effective December 25, 1999. All utility bills prepared after the effective date of this Ordinance will reflect the new rates.

SECTION 6. If any section, subsection, clause or phrase of this Ordinance is for any reason held to be unconstitutional, or otherwise invalid such decision shall not affect the validity of the remaining sections of this Ordnance. The Council hereby declares that it would have passed this Ordinance and each section, subsection, clause and phrase thereof irrespective of the fact that any one or more other sections, subsections, clauses, or phrases be declared invalid.

SECTION 7. The City Clerk shall certify to the passage of this Ordinance and cause the same to be published as required by law, and the same shall take effect November 25, 1999.

PASSED, APPROVED AND ADOPTED BY THE City Council of the City of San Fernando at a regular meeting held on this 1st day of November, 1999.

Dr. José Hernández

MAYOR

ATTEST:

Wilma E. Miller
CITY CLERK

STATE OF CALIFORNIA)
COUNTY OF LOS ANGELES) SS
CITY OF SAN FERNANDO) I, WILMA MILLER, City Clerk of the City of San Fernando, do hereby certify that the foregoing Ordinance was adopted a regular meeting of the City Council held on the 1st day of Nov., 1999and was carried by the following roll call vote, to wit:

AYES: Hernandez, Robledo, Montanez, Di Tomaso, Ramos - 5

NOES: None - 0

ABSENT: None - 0

ABSTAIN: None - 0

Wilma E. Miller
CITY CERK

ORDINANCE NO. 1511

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF SAN FERNANDO AMENDING CHAPTER 22A (SEWERS) OF THE CITY CODE; TO DECREASE SEWER SERVICE CHARGES AND TO DECREASE CAPITAL FACILITY CHARGES FOR SEWER CONNECTIONS

The City Council of the City of San Fernando does ordain as follows:

SECTION 1: Section 22A.4.1 of the San Fernando City Code is hereby amended to read in its entirety as follows.

*"Section 22A.4.1 Schedule of Capital Facilities Charges for Sewer Connections

(a) Schedule. The following schedule of capital facility charges imposed pursuant to Section 22A.4 of this Code is hereby adopted:

USER CLASSIFICATION

GROUP I RESIDENTIAL	Unit of Usage	
Typical Domestic (3 bedrm SFR)	Unit	$ 747
Residential (boarding house)	Bed	$ 244
Residential Apt. (bachelor)	Dwelling unit	$ 260
Residential Apt. (1 bedroom)	Dwelling unit	$ 390
Residential Apt. (2 bedroom)	Dwelling unit	$ 520
Residential Apt. (3 bedroom)	Dwelling unit	$ 650
Residential Apt. (>3 bedroom)	Additional bedroom	$ 130
Residential Condo (1 bedroom)	Dwelling unit	$ 390
Residential Condo (2 bedroom)	Dwelling unit	$ 520
Residential Condo (3 bedroom)	Dwelling unit	$ 650
Residential Condo (>3 bedroom)	Additional bedroom	$ 130
Residential Duplex/Townhouse/ SFD (1 bedroom)	Dwelling unit	$ 422
Residential Duplex/Townhouse/ SFD (2 bedroom)	Dwelling unit	$ 585
Residential Duplex/Townhouse/ SFD (3 bedroom)	Dwelling unit	$ 747
Residential Duplex/Townhouse/ SFD (>3 bedroom)	Additional bedroom	$ 162
Residential Rm. Addition (bedroom)	Bedroom	$ 162

Residential Room Conversion into a Bedroom	Bedroom	$ 162
Residential Mobile Home	Dwelling unit	$ 520
Residential, Artist (2/3 area)	1000 gr. sq. ft.	$ 260
Residential; Artist Residence	Dwelling unit	$ 260
Residential Guest Home (without kitchen)	Bedroom	$ 153
Rest Home	Bed	$ 153
Mortuary – Living Area	1000 sq. ft.	$ 260

GROUP II COMMERCIAL

Auto Parking	1000 sq. ft.	$ 58
Barber Shop	1000 sq. ft.	$ 291
Beauty Parlor	1000 sq. ft.	$ 813
Car Wash (1) (2)	1000 sq. ft.	$ 9,206
Church	Fixed Seat	$ 12
Commercial Use	1000 sq. ft.	$ 232
Dental Office/Clinic	1000 sq. ft.	$ 668
Department & Retail Stores	1000 sq. ft.	$ 291
Film Processing (1hr. photo)	1000 sq. ft.	$ 291
Food Processing Plant (industrial)	Flow - Calculated individually based on flow	
Health Club/Spa	1000 sq. ft.	$ 2,324
Hospitals	Bed	$ 279
Indoor Theatre	1000 sq. ft.	$ 1,590
Laundromats	1000 sq. ft.	$12,916
Laundromats	Machine	$ 477
Library: Public Area	1000 sq. ft.	$ 232
Lumber Yard	1000 sq. ft.	$ 110
Membership Organizations	1000 sq. ft.	$ 534
Motion Pictures (studios)	1000 sq. ft.	$ 67
Professional Offices	1000 sq. ft.	$ 534
Social Services	1000 sq. ft.	$ 534
Soft Water Service	1000 sq. ft.	$ 440
Theatre, cinema	1000 sq. ft.	$ 12
Warehouse	1000 sq. ft.	$ 58

GROUP III COMMERCIAL

Gas Station (4 bays max)	Per station	$ 1,427
Hotels-Motels (w/o restaurants)	Room	$ 435
Manufacturing	1000 sq. ft.	$ 876
Manufacturing (industrial)	Flow - Calculated individually based on flow	
Repair and Service Stations	1000 sq. ft.	$ 332

GROUP IV COMMERCIAL

Bakeries (whlsale)/Doughnut Shop	1000 sq. ft.	$ 1,884
Banquet Room/Ball Room	1000 sq. ft.	$ 5,384
Cafeteria	1000 sq. ft.	$ 202
Doughnut Shop	1000 sq. ft.	$ 1,884
Hotels-Motels (w/restaurants)(3)	1000 sq. ft.	
Mortuary-Embalming Area	1000 sq. ft.	$ 33
Restaurants, take-out	1000 sq. ft.	$ 2,019
Restaurants (drive-in, fast food)	Seat.	$ 135
Restaurants (fast food, outdoor seat)	Seat.	$ 81
Restaurants (full serve, indoor seat)	Seat.	$ 202
Restaurants (full serve, outdoor seat)	Seat.	$ 121
Supermarkets	1000 sq. ft.	$ 657

GROUP V INSTITUTIONAL

Church School Day Care/Elem.	Occupant.	$ 22
Church School (1 day use)	1000 sq. ft.	$ 544
Schools: Elementary/Junior	Student.	$ 21
Schools: High	Student.	$ 33

GROUP VI LARGE VOLUME USERS — Calculated individually $6.47/gpd

(1) L. A. bills by average process flow.

(2) Car wash area is the tunnel area and restaurant area is the gross customer area.

(3) Calculated separately as motel and restaurant.

(b) Purpose.

The purpose of this fee is for sewage treatment; the collected fee shall be used to increase treatment capacity and lines for City residents. There is a direct relationship between the use of the fee and the type of development described above and between the need for the facility and the type of project in that houses and commercial and industrial facilities need sewage treatment. The relationship between the amount of the fee and the cost of the portion of the facility attributed to the development as described above is set forth in the Wastewater Rate Study dated September 14, 1999 prepared by Black & Veatch Corporation, Consulting Engineers, which is on file in the office of the City Clerk and the Engineering Department.".

SECTION 2: Section 22A.10. ("Sewer Service Charges") of the Municipal Code is hereby amended to read in its entirety as follows:

"For the purposes specified in this article, the sewer service and use charges hereinafter specified are hereby established and imposed and shall be paid to and collected by the City of San Fernando for services furnished in connection with its sanitary sewer system. Such sewer service charges shall be applied to or for each premises which is connected, directly or indirectly, to said sanitary sewer system or any part thereof, or each premises from which any sewage is conveyed or discharged directly or indirectly into said sanitary sewer system. The amount of sewer service and use charges for each premise shall be as follows:

a) Single-Family Premises For each single-family premises: $15.37 per calendar month.

b) Multiple-Family Premises For each separate dwelling unit in each multiple-family premises: $15.37 per calendar month.

c) Other Residential Premises For each room or suite of rooms considered as a separate hotel/motel unit in other residential premises: $15.37 per calendar month per room or suite of rooms considered as a separate sleeping unit.

d) Life-Line Residential Premises. A "lifeline' rate consisting of a 15 percent reduction in the monthly residential charge shall be available for any dwelling unit in which the household combined adjusted gross income (as used for purposes of the California Personal Income Tax Law) of all members of the household is less than Fifteen Thousand, Four Hundred Dollars ($15,400) for the prior calendar year. This "lifetime" rate shall be $13.00 per month.

		Minimum $ Charge	Unit Cost for ($/CCF) Water Used
e)	Group II Commercial	$15.37	$ 1.28
f)	Group III Commercial	$15.37	$ 2.04
g)	Group IV Commercial	$15.37	$ 3.16
h)	Group V Institutional	$15.37	$ 1.25
	Schools*		
	1) Elementary, S/ADA	$ .57	
	2) Other, S/ADA	$ .86	

*A school may, on or before July 1st of any fiscal year (July 1 through June 30), request in writing to be billed from July 1st to June 30 of that year on the basis of average daily attendance (ADA) or on the basis of flow. If no request has been made and approved, schools will be billed based on ADA."

SECTION 3: Section 22A.12 of the City Code is hereby amended to read in its entirety as follows:

"Section 22A.12. Effective Date of Charges.

The schedule of charges set forth in this Ordinance shall be effective December 25, 1999. All utility bills prepared after the effective date of this Ordinance will reflect the new rates.

Section 4: The City Clerk of the City of San Fernando shall certify to the passage and adoption of this Ordinance and shall cause the same to be posted and published in the manner required by law.

Section 5: All ordinances and sections of the San Fernando City Code inconsistent herewith are hereby repealed to the extent of such inconsistency and no further. If any section, subsection, clause or phrase of this Ordinance is for any reason held to be unconstitutional, or otherwise invalid, such decision shall not affect the validity of the remaining sections of this Ordinance. The Council hereby declares that it would have passed this Ordinance and each section, subsection, clause and phrase thereof irrespective of the fact that any one or more other sections, subsections, clauses, or phrases be declared invalid.

PASSED, APPROVED AND ADOPTED by the City Council of the City of San Fernando at a regular meeting held on the 1st day of November, 1999.

Dr. Joel Gleason

MAYOR OF THE CITY OF SAN FERNANDO

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Wilma Miller
CITY CLERK

STATE OF CALIFORNIA)
COUNTY OF LOS ANGELES) ss
CITY OF SAN FERNANDO)

I, Wilma Miller, City Clerk of the City of San Fernando, do hereby certify that the foregoing Ordinance was adopted at a regular meeting of the City Council of the City of San Fernando held on the 1st day of November, 1999, and was carried by the following vote, to wit:

AYES: Hernandez, Robledo, Di Tomaso, Montanez, Ramos - 5

NOES: None - 0

ABSENT: None - 0

Wilma Miller
CITY CLERK

AUTOMATIC CPI INCREASE

WATER 2001

ORDINANCE 1408, Effective September 25, 1992
CITY CODE SECTION 94-270

Section 94-261

Water Rates and Charges

Ordinace 1510 Adopted October 18, 1999

Users Classification	Unit of Usage	Effective Dec 25, 1999	Effective July 25, 2000 2.9%	*Effective July 25, 2001 3.5%*
		CPI Effective July 25, 2001 3.5%		
Commodity Charge	CCF	$ 0.88	$ 0.91	$0.94
Lifeline Commodity Charge	CCF	$ 0.75	$ 0.77	$0.80
Meter Charge / added				
Meter Size				
3/4" and smaller	$	21.00	$ 21.61	$22.37
3/4" Lifeline	$	17.75	$ 18.26	$18.90
1 inch	$	28.75	$ 29.58	$30.62
1 1/2 inch	$	48.50	$ 49.91	$51.65
2 inch	$	69.50	$ 71.52	$74.02
3 inch	$	116.75	$ 120.14	$124.34
4 inch	$	178.25	$ 183.42	$189.84
6 inch	$	325.75	$ 335.20	$346.93
8 inch	$	476.50	$ 490.32	$507.48

AUTOMATIC CPI INCREASE

WATER 2001

ORDINANCE 1408, Effective September 25, 1992
CITY CODE SECTION 94-270

Section 94-265

Installation and Capital Facility Charges

Ordinace 1510 Adopted October 18, 1999

CPI Effective July 25, 2001 3.5%

Users Classification	Capital Facility Charge	Installation Charge or Deposit	Effective Dec. 25, 1999 Total	Capital Facility Charge	Installation Charge or Deposit	Effective July 25, 2000 Total	Capital Facility Charge	Installation Charge or Deposit	*Effective July 25, 2001 Total*
Residential / per dwelling unit	$ 550	$ 1,450	$ 2,000	$ 566	$ 1,492	$ 2,058	$ 586	$ 1,544	$ 2,130
Meter size									
3/4" and smaller	$ 550	$ 1,450	$ 2,000	$ 566	$ 1,492	$ 2,058	$ 586	$ 1,544	$ 2,130
1 inch	$ 920	$ 1,500	$ 2,420	$ 947	$ 1,544	$ 2,490	$ 980	$ 1,596	$ 2,577
1 1/2 inch	$ 1,840	$ 2,200	$ 4,040	$ 1,893	$ 2,264	$ 4,157	$ 1,960	$ 2,343	$ 4,303
2 inch	$ 2,940	$ 2,500	$ 5,440	$ 3,025	$ 2,573	$ 5,598	$ 3,131	$ 2,663	$ 5,794
3 inch	$ 5,500	$ 5,000	$ 10,500	$ 5,660	$ 5,145	$ 10,805	$ 5,858	$ 5,325	$ 11,183
4 inch	$ 9,170	$ 7,800	$ 16,970	$ 9,436	$ 8,026	$ 17,462	$ 9,766	$ 8,307	$ 18,073
6 inch	$ 18,340	$ 10,600	$ 28,940	$ 18,872	$ 10,907	$ 29,779	$ 19,532	$ 11,289	$ 30,822
8 inch and larger	$ 29,340	$ 13,400	$ 42,740	$ 30,191	$ 13,789	$ 43,979	$ 31,246	$ 14,271	$ 45,519
Fire service connection, unmetered (1/3 of metered service plus installation)									
Meter size									
2 inch	$ 970	$ 2,500	$ 3,470	$ 998	$ 2,573	$ 3,571	$ 1,033	$ 2,663	$ 3,696
3 inch	$ 1,815	$ 5,000	$ 6,815	$ 1,868	$ 5,145	$ 7,013	$ 1,933	$ 5,325	$ 7,258
4 inch	$ 3,026	$ 7,800	$ 10,826	$ 3,114	$ 8,026	$ 11,140	$ 3,223	$ 8,307	$ 11,530
6 inch	$ 6,052	$ 10,600	$ 16,652	$ 6,228	$ 10,907	$ 17,135	$ 6,445	$ 11,289	$ 17,735
8 inch and larger	$ 9,682	$ 13,400	$ 23,082	$ 9,963	$ 13,789	$ 23,751	$ 10,311	$ 14,271	$ 24,583
Fire Hydrant installation charge:									
Change out existing fire hydrant		$ 870			$ 895			$ 927	
New 6" wet-barrel fire hydrant		$ 2,900			$ 2,984			$ 3,089	

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AUTOMATIC CPI INCREASE

WATER 2001

ORDINANCE 1406, Effective September 25, 1992
CITY CODE SECTION 94-270

Section 94-268

Private On-Site Fire Hydrant Charge

Ordinace 1510 Adopted October 18, 1999

CPI Effective July 25, 2001 3.5%

Users Classification Meter size	Effective Dec. 25, 1999 Bi-Monthly Charge for Service	Effective July 25, 2000 Bi-Monthly Charge for Service	Effective July 25, 2001 Bi-Monthly Charge for Service
4 inch	$ 62.70	$ 64.52	$ 66.78
6 inch	$ 92.40	$ 95.08	$ 98.41
8 inch	$ 123.20	$ 126.77	$ 131.21

AUTOMATIC CPI INCREASE

WATER 2001

ORDINANCE 1408, Effective September 25, 1992
CITY CODE SECTION 94-270

Section 94-267

Private Fire Protection Charge

Ordinace 1510 Adopted October 18, 1999

Users Classification	Effective Dec. 25, 1999 Bi-Monthly Charge for Service	Effective July 25, 2000 Bi-Monthly Charge for Service	CPI Effective July 25, 2001 3.5% Effective July 25, 2001 Bi-Monthly Charge for Service
Meter size			
2 inch	$ 51.70	$ 53.20	$ 55.06
3 inch	$ 77.00	$ 79.23	$ 82.01
4 inch	$ 102.30	$ 105.27	$ 108.95
6 inch	$ 155.10	$ 159.60	$ 165.18
8 inch	$ 205.70	$ 211.67	$ 219.07
10 inch	$ 256.30	$ 263.73	$ 272.96
12 inch	$ 308.00	$ 316.93	$ 328.02

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ORDINANCE NO. 1550

AN ORDINANCE OF THE CITY OF SAN FERNANDO AMENDING PORTIONS OF CHAPTER 94, UTILITIES, TO INCREASE WATER AND SEWER SERVICE CHARGES AND TO INCREASE WATER AND SEWER CAPITAL FACILITY CHARGES

THE CITY COUNCIL OF THE CITY OF SAN FERNANDO DOES HEREBY ORDAIN AS FOLLOWS:

SECTION I. Section 94-61 (Schedule of capital facilities charges for sewer connections) of the Municipal Code is hereby amended to read in its entirety as follows:

Sec. 94-61. Schedule of capital facilities charges for sewer connections.

(a) *Schedule.* The following schedule of capital facility charges imposed pursuant to section 94-29 of this article is adopted:

User Classification	Unit of Usage	
GROUP I RESIDENTIAL:		
Typical Domestic (3 bedrm SFR)	Unit	$ 1,531
Residential (boarding house)	Bed	500
Residential Apt. (bachelor)	Dwelling unit	532
Residential Apt. (1 bedroom)	Dwelling unit	799
Residential Apt. (2 bedroom)	Dwelling unit	1,066
Residential Apt. (3 bedroom)	Dwelling unit	1,332
Residential Apt. (<3 bedroom)	Additional bedroom	333
Residential Condo (1 bedroom)	Dwelling unit	799
Residential Condo (2 bedroom)	Dwelling unit	1,066
Residential Condo (3 bedroom)	Dwelling unit	1,332
Residential Condo (<3 bedroom)	Additional bedroom	1,066
Residential Duplex/Townhouse/SFD (1 bedroom)	Dwelling unit	865
Residential Duplex/Townhouse/SFD (2 bedroom)	Dwelling unit	1,198
Residential Duplex/Townhouse/SFD (3 bedroom)	Dwelling unit	1,531
Residential Duplex/Townhouse/SFD (<3 bedroom)	Additional bedroom	333
Residential Rm. Addition (bedroom)	Bedroom	333
Residential Room Conversion into a Bedroom	Bedroom	333
Residential Mobile Home	Dwelling unit	1,066
Residential, Artist (2/3 area)	1,000 gr. sq. ft.	532
Residential, Artist Residence	Dwelling unit	532
Residential Guest Home (without kitchen)	Bedroom	333
Rest Home	Bed	500
Mortuary--Living Area	1,000 sq. ft.	532

GROUP II COMMERCIAL		
Auto Parking	1,000 sq. ft.	$ 133
Barber Shop	1,000 sq. ft.	608
Beauty Parlor	1,000 sq. ft.	1,704
Car Wash (1) (2)	Calculated individually based on flow & Strength	
Church	Fixed Seat	24
Commercial Use	1,000 sq. ft.	487
Dental Office/Clinic	1,000 sq. ft.	1,771
Department & Retail Stores	1,000 sq. ft.	487
Film Processing (1 hr. photo)	1,000 sq. ft.	487
Food Processing Plant (industrial)	Calculated individually based on flow & Strength	
Health Club/Spa	1,000 sq. ft.	4,867
Hospitals	Bed	480
Indoor Theatre	Seat.	24
Laundromats	Calculated individually based on flow & Strength	
Laundromats	Machine	1,006
Library; Public Area	1,000 sq. ft.	487
Lumber Yard	Calculated individually based on flow & Strength	
Membership Organizations	1,000 sq. ft.	487
Motion Pictures (studios)	1,000 sq. ft.	487
Professional Offices	1,000 sq. ft.	852
Social Services	1,000 sq. ft.	852
Soft Water Service	1,000 sq. ft.	852
Theatre, cinema	Seat	24
Warehouse	1,000 sq. ft.	121
GROUP III COMMERCIAL		
Gas Station (4 bays max)	Per station	$ 2,921
Hotels-Motels (w/o restaurants)	Room	884
Manufacturing	Calculated individually based on flow & Strength	
Manufacturing (industrial)	Calculated individually based on flow & Strength	
Repair and Service Stations	1,000 sq. ft.	2,921
GROUP IV COMMERCIAL		
Bakeries (wholesale)/Doughnut Shop	1,000 sq. ft.	$ 3,492
Banquet Room/Ball Room	1,000 sq. ft.	9,979
Cafeteria	Seat	375
Doughnut Shop	1,000 sq. ft.	3,492
Hotels-Motels (w/restaurants)(3)		(3)
Mortuary--Embalming Area	Calculated individually based on flow & Strength	
Restaurants, take-out	1,000 sq. ft.	3,742
Restaurants (drive-in, fast food)	Seat	249
Restaurants (fast food, outdoor seat)	Seat	150
Restaurants (full serve, indoor seat)	Seat	375
Restaurants (full serve, outdoor seat)	Seat	225
Supermarkets		x flow (gpd)

GROUP V INSTITUTIONAL		
Church School Day Care/Elem.	Occupant	$ 46
Church School (1 day use)	1,000 sq. ft.	1,154
Schools: Elementary/Junior	Student	46
Schools: High	Student	69
GROUP VI LARGE VOLUME USERS	Calculated individually based on flow & Strength	

(1) L. A. bills by average process flow.
(2) Car wash area is the tunnel area and restaurant area is the gross customer area.
(3) Calculated separately as motel and restaurant.

(b) *Purpose.* The purpose of this fee is for sewage treatment; the collected fee shall be used to increase treatment capacity and lines for city residents. There is a direct relationship between the use of the fee and the type of development described above and between the need for the facility and the type of project in that houses and commercial and industrial facilities need sewage treatment. The relationship between the amount of the fee and the cost of the portion of the facility attributed to the development as described above is set forth in the Wastewater Rate Study dated June 28, 2004 prepared by the Public Works Director which was based on the September 14, 1999 Wastewater Rate Study prepared by Black & Veatch Corporation, Consulting Engineers, and which is on file in the office of the City Engineer.

(c) *Rate Adjustment.* The fees for sewage treatment are significantly based on fees payable to the City of Los Angeles per the Contract between that City and the City of San Fernando. The City of San Fernando portion of capital facilities charges is calculated to be 34.79% above the payable amount due to the City of Los Angeles. Therefore, the Schedule of Capital Facilities Charges for Sewer Connections detailed in subsection (a) should be adjusted to reflect any annual or other increase in payment due to the City of Los Angeles. This adjustment is independent and may be applied in addition to any other applicable adjustment.

(Code 1957, § 22A.4.1; Ord. No. 1511, § 1, 11-1-1999)

SECTION 2. Section 94-66 (Sewer service charges generally) of the Municipal Code is hereby amended to read in its entirety as follows:

Sec. 94-66. Sewer service charges generally.

For the purposes specified in division 1 of this article or this division, the sewer service and use charges specified are established and imposed and shall be paid to and collected by the city for services furnished in connection with its sanitary sewer system. Such sewer service charges shall be applied to or for each premises which is connected, directly or indirectly, to the sanitary sewer system or any part thereof or each premises from which any sewage is conveyed or discharged directly or indirectly into the sanitary sewer system. The amount of sewer service and use charges for each premises shall be the sum of the Base Fee and the product of the Unit Cost of HCF and the HCF usage as follows:

Premise	Use Charges per premise	Base Fee	Unit Cost for ($/HCF) Water Used
(1)	Single Family premises	$20.70	Flat Rate
(2)	Multiple-family premises	20.70 x units	$ 1.58 / 2
(3)	Other residential premises	20.70 x units	1.58 / 2

(4)	Lifeline residential premises		17.60	Flat Rate
(5)	Group II commercial		34.50	$ 1.58
(6)	Group III commercial		34.50	2.52
(7)	Group IV commercial		34.50	3.91
(8)	Group V institutional, schools*		34.50	1.58
		a. Elementary, $/ADA	0.81	
		b. Other, $/ADA	1.23	
* A school may, on or before July 1 of any fiscal year (July 1 through June 30), request in writing to be billed from July 1 to June 30 of that year on the basis of average daily attendance (ADA) or on the basis of flow. If no request has been made and approved, schools will be billed based on ADA.				

**Multiple family premises for each separate dwelling unit in each multiple family premises have a base fee of $20.70 for each dwelling unit plus 1.58 x HCF / 2.*

Lifeline residential premises. A lifeline sewer rate, consisting of a 15 percent reduction in charges, shall be available for any dwelling unit in which the household combined adjusted gross income (as used for purposes of California Personal Income Tax Law) of all members of the household, for the prior calendar year, complies with the income limits as published by the State of California, Department of Housing and Community Development in Title 25, Sec. 6932, California Code of Regulation, Los Angeles County, for Very Low Income. This lifeline rate shall be $17.60 per month.

(Code 1957, § 22A.10; Ord. No. 1511, § 2, 11-1-1999; Ord. No. 1524, § 1, 8-20-2001)

SECTION 3. Section 94-261 (Quantity water charges and service charges by meter size) of the Municipal Code is hereby amended to read in its entirety as follows:

Sec. 94-261. Quantity water charges and service charges by meter size.

The following quantity water charges and service charges according to water meter size are established and shall be charged and collected by the city for all water sold, supplied, distributed, or transported to or for consumers situated in the city and shall be applicable to all metered water within the city for which no other rate is specified:

(1) *Commodity charge.* The commodity charge per meter for each monthly period shall be as follows:

Residential		$/HCF Per Meter Per Monthly Period
[a1]	Each 100 cubic feet (HCF) up to 15 HCF per month, except as provided in [a2] below.	$1.14
[a2]	HCF exceeding 15 HCF per month.	$1.35
[b1]	Lifeline, HCF up to 15 HCF for households that qualify for the lifeline rate.	$0.97
[b2]	Lifeline, HCF exceeding 15 HCF per month.	$1.35
Commercial		
[c]	Each 100 cubic feet (HCF) per month	$1.35

(2) *Service charge.* The service charge hereinafter set forth for the size of meter through which water is served shall be added to the commodity charge set forth above.

Size of Meter (in inches)	Per Monthly Period
3/4 and smaller	$ 12.17
Lifeline, 3/4 inch and smaller (for households that qualify for the lifeline rate)	10.34

1	18.21
1 ½	30.72
2	44.02
3	73.95
4	112.91
6	206.33
8	301.82

(Code 1957, § 28.4.1; Ord. No. 1510, § 1, 11-1-1999; Ord. No. 1524, § 2, 8-20-2001

SECTION 4. Section 94-265 (Installation and capital facility charges) of the Municipal Code is hereby amended to read in its entirety as follows:

Sec. 94-265. Installation and capital facility charges.

The following installation charges and capital facility charges are hereby established, and shall be charged and collected by the city for making all water connections for consumers situated within the city, and said rates shall be paid before such connections are made. In the case of service connections larger than one inch, the installation charges listed below shall constitute deposits against the actual cost of the labor, materials and equipment plus 35-percent overhead expended by the city in the installation. Upon the completion of such work, said actual cost, including overhead, shall be deducted from the paid deposit, and any excess or the deposit over such cost shall be refunded. In the event the actual cost, including overhead, exceeds such deposit, the applicant for such service connection shall, upon demand, pay the same to the city, and for failure to pay such excess to the city, the city shall have the right to refuse water service through such meter and to turn the water service off and/or disconnect the same.

(1) The installation charges and capital facility charges shall be as follows:

User Classification	Water Meter Size (in inches)	Capital Facility Charge	Installation Charge or Deposit	Total Connection Charge
Residential (per dwelling unit)		$ 945	$ 1,821	$ 2,766
Commercial/institutional/industrial (water meter size):				
	3/4	945	1,821	2,766
	1	1,578	1,885	3,463
	1-1/2	3,156	2,732	5,888
	2	5,050	3,105	8,155
	3	9,444	6,210.	15,654
	4	16,810	9,688.	26,498
	6	22,693	13,165	35,858
	8 and over	36,309	16,643	52,952
Fire service connection, un-metered (one-third of metered service plus installation):				
	2	1,663	2,870	4,533
	3	3,119	5,739	8,858
	4	5,198	8,954.	14,152
	6	10,395	12,168	22,563
	8 and over	16,623	15,383	32,006

(2) The fire hydrant installation charges are as follows:

a. Change fire hydrant top. Remove single hydrant and install 4-inch by 4-inch or 4-inch by 2 1/2-inch double wet-barrel firo hydrant $1,501.

b. New 6-inch wet-barrel fire hydrant 4-inch by 4-inch or 4-inch by 2 1/2-inch, including 6-inch gate valve, 6-inch lateral and appurtenances, connection to existing main $6,946.

For service connections and installations wherein a deposit is required, the actual cost of labor, equipment and materials plus 35-percent overhead shall be computed after completion of the work. The cost shall be deducted from the deposit, and any excess of the deposit over such cost shall be refunded to the person originally making such deposit. If the aggregate cost including city overhead exceeds such deposit, the applicant for such service connection shall, upon demand, pay the additional amount to the City. For failure to pay such excess to the City, the City shall have the right to refuse water service through such meter and turn the water off and/or disconnect the water.

(Code 1957, § 28.29; Ord. No. 1510, § 2, 11-1-1999)

SECTION 5. Section 94-266 (Eddy valves and meters for construction work) of the Municipal Code is hereby amended to read in its entirety as follows:

Sec. 94-266. Eddy valves and meters for construction work.

(a) The following charges are hereby fixed and established for the use of water from construction meters furnished by tho city:

(1) Construction water rate: $1.92 per 100 cubic feet, plus $1.50 per calendar day.
(2) Deposit: $1000 for a three-inch meter and eddy valve, or as determined by the director for larger sizes.
(3) Administration charge: $110 with a signed application by an authorized person.

(b) Charges for water usage and the daily fee shall be billed quarterly or sooner if indicated by usage.

(c) The deposit for the construction meter shall be returned to the person making the deposit less charges for water and daily use, upon return of the device in satisfactory condition to the water superintendent.

(d) Construction water rates will be charged to all contractors or persons who use the city water system for temporary water, including contractors for city construction and maintenance projects.

(Code 1957, § 28.30

SECTION 6. Section 94-267 (Private fire protection charge) of the Municipal Code is hereby amended to read in its entirety as follows:

Sec. 94-267. Private fire protection charge.

The following rates shall apply to a customer having a private on-site fire service used exclusively for fire protection, whether the lines are connected to an automatic sprinkler system or to a hose attachment, but do not include on-site fire hydrants:

Size of Service in inches	Monthly Charge For Service
2 or smaller	$ 32.65
3	48.63
4	64.61
6	97.96
8	129.91
10	161.87
12	194.53

(Code 1957, § 28.31; Ord. No. 1510, § 3, 11-1-1999)

SECTION 7. Section 94-268 (Private on-site fire hydrant charges) of the Municipal Code is hereby amended to read in its entirety as follows:

Sec. 94-268. Private on-site fire hydrant charges.

(a) Private on-site fire hydrant rates shall be those shown on the following table:

Size of Hydrant (in Inches)	Monthly Charge Per Hydrant
4	$ 39.71
6	58.53
8	78.04

(b) Water consumption recorded by the detector checkvalve bypass meter and used for purposes other than for fire sprinkler system testing or extinguishing purposes shall be discontinued immediately. Continued violation will result in the shutting off the fire service or requiring a new meter to be installed at the customer's expense and changing the applicable water rate schedule to that shown under section 94-261.

(Code 1957, § 28.32; Ord. No. 1510, § 4, 11-1-1999

SECTION 8. Section 94-263 (Fees and charges) of the Municipal Code is hereby amended to read in its entirety as follows:

Sec. 94-263. Fees and charges.

Under this article, the following fees and charges will be collected as required:

(1)	Security deposit for a new applicant (section 94-146)	$ 60.00
(2)	Security deposit (minimum) for delinquent accounts (section 94-164)	120.00
(3)	Delivery fee per unit for final disconnection notices (section 94-162)	10.00
(4)	Administrative/reconnection fee (sections 94-163, 94-167)	40.00
(5)	Tampering with meter (section 94-166)	50.00
(6)	Reinstallation fee if meter has been removed (section 94-169)	50.00
(7)	Reinstallation fee for inactive meter (section 94-168)	50.00
(8)	Returned check fee (section 94-167)	25.00

(Code 1957, § 28.27)

SECTION 9. The schedule of charges set forth in this Ordinance shall be effective August 6, 2004. All utility bills prepared after the effective date of this Ordinance will reflect the new rates. All fees and charges in connection with delinquencies that are collected after this date, or all fees and charges that are established after this date for proposed projects will reflect the new rates herein.

SECTION 10. If any section, subsection, clause or phrase of this Ordinance is for any reason held to be unconstitutional, or otherwise invalid such decision shall not affect the validity of the remaining sections of this Ordnance. The Council hereby declares that it would have passed this Ordinance and each section, subsection, clause and phrase thereof irrespective of the fact that any one or more other sections, subsections, clauses, or phrases be declared invalid.

SECTION 11. The City Clerk shall certify to the passage of this Ordinance and cause the same to be published as required by law.

PASSED, APPROVED, AND ADOPTED this 19th day of July, 2004.

CITY OF SAN FERNANDO

Mayor

ATTEST:

Elena G Chávez

City Clerk

APPROVED AS TO FORM:

City Attorney

STATE OF CALIFORNIA)
COUNTY OF LOS ANGELES)SS
CITY OF SAN FERNANDO)

I, Elena G. Chávez, City Clerk of the City of San Fernando, do hereby certify that the foregoing resolution was duly adopted by the City Council and signed by the Mayor of said City at a meeting held on the 19th day of July, 2004; and the same was passed by the following vote, to wit:

AYES: De La Torre, Veres, Martinez - 3
NOES: Ruelas - 1
ABSENT: Hernández - 1

Elena G Chávez

City Clerk

RESOLUTION NO. 5718

A RESOLUTION OF THE COUNCIL OF THE CITY OF SAN FERNANDO, AMENDING SECTIONS 3.5, 3.6, 3.7 AND 6.8 OF RESOLUTION NO. 4930 ADOPTED MAY 2, 1977, SETTING WATER RATES.

WHEREAS, Resolution No. 4930 of the City Council of the City of San Fernando established water rates and charges for water service; and

WHEREAS, the City Council has determined that it is necessary to revise said water rates and service charges; and

WHEREAS, the City Council has determined that the fees and charges to be imposed do not exceed the estimated reasonable cost of providing the service for which the charges are imposed as required by Government Code Section 54991; and

WHEREAS, Government Code Section 54992 requires that prior to approving an increase in a fee or service charge the City Council hold a public meeting and that notice of the public meeting be given to any interested person who files a written request for such notice on or before April 1st of each year; and

WHEREAS, no written requests have been filed for such notice; and

WHEREAS, the City has made available to the public data indicating the amount of cost required to provide the service for which the fee or service charge is levied; and

WHEREAS, the City Council has held a public meeting to consider the revision of water rates and service charges.

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of San Fernando, as follows:

Section 1: Section 2.16 is hereby added to Resolution 4930 to read:

"Section 2.16. Persons Responsible for Payments.

The owner of any premises is and shall be responsible for payment of any and all water and service charges applicable to premises owned by him. It shall be and it is hereby made the duty of each such owner to ascertain from the city clerk the amount and due date of any such charge applicable to the premises owned by him and to pay such charge when due and payable. It also shall be and it is hereby made the duty of all owners of all premises to inform the city clerk immediately of all circumstances and of any change or changes in any circumstances which will in any way affect the applicability of any charge to premises owned by him or the amount of any such charge. In particular, but not by way of limitation, an owner of any premises shall immediately inform the city clerk of any sale or transfer of such premises by or to such owner."

Section 2: Section 3.5 of Resolution No. 4930 is amended to read:

The following quantity water charges and service charges according to water meter size are hereby established, and shall be charged and collected by the City for all water sold, supplied, distributed, or transported to or for consumers situated in the City, and shall be applicable to all metered water within the City for which no other rate is specified.

(1) Commodity Charge	Per Meter Per Bi-Monthly Charge
(a) For each 100 cubic feet (1 Unit) except as provided below	$0.51
(b) For each 100 cubic feet (1 Unit), up to 2000 cubic feet, for persons 62 years or older and have a household income of less than $12,550.00	$0.44

(2) Service Charge (to be added to Commodity Charge)

The service charge hereinafter set forth for the size of meter through which water is served shall be added to the commodity charge set forth in Section 3.5 (1) above.

Size of Meter	Per Bi-Monthly Period
3/4 inch and smaller	$ 8.80
3/4 inch and smaller (for persons 62 years or older and have a household income of less than $12,550.00)	$ 8.00
1 inch	$ 13.35
1 1/2 inch	$ 20.70
2 inch	$ 28.60
3 inch	$ 46.40
4 inch	$ 69.35
6 inch	$124.40
8 inch and above	$181.25

Section 3: Section 3.6 of Resolution No. 4930 is amended to read:

"Section 3.6. Installation and Capital Facility Charges.

The following installation charges and capital facility charges are hereby established, and shall be charged and collected by the City for making all water connections for consumers situated within the City, and said rates shall be paid before such connections are made.

In the case of service connections larger than one (1) inch, the Installation Charges listed below shall constitute deposits against the actual cost of labor, materials and equipment plus thirty-five percent (35%) overhead expended by the City in the

installation. Upon the completion of such work, said actual cost, including overhead, shall be deducted from the paid deposit, and any excess of the deposit over such cost shall be refunded. In the event the actual cost, including overhead, exceeds such deposit, the applicant for such service connection shall, upon demand, pay the same to the City; and for failure to pay such excess to the City, the City shall have the right to refuse water service through such meter and to turn the water service off and/or disconnect the same.

The Installation Charges and Capital Facility Charges are set as follows:

Size	Capital Facility Charge	Installation Charge or Deposit	Total Connection Charge
3/4 inch	$ 840	$ 1,460	$ 2,300
1 inch	$ 1,400	$ 1,500	$ 2,900
1 1/2 inch	$ 2,800	$ 2,000	$ 4,800
2 inch	$ 4,500	$ 2,600	$ 7,100
3 inch	$ 8,400	$ 6,000	$14,400
4 inch	$14,000	$10,000	$24,000
6 inch	$28,000	$14,000	$42,000
8 inch and over	$44,800	$18,000	$62,800

The Fire Hydrant Installation Charges are set as follows:

1. Change fire hydrant top - remove single hydrant and install 4" x 4" or 4" x 2 1/2" double wet-barrel fire hydrant.

Deposit* $1,000

2. New 6" wet-barrel fire hydrant 4" x 4", 4" x 2 1/2", including 6" Gate Valve, 6" lateral and appurtenances, connection to existing mains.

Deposit* $4,500

*For service connections and installations wherein deposit is required, the actual cost of labor, equipment and materials plus 35 percent overhead shall be computed after completion of work, said cost shall be deducted from said deposit and any excess of the deposit over such cost shall be refunded to the person originally making such deposit. In the event the aggregate cost including City overhead exceeds such deposit, the applicant for such service connection shall upon demand, pay the additional amount to the City and for failure to pay such excess to the City, the City shall have the right to refuse water service through such meter and turn the water off and/or disconnect the same.

Section 3: Section 3.7 of Resolution No. 4930 is amended to read:

"Section 3.7. Construction Work.

The following charges are hereby fixed and established for the use of water from construction meters furnished by the City:

Construction Water Rate:

$1.12 per one hundred cubic feet with a minimum of $15 charge per calendar day.

Deposit:

$650.00 for a 3" meter and eddy valve or as determined by the Director of Public Works for larger meter sizes.

Installation Charge:

$50.00 with a signed application by an authorized person.

Said deposit for the construction meter shall be returned to the person depositing the same upon return of device in satisfactory condition to the Water Superintendent.

Section 4: Section 6.8 of Resolution No. 4930 is amended to read:

"Section 6.8. Private Fire Protection Charge.

The rates herein set forth shall apply to a customer having a private on-site fire service used exclusively for fire protection, whether said lines be connected to an automatic sprinkler system or hose attachment, but does not include on-site fire hydrants:

Size of Service	Bi-Monthly Charge for Service
2 inch or smaller	$ 31.00
3 inch	$ 46.00
4 inch	$ 61.00
6 inch	$ 92.00
8 inch	$122.00
10 inch	$152.00
12 inch or larger	$183.00

Private on-site fire hydrant rates shall be those shown on the following table:

Size of Service	Bi-Monthly Charge Per Hydrant
4 inch or smaller	$37.00
6 inch	$55.00
8 inch or larger	$73.00

Water consumption recorded by the detector check valve bypass meter and used for purposes for other than fire sprinkler system testing or extinguishing purposes shall be discontinued immediately. Continued violation will result in the Water Department's shutting off the fire service or requiring a new meter to be installed at the customer's expense and changing the applicable water rate schedule to that shown in Section 3.5 'Water Rate Charges.'"

Section 5: That Resolution No. 5407, adopted October 1, 1984, is hereby repealed.

Section 6: That the schedule of charges set forth in this Resolution shall be effective May 1, 1987.

Section 7: The City Clerk shall certify the passage of this Resolution.

PASSED, APPROVED AND ADOPTED by the City Council of the City of San Fernando at a regular meeting held on this 20th day of April 1987.

MAYOR

ATTEST:

CITY CLERK

APPROVED AS TO FORM:

CITY ATTORNEY

TO WIT:

I HEREBY CERTIFY that the foregoing Resolution was duly adopted at a regular meeting of the City Council of the City of San Fernando on April 20, 1987, and carried by the following roll call vote:

AYES:	Acuna, Richardson, Silva, Margarito, Hansen - 5
NOES:	None - 0
ABSTAIN:	None - 0
ABSENT:	None - 0

DONALD E. PENMAN, CITY CLERK

CC3/29

RESOLUTION NO. 5895

A RESOLUTION OF THE COUNCIL OF THE CITY OF SAN FERNANDO, AMENDING SECTIONS 3.5, 3.6, 3.7 AND 6.8 OF RESOLUTION NO. 4930 ADOPTED MAY 2, 1977, SETTING WATER RATES.

WHEREAS, Resolution No. 4930 of the City Council of the City of San Fernando established water rates and charges for water service; and

WHEREAS, the City Council has determined that it is necessary to revise said water rates and service charges; and

WHEREAS, the City Council has determined that the fees and charges to be imposed do not exceed the estimated reasonable cost of providing the service for which the charges are imposed as required by Government Code Section 54991; and

WHEREAS, Government Code Section 54992 requires that prior to approving an increase in a fee or service charge the City Council hold a public meeting and that notice of the public meeting be given to any interested person who files a written request for such notice on or before April 1st of each year; and

WHEREAS, no written requests have been filed for such notice; and

WHEREAS, the City has made available to the public data indicating the amount of cost required to provide the service for which the fee or service charge is levied; and

WHEREAS, the City Council has held a public meeting to consider the revision of water rates and service charges.

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of San Fernando, as follows:

SECTION 1: Section 3.5 of Resolution No. 4930 is amended to read:

"Section 3.5. Water Rate Charges.

The following quantity water charges and service charges according to water meter size are hereby established, and shall be charged and collected by the City for all water sold, supplied, distributed, or transported to or for consumers situated in the City, and shall be applicable to all metered water within the City for which no other rate is specified.

(1) Commodity Charge	Per Meter Per Bi-Monthly Charge
(a) For each 100 cubic feet (1 Unit) except as provided below	$0.64
(b) For each 100 cubic feet (1 Unit), up to 2000 cubic feet, for persons 62 years or older and have an annual household income of less than $15,300.00	$0.51

(c) For those businesses that are part of the water system that is served by the temporary L.A.D.W.P. connection in Foothill Bl.

Summer Period (April 1 through Sept. 30)	$1.55
Winter Period (Oct. 1 through March 31)	$1.30

(2) Service Charge (to be added to Commodity Charge)

The service charge hereinafter set forth for the size of meter through which water is served shall be added to the commodity charge set forth in Section 3.5 (1) above.

Size of Meter	Per Bi-Monthly Period
3/4 inch and smaller	$ 13.50
3/4 inch and smaller (for persons 62 years or older and have an annual household income of less than $15,300.00)	$ 9.20
1 inch	$ 18.20
1 1/2 inch	$ 31.20
2 inch	$ 45.20
3 inch	$ 76.70
4 inch	$117.20
6 inch	$214.70
8 inch and above	$315.30

SECTION 2: Section 3.6 of Resolution No. 4930 is amended to read:

"Section 3.6. Installation and Capital Facility Charges.

The following installation charges and capital facility charges are hereby established, and shall be charged and collected by the City for making all water connections for consumers situated within the City, and said rates shall be paid before such connections are made.

In the case of service connections larger than one (1) inch, the Installation Charges listed below shall constitute deposits against the actual cost of labor, materials and equipment plus thirty-five percent (35%) overhead expended by the City in the installation. Upon the completion of such work, said actual cost, including overhead, shall be deducted from the paid deposit, and any excess of the deposit over such cost shall be refunded. In the event the actual cost, including overhead, exceeds such deposit, the applicant for such service connection shall, upon demand, pay the same to the City, and for failure to pay such excess to the City, the City shall have the right to refuse water service through such meter and to turn the water service off and/or disconnect the same.

The Installation Charges and Capital Facility Charges are set as follows:

Uner Classification	Capital Facility Charge	Installation Charge or Deposit	Total Connection Charge
(a) Residential (per dwelling unit)	$ 925	$ 1,605	$2,530
(b) Commercial/ Institutional/ Industrial (water meter size)			
3/4 inch	$ 925	$ 1,605	$ 2,530
1 inch	$ 1,540	$ 1,650	$ 3,190
1 1/2 inch	$ 3,080	$ 2,000	$ 5,080
2 inch	$ 4,950	$ 2,600	$ 7,550
3 inch	$ 9,240	$ 6,000	$15,240
4 inch	$15,400	$10,000	$25,400
6 inch	$30,800	$14,000	$44,800
8 inch and over	$49,280	$18,000	$67,280

The Fire Hydrant Installation Charges are set as follows:

1. Change fire hydrant top - remove single hydrant and install 4" x 4" or 4" x 2 1/2" double wet-barrel fire hydrant.

Deposit* $1,000

2. New 6" wet-barrel fire hydrant 4" x 4", 4" x 2 1/2", including 6" Gate Valve, 6" lateral and appurtenances, connection to existing mains.

Deposit* $4,500

*For service connections and installations wherein deposit is required, the actual cost of labor, equipment and materials plus 35 percent overhead shall be computed after completion of work, said cost shall be deducted from said deposit and any excess of the deposit over such cost shall be refunded to the person originally making such deposit. In the event the aggregate cost including City overhead exceeds such deposit, the applicant for such service connection shall upon demand, pay the additional amount to the City and for failure to pay such excess to the City, the City shall have the right to refuse water service through such meter and turn the water off and/or disconnect the same.

SECTION 3: Section 3.7 of Resolution No. 4930 is amended to read:

*Section 3.7. Construction Work.

The following charges are hereby fixed and established for the use of water from construction meters furnished by the City:

Construction Water Rate:

$1.40 per one hundred cubic feet with a minimum of $15 charge per calendar day.

Deposit:

$750.00 for a 3" meter and eddy valve or as determined by the Director of Public Works for larger meter sizes.

Installation Charge:

$50.00 with a signed application by an authorized person.

Said deposit for the construction meter shall be returned to the person depositing the same upon return of device in satisfactory condition to the Water Superintendent.

SECTION 4: Section 6.8 of Resolution No. 4930 is amended to read:

"Section 6.8. Private Fire Protection Charge.

The rates herein set forth shall apply to a customer having a private on-site fire service used exclusively for fire protection, whether said lines be connected to an automatic sprinkler system or hose attachment, but does not include on-site fire hydrants:

Size of Service	Bi-Monthly Charge for Service
2 inch or smaller	$ 47.00
3 inch	$ 70.00
4 inch	$ 93.00
6 inch	$141.00
8 inch	$187.00
10 inch	$233.00
12 inch or larger	$280.00

Private on-site fire hydrant rates shall be those shown on the following table:

Size of Service	Bi-Monthly Charge Per Hydrant
4 inch or smaller	$ 57.00
6 inch	$ 84.00
8 inch or larger	$112.00

Water consumption recorded by the detector check valve bypass meter and used for purposes for other than fire sprinkler system testing or extinguishing purposes shall be discontinued immediately. Continued violation will result in the Water Department's shutting off the fire service or requiring a new meter to be installed at the customer's expense and changing the applicable water rate schedule to that shown in Section 3.5 'Water Rate Charges.'"

SECTION 5: That Resolution No. 5847, adopted May 2, 1988, and Sections 2, 3 and 4 of Resolution No. 5718, adopted April 20, 1987, are hereby repealed.

SECTION 6: That the schedule of charges set forth in this Resolution shall be effective March 1, 1989. All utility bills prepared after the effective date of this Resolution will reflect the new rates.

SECTION 7: The City Clerk shall certify the passage of this Resolution.

PASSED, APPROVED AND ADOPTED by the City Council of the of San Fernando at a regular meeting held on this 6 of February 1989.

Roger Richardson
MAYOR

ST:

Donald E. Penman
CITY CLERK

OVED AS TO FORM:

Malcolm S. Rose
CITY ATTORNEY

IT:

I HEREBY CERTIFY that the foregoing Resolution was duly ted at a regular meeting of the City Council of the City an Fernando on February 6, 1989, and carried by the owing roll call vote:

AYES: Franco, Hansen, Richardson, Margarito - 4
NOES: None
ABSTAIN: None
ABSENT: Acuna - 1

Donald E. Penman
DONALD E. PENMAN, CITY CLERK

CITY OF SAN FERNANDO
RESOLUTION NO. 6091

ADOPTING THE CITY OF SAN FERNANDO
COMMON SENSE CONSERVATION PROGRAM

WHEREAS, the State of California has been suffering from water shortages due to a statewide five year drought; and

WHEREAS, the water supply of the Metropolitan Water District which provides imported water to the City of San Fernando has been severely limited due to that drought; and

WHEREAS, residents served by the City of San Fernando Water Department benefit from the implementation of effective water conservation programs that help to manage available water supplies; and

WHEREAS, the City of San Fernando, in 1977, for the purpose of ensuring water conservation practices, enacted Ordinance No. 1108 which prohibits water wastage and provides penalties for violation ; and

WHEREAS, the City of San Fernando, to encourage water conservation practices by its citizens, has also promoted a policy of cooperative water conservation by public education; and

WHEREAS, the residents of the City of San Fernando have demonstrated a spirit of cooperation in the implementation of the City's water conservation program;

NOW, THEREFORE, BE IT RESOLVED, that the San Fernando City Council declares its intent to continue to support water conservation activities within the City

boundaries by advocating the cooperative common sense conservation program described in Exhibit A.

PASSED AND ADOPTED this 4th day of March, 1991.

MAYOR, CITY OF SAN FERNANDO

ATTEST:

CITY CLERK

STATE OF CALIFORNIA)

COUNTY OF LOS ANGELES) SS

CITY OF SAN FERNANDO)

I, Mary Strenn, City Clerk of the City of San Fernando, do hereby certify that the foregoing Resolution was duly adopted by the City Council of the City of San Fernando and signed by the Mayor of said city at a meeting held on the 4th day of March, 1991; and that the same was passed by the following vote, to wit:

AYES: Acuna, Hernandez, Ponce, Wysbeek, Hansen - 5

NOES: None - 0

ABSENT: None - 0

ABSTAIN: None - 0

Mary Strenn, City Clerk

CC-028.PW

EXHIBIT A

" COMMON SENSE CONSERVATION PROGRAM "

CUSTOMER EFFORTS

1. All water customers will continue voluntary conservation efforts to avoid mandatory rationing, rate increases, and negative economic impacts to businesses and residents.

2. Compliance with the Section 4 of City Ordinance # 1108 prohibiting
   * Gutter flooding
   * Washing hard surfaced area
   * Irrigation between 10:00 am and 4:00 pm
   * Refill of ornamental fountains and pools
   * Leaks
   * Restaurants to serve water only on request
   * Wasting water

CITY EFFORTS

1. The City will concentrate on identifying and helping high water users, such as above average residential and high industrial users, through water audits to reduce water usage. This will be done through review of prior utility billing records and contacting the residents and businesses to determine why the use is above average. We will make suggestions on ways to conserve water and advise them of city ordinances and resolutions requiring water conservation. The City will continue to monitor highest users and report on the effects of this program.

2. Assure that City-owned facilities are using water conservation practices that are required by city ordinances and resolutions.

3. When possible, automatic landscape irrigation systems will be installed and timers set for watering only 3 times per week between the hours of 10:00 pm and 4:00 am. When rain weather is expected every effort shall be made to turn off the irrigation system. When sprinklers are broken or leaks are noticed they shall be repaired within 24 hrs.

4. PUBLIC INFORMATION:

Publish news articles in the local newspaper (San Fernando Sun, El Eco) each month until the water crises is over.

Make arrangements with Valley Cable to broadcast a 16-minute video titled " Your Water, Your Future" each week. This video will also be available for loan to individuals, schools, community service organizations for group showings.

Water conservation kits have previously been distributed to all water users in the City. These kits will be available to all citizens at the public counters in city hall.

Handouts, "25 Ways to do a Good Turn and Save Water" and "Water conservation Actions for Residential Customers/Business and Industrial Users/Water Purveyors and Other Industries", will be available in English and Spanish.

The Public Works field crews and enforcement officers will use the handouts and conservation kits as a reminder to customers that are observed wasting water.

5. The City Council will make every effort to encourage the Chamber of Commerce, local community service organizations, schools and churches to promote the water awareness and common sense water conservation. The Chamber of Commerce is also encouraged to advise all of their industrial and commercial members of the need to conserve water and avoid unnecessary future economic hardships.

6. A staff member will be designated as water conservation coordinator (WCC) for the City. This person will be responsible for implementing this resolution and coordinating with all members of the community. If anyone needs assistance in their water conservation efforts, such as literature, presentations, video, or installation of water conservation kit, they are encouraged to contact the WCC.

ENFORCEMENT

1. Section 6: of Ordinance 1108 provides the authority to enforce the water wasting rules and regulations of the City. The Public Works Director, Fire Chief, Water Superintendent and all law enforcement officers of the City are required to diligently enforce these rules and regulations. The City Council hereby directs those persons listed above to actively enforce the provisions of Ordinance 1108 and this resolution.

2. On the first offense the person will be informed that wasting water is in violation of the city code and this resolution. They will be give a conservation kit with appropriate handouts and a written warning citation (preliminary notice).

3. On the second offense, if the violation has not been corrected or such use terminated within 24 hours, the Water Division may:

* Disconnect service
* Install flow-restricting devices
* Issue a second preliminary notice

After issuing the second preliminary notice the person may be found guilty of a misdemeanor, punishable by a fine of not more than $300 or imprisonment for not more than 30 days.

RESOLUTION NO. 6462

ADOPTING THE CITY OF SAN FERNANDO
URBAN WATER MANAGEMENT PLAN

WHEREAS, the California State Legislature enacted Assembly Bill 797 - Urban Water Management Planning Act, requiring preparation of water management plans by urban water purveyors serving a specified number of customers; and

WHEREAS, the City of San Fernando falls under the requirements of AB 797 and must prepare and adopt an updated urban water management plan every five years for its service area; and

WHEREAS, the people served by the City of San Fernando Water Department benefit from the implementation of effective water conservation programs that help to manage available water supplies;

NOW, THEREFORE, BE IT RESOLVED, that the San Fernando City Council adopts the City of San Fernando Urban Water Management Plan for the City of San Fernando.

BE IT FURTHER RESOLVED, that the City of San Fernando City Council declares its intent to support water conservation activities within the City boundaries.

PASSED AND ADOPTED this 18th day of December, 1995.

JOANNE BALTIERREZ,
MAYOR, CITY OF SAN FERNANDO

ATTEST:

MARY SORENN, CITY CLERK

CC-357.PW

STATE OF CALIFORNIA)
COUNTY OF LOS ANGELES) SS
CITY OF SAN FERNANDO)

I, Mary Strenn, City Clerk of the City of San Fernando, do hereby certify that the foregoing Resolution was duly adopted by the City Council of the City of San Fernando and signed by the Mayor of said City at a meeting held on the 18th day of December, 1995; and that the same was passed by the following vote, to wit:.

AYES: Baltierrez, Chacon, Godinez, Wysbeek, Ojeda - 5

NOES: None - 0

ABSENT: None - 0

ABSTAIN: None - 0

Mary Strenn, City Clerk

CC-357.PW

The foregoing instrument is a full, true and correct copy of the original on file in this Office.
ATTEST: 12-28 19 95
Wilma Miller, Deputy
City Clerk of the City of San Fernando

fine not to exceed five hundred dollars ($500.00) or by imprisonment in the city or county jail not exceeding six (6) months, or by both such fine and imprisonment. (Ord. No. 1103, § 1, 5-2-77)

ARTICLE II. WATER WASTAGE*

Sec. 28.9. Definitions.

For the purposes of this article, the following terms, phrases, words and their derivations shall have the meanings given herein. When not inconsistent with the context, words used in the present tense include the future, words in the plural number include the singular number, and words in the singular number include the plural number. The word "shall" is always mandatory and not merely directory.

(1) *City* is the City of San Fernando.

(2) *Person* is any individual, firm, partnership, association, company or organization of any kind.

(3) *Water* is water supplied by the City of San Fernando. (Ord. No. 1108, § 2, 6-20-77)

Sec. 28.10. Applicability.

The provisions of this article shall apply to all persons using water in this city, regardless of whether any person using water shall have a contract for water service. (Ord. No. 1108, § 3, 6-20-77)

Sec. 28.10.1. Reclamation waste water system required for car washes.

All car washes shall be constructed with a waste water reclamation system approved by the public works director of the city. Such a waste water reclamation system shall be

*Editor's note—Sections 2—8 of Ord. No. 1108, adopted June 20, 1977, have been codified as Art. II, §§ 28.9—28.15, by the editors pursuant to instructions from the city.

the property if such running or escaping can reasonably be prevented.

(b) *Washing hard-surfaced areas.* No person shall use any water furnished to any property within the city to wash sidewalks, walks, driveways and parking lots by hosing.

(c) *Irrigation.* No person shall water or irrigate any shrubbery, trees, lawns, grass, ground covers, plants, vines, gardens, vegetables, flowers or other vegetation between the hours of 10:00 a.m. and 4:00 p.m.

(d) *Ornamental facilities.* No person shall refill any fountain, pool or other facility containing water solely for ornamental purposes emptied during the effectiveness of this article.

(e) *Leaks.* No person shall permit leaks of water which he has the authority to eliminate.

(f) *Restaurants.* Restaurants shall only serve water to customers upon request.

(g) [*Generally.*] No person shall cause or permit water under his control to be wasted. (Ord. No. 1108, § 4, 6-20-77)

Sec. 28.12. Exemptions.

(a) [*Permit.*] Persons may be exempted from application of this article to a certain type of use if the City of San Fernando's public works director issues a permit allowing such use and if such permit issuance is based on a finding that enforcement of the applicable restriction would either:

(1) Cause an unnecessary and undue hardship to the applicant or the public; or

(2) Cause or threaten an emergency condition affecting the health, sanitation, fire protection or safety of the applicant or the public.

(b) [*Conservation devices.*] The public works director may require the use of such water conservation devices or prac-

installed in existing car washes no later than December 31, 1979. The city council, however, may grant an extension of time, not exceeding three (3) years, for compliance with this section by existing car washes when undue hardship would otherwise result. No car wash shall be exempted pursuant to section 28.12 from the requirements of this section. (Ord. No. 1132, § 1, 10-16-78)

Editor's note—Section 1 of Ord. No. 1132, enacted Oct. 16, 1978, added provisions to the Code designated § 28.9.1, which provisions the editor has redesignated § 28.10.1 for purposes of classification.

Sec. 28.11. Prohibitions.

(a) *Gutter flooding.* No person shall cause or permit any water furnished to any property within the city to run or to escape from any hose, pipe, valve, faucet, sprinkler or irrigation device into any gutter or otherwise to escape from

Sec. 94-268. Private on-site fire hydrant charges.

(a) Private on-site fire hydrant rates shall be those shown on the following table:

Size of Hydrant (in inches)	*Bimonthly Charge Per Hydrant*
4	$ 62.70
6	92.40
8	123.20

(b) Water consumption recorded by the detector checkvalve bypass meter and used for purposes other than for fire sprinkler system testing or extinguishing purposes shall be discontinued immediately. Continued violation will result in the water division's shutting off the fire service or requiring a new meter to be installed at the customer's expense and changing the applicable water rate schedule to that shown under section 94-261.

(Code 1957, § 28.32; Ord. No. 1510, § 4, 11-1-1999)

Sec. 94-269. Backflow prevention fee.

An administrative fee of $5.00 per month per connection shall be charged to all utility accounts that have a backflow prevention device installed on the service connection to cover the cost of the administration of the annual inspection and testing program.

(Code 1957, § 28.33)

Sec. 94-270. Annual increase.

On July 1, 1993 and on July 1 of each year thereafter, the then-existing rates imposed under this article, sections 94-261, 94-265, 94-267 and 94-268 shall automatically increase by the percentage increase, if any, in the Consumer Price Index for all Urban Consumers for Los Angeles—Anaheim—Riverside (1982-84 equals 100) as published by the United States Department of Labor, Bureau of Labor Statistics ("index"), rounded to the nearest cent. The increases shall be cumulative. In determining the percentage increase, the index for the month of May immediately preceding the adjustment date shall be compared with the index for the like month of the previous year. In no event, however, shall the rates imposed be adjusted downward to reflect a percentage decrease in the index.

(Code 1957, § 28.34)

Secs. 94-271—94-295. Reserved.

DIVISION 4. WASTAGE

Sec. 94-296. Definitions.

The following words, terms and phrases, when used in this division, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:

Person means any individual, firm, partnership, association, company or organization of any kind.

Water means water supplied by the city.

(Code 1957, § 28.9)

Cross reference—Definitions generally, § 1-2.

Sec. 94-297. Applicability.

This division shall apply to all persons using water in this city, regardless of whether any person using water shall have a contract for water service.

(Code 1957, § 28.10)

Sec. 94-298. Reclamation wastewater system required for carwashes.

All carwashes shall be constructed with a wastewater reclamation system approved by the public

works director. No carwash shall be exempted pursuant to section 94-300 from the requirements of this section.
(Code 1957, § 28.10.1)

Sec. 94-299. Prohibitions.

(a) *Gutter flooding.* No person shall cause or permit any water furnished to any property within the city to run or to escape from any hose, pipe, valve, faucet, sprinkler or irrigation device into any gutter or otherwise to escape from the property if such running or escaping can reasonably be prevented.

(b) *Washing hard-surfaced areas.* No person shall use any water furnished to any property within the city to wash sidewalks, walks, driveways and parking lots by hosing.

(c) *Irrigation.* No person shall water or irrigate any shrubbery, trees, lawns, grass, ground covers, plants, vines, gardens, vegetables, flowers or other vegetation between the hours of 10:00 a.m. and 4:00 p.m.

(d) *Ornamental facilities.* No person shall refill any fountain, pool or other facility containing water solely for ornamental purposes emptied during the effectiveness of this division.

(e) *Leaks.* No person shall permit leaks of water which he has the authority to eliminate.

(f) *Restaurants.* Restaurants shall only serve water to customers upon request.

(g) *Wasting generally.* No person shall cause or permit water under his control to be wasted.
(Code 1957, § 28.11)

Sec. 94-300. Exemptions.

(a) *Permit.* A person may be exempted from application of this division to a certain type of use if the city's public works director issues a permit allowing such use and if such permit issuance is based on a finding that enforcement of the applicable restriction would either:

(1) Cause an unnecessary and undue hardship to the applicant or the public; or

(2) Cause or threaten an emergency condition affecting the health, sanitation, fire protection or safety of the applicant or the public.

(b) *Conservation devices.* The public works director may require the use of such water conservation devices or practices as he deems appropriate as a condition of the exemption permit. He shall promulgate a list of approved devices.
(Code 1957, § 28.12)

Sec. 94-301. Enforcement.

(a) The public works director, the fire chief and water superintendent have the duty and are authorized to enforce this division and shall have all the powers and authority contained in Penal Code § 836.5, including the power to issue written notice to appear.

(b) Each law enforcement officer shall, in connection with his duties imposed by law, diligently enforce this division.
(Code 1957, § 28.13)

Sec. 94-302. Remedies; penalties.

(a) *Notice of violation; procedure upon failure to correct.* Prior to enforcement pursuant to section 94-301, any person who is suspected of violating this division shall be given a preliminary notice in writing of such violation, with the description of violation set forth in such preliminary notice. The person shall have 24 hours to correct the violation or terminate the use. If the violation is not corrected or the use terminated, the water division may forthwith either:

(1) Disconnect service;

(2) Install flow-restricting devices restricting water service; or

(3) Order issuance of a second preliminary notice.

Service disconnected or restricted pursuant to subsection (a)(1) or (2) of this section shall be restored only upon payment of the turn-on and other charges fixed by this article or the rules and regulations of the water division.

(2) The duplex gauge is to be used to test double checkvalve assemblies. The duplex gauge is not to be used to test reduced pressure principle backflow assemblies or pressure vacuum breakers.

(Code 1957, § 28.22)

Sec. 94-233. Booster pumps.

When it becomes necessary, because of low water pressure or special operating conditions, to install a booster pump on the water service to any premises, such pump shall be equipped with a low pressure cutoff switch designed to shut off the pump when the pressure on the inlet side is 25 psig or lower. It shall be the duty of the consumer to maintain the cutoff device in proper working order and to certify to the city at least once a year that the device is operable. Low pressure cutoff device certification shall be by a person deemed competent by the city.

(Code 1957, § 28.23)

Sec. 94-234. Enforcement.

(a) *New service connections.* No new water service connections shall be completed or meters installed until there has been compliance with this division to the satisfaction of the city.

(b) *Existing service connections.* Existing service connections shall be brought into compliance with this division when the owner/user is so notified by the city. Failure to comply will result in termination of water service.

(c) *Termination of water service.* The city may immediately discontinue service to any premises where an actual or potential cross connection or other hazard to the city's water supply is found to exist. Any user who violates any of the sections of this division or who removes, alters, bypasses, or renders inoperative any backflow prevention device installed or who fails to test the device as required under this division shall be subject to immediate termination of water service.

(d) *Restoration of water service.* Water service terminated pursuant to subsection (b) or (c) of this section shall not be restored until the hazard is eliminated and/or until such violations of this division have been corrected to the satisfaction of the city. No water service shall be restored until the city has received reimbursement for any costs incurred in terminating the water service and advance payment for the cost of service restoration.

(e) *Appeal.* Procedures for appeals shall be as follows:

(1) Any water user whose service is subject to termination under this section may appeal the termination to the city administrative officer, who shall review the facts and circumstances which led to termination. The city administrative officer may affirm, modify or rescind the termination or the terms and conditions for restoration.

(2) The decision of the city administrative officer may be appealed to the city council by the user. The city council shall review, with fair opportunity for presentation of the user's position, the facts and circumstances and the city administrative's officer determination. The decision of the city council shall be final.

(f) *Civil and criminal actions.* Violation of this division may constitute a public nuisance within the meaning of Health and Safety Code § 116670 and Penal Code § 372. Violators may be subject to civil actions for abatement and/or damages (Civil Procedure Code § 3479 et seq.) and punishment as provided in section 1-10.

(Code 1957, § 28.24)

Secs. 94-235—94-260. Reserved.

DIVISION 3. RATES AND CHARGES

Sec. 94-261. Quantity water charges and service charges by meter size.

The following quantity water charges and service charges according to water meter size are established and shall be charged and collected by the city for all water sold, supplied, distributed, or transported to or for consumers situated in the

city and shall be applicable to all metered water within the city for which no other rate is specified:

(1) *Commodity charge.* The commodity charge per meter for each bimonthly period shall be as follows:

	Per Meter Per Bimonthly Period
a. For each 100 cubic feet (one unit) except as provided below.....	$0.88
b. Lifeline. For each 100 cubic feet (one unit), up to 2,000 cubic feet, for a household with a combined annual household income of less than $15,400.00.....	0.75

(2) *Service charge.* The following service charge, to be added to the commodity charge, for the size of the meter through which water is served shall be added to the commodity charge set forth in subsection (1) of this section:

Size of Meter (in inches)	*Per Bimonthly Period*
¾ and smaller	$ 21.00
Lifeline: ¾ and smaller, for dwelling units with gross annual household income of less than $15,400.00	17.75
1	28.75
1½	48.50
2	69.50
3	116.75
4	178.25
6	325.75
8	476.50

(Code 1957, § 28.4.1; Ord. No. 1510, § 1, 11-1-1999)

Sec. 94-262. Lifeline rate.

A lifeline water rate shall be available for any dwelling unit in which the household combined adjusted gross income, as used for purposes of the California Personal Income Tax Law, of all members of the household is less than $15,300.00 for the prior calendar year.
(Code 1957, § 28.26)

Sec. 94-263. Fees and charges.

Under this article, the following fees and charges will be collected as required:

(1) Security deposit for a new applicant (section 94-146) ..	$ 60.00
(2) Security deposit (minimum) for delinquent accounts (section 94-164)	100.00
(3) Delivery fee per unit for final disconnection notices (section 94-162)	5.00
(4) Administrative/reconnection fee (sections 94-163, 94-167)	30.00
(5) Tampering with meter (section 94-166)	35.00
(6) Reinstallation fee if meter has been removed (section 94-169)	35.00
(7) Reinstallation fee for inactive meter (section 94-168) .	35.00
(8) Returned check fee (section 94-167)	10.00

(Code 1957, § 28.27)

Sec. 94-264. Purchased water adjustment.

(a) The commodity charges under each service scheduled in section 94-261 shall be subject to an overriding unit adjustment to be applied to each 100 cubic feet of water sales to reflect changes in the cost of purchased water as defined in this section.

(b) Determination of the overriding unit adjustment shall be made from city accounting records six times yearly for each of the 12-calendar-month periods ending with January 31, March 31, May 31, July 31, September 30, and November 30 as follows: The annual cost of all water purchased for distribution by the city shall be divided by the division's total water sales (in units of 100 cubic

feet) for the same 12-month period. The quotient so obtained shall be expressed to the nearest $0.0001 per 100 cubic feet of water and shall be multiplied by all units of 100 cubic feet of water sales as shown on customer billings for a period of water use regularly scheduled to end within the second and third billing months following the 12-month period used for the unit adjustment computation. The resultant product in each case shall be expressed to the nearest $0.01 and, unless otherwise provided therein, shall be the total overriding adjustment to be added to each water service billing.

(c) Cost of purchased water shall include the total cost to the city of all water delivered to the division's system from the metropolitan water district or other suppliers. Reimbursements received by the city for purchased water costs which are or have been included in the calculation of the overriding unit adjustment shall be included as a credit in the determination of the cost of purchased water for the month in which such reimbursement is received.
(Code 1957, § 28.28)

Sec. 94-265. Installation and capital facility charges.

The following installation charges and capital facility charges are hereby established, and shall be charged and collected by the city for making all water connections for consumers situated within the city, and said rates shall be paid before such connections are made. In the case of service connections larger than one inch, the installation charges listed below shall constitute deposits against the actual cost of the labor, materials and equipment plus 35-percent overhead expended by the city in the installation. Upon the completion of such work, said actual cost, including overhead, shall be deducted from the paid deposit, and any excess or the deposit over such cost shall be refunded. In the event the actual cost, including overhead, exceeds such deposit, the applicant for such service connection shall, upon demand, pay the same to the city, and for failure to pay such excess to the city, the city shall have the right to refuse water service through such meter and to turn the water service off and/or disconnect the same.

(1) The installation charges and capital facility charges shall be as follows:

User Classification	*Water Meter Size (in inches)*	*Capital Facility Charge*	*Installation Charge or Deposit*	*Total Connection Charge*
Residential (per dwelling unit)		$ 550.00	$ 1,450.00	$ 2,000.00
Commercial/institutional/industrial (water meter size):				
	¾	550.00	1,450.00	2,000.00
	1	920.00	1,500.00	2,420.00
	1½	1,840.00	2,200.00	4,040.00
	2	2,940.00	2,500.00	5,440.00
	3	5,500.00	5,000.00	10,500.00
	4	9,170.00	7,800.00	16,970.00
	6	18,340.00	10,600.00	28,940.00
	8 and over	29,340.00	13,400.00	42,740.00
Fire service connection, unmetered (one-third of metered service plus installation):				
	2	970.00	2,500.00	3,470.00
	3	1,815.00	5,000.00	6,815.00

User Classification	Water Meter Size (in inches)	Capital Facility Charge	Installation Charge or Deposit	Total Connection Charge
	4	3,026.00	7,800.00	10,826.00
	6	6,052.00	10,600.00	16,652.00
	8 and over	9,682.00	13,400.00	23,082.00

(2) The fire hydrant installation charges are as follows:

a. Change fire hydrant top. Remove single hydrant and install four-inch by four-inch or four-inch by 2½-inch double wet-barrel fire hydrant ..... $ 870.00

b. New six-inch wet-barrel fire hydrant four-inch by four-inch or four-inch by 2½-inch, including six-inch gate valve, six-inch lateral and appurtenances, connection to existing main 2,900.00

For service connections and installations wherein a deposit is required, the actual cost of labor, equipment and materials plus 35-percent overhead shall be computed after completion of the work. The cost shall be deducted from the deposit, and any excess of the deposit over such cost shall be refunded to the person originally making such deposit. If the aggregate cost including city overhead exceeds such deposit, the applicant for such service connection shall, upon demand, pay the additional amount to the city. For failure to pay such excess to the city, the city shall have the right to refuse water service through such meter and turn the water off and/or disconnect the water.

(Code 1957, § 28.29; Ord. No. 1510, § 2, 11-1-1999)

Sec. 94-266. Eddy valves and meters for construction work.

(a) The following charges are hereby fixed and established for the use of water from construction meters furnished by the city:

(1) Construction water rate: $1.40 per 100 cubic feet, plus $1.50 per calendar day.

(2) Deposit: $850.00 for a three-inch meter and eddy valve, or as determined by the director for larger sizes.

(3) Administration charge: $100.00 with a signed application by an authorized person.

(b) Charges for water usage and the daily fee shall be billed quarterly, or sooner if indicated by usage.

(c) The deposit for the construction meter shall be returned to the person making the deposit less charges for water and daily use, upon return of the device in satisfactory condition to the water superintendent.

(d) Construction water rates will be charged to all contractors or persons who use the city water system for temporary water, including contractors for city construction and maintenance projects.

(Code 1957, § 28.30)

Sec. 94-267. Private fire protection charge.

The following rates shall apply to a customer having a private on-site fire service used exclusively for fire protection, whether the lines are connected to an automatic sprinkler system or to a hose attachment, but do not include on-site fire hydrants:

Size of Service in inches	Bimonthly Charge For Service
2 or smaller	$ 51.70
3	77.00
4	102.30
6	155.10
8	205.70
10	256.30
12	308.00

(Code 1957, § 28.31; Ord. No. 1510, § 3, 11-1-1999)

Sec. 94-268. Private on-site fire hydrant charges.

(a) Private on-site fire hydrant rates shall be those shown on the following table:

Size of Hydrant (in inches)	*Bimonthly Charge Per Hydrant*
4	$ 62.70
6	92.40
8	123.20

(b) Water consumption recorded by the detector checkvalve bypass meter and used for purposes other than for fire sprinkler system testing or extinguishing purposes shall be discontinued immediately. Continued violation will result in the water division's shutting off the fire service or requiring a new meter to be installed at the customer's expense and changing the applicable water rate schedule to that shown under section 94-261.
(Code 1957, § 28.32; Ord. No. 1510, § 4, 11-1-1999)

Sec. 94-269. Backflow prevention fee.

An administrative fee of $5.00 per month per connection shall be charged to all utility accounts that have a backflow prevention device installed on the service connection to cover the cost of the administration of the annual inspection and testing program.
(Code 1957, § 28.33)

Sec. 94-270. Annual increase.

On July 1, 1993 and on July 1 of each year thereafter, the then-existing rates imposed under this article, sections 94-261, 94-265, 94-267 and 94-268 shall automatically increase by the percentage increase, if any, in the Consumer Price Index for all Urban Consumers for Los Angeles—Anaheim—Riverside (1982-84 equals 100) as published by the United States Department of Labor, Bureau of Labor Statistics ("index"), rounded to the nearest cent. The increases shall be cumulative. In determining the percentage increase, the index for the month of May immediately preceding the adjustment date shall be compared with the index for the like month of the previous year. In no event, however, shall the rates imposed be adjusted downward to reflect a percentage decrease in the index.
(Code 1957, § 28.34)

Secs. 94-271—94-295. Reserved.

DIVISION 4. WASTAGE

Sec. 94-296. Definitions.

The following words, terms and phrases, when used in this division, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:

Person means any individual, firm, partnership, association, company or organization of any kind.

Water means water supplied by the city.
(Code 1957, § 28.9)
Cross reference—Definitions generally, § 1-2.

Sec. 94-297. Applicability.

This division shall apply to all persons using water in this city, regardless of whether any person using water shall have a contract for water service.
(Code 1957, § 28.10)

Sec. 94-298. Reclamation wastewater system required for carwashes.

All carwashes shall be constructed with a wastewater reclamation system approved by the public

Appendix H: MWD RUWMP Sections II & IV

City of San Fernando 2010 Urban Water Management Plan

Planning for the Future

2

The purpose of this section is to show how Metropolitan plans to meet Southern California's water supply needs in the future. In its role as supplemental supplier to the Southern California water community, Metropolitan faces ongoing challenges in meeting the region's needs for water supply reliability and quality. Increased environmental regulations and competition for water from outside the region have resulted in changes in delivery patterns and timing of imported water supply availability. At the same time, the Colorado River watershed has experienced a protracted drought since 1999 while total water demand continues to rise within the region because of population and economic growth.

As described in the previous chapter, the water used in Southern California comes from a number of sources. About one-third comes from local sources, and the remainder is imported from three sources: the Colorado River, the Sacramento-San Joaquin River Delta (via the State Water Project), and the Owens Valley and Mono Basin (through the Los Angeles Aqueducts).[1]

Because of competing needs and uses associated with these resources, and because of concerns related to regional water operations, Metropolitan has undertaken a number of planning initiatives over the past fifteen years. This Regional Urban Water Management Plan summarizes these efforts, which include the Integrated Resources Plan (IRP), two IRP Updates, the Water Surplus and Drought Management Plan, the Water Supply Allocation Plan, and the Long-term Conservation Plan. Collectively, they provide a policy framework with guidelines and resource targets for Metropolitan to follow into the future.

While Metropolitan coordinates regional water supply planning for the region through its inclusive integrated planning processes, Metropolitan's member agencies also conduct their own planning analyses – including their own urban water management plans – and may develop projects independently of Metropolitan. Appendix A.5 shows a list of these potential local projects provided to Metropolitan by its member agencies.

[1] Although the water from the Los Angeles Aqueduct is imported, Metropolitan considers it a local source because it is managed by the Los Angeles Department of Water and Power and not by Metropolitan.

2.1 Integrated Resource Planning

The 1996 IRP Process

Acknowledging the importance of water to the economic and social well-being of Southern California, Metropolitan has gradually shifted roles from an exclusive supplier of imported water to a regional water planner working in collaboration with its member agencies. After the drought of 1987-1992, Metropolitan recognized the changed conditions and the need to develop a long-term water resources strategy to fulfill the agency's mission of providing a high-quality reliable water supply to its service area. This planning process that was undertaken is now known as the Integrated Resources Plan (IRP). The first IRP was adopted by Metropolitan's Board in 1996 and guided by six objectives established early in the process:

1. Ensuring Reliability
2. Ensuring Affordability
3. Ensuring Water Quality
4. Maintaining Diversity
5. Ensuring Flexibility
6. Acknowledging Environmental and Institutional Constraints.

One of the fundamental outcomes of the IRP was the recognition that regional water supply reliability could be achieved through the implementation of a diverse portfolio of resource investments and conservation measures. The resulting IRP strategy was a balance between demand management and supply augmentation. For example, in its dry year profile, the resource framework counted on almost equal proportion of water conservation and recycled water as withdrawal from storage and water transfers. The IRP also balanced between the use of local resources and imported supplies. In a dry year, about 55 percent of the region's water resources come from local resources and conservation. Additionally, through the IRP process Metropolitan found solutions that offer long-term reliability at the lowest possible cost to the region as a whole.

The 1996 IRP, as a blueprint to resource program implementation, also established the "Preferred Resource Mix that would provide the Metropolitan region with reliable and affordable water supplies through 2020.

The IRP provided details on the Preferred Resource Mix and guidelines to established broad resource targets for each of the major supplies available to the region including:

- Conservation
- Local Resources - Water Recycling, Groundwater Recovery and Desalination
- Colorado River Supplies and Transfers
- State Water Project Improvement
- In-Region Surface Reservoir Storage
- In-Region Groundwater Storage

The 2004 IRP Update

In 2004, the Metropolitan Board adopted an updated IRP. Various legislative issues concerning population growth and water supply called for further planning considerations of these changed conditions. This IRP Update had three objectives:

1. Review the goals and achievements of the 1996 IRP
2. Identify the changed conditions for water resource development
3. Update resource development targets through 2025

The 2004 IRP process fulfilled the new objectives and updated the long-term plan to account for new water planning legislation. The updated plan contained resource development targets through 2025, which reflected changed conditions; particularly increased conservation savings, planned increases in local supplies and uncertainties. The 2004 IRP also explicitly recognized the need to handle uncertainties inherent in any planning process. For the water industry, some of these uncertainties are the level of population and economic growth which directly drive water demands, water quality regulations, new chemicals

found to be unhealthful, endangered species affecting sources of supplies, and periodic and new changes in climate and hydrology. As a result, a key component of the Updated Plan was the addition of a 10 percent planning buffer. The planning buffer provided for the identification of additional supplies, both imported and locally developed, that can be implemented to address uncertainty in future supplies and demands.

2010 Integrated Water Resources Plan Update

Metropolitan and its member agencies face increasing uncertainties and challenges as they plan for future water supplies. The 1996 and 2004 IRP resource strategies emphasized the need for a diverse and adaptable water supply strategy to cope with changing circumstances and conditions. Recent history and events have highlighted several emerging trends that need to be addressed in the context of the region's water supply planning and reliability. These trends cover a wide range of considerations including climate change, energy use and greenhouse gas emissions, endangered species protection and conveyance needs in the Sacramento-San Joaquin River Delta system. These trends point strongly to the importance of updating the region's Integrated Resources Plan, and to the need to solidify adaptive strategies to address additional challenges into the long-term future.

The basic objectives of the current IRP process are to:

1. Review the achievements of the 1996 IRP and the 2004 Update
2. Identify changing conditions affecting water resource development
    - Attention will be given to emerging factors and considerations, such as the current drought, climate change, energy use, and changes in Delta pumping operations
3. Update resource development targets through 2030
    - Discussion will focus on adaptation to future uncertainties, and potential alternatives for further diversifying Metropolitan's water resource portfolio and increasing supply reliability in the face of changing circumstances

Public Process

The current IRP Update process has sought input from member agencies, retail water agencies, other water and wastewater managers, environmental, business and community interests. In the fall of 2008, Metropolitan's senior management, Board of directors, member agency managers, elected officials, and community groups collectively discussed strategic direction and regional water solutions at a series of four stakeholder forums; nearly 600 stakeholders participated in the forums.

Similar types of ideas and issues were raised by the participants at all the forums, emphasizing the importance of local resources development and resolving issues with the Delta. Participants suggested that Metropolitan should take a leadership position in several areas including:

- Providing outreach to legislators concerning needs for water supply reliability and quality improvements
- Developing brine lines to enhance recycled water use
- Fostering partnerships with energy utilities
- Building relationships with environmental community
- Participating in research and development of new technologies
- Providing assistance to retail agencies in designing "correct" tiered rate structures

Technical Workgroup Process

Following the stakeholder forums, Metropolitan embarked upon a Technical Workgroup Process to further explore some of the issues and opportunities identified by forum participants. To facilitate the workgroup process, the technical discussions were grouped into six resource areas:

- Conservation
- Graywater
- Groundwater
- Recycled water
- Stormwater / Urban Runoff
- Seawater Desalination

The Technical Workgroup process provided a forum for review of the issues associated with each area, and in-depth discussions with area experts. The workgroups included member agency and retail agency staff, other non-governmental organizations, and staff from wastewater and stormwater management agencies, as well as Metropolitan staff and consultants.

Strategic Policy Review

As part of the current IRP update process, Metropolitan's Board initiated a Strategic Policy Review. This Review examined the ramifications of alternative roles for Metropolitan, member agencies and local retail agencies in future development of water resources. The process explored three alternative policy cases:

1. Current approach – continuation of IRP policies and partnerships with member agencies
2. Imported focus – Metropolitan focuses on addressing Delta issues, imported supplies and water transfers and leaves local supply development entirely to member agencies
3. Enhanced Regional focus – Metropolitan examines new approaches, up to and including development and ownership for implementing large regional scale water recycling, groundwater recharge and seawater desalination

A study of water supply reliability and cost impacts associated with these approaches found that it is in the region's best interest for Metropolitan to continue to explore ways of increasing regional reliability and not limiting itself to singular areas like addressing Delta issues. The study results under this process was a broader view of Metropolitan's role in comprehensive planning and implementation for regional reliability; adopting an adaptive resource development plan for the future may provide the most benefit for the region. In this adaptive approach, Metropolitan may need to take on an enhanced role in local supply development, in order to best adapt and respond to changing regional conditions and lay a solid foundation for future reliability. This role could include the creation of partnership with local agencies or Metropolitan's direct ownership of local projects to ensure regional reliability. The adaptive approach would be incorporated into the 2010 IRP for Board consideration.

Uncertainty Analysis

A major component of the current IRP update effort is to explicitly reflect uncertainty in Metropolitan's future water management environment. This involves evaluating a wider range of water management strategies, and seeking robust and adaptive plans that respond to uncertain conditions as they evolve over time, and that ultimately will perform adequately under a wide range of future conditions. The potential impacts and risks associated with climate change, as well as other major uncertainties and vulnerabilities, will be incorporated in to the update and accounted for. A key evolution from the 2004 IRP will be the identification of vulnerabilities and contingency actions that will extend the concept of a Planning Buffer into tangible actions that will enable construction and implementation of contingency supplies if they are needed.

Adaptive Planning Implementation

Regional water supply reliability largely depends on Metropolitan's preparedness to adapt to supply uncertainties. An adaptive management approach was utilized in developing a strategy that will prepare the region to deal with unforeseen supply shortages. An important step in this approach is identifying where additional water supply will come from. Four local water sources were considered:

- Stormwater
- Recycled Water
- Graywater
- Seawater

The stakeholder groups established during the IRP process evaluated the viability of using one or more of these resources to supplement existing water supply in the region. The stakeholders (e.g., member agencies, retail agencies, and industry experts) gathered important information on each resource such as regional development status, yield potential, and implementation challenges.

Another key aspect of this strategy is determining what actions are required to eliminate or mitigate the implementation challenges in developing these resources. The adaptive approach essentially provides a blueprint on how to address these challenges and develop supply within each resource.

The most important aspect of this strategy is the adaptive management approach used in responding to potential water supply shortage. The implementation elements identified within each blueprint can be executed at varying levels of urgency. Under the adaptive approach, Metropolitan developed three alternative implementation schedules for each resource:

- Status Quo
- Proactive
- Aggressive

Status Quo entails delaying action until a trigger is met. A trigger sets the point in time at which a potential shortage is identified and when deliberate action is taken to mitigate that shortage. The Proactive schedule implements low-risk actions early-on regardless of whether a trigger occurs. Implementing these low-risk actions shortens the overall time required to complete the implementation schedule. The Aggressive option implements both low-risk and medium-to-high risk actions that may require significant investment (e.g. land acquisition). By initiating these actions early-on, the overall implementation time can be shortened significantly. Table 2-1 highlights the differences between each schedule.

Table 2-1
Schedule Options

Schedule Option	Brief Description	Timeframe from Trigger to Production Yield	Financial Risk
Status Quo	Delay action until the adaptive management trigger occurs	Long	Low
Proactive	Begin planning actions (generally lower cost) before the adaptive management trigger occurs	Medium	Medium
Aggressive	Perform project implementation actions, such as land acquisition, before the adaptive management trigger occurs	Short	High

This strategy also utilizes an adaptive approach for determining an optimal project mix, or portfolio, used to meet a supply gap. The portfolio can comprise of projects from any of the four resources. Project drivers such as cost, yield, implementation time, and location of the project will be used to create customized portfolios that could address specific needs. For example, if a water supply shortage is occurring in a specific area, the portfolio could contain projects that serve that area. Another example might entail selecting projects that have the shortest implementation time in order to expedite supply development. Yet another example might involve selecting the most cost-efficient projects ($/AF) regardless of implementation time or location if minimizing costs is of highest priority. Furthermore, the number of projects within a portfolio is scalable based on the level of shortage at hand. This comprehensive approach is illustrated in Figure 2-1.

Metropolitan's adaptive approach is basically organized into four individual sections referred to as Foundational Studies. These individual studies discuss in detail the implementation challenges and recommended action for each resource. The first step in developing planning actions is categorizing the implementation challenges within each resource. In most cases the categories represent common themes such as establishing funding projects (Funding) or garnering legislative support (Legislative). The next step in developing planning actions is identifying implementation elements that mitigate the implementation challenges. This step involves identifying specific actions that are needed to support each implementation element. The last step in this process is developing of timelines and implementation schedules. Three alternative implementation schedules are developed for each resource.

Tables 2-2 through 2-5 summarize the categories and implementation elements for each resource. Detailed actions and schedules can be found in the foundational studies.

Figure 2-1 Comprehensive Approach

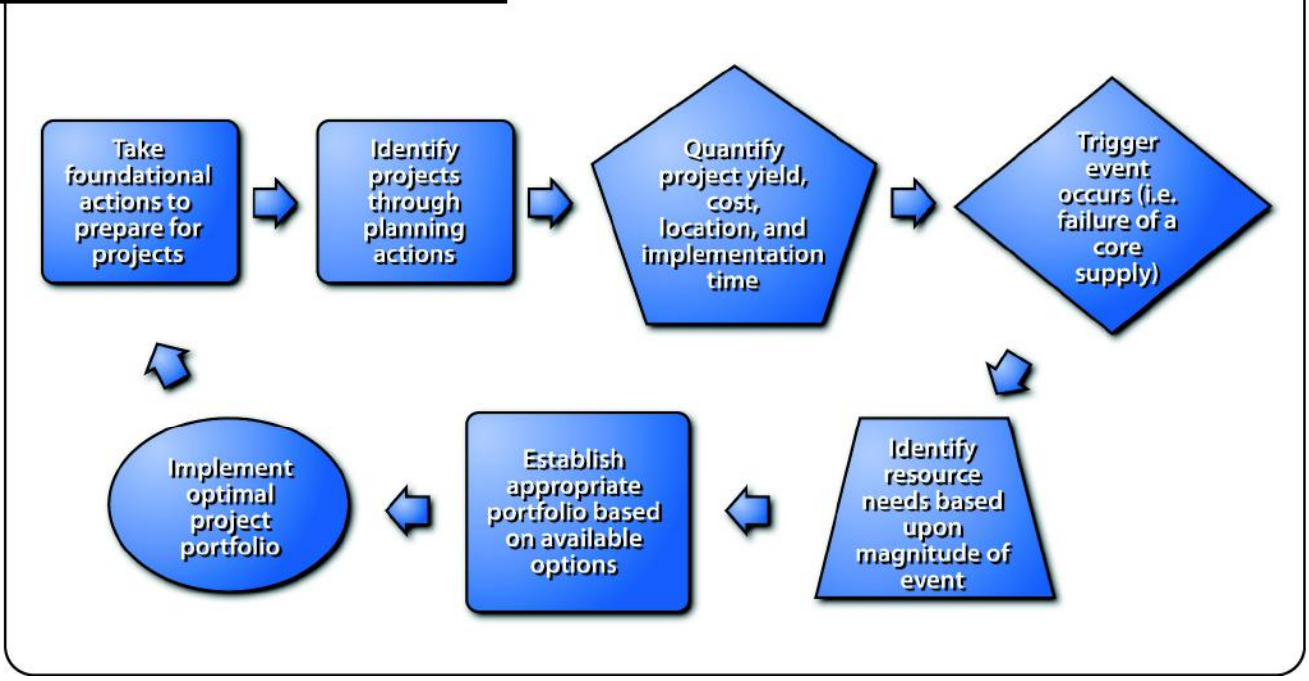

Table 2-2
Stormwater Issue Categories and Implementation Elements

Category	Implementation Element
Data Management	Regional Water Supply Project Database
Legislative/Regulatory/Education	Regional Synergy Task Force
Procedural	Regional Implementation Partnerships
Technical	Regional Feasibility Study
Funding	Funding Strategy Plan
Operational	Local Resource Baseline Plan
Implementation Planning	Alternatives Analysis Plan
Project Implementation	Incentive Programs Land Acquisition Advanced Planning Design Construction
Post Construction	O&M Performance Monitoring

Table 2-3
Recycled Water Issue Categories and Implementation Elements

Category	Implementation Element
Public Perception	Recycled Marketing Campaign Recycled Water Educational Campaign
Legislative	Recycled Water Legislative Task Force
Funding	Regional Recycled Water Finance Committee
Procedural	Regional Recycled Water Permitting and Inspection JPA Regional Recycled Water Policy Task Force
Operational	Regional Salt Management Plan Regional Basin Management Plan Recycled Water Blue Ribbon Panel (SWRCB) Regional Recycled Water Facility Plan
Facility	Regional Project (CIP) Implementation Joint Groundwater Replenishment Project

Table 2-4
Graywater Issue Categories and Implementation Elements

Category	Implementation Element
Public Perception	Graywater Marketing Campaign Graywater Educational Campaign
Legislative	Graywater Legislative Task Force
Technical	Regional Graywater Feasibility Study
Funding	Regional Graywater Finance Committee
Procedural	Regional Graywater Permitting and Inspection Regional Graywater Policy Task Force
Operational	Regional Graywater Management Plan
Construction	Regional Project Implementation

Table 2-5
Desalination Issue Categories and Implementation Elements

Category	Implementation Element
Data Management	Regional Water Supply Project Database
Legislative/Regulatory/Education	Regional Synergy Task Force
Procedural	Regional Implementation Partnerships
Technical	Regional Feasibility Study
Funding	Funding Strategy Plan
Operational	Local Resource Baseline Plan
Project Implementation	Incentive Programs Alternatives Analysis Plan Land Acquisition Advanced Planning Design Construction
Post Construction	O&M Performance Monitoring

Innovative approaches are critical to meeting the water supply needs of Southern California. Maintaining reliable water supplies given regulatory uncertainty, competing uses of groundwater and surface water, and overall variability in water supply is a growing challenge. An adaptive regional approach that develop, promote, and practice integrated regional water management of both traditional and emerging supplies may be the key to continued regional reliability.

2.2 Evaluating Supply Reliability

The Urban Water Management Plan Act requires that three basic planning analyses be conducted to evaluate supply reliability. The first is a water supply reliability assessment requiring development of a detailed evaluation of the supplies necessary to meet projected demands over at least a 20-year period. This analysis is to consider average, single-year and multi-year drought conditions. The second is a water shortage contingency plan which documents the actions that would be implemented in addressing up to a 50 percent reduction in an agency's supplies. Finally, a plan must be developed specifying the steps that would be taken under a catastrophic interruption in water supplies.

To address these three requirements, Metropolitan developed estimates of future demands and supplies from local sources and from Metropolitan. Supply and demand analyses for the single- and multi-year drought cases were based on conditions affecting the SWP. For this supply source, the single driest year was 1977 and the three-year dry period was 1990-1992. The SWP is the appropriate point of reference for these analyses since it is Metropolitan's largest and most variable supply. For the "average" year analysis 83 years of historic hydrology (1922-2004) were used to estimate supply and demand.

Estimating Demands on Metropolitan

Metropolitan developed its demand forecast by first estimating total retail demands for its service area and then factoring out water savings attributed to conservation.[2] Projections of local supplies then were derived using data on current and expected local supply programs and the IRP Local Resource Program Target. The resulting difference between total demands net of conservation and local supplies is the expected regional demands on Metropolitan supplies. These various estimates are shown in Tables 2-6 through 2-8. Major categories used in these tables are defined below.

Total Demands

Total demand is the sum of retail demand for M&I and agricultural, seawater barrier demand, and replenishment demand. Total demand represents the total amount of water needed by the member agencies. Total demands include:

- Retail Municipal and Industrial (M&I) — Retail Municipal and Industrial (M&I) demands represent the full spectrum of urban water use within the region. These include residential, commercial, industrial, institutional and un-metered water uses. To forecast urban water demands Metropolitan used the MWD-MAIN Water Use Forecasting System (MWD-Main), consisting of econometric models that have been adapted for conditions in Southern California. The demographic and economic data used in developing these forecasts were taken from the Southern California Association of Government's (SCAG) 2007 Regional Transportation Plan and from the San Diego County Association of Government's (SANDAG) Series 12: 2050 Regional Growth Forecast (Feb 2010). The SCAG and SANDAG regional growth forecasts are the core assumptions that drive the estimating equations in Metropolitan's MWD-MAIN demand forecasting model. SCAG and SANDAG's projections undergo extensive local review and incorporate zoning information from city and county general plans and are backed by Environmental Impact Reports.

  Impacts of potential annexation are not included in the demand projections for the 2010 RUWMP. However, Metropolitan's Review of Annexation Procedures concluded that the impacts of annexation within the service area beyond 2020 would not exceed 2 percent of overall demands.

[2] Information generated as part of this analysis are contained in Appendix A-1.

- Retail Agricultural Demand — Retail agricultural demands consist of water use for irrigating crops. Member agencies estimate agricultural water use based on many factors, including farm acreage, crop types, historical water use, and land use conversion. Each member agency estimates their agricultural demand differently, depending on the availability of information. Metropolitan relies on member agencies' estimates of agricultural demands for the 2010 RUWMP
- Seawater Barrier Demand — Seawater barrier demands represent the amount of water needed to hold back seawater intrusion into the coastal groundwater basins. Groundwater management agencies determine the barrier requirements based on groundwater levels, injection wells, and regulatory permits.
- Replenishment Demand — Replenishment demands represent the amount of water member agencies plan to use to replenish their groundwater basins. For the 2010 RUWMP, replenishment deliveries are not included as part of firm demands.

Conservation Adjustment

The conservation adjustment subtracts estimated conservation from total retail demand. The conservation estimates consist of three types:

- Code-Based Conservation — Water savings resulting from plumbing codes and other institutionalized water efficiency measures.
- Active Conservation — Water saved as a direct result of programs and practices directly funded by a water utility (e.g., measures outlined by the California Urban Water Conservation Council's "Best Management Practices"). Water savings from active conservation currently completed will decline to zero as the lifetime of those devices is reached. This will be offset by an increase in water savings for those devices that are mandated by law, plumbing codes or other efficiency standards.
- Price Effect Conservation — Reductions in customer use attributable to changes in the real (inflation adjusted) cost of water.

Water Use Reduction Target

On November 10, 2009, the state Legislature passed Senate Bill 7 as part of the Seventh Extraordinary Session, referred to as SBX7-7. This new law is the water conservation component of the historic Delta legislative package, and seeks to achieve a 20 percent statewide reduction in urban per capita water use in California by December 31, 2020. According to Water Code §10608.36, wholesale agencies are required to include in their UWMPs an assessment of present and proposed future measures, programs, and policies that would help achieve the water use reductions required under SBX7-7. Urban wholesale water suppliers are not required to comply with the target-setting and reporting requirements of SBX7-7. Additional discussion of the water reduction target is included in Section 3.7.

Based on Metropolitan's analysis of population and demand and the methodologies for setting targets described in the legislation, compliance with 20x2020 on an individual agency basis throughout the region would result in reduced potable demand of 380 TAF in 2020 through additional conservation and/or recycling. This estimated amount is reflected in the projected demand tables under 20x2020 Retail Compliance.

Local Supplies

Local supplies represent a spectrum of water produced by the member agencies to meet their total demands. Local supplies are a key component in determining how much Metropolitan supply is needed to supplement member agencies local supplies to meet their total demand. Projections of local supplies relied on information gathered from a number of sources including past urban water management plans, Metropolitan's annual local production surveys, and

communications between Metropolitan and member agency staff. Local supplies include:

- Groundwater and Surface Water — Groundwater production consists of extractions from local groundwater basins. Surface water comes from stream diversions and rainwater captured in reservoirs.
- The Los Angeles Aqueduct — A major source of imported water is conveyed from the Owens Valley via the Los Angeles Aqueduct (LAA) by LADWP. Although LADWP imports water from outside of Metropolitan's service area, Metropolitan classifies water provided by the LAA as a local resource because it is developed and controlled by a local agency.
- Seawater desalination — Seawater desalinated for potable use.
- Groundwater Recovery and Recycled Water — Locally developed and operated, groundwater recovery projects treat contaminated groundwater to meet potable use standards. Recycled water projects recycle wastewater for municipal and industrial use.
- Non-Metropolitan Imports — Water supplies imported by member agencies from sources outside of the Metropolitan service area.

The local supply projections presented in demand tables include existing projects that are currently producing water and projects that are under construction. Appendix A.5 contains a complete list of existing, under construction, fully designed with appropriated funds, feasibility, and conceptual projects that are within the service area.

Firm Demands

After calculating the expected regional demands on Metropolitan supplies, projected firm demands were calculated based on Metropolitan's established reliability goal. For the purposes of reliability planning, the 1996 IRP established a reliability goal that states that full service demands at the retail level would be satisfied under all "foreseeable hydrologic" conditions through 2020. This principle has been retained in the current update.

This goal allows for intermittent interruptions to non-firm, discounted rate supplies sold under the Replenishment and Interim Agricultural Water Programs. Thus, firm demand on Metropolitan equals Full Service demands (Tier I and Tier II). For the purpose of analysis, "foreseeable hydrologic conditions" is understood to mean under "historical hydrology," which presently covers the range of historical hydrology spanning the years 1922 through 2004. Tables 2-6 through 2-8 show estimates of firm demands on Metropolitan for single dry-year, multiple dry-year, and average year.

Table 2-6
Metropolitan Regional Water Demands
Single Dry Year
(Acre-Feet)

		2015	2020	2025	2030	2035
A.	**Total Demands[1]**	**5,480,000**	**5,662,000**	**5,804,000**	**5,961,000**	**6,101,000**
	Retail Municipal and Industrial	5,000,000	5,194,000	5,354,000	5,515,000	5,653,000
	Retail Agricultural	231,000	213,000	193,000	186,000	186,000
	Seawater Barrier	71,000	72,000	72,000	72,000	72,000
	Groundwater Replenishment	177,000	184,000	186,000	188,000	191,000
B.	**Total Conservation**	**936,000**	**967,000**	**1,033,000**	**1,096,000**	**1,156,000**
	Existing Active (through 2009)[2]	97,000	46,000	16,000	2,000	0
	Code-based and Price-Effect	589,000	671,000	766,000	844,000	906,000
	Pre-1990 Conservation	250,000	250,000	250,000	250,000	250,000
C.	**SBx7-7 Water Conservation**	**190,000**	**380,000**	**380,000**	**380,000**	**380,000**
	20% by 2020 Retail-Level Compliance	190,000	380,000	380,000	380,000	380,000
D.	**Total Local Supplies**	**2,260,000**	**2,322,000**	**2,366,000**	**2,405,000**	**2,419,000**
	Groundwater	1,457,000	1,395,000	1,407,000	1,423,000	1,416,000
	Surface Water	98,000	97,000	97,000	97,000	97,000
	Los Angeles Aqueduct	66,000	66,000	66,000	66,000	66,000
	Groundwater Recovery	101,000	108,000	114,000	120,000	126,000
	Total Recycling	348,000	375,000	394,000	410,000	426,000
	Other Imported Supplies	190,000	281,000	288,000	288,000	288,000
E.	**Total Metropolitan Demands (E=A-B-C-D)**	**2,094,000**	**1,993,000**	**2,025,000**	**2,080,000**	**2,146,000**
	Full Service (Tier I and Tier II)	1,991,000	1,889,000	1,921,000	1,974,000	2,039,000
	Replenishment Service[3]	103,000	103,000	104,000	106,000	107,000
	Interim Agricultural Water Program[4]	0	0	0	0	0
3	**Firm Demands on Metropolitan[5]**	**1,991,000**	**1,889,000**	**1,921,000**	**1,974,000**	**2,039,000**

Notes:
All units are acre-feet unless specified, rounded the nearest thousand.
Totals may not sum due to rounding.
[1] Growth projections are based on SCAG 2007 Regional Transportation Plan and SANDAG Series 12 2050 Regional Growth Forecast (Feb 2010).
[2] Includes code-based, price-effect and existing active savings through 2009; does not include future active conservation savings. 1990 is base year.
[3] Replenishment Service as defined in MWD Administrative Code Section 4114. Replenishment service includes direct and in-lieu replenishment.
[4] IAWP deliveries will be phased out by 2013.
[5] Firm demand on Metropolitan equals Full Service demands plus 70% of the Interim Agricultural Water Program demands.

Table 2-7
Metropolitan Regional Water Demands
Multiple Dry Year
(Acre-Feet)

		2015	2020	2025	2030	2035
A.	**Total Demands[1]**	**5,478,000**	**5,702,000**	**5,862,000**	**6,017,000**	**6,161,000**
	Retail Municipal and Industrial	5,004,000	5,232,000	5,409,000	5,572,000	5,715,000
	Retail Agricultural	231,000	214,000	195,000	185,000	184,000
	Seawater Barrier	71,000	71,000	72,000	72,000	72,000
	Groundwater Replenishment	172,000	184,000	187,000	188,000	190,000
B.	**Total Conservation**	**936,000**	**967,000**	**1,033,000**	**1,096,000**	**1,156,000**
	Existing Active (through 2009)[2]	97,000	46,000	16,000	2,000	0
	Code-based and Price-Effect	589,000	671,000	766,000	844,000	906,000
	Pre-1990 Conservation	250,000	250,000	250,000	250,000	250,000
C.	**SBx7-7 Water Conservation**	**190,000**	**380,000**	**380,000**	**380,000**	**380,000**
	20% by 2020 Retail-Level Compliance	190,000	380,000	380,000	380,000	380,000
D.	**Total Local Supplies**	**2,171,000**	**2,305,000**	**2,343,000**	**2,378,000**	**2,402,000**
	Groundwater	1,386,000	1,389,000	1,389,000	1,397,000	1,396,000
	Surface Water	91,000	91,000	91,000	91,000	91,000
	Los Angeles Aqueduct	63,000	67,000	71,000	75,000	78,000
	Groundwater Recovery	100,000	107,000	113,000	119,000	125,000
	Total Recycling	340,000	370,000	390,000	407,000	423,000
	Other Imported Supplies	191,000	282,000	288,000	288,000	288,000
E.	**Total Metropolitan Demands (E=A-B-C-D)**	**2,154,000**	**2,049,000**	**2,106,000**	**2,163,000**	**2,224,000**
	Full Service (Tier I and Tier II)	2,056,000	1,947,000	2,003,000	2,059,000	2,119,000
	Replenishment Service[3]	97,000	102,000	103,000	104,000	104,000
	Interim Agricultural Water Program[4]	0	0	0	0	0
F.	**Firm Demands on Metropolitan[5]**	**2,056,000**	**1,947,000**	**2,003,000**	**2,059,000**	**2,119,000**

Notes:
All units are acre-feet unless specified, rounded the nearest thousand.
Totals may not sum due to rounding.
[1]Growth projections are based on SCAG 2007 Regional Transportation Plan and SANDAG Series 12 2050 Regional Growth Forecast (Feb 2010).
[2]Includes code-based, price-effect and existing active savings through 2009; does not include future active conservation savings. 1990 is base year.
[3]Replenishment Service as defined in MWD Administrative Code Section 4114. Replenishment service includes direct and in-lieu replenishment.
[4]IAWP deliveries will be phased out by 2013.
[5]Firm demand on Metropolitan equals Full Service demands plus 70% of the Interim Agricultural Water Program demands.

Table 2-8
Metropolitan Regional Water Demands
Average Year
(Acre-Feet)

		2015	2020	2025	2030	2035
A.	**Total Demands[1]**	**5,449,000**	**5,632,000**	**5,774,000**	**5,930,000**	**6,069,000**
	Retail Municipal and Industrial	4,978,000	5,170,000	5,330,000	5,491,000	5,627,000
	Retail Agricultural	222,000	205,000	186,000	179,000	180,000
	Seawater Barrier	71,000	72,000	72,000	72,000	72,000
	Groundwater Replenishment	178,000	185,000	187,000	189,000	191,000
B.	**Total Conservation**	**936,000**	**967,000**	**1,033,000**	**1,096,000**	**1,156,000**
	Existing Active (through 2009)[2]	97,000	46,000	16,000	2,000	0
	Code-based and Price-Effect	589,000	671,000	766,000	844,000	906,000
	Pre-1990 Conservation	250,000	250,000	250,000	250,000	250,000
C.	**SBx7-7 Water Conservation**	**190,000**	**380,000**	**380,000**	**380,000**	**380,000**
	20% by 2020 Retail-Level Compliance	190,000	380,000	380,000	380,000	380,000
D.	**Total Local Supplies**	**2,395,000**	**2,522,000**	**2,553,000**	**2,581,000**	**2,603,000**
	Groundwater	1,429,000	1,430,000	1,429,000	1,431,000	1,431,000
	Surface Water	103,000	102,000	102,000	102,000	102,000
	Los Angeles Aqueduct	224,000	225,000	226,000	229,000	230,000
	Groundwater Recovery	101,000	108,000	114,000	120,000	126,000
	Total Recycling	348,000	375,000	394,000	410,000	426,000
	Other Imported Supplies	190,000	281,000	288,000	288,000	288,000
E.	**Total Metropolitan Demands (E=A-B-C-D)**	**1,928,000**	**1,763,000**	**1,808,000**	**1,874,000**	**1,931,000**
	Full Service (Tier I and Tier II)	1,826,000	1,660,000	1,705,000	1,769,000	1,826,000
	Replenishment Service[3]	102,000	103,000	103,000	104,000	105,000
	Interim Agricultural Water Program[4]	0	0	0	0	0
F.	**Firm Demands on Metropolitan[5]**	**1,826,000**	**1,660,000**	**1,705,000**	**1,769,000**	**1,826,000**

Notes:
All units are acre-feet unless specified, rounded the nearest thousand.
Totals may not sum due to rounding.
[1] Growth projections are based on SCAG 2007 Regional Transportation Plan and SANDAG Series 12 2050 Regional Growth Forecast (Feb 2010).
[2] Includes code-based, price-effect and existing active savings through 2009; does not include future active conservation savings. 1990 is base year.
[3] Replenishment Service as defined in MWD Administrative Code Section 4114. Replenishment service includes direct and in-lieu replenishment.
[4] IAWP deliveries will be phased out by 2013.
[5] Firm demand on Metropolitan equals Full Service demands plus 70% of the Interim Agricultural Water Program demands.

2.3 Water Supply Reliability

After estimating demands for single dry year, multiple dry years, and average years the water reliability analysis requires urban water suppliers to identify projected supplies to meet these demands. Table 2-9 summarizes the sources of supply for the single dry year (1977 hydrology), while Table 2-10 shows the region's ability to respond in future years under a repeat of the 1990-92 hydrology. Table 2-10 provides results for the average of the three dry years rather than a year-by-year detail, because most of Metropolitan's dry-year supplies are designed to provide equal amounts of water over each year of a three-year period. These tables show that the region can provide reliable water supplies under both the single driest year and the multiple dry year hydrologies. Table 2-11 reports the expected situation on average over all of the historic hydrologies. Appendix A.3 contains detailed justifications for the sources of supply used for this analysis.

Metropolitan' s supply capabilities are evaluated using the following assumptions:

Colorado River Aqueduct Supplies

Colorado River Aqueduct supplies include supplies that would result from existing and committed programs and from implementation of the Quantification Settlement Agreement (QSA) and related agreements. The QSA, which is the subject of current litigation, is a component of the California Plan and establishes the baseline water use for each of the agreement parties and facilitates the transfer of water from agricultural agencies to urban uses. A detailed discussion of the QSA is included in Section 3. Colorado River transactions are potentially available to supply additional water up to the CRA capacity of 1.25 MAF on an as-needed basis.

State Water Project Supplies

State Water Project (SWP) supplies are estimated using the draft 2009 SWP Delivery Reliability Report distributed by DWR in December 2009. The draft 2009 reliability report presents the current DWR estimate of the amount of water deliveries for current (2009) conditions and conditions 20 years in the future. These estimates incorporate restrictions on SWP and Central Valley Project (CVP) operations in accordance with the biological opinions of the U.S. Fish and Wildlife Service and National Marine Fishery Service issued on December 15, 2008, and June 4, 2009, respectively. Under the 2009 draft reliability report, the delivery estimates for the SWP for current (2009) conditions as percentage of maximum Table A amounts, are seven percent, equivalent to 134 TAF, under a single dry-year (1977) condition and 60%, equivalent to 1.15 MAF, under long-term average condition.

In dry, below-normal conditions, Metropolitan has increased the supplies received from the California Aqueduct by developing flexible Central Valley storage and transfer programs. Over the last two years under the pumping restrictions of the SWP, Metropolitan has worked collaboratively with the other contractors to develop numerous voluntary Central Valley storage and transfer programs. The goal of this storage/transfer programs is to develop additional dry-year supplies that can be conveyed through the available Banks pumping capacity to maximize deliveries through the California Aqueduct during dry hydrologic conditions and regulatory restrictions.

Delta Improvements

The listing of several fish species as threatened or endangered under the federal or California Endangered Species Acts (ESAs) have adversely impacted operations and limited the flexibility of the SWP. In response to court decisions related to the Biological Opinions for fish species listed under the ESAs, DWR altered the operations of the SWP. This resulted in export restrictions and reduced SWP deliveries. In June 2007, Metropolitan's Board approved a Delta Action Plan that provides a framework for staff to pursue actions with other agencies and stakeholders to build a sustainable Delta and reduce conflicts between water supply conveyance

and the environment. The Delta Action Plan aims to prioritize immediate short-term actions to stabilize the Delta while an ultimate solution is selected, and mid-term steps to maintain the Bay-Delta while the long-term solution is implemented.

In the near-term, the physical and operational actions in the Bay-Delta being developed include measures that protect fish species and reduce supply impacts with the goal of reducing conflicts between water supply conveyance and environmental needs. The potential for Increased supply due to these near-term fixes is included in the 2010 RUWMP as a 10 percent increase in water supplies obtained from the SWP allocation for the year. In evaluating the supply capabilities for the 2010 RUWMP, additional supplies from this interim fix are assumed to materialize by 2013. Also included as a possible near-term fix for the Bay-Delta is the proposed Two-Gate System demonstration program, which would provide movable barriers on the Old and Middle Rivers to modify flows and prevent fish from being drawn toward the Bay-Delta pumping plants. The Two-Gate System is anticipated to protect fish and increase SWP supplies.

Operational constraints likely will continue until a long-term solution to the problems in the Bay-Delta is identified and implemented. State and federal resource agencies and various environmental and water user entities are currently engaged in the development of the Bay Delta Conservation Plan (BDCP), which is aimed at addressing the basic elements that include the Delta ecosystem restoration, water supply conveyance, and flood control protection and storage development. In dealing with these basic issues, the ideal solutions sought are the ones that address both the physical changes required as well as the financing and governance. In evaluating the supply capabilities for the 2010 RUWMP, Metropolitan assumed a new Delta conveyance is fully operational by 2022 that would return supply reliability similar to 2005 condition, prior to supply restrictions imposed due to the Biological Opinions. This assumption is consistent with Metropolitan's long-term Delta Action Plan that recognizes the need for a global, comprehensive approach to the fundamental issues and conflicts to result in a sustainable Bay-Delta, sufficient to avoid biological opinion restrictions on planned SWP deliveries to Metropolitan and the other SWP Contractors. Further, recently passed state legislation included pathways for establishing governance structures and financing approaches to implement and manage the identified elements.

Storage

A key component of Metropolitan's water supply capability is the amount of water in Metropolitan's storage facilities. Storage is a major component of Metropolitan's dry-year resource management strategy. Metropolitan's likelihood of having adequate supply capability to meet projected demands, without implementing the Water Supply Allocation plan (WSAP), is dependent on its storage resources.

In developing the supply capabilities for the 2010 RUWMP, Metropolitan assumed a simulated median storage level going into each of five-year increments based on the balances of supplies and demands. Under the median storage condition, there is an estimated 50 percent probability that storage levels would be higher than the assumption used, and a 50 percent probability that storage levels would be lower than the assumption used. All storage capability figures shown in the 2010 RUWMP reflect actual storage program conveyance constraints. It is important to note that under some conditions, Metropolitan may choose to implement the WSAP in order to preserve storage reserves for a future year, instead of using the full supply capability. This can result in impacts at the retail level even under conditions where there may be adequate supply capabilities to meet demands.

Table 2-9
Single Dry-Year
Supply Capability[1] and Projected Demands
Repeat of 1977 Hydrology
(acre-feet per year)

Forecast Year	2015	2020	2025	2030	2035
Current Programs					
In-Region Storage and Programs	685,000	931,000	1,076,000	964,000	830,000
California Aqueduct[2]	522,000	601,000	651,000	609,000	610,000
Colorado River Aqueduct					
Colorado River Aqueduct Supply[3]	1,416,000	1,824,000	1,669,000	1,419,000	1,419,000
Aqueduct Capacity Limit[4]	*1,250,000*	*1,250,000*	*1,250,000*	*1,250,000*	*1,250,000*
Colorado River Aqueduct Capability	1,250,000	1,250,000	1,250,000	1,250,000	1,250,000
Capability of Current Programs	**2,457,000**	**2,782,000**	**2,977,000**	**2,823,000**	**2,690,000**
Demands					
Firm Demands of Metropolitan	1,991,000	1,889,000	1,921,000	1,974,000	2,039,000
IID-SDCWA Transfers and Canal Linings	180,000	273,000	280,000	280,000	280,000
Total Demands on Metropolitan[5]	**2,171,000**	**2,162,000**	**2,201,000**	**2,254,000**	**2,319,000**
Surplus	**286,000**	**620,000**	**776,000**	**569,000**	**371,000**
Programs Under Development					
In-Region Storage and Programs	206,000	306,000	336,000	336,000	336,000
California Aqueduct	556,000	556,000	700,000	700,000	700,000
Colorado River Aqueduct					
Colorado River Aqueduct Supply[3]	187,000	187,000	187,000	182,000	182,000
Aqueduct Capacity Limit[4]	*0*	*0*	*0*	*0*	*0*
Colorado River Aqueduct Capability	0	0	0	0	0
Capability of Proposed Programs	**762,000**	**862,000**	**1,036,000**	**1,036,000**	**1,036,000**
Potential Surplus	**1,048,000**	**1,482,000**	**1,812,000**	**1,605,000**	**1,407,000**

[1] Represents Supply Capability for resource programs under listed year type.

[2] California Aqueduct includes Central Valley transfers and storage program supplies conveyed by the aqueduct.

[3] Colorado River Aqueduct includes water management programs, IID-SDCWA transfers and canal linings conveyed by the aqueduct.

[4] Maximum CRA deliveries limited to 1.25 MAF including IID-SDCWA transfers and canal linings.

[5] Firm demands are adjusted to include IID-SDCWA transfers and canal linings. These supplies are calculated as local supply, but need to be shown for the purposes of CRA capacity limit calculations without double counting.

Table 2-10
Multiple Dry-Year
Supply Capability[1] and Projected Demands
Repeat of 1990-1992 Hydrology
(acre-feet per year)

Forecast Year	2015	2020	2025	2030	2035
Current Programs					
In-Region Storage and Programs	246,000	373,000	435,000	398,000	353,000
California Aqueduct[2]	752,000	794,000	835,000	811,000	812,000
Colorado River Aqueduct					
Colorado River Aqueduct Supply[3]	1,318,000	1,600,000	1,417,000	1,416,000	1,416,000
Aqueduct Capacity Limit[4]	*1,250,000*	*1,250,000*	*1,250,000*	*1,250,000*	*1,250,000*
Colorado River Aqueduct Capability	1,250,000	1,250,000	1,250,000	1,250,000	1,250,000
Capability of Current Programs	**2,248,000**	**2,417,000**	**2,520,000**	**2,459,000**	**2,415,000**
Demands					
Firm Demands of Metropolitan	2,056,000	1,947,000	2,003,000	2,059,000	2,119,000
IID-SDCWA Transfers and Canal Linings	180,000	241,000	280,000	280,000	280,000
Total Demands on Metropolitan[5]	**2,236,000**	**2,188,000**	**2,283,000**	**2,339,000**	**2,399,000**
Surplus	**12,000**	**229,000**	**237,000**	**120,000**	**16,000**
Programs Under Development					
In-Region Storage and Programs	162,000	280,000	314,000	336,000	336,000
California Aqueduct	242,000	273,000	419,000	419,000	419,000
Colorado River Aqueduct					
Colorado River Aqueduct Supply[3]	187,000	187,000	187,000	182,000	182,000
Aqueduct Capacity Limit[4]	*0*	*0*	*0*	*0*	*0*
Colorado River Aqueduct Capability	0	0	0	0	0
Capability of Proposed Programs	**404,000**	**553,000**	**733,000**	**755,000**	**755,000**
Potential Surplus	**416,000**	**782,000**	**970,000**	**875,000**	**771,000**

[1] Represents Supply Capability for resource programs under listed year type.

[2] California Aqueduct includes Central Valley transfers and storage program supplies conveyed by the aqueduct.

[3] Colorado River Aqueduct includes water management programs, IID-SDCWA transfers and canal linings conveyed by the aqueduct.

[4] Maximum CRA deliveries limited to 1.25 MAF including IID-SDCWA transfers and canal linings.

[5] Firm demands are adjusted to include IID-SDCWA transfers and canal linings. These supplies are calculated as local supply, but need to be shown for the purposes of CRA capacity limit calculations without double counting.

Table 2-11
AverageYear
Supply Capability[1] and Projected Demands
Average of 1922-2004 Hydrologies
(acre-feet per year)

Forecast Year	2015	2020	2025	2030	2035
Current Programs					
In-Region Storage and Programs	685,000	931,000	1,076,000	964,000	830,000
California Aqueduct[2]	1,550,000	1,629,000	1,763,000	1,733,000	1,734,000
Colorado River Aqueduct					
Colorado River Aqueduct Supply[3]	1,507,000	1,529,000	1,472,000	1,432,000	1,429,000
Aqueduct Capacity Limit[4]	*1,250,000*	*1,250,000*	*1,250,000*	*1,250,000*	*1,250,000*
Colorado River Aqueduct Capability	1,250,000	1,250,000	1,250,000	1,250,000	1,250,000
Capability of Current Programs	**3,485,000**	**3,810,000**	**4,089,000**	**3,947,000**	**3,814,000**
Demands					
Firm Demands of Metropolitan	1,826,000	1,660,000	1,705,000	1,769,000	1,826,000
IID-SDCWA Transfers and Canal Linings	180,000	273,000	280,000	280,000	280,000
Total Demands on Metropolitan[5]	**2,006,000**	**1,933,000**	**1,985,000**	**2,049,000**	**2,106,000**
Surplus	**1,479,000**	**1,877,000**	**2,104,000**	**1,898,000**	**1,708,000**
Programs Under Development					
In-Region Storage and Programs	206,000	306,000	336,000	336,000	336,000
California Aqueduct	382,000	383,000	715,000	715,000	715,000
Colorado River Aqueduct					
Colorado River Aqueduct Supply[3]	187,000	187,000	187,000	182,000	182,000
Aqueduct Capacity Limit[4]	*0*	*0*	*0*	*0*	*0*
Colorado River Aqueduct Capability	0	0	0	0	0
Capability of Proposed Programs	**588,000**	**689,000**	**1,051,000**	**1,051,000**	**1,051,000**
Potential Surplus	**2,067,000**	**2,566,000**	**3,155,000**	**2,949,000**	**2,759,000**

[1] Represents Supply Capability for resource programs under listed year type.

[2] California Aqueduct includes Central Valley transfers and storage program supplies conveyed by the aqueduct.

[3] Colorado River Aqueduct includes water management programs, IID-SDCWA transfers and canal linings conveyed by the aqueduct.

[4] Maximum CRA deliveries limited to 1.25 MAF including IID-SDCWA transfers and canal linings.

[5] Firm demands are adjusted to include IID-SDCWA transfers and canal linings. These supplies are calculated as local supply, but need to be shown for the purposes of CRA capacity limit calculations without double counting.

2.4 Water Shortage Contingency Analysis

In addition to the Water Supply Reliability analysis addressing average year and drought conditions, the Act requires agencies to document the stages of actions that it would undertake in response to water supply shortages, including up to a 50 percent reduction in its water supplies. Metropolitan has captured this planning in its Water Surplus and Drought Management Plan (WSDM Plan) which guides Metropolitan's planning and operations during both shortage and surplus conditions. Furthermore, Metropolitan developed the WSAP which provides a standardized methodology for allocating supplies during times of shortage.

Water Surplus and Drought Management Plan

In April 1999, Metropolitan's Board adopted the Water Surplus and Drought Management Plan (WSDM Plan)[3], included in Appendix A.4. It provides policy guidance for managing regional water supplies to achieve the reliability goals of the IRP and identifies the expected sequence of resource management actions that Metropolitan will execute during surpluses and shortages to minimize the probability of severe shortages and reduce the possibility of extreme shortages and shortage allocations. Unlike Metropolitan's previous shortage management plans, the WSDM Plan recognizes the link between surpluses and shortages, and it integrates planned operational actions with respect to both conditions.

WSDM Plan Development

Metropolitan and its member agencies jointly developed the WSDM Plan during 1998 and 1999. This planning effort included more than a dozen half-day and full-day workshops and more than three dozen meetings between Metropolitan and member agency staff. The result of the planning effort is a consensus plan that addresses a broad range of regional water management actions and strategies.

<u>WSDM Plan Principles and Goals</u>
The guiding principle of the WSDM plan is to manage Metropolitan's water resources and management programs to maximize management of wet year supplies and minimize adverse impacts of water shortages to retail customers. From this guiding principle came the following supporting principles:

- Encourage efficient water use and economical local resource programs
- Coordinate operations with member agencies to make as much surplus water as possible available for use in dry years
- Pursue innovative transfer and banking programs to secure more imported water for use in dry years
- Increase public awareness about water supply issues

The WSDM plan also declared that if mandatory import water allocations become necessary, they would be calculated on the basis of need, as opposed to any type of historical purchases. The WSDM plan contains the following considerations that would go into an equitable allocation of imported water:

- Impact on retail consumers and regional economy
- Investments in local resources, including recycling and conservation
- Population growth
- Changes and/or losses in local supplies
- Participation in Metropolitan's Non-firm (interruptible) programs
- Investment in Metropolitan's facilities

WSDM Plan Implementation

Each year, Metropolitan evaluates the level of supplies available and existing levels of water in storage to determine the appropriate management stage. Each stage is associated with specific resource

[3] Metropolitan Water District of Southern California. *Water Surplus and Drought Management Plan,* Report No. 1150, August, 1999.

management actions designed to (1) avoid an Extreme Shortage to the maximum extent possible and (2) minimize adverse impacts to retail customers if an Extreme Shortage occurs. The current sequencing outlined in the WSDM Plan reflects anticipated responses based on detailed modeling of Metropolitan's existing and expected resource mix.

Surplus Stages

Metropolitan's supply situation is considered to be in surplus as long as net annual deliveries can be made to water storage programs. The WSDM Plan further defines five surplus management stages that guide the storage of surplus supplies in Metropolitan's storage portfolio. Deliveries for storage in the DVL and in the SWP terminal reservoirs continue through each surplus stage provided there is available storage capacity. Withdrawals from DVL for regulatory purposes or to meet seasonal demands may occur in any stage. Deliveries to other storage facilities may be interrupted, depending on the amount of the surplus.

Shortage Stages

The WSDM Plan distinguishes between Shortages, Severe Shortages, and Extreme Shortages. Within the WSDM Plan, these terms have specific meaning relating to Metropolitan's ability to deliver water to its customers.

Shortage: Metropolitan can meet full-service demands and partially meet or fully meet interruptible demands, using stored water or water transfers as necessary.

Severe Shortage: Metropolitan can meet full-service demands only by using stored water, transfers, and possibly calling for extraordinary conservation. In a Severe Shortage, Metropolitan may have to curtail Interim Agricultural Water Program deliveries.

Extreme Shortage: Metropolitan must allocate available supply to full-service customers.

The WSDM Plan also defines seven shortage management stages to guide resource management activities. These stages are not defined merely by shortfalls in imported water supply, but also by the water balances in Metropolitan's storage programs. Thus, a ten percent shortfall in imported supplies could be a stage one shortage if storage levels are high. If storage levels are already depleted, the same shortfall in imported supplies could potentially be defined as a more severe shortage.

When Metropolitan must make net withdrawals from storage to meet demands, it is considered to be in a shortage condition. Under most of these stages, it is still able to meet all end-use demands for water. For shortage stages 1 through 4, Metropolitan will meet demands by withdrawing water from storage. At shortage stages 5 through 7, Metropolitan may undertake additional shortage management steps, including issuing public calls for extraordinary conservation, considering curtailment of Interim Agricultural Water Program deliveries in accordance with their discounted rates, exercising water transfer options, or purchasing water on the open market.

Figure 2-2 shows the actions under surplus and shortage stages when an allocation plan would be necessary to enforce mandatory cutbacks. The overriding goal of the WSDM Plan is to never reach Shortage Stage 7, an Extreme Shortage.

At shortage stage 7 Metropolitan will implement its Water Supply Allocation Plan[4] (WSAP) to allocate available supply fairly and efficiently to full-service customers.

Water Supply Allocation Plan

In February 2008 Metropolitan's Board adopted the WSAP. The WSAP includes the specific formula for calculating member agency supply allocations and the key implementation elements needed for administering an allocation.

The WSAP was developed in consideration of the principles and guidelines described in the

[4] Metropolitan Water District of Southern California, Water Supply Allocation Plan, June 2009.

WSDM Plan, with the objective of creating an equitable needs-based allocation. The WSAP formula seeks to balance the impacts of a shortage at the retail level while maintaining equity on the wholesale level for shortages of Metropolitan supplies of up to 50 percent. The formula takes into account growth, local investments, changes in supply conditions and the demand hardening aspects of non-potable recycled water use and the implementation of conservation savings programs.

Water Supply Allocation Plan Development

Between July 2007 and February 2008, Metropolitan staff worked jointly with Metropolitan's member agencies to develop the WSAP. Throughout the development process Metropolitan's Board was provided with regular progress reports on the status of the WSAP The WSAP was adopted at the February 12, 2008 Board meeting.

The WSAP Formula

The WSAP formula is calculated in three steps: base period calculations, allocation year calculations, and supply allocation calculations. The first two steps involve standard computations, while the third step contains specific methodology developed for the WSAP.

Step 1: Base Period Calculations

The first step in calculating a water supply allocation is to estimate water supply and demand using a historical base period with established water supply and delivery data. The base period for each of the different categories of demand and supply is calculated using data from the three most recent non-shortage years, 2004-2006.

Step 2: Allocation Year Calculations

The next step in calculating the water supply allocation is estimating water needs in the allocation year. This is done by adjusting the base period estimates of retail demand for population or economic growth and changes in local supplies.

Step 3: Supply Allocation Calculations

The final step is calculating the water supply allocation for each member agency based on the allocation year water needs identified in Step 2. Each element and its application in the allocation formula is discussed in detail in Metropolitan's Water Supply Allocation Plan.[5]

Annual Reporting Schedule on Supply/ Demand Conditions

Managing Metropolitan's water supply resources to minimize the risk of shortages requires timely and accurate information on changing supply and demand conditions throughout the year. To facilitate effective resource management decisions, the WSDM Plan includes a monthly schedule for providing supply/demand information to Metropolitan's senior management and Board, and for making resource allocation decisions. Table 2-12 shows this schedule.

[5] Metropolitan Water District of Southern California, Water Supply Allocation Plan, June 2009.

Figure 2-2 Resource Stages, Anticipated Actions, And Supply Declarations

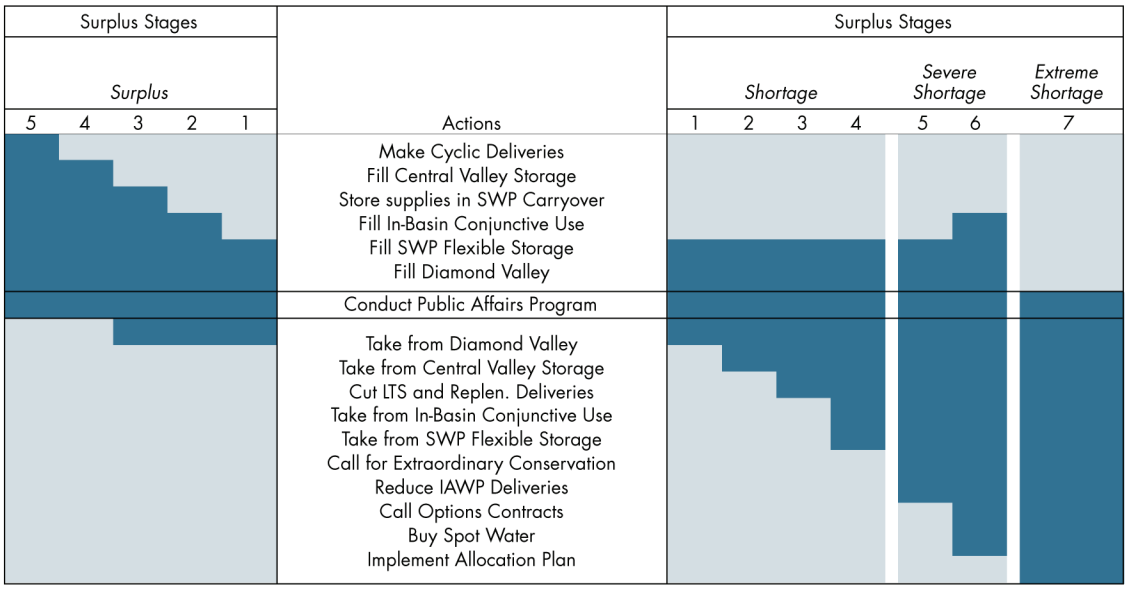

Table 2-12
Schedule of Reporting and Resource Allocation Decision-Making

Month	Information Report/Management Decision
January	Initial supply/demand forecasts for year
February - March	Update supply/demand forecasts for year
April - May	Finalize supply/demand forecasts Management decisions re: Contractual Groundwater and Option Transfer Programs Board decision re: Need for Extraordinary Conservation
October - December	Report on Supply and Carryover Storage
October	Management decisions re: Delivery Interruptions for the Replenishment and Interim Agricultural Water Programs

2.5 Catastrophic Supply Interruption Planning

The third type of planning needed to evaluate supply reliability is a catastrophic supply interruption plan that documents the actions necessary for a catastrophic interruption in water supplies. For Metropolitan this planning is captured in the analysis that went into developing the Emergency Storage Requirements.

Emergency Storage Requirements

Metropolitan established its criteria for determining emergency storage requirements in the October 1991 Final Environmental Impact Report for the Eastside Reservoir, which is now named Diamond Valley Lake. These criteria were again discussed in the 1996 IRP. Metropolitan's Board has approved both of these documents.

Emergency storage requirements are based on the potential of a major earthquake damaging the aqueducts that transport Southern California's imported water supplies (SWP, CRA, and Los Angeles Aqueduct). The adopted criteria assume that damage from such an event could render the aqueducts out of service for six months. Therefore, Metropolitan has based its planning on a 100 percent reduction in its supplies for a period of six months, which is a greater shortage than required by the Act.

To safeguard the region from catastrophic loss of water supply, Metropolitan has made substantial investments in emergency storage. The emergency plan outlines that under such a catastrophe, non-firm service deliveries would be suspended, and firm supplies to member agencies would be restricted by a mandatory cutback of 25 percent from normal-year demand levels. At the same time, water stored in surface reservoirs and groundwater basins under Metropolitan's interruptible program would be made available, and Metropolitan would draw on its emergency storage, as well as other available storage. Metropolitan has reserved up to half of DVL storage to meet such an emergency, while the remainder is available for dry-year and seasonal supplies. In addition, Metropolitan has access to emergency storage at its other reservoirs, at the SWP terminal reservoirs, and in its groundwater conjunctive use storage accounts. With few exceptions, Metropolitan can deliver this emergency supply throughout its service area via gravity, thereby eliminating dependence on power sources that could also be disrupted by a major earthquake. The WSDM Plan shortage stages will guide Metropolitan's management of available supplies and resources during the emergency to minimize the impacts of the catastrophe.

Electrical Outages

Metropolitan has also developed contingency plans that enable it to deal with both planned and unplanned electrical outages. These plans include the following key points:

- In event of power outages, water supply can be maintained by gravity feed from regional reservoirs such as DVL, Lake Mathews, Castaic Lake and Silverwood Lake.
- Maintaining water treatment operations is a key concern. As a result, all Metropolitan treatment plants have backup generation sufficient to continue operating in event of supply failure on the main electrical grid.
- Valves at Lake Skinner can be operated by the backup generation at the Lake Skinner treatment plant.
- Metropolitan owns mobile generators that can be transported quickly to key locations if necessary.

2.6 Other Supply Reliability Risks

Metropolitan provides water to a broad and heterogeneous service area with water supplies from a variety of sources and geographic regions. Each of these demand areas and supplies has its own unique set of benefits and challenges. Among the challenges Metropolitan faces are the following:

Supplies

- The region and Colorado River Basin have been experiencing drought conditions for multiple years.
- Endangered species protections and conveyance needs in the Sacramento-San Joaquin River Delta System have resulted in operational constraints particularly important because pumping restrictions impact many water resource programs – SWP supplies and additional voluntary transfers, Central Valley storage and transfers, in-region groundwater storage and in-region surface water storage.
- Changing climate patterns are predicted to shift precipitation patterns and possibly affect water supply.
- Difficulty and implications of environmental review, documentation, and permitting for multi-year transfer agreements, recycled water projects and seawater desalination plants.
- Public perception of recycled water use for replenishment.

Operations and Water Quality

- The cost and use of energy and greenhouse gas emissions.
- Water quality regulations and issues like the quagga mussels within the Colorado River Aqueduct. Controlling the spread and impacts of the quagga mussels will require more extensive maintenance and reduced operational flexibility.
- Salt and concentrate balance from variety of sources.

Demand

- Uncertain population and economic growth
- Uncertain location of growth
- Uncertain housing stock and density

The challenges posed by continued population growth, environmental constraints on the reliability of imported supplies, and new uncertainties imposed by climate change demand that Metropolitan assert the same level of leadership and commitment to taking on large-scale regional solutions to providing water supply reliability. New solutions are available in the form of dramatically improved water-use efficiency, indirect potable use of recycled water, and large-scale application of ocean desalinization.

Climate Change

Climate change adds its own new uncertainties to the challenges of planning. Metropolitan's water supply planning has been fortunate in having almost one-hundred years of hydrological data regarding weather and water supply. This history of rainfall data has provided a sound foundation for forecasting both the frequency and the severity of future drought conditions, as well as the frequency and abundance of above-normal rainfall. But, weather patterns can be expected to shift dramatically and unpredictably in a climate driven by increased concentrations of carbon dioxide in the atmosphere, as experienced in Australia. These changes in weather significantly affect water supply planning, irrespective of the debate associated with the sources and cause of increasing concentrations of greenhouse gasses. As a major steward of the region's water supply resources, Metropolitan is committed to performing its due diligence with respect to climate change.

Potential Impacts

While uncertainties remain regarding the exact timing, magnitude, and regional impacts of these temperature and precipitation changes, researchers have identified several areas of concern for California water planners. These include:

- Reduction in Sierra Nevada snowpack;
- Increased intensity and frequency of extreme weather events; and
- Rising sea levels resulting in
  - Increased risk of damage from storms, high-tide events, and the erosion of levees; and
  - Potential pumping cutbacks on the SWP and Central Valley Project (CVP).

Other important issues of concern due to global climate change include:

- Effects on local supplies such as groundwater;
- Changes in urban and agricultural demand levels and patterns ;
- Impacts to human health from water-borne pathogens and water quality degradation;
- Declines in ecosystem health and function; and
- Alterations to power generation and pumping regimes.

Metropolitan's Activities Related to Climate Change Concerns

An extended Colorado River drought put climate change on Metropolitan's radar screen in the mid-1990s. In 2000, Metropolitan's Board received a briefing on the potential impacts of climate change on water supply by leading experts in the field. Metropolitan then hosted a California Water Plan meeting on climate change and a held Drought Preparedness Workshop on similar issues. In March 2002, the Board adopted policy principles on global climate change as related to water resource planning. The Principles stated in part that 'Metropolitan supports further research into the potential water resource and quality effects of global climate change, and supports flexible "no regret" solutions that provide water supply and quality benefits while increasing the ability to manage future climate change impacts.'

<u>Knowledge Sharing and Research Support</u>
Metropolitan is an active and founding member of the Water Utility Climate Alliance (WUCA). WUCA consists of ten nationwide water providers collaborating on climate change adaptation and green house gas mitigation issues. As a part of this effort, WUCA pursues a variety of activities on multiple fronts.

WUCA monitors development of climate change-related research, technology, programs and federal legislation. Activities to date include such things as:

- Letter of support for Western Water Assessment's continued funding as a Regional Integrated Sciences and Assessments team under the National Oceanic and Atmospheric Administration (NOAA)
- Letter of support for the 2009 Kerry-Boxer Water Utilities Mitigation and Adaptation Partnerships congressional bill addendum
- Regular communication and consultations with federal agencies on the U.S. Environmental Protection Agency's Climate Ready Water Utility Working Group
- NOAA Climate Service and January 2010 International Climate Change Forum

In addition to supporting federal and regional efforts, WUCA released a white paper entitled "Options for Improving Climate Modeling to Assist Water Utility Planning for Climate Change" in January 2010. The purpose of this paper was to assess Global Circulation Models, identify key aspects for water utility planning and make seven initial recommendations for how climate modeling

and downscaling techniques can be improved so that these tools and techniques can be more useful for the water sector.

In order to address water provider-specific needs, WUCA has focused not only on climate change science and Global Circulation Models, but on how best to incorporate that knowledge into water planning. This was explored more thoroughly in a second January 2010 white paper on decision support methods for incorporating climate change uncertainty into water planning. This paper assessed five known decision support approaches for applicability in incorporating Climate Change uncertainty in water utility planning and identified additional research needs in the area of decision support methodologies.

In addition to these efforts, the member agencies of WUCA annually share individual agency actions to mitigate greenhouse gas emissions to facilitate further implementation of these programs. At a September 2009 summit at the Aspen Global Change Institute WUCA, members met with global climate modelers, along with federal agencies, academic scientists, and climate researchers to establish collaborative directions to progress climate science and modeling efforts. WUCA continues to pursue these opportunities and partnerships with water providers, climate scientists, federal agencies, research centers, academia and key stakeholders.

Metropolitan also continues to pursue knowledge sharing and research support activities outside of WUCA. Metropolitan regularly provides input and direction on California legislation related to climate change issues. Metropolitan is active in collaborating with other state and federal agencies, as well as non-governmental organizations on climate change related planning issues. The following list provides a sampling of entities that Metropolitan has recently worked with on a collaborative basis:

- U.S. Bureau of Reclamation
- U.S. Army Corps of Engineers
- American Water Works Association Research Foundation
- National Center for Atmospheric Research
- California Energy Commission
- California Department of Water Resources

<u>Quantification of Current Research</u>

Metropolitan continues to incorporate current climate change science into its planning efforts. A major component of the current IRP update effort is to explicitly reflect uncertainty in Metropolitan's future water management environment. This involves evaluating a wider range of water management strategies, and seeking robust and adaptive plans that respond to uncertain conditions as they evolve over time, and that ultimately will perform adequately under a wide range of future conditions. The potential impacts and risks associated with climate change, as well as other major uncertainties and vulnerabilities, will be incorporated into the update and accounted. Overall, Metropolitan's planning activities strive to support the Board adopted policy principles on climate change by:

- Supporting reasonable, economically viable, and technologically feasible management strategies for reducing impacts on water supply
- Supporting flexible "no regret" solutions that provide water supply and quality benefits while increasing the ability to manage future climate change impacts, and

- Evaluating staff recommendations regarding climate change and water resources against the California Environmental Quality Act (CEQA) to avoid adverse effects on the environment.

Implementation of Programs and Policies

Metropolitan has made great efforts to implement greenhouse gas mitigation programs and policies for its facilities and operations. To date, these programs and policies have focused on:

- Exploring water supply/energy relationships and opportunities to increase efficiencies;
- Joining the California Climate Action Registry;
- Acquiring "green" fleet vehicles, and supporting an employee Rideshare program;
- Developing solar power at the Skinner water treatment plant; and
- Identifying and pursuing development of "green" renewable water and energy programs that support the efficient and sustainable use of water.

Metropolitan also continues to be a leader in efforts to increase regional water use efficiency. Metropolitan has worked to increase the availability of incentives for local conservation and recycling projects, as well as supporting conservation Best Management Practices for industry and commercial businesses.

2.7 Pricing and Rate Structures

Revenue Management

A high proportion of Metropolitan's revenues come from volumetric water rates; during the last five fiscal years through 2008-09, water sales revenues were approximately 75 percent of Metropolitan's total revenues. As a result, Metropolitan's revenues vary according to regional weather and the availability of statewide water supplies. In dry years, local demands increase and Metropolitan may receive higher than anticipated revenues due to increased sales volumes. In contrast, in wet years demands decrease, and revenues drop due to lower sales volumes. In addition, statewide supply shortages such as those in 1991 and 2009 also affect Metropolitan's revenues. Such revenue surpluses and shortages could cause instability in water rates. To mitigate this risk, Metropolitan maintains financial reserves, with a minimum and maximum balance, to stabilize water rates during times of reduced water sales. The reserves hold revenues collected during times of high water sales and are used to offset the need for revenues during times of low sales.

Another way to mitigate rate increases is by generating a larger portion of revenues from fixed sources. Metropolitan currently has two fixed charges, the Readiness-to-Serve Charge and the Capacity Charge. Metropolitan also collects tax revenue from taxable property within its boundaries. For the last five fiscal years the revenues from fixed charges generated almost 18 percent of all Metropolitan revenues. RTS revenues have been increasing gradually, from $80 million in 2007, to $114 million in 2010, $125 million in 2011, and $146 million in 2012.

Finally, Metropolitan generates a significant amount of revenue from interest income, hydroelectric power sales, and miscellaneous income such as rents and leases. For the last five fiscal years, these averaged almost 7 percent of all Metropolitan revenues. These internally generated revenues are referred to as revenue offsets and reduce the amount of revenue that has to be collected from rates and charges.

Elements of Rate Structure

This section provides an overview of Metropolitan's rate structure. The different elements of the rate structure are discussed below and summarized in Table 2-13.

System Access Rate (SAR)

The SAR is a volumetric system-wide rate levied on each acre-foot of water that moves through the Metropolitan system. All system users (member agency or third party) pay the SAR to use Metropolitan's conveyance and distribution system. The SAR recovers the cost of providing conveyance and distribution capacity to meet average annual demands.

Water Stewardship Rate (WSR)

The WSR recovers the costs of providing financial incentives for existing and future investments in local resources including conservation and recycled water. These investments or incentive payments are identified as the "demand management" service function in the cost of service process. The WSR is a volumetric rate levied on each acre-foot of water that moves through the Metropolitan system.

System Power Rate (SPR)

The SPR recovers the costs of energy required to pump water to Southern California through the SWP and Colorado River Aqueduct. The cost of power is recovered through a uniform volumetric rate. The SPR is applied to all deliveries to member agencies.

Treatment Surcharge

The treatment surcharge recovers the costs of providing treated water service through a uniform, volumetric rate. The treatment surcharge recovers all costs associated with providing treated water service, including commodity, demand and standby related costs.

Capacity Charge

The capacity charge is levied on the maximum summer day demand placed on the system between May 1 and September 30 for a three-calendar year period. Demands measured for the purposes of billing the capacity charge include all firm demand and agricultural demand, including wheeling service and exchanges. Replenishment service is not included in the measurement of peak day demand for purposes of billing the capacity charge.

The capacity charge is intended to pay for the cost of peaking capacity on Metropolitan's system, while providing an incentive for local agencies to decrease their use of the Metropolitan system to meet peak day demands and to shift demands into lower use time periods. Over time, a member agency will benefit from local supply investments and operational strategies that reduce its peak day demand on the system in the form of a lower total capacity charge.

Readiness-To-Serve Charge (RTS)

The costs of providing standby service, including emergency storage and those standby costs related to the conveyance and aqueduct system, are recovered by the RTS.

The RTS is allocated to the member agencies based on each agency's proportional share of a ten-year rolling average of all firm deliveries (including water transfers and exchanges that use Metropolitan system capacity). The ten-year rolling average does not include replenishment service and interim agricultural deliveries because these deliveries will be the first to be curtailed in the event of an emergency. A ten-year rolling average leads to a relatively stable RTS allocation that reasonably represents an agency's potential long-term need for standby service under different demand conditions. Member agencies may choose to have a portion of their total RTS obligation offset by standby charge collections levied by Metropolitan on behalf of the member agency. These standby charges are assessed on parcels of land within the boundaries of a given member agency.

Tier 1 Supply Rate

The costs of maintaining existing supplies and developing additional supplies are recovered through a two-tiered pricing approach. The Tier 1 Supply Rate recovers the majority of the supply costs and reflects the cost of existing supplies. Each member agency has a predetermined amount of water that can be purchased at the lower Tier 1 Supply Rate in a calendar year. Purchases in excess of this limit will be made at the higher Tier 2 Supply Rate.

The Tier 1 Supply rate includes a Delta Supply Surcharge of $69 per AF in 2010, $51 per AF in 2011 and $58 per AF in 2012. This surcharge reflects the impact on Metropolitan's water supply rates due to lower deliveries from the SWP as a result of pumping restrictions designed to protect endangered fish species. The Delta Supply Surcharge will remain in effect until a long-term solution for the delta was achieved or until interim facility improvements restore SWP yield.

Tier 2 Supply Rate

The Tier 2 Supply Rate reflects Metropolitan's cost of developing long-term firm supplies. The Tier 2 Supply Rate recovers a greater proportion of the cost of developing additional supplies from member agencies that have increasing demands on the Metropolitan system.

Replenishment Program and Agricultural Water Program

Metropolitan currently administers two pricing programs that make surplus system supplies (system supplies in excess of what is needed to meet consumptive municipal and industrial demands) available to the member agencies at a discounted water rate. The Replenishment Program provides supplies, when available, for the purpose of replenishing local storage. The Interim Agricultural Water Program (IAWP) makes surplus water available for agricultural purposes. In October 2008, the Board

approved a phase out of the IAWP by 2013. Because of the critically dry conditions and uncertainty about future supply, discounted replenishment deliveries have been curtailed for the past three years. If water supply conditions improve and surplus water becomes available, Metropolitan could make Replenishment service available to its member agencies at discounted rates, subject to meeting Metropolitan's storage objectives to meet full service demands.

Table 2-13
Rate Structure Components

Rate Design Elements	Service Provided/ Costs Recovered	Type of Charge
System Access Rate	Conveyance/Distribution (Average Capacity)	Volumetric ($/AF)
Water Stewardship Rate	Conservation/Local Resources	Volumetric ($/AF)
System Power Rate	Power	Volumetric ($/AF)
Treatment Surcharge	Treatment	Volumetric ($/AF)
Capacity Charge	Peak Distribution Capacity	Fixed/Volumetric ($/cfs)
Readiness-To-Serve Charge	Conveyance/Distribution/Emergency Storage(Standby Capacity)	Fixed ($Million)
Tier 1 Supply Rate	Supply	Volumetric/Fixed ($/AF)
Tier 2 Supply Rate	Supply	Volumetric ($/AF)
Surplus Water Rates	Replenishment/Agriculture	Volumetric ($/AF)

The following tables provide further information regarding Metropolitan's rates. Table 2-14 summarizes the rates and charges effective January 1, 2010, January 1, 2011, and January 1, 2012. Average costs by member agency will vary depending upon an agency's RTS allocation, Capacity Charge and relative proportions of treated and untreated Tier 1, Tier 2, replenishment, and agricultural water purchases. Table 2-15 provides the details of the Capacity Charge, calculated for calendar year 2011. Table 2-16 provides the details of the Readiness-to-Serve Charge calculation for calendar year 2011 broken down by member agency. Table 2-17 provides the current Purchase Order commitment quantities that member agencies will purchase from Metropolitan over the 10-year period starting January 2003 through December 2012. Tier 1 limits for each member agency are also shown in this table.

Table 2-14
Metropolitan Water Rates and Charges

Effective	Jan 1, 2010	Jan 1, 2011	Jan 1, 2012
Tier 1 Supply Rate ($/AF)	$101	$104	$106
Delta Supply Surcharge ($/AF)	$69	$51	$58
Tier 2 Supply Rate ($/AF)	$280	$280	$290
System Access Rate ($/AF)	$154	$204	$217
Water Stewardship Rate ($/AF)	$41	$41	$43
System Power Rate ($/AF)	$119	$127	$136
Full Service Untreated Volumetric Cost ($/AF)			
Tier 1	$484	$527	$560
Tier 2	$594	$652	$686
Replenishment Water Rate Untreated ($/AF)	$366	$409	$442
Interim Agricultural Water Program Untreated ($/AF)	$416	$482	$537
Treatment Surcharge ($/AF)	$217	$217	$234
Full Service Treated Volumetric Cost ($/AF)			
Tier 1	$701	$744	$794
Tier 2	$811	$869	$920
Treated Replenishment Water Rate ($/AF)	$558	$601	$651
Treated Interim Agricultural Water Program ($/AF)	$615	$687	$765
Readiness-to-Serve Charge ($M)	$114	$125	$146
Capacity Charge ($/cfs)	$7,200	$7,200	$7,400

Table 2-15
Capacity Charge Detail

	Peak Day Demand (cfs) (May 1 through September 30) Calendar Year				
Agency	2007	2008	2009	3-Year Peak	Calendar Year 2011 Capacity Charge ($7,200/cfs)
Anaheim	37.9	36.1	40.7	40.7	$ 293,040
Beverly Hills	33.9	32.9	31.0	33.9	244,080
Burbank	33.7	34.2	21.6	34.2	246,240
Calleguas	260.8	250.0	192.8	260.8	1,877,760
Central Basin	125.9	102.7	94.7	125.9	906,480
Compton	7.1	4.9	5.9	7.1	51,120
Eastern	303.0	263.1	227.8	303.0	2,181,600
Foothill	25.4	21.5	24.3	25.4	182,880
Fullerton	36.9	27.1	37.4	37.4	269,280
Glendale	54.6	55.7	56.0	56.0	403,200
Inland Empire	176.2	125.8	106.1	176.2	1,268,640
Las Virgenes	45.3	45.3	42.7	45.3	326,160
Long Beach	61.3	68.1	67.2	68.1	490,320
Los Angeles	768.5	821.9	698.2	821.9	5,917,680
MWDOC	469.2	453.7	489.5	489.5	3,524,400
Pasadena	58.5	55.6	50.2	58.5	$421,200
San Diego [1]	1278.4	1039.9	1055.3	1278.4	9,204,480
San Fernando	6.5	0.1	0.0	6.5	$46,800
San Marino	5.2	5.2	3.5	5.2	$37,440
Santa Ana	29.7	14.5	16.4	29.7	213,840
Santa Monica	27.6	26.2	25.0	27.6	198,720
Three Valleys	171.4	168.1	132.7	171.4	1,234,080
Torrance	41.6	35.5	39.3	41.6	299,520
Upper San Gabriel	63.8	36.9	27.6	63.8	459,360
West Basin	262.3	243.3	221.3	262.3	1,888,560
Western	289.1	271.4	219.9	289.1	2,081,520
Total	**4,673.8**	**4,239.7**	**3,927.1**	**4,759.5**	**$ 34,268,400**

Totals may not foot due to rounding

Table 2-16
Readiness-to-Serve Charge (by Member Agency)
Calendar Year 2011 RTS charge

Member Agency	Rolling Ten-Year Average Firm Deliveries (Acre-Feet) FY1999/00 - FY2008/09	RTS Share	12 months @ $125 million per year (1/11-12/11)
Anaheim	20,966	1.11%	$ 1,382,122
Beverly Hills	12,737	0.67%	839,692
Burbank	12,908	0.68%	850,938
Calleguas MWD	113,610	5.99%	7,489,554
Central Basin MWD	63,256	3.34%	4,170,058
Compton	3,146	0.17%	207,408
Eastern MWD	92,013	4.85%	6,065,789
Foothill MWD	11,570	0.61%	762,706
Fullerton	9,694	0.51%	639,087
Glendale	24,150	1.27%	1,592,015
Inland Empire Utilities Agency	61,205	3.23%	4,034,823
Las Virgenes MWD	23,282	1.23%	1,534,813
Long Beach	36,970	1.95%	2,437,211
Los Angeles	314,757	16.60%	20,749,798
Municipal Water District of Orange County	231,692	12.22%	15,273,878
Pasadena	23,397	1.23%	1,542,428
San Diego County Water Authority	491,238	25.91%	32,384,010
San Fernando	119	0.01%	7,819
San Marino	1,001	0.05%	65,963
Santa Ana	12,743	0.67%	840,028
Santa Monica	12,794	0.67%	843,429
Three Valleys MWD	73,095	3.85%	4,818,678
Torrance	20,742	1.09%	1,367,401
Upper San Gabriel Valley MWD	15,631	0.82%	1,030,447
West Basin MWD	141,522	7.46%	9,329,606
Western MWD	71,906	3.79%	4,740,301
MWD Total	**1,896,143**	**100.00%**	**$ 125,000,000**

Totals may not foot due to rounding

Table 2-17
Purchase Order Commitments and Tier 1 Limits
(by Member Agency)

	2011 Tier 1 Limit with Opt-outs	Purchase Order Commitment (acre-feet)
Anaheim	22,240	148,268
Beverly Hills	13,380	89,202
Burbank	16,336	108,910
Calleguas	110,249	692,003
Central Basin	72,361	482,405
Compton	5,058	33,721
Eastern	87,740	504,664
Foothill	10,997	73,312
Fullerton	11,298	75,322
Glendale	26,221	174,809
Inland Empire	59,792	398,348
Las Virgenes	21,087	137,103
Long Beach	39,471	263,143
Los Angeles	304,970	2,033,132
MWDOC	228,130	1,486,161
Pasadena	21,180	141,197
San Diego	547,239	3,342,571
San Fernando	630	-
San Marino	1,199	-
Santa Ana	12,129	80,858
Santa Monica	11,515	74,062
Three Valleys	70,474	469,331
Torrance	20,967	139,780
Upper San Gabriel	16,512	110,077
West Basin	156,874	1,045,825
Western	69,720	391,791
Total	**1,957,768**	**12,495,995**

Totals may not foot due to rounding.

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Water Quality 4

Metropolitan's planning efforts have recognized the importance of the quality of its water supplies. To the extent possible, Metropolitan responds to water quality concerns by concentrating on protecting the quality of the source water and developing water management programs that maintain and enhance water quality. Contaminants that cannot be sufficiently controlled through protection of source waters must be handled through changed water treatment protocols or blending. These practices can increase costs and/or reduce operating flexibility and safety margins. In addition, Metropolitan has developed enhanced security practices and policies in response to national security concerns.

Background

Implementing the major components of Metropolitan's planning efforts – groundwater storage, recycled water, and minimized impacts on the Delta – requires meeting specific water quality targets for imported water. Metropolitan has two major sources of water: the Colorado River and the State Water Project (SWP). Groundwater inflows are also received into the SWP through groundwater banking programs in the Central Valley. Each source has specific quality issues, which are summarized in this section. To date, Metropolitan has not identified any water quality risks that cannot be mitigated. As described in this section, the only potential effect of water quality on the level of water supplies based on current knowledge could result from increases in the salinity of water resources. If diminished water quality caused a need for membrane treatment, Metropolitan could experience losses of up to 15 percent of the water processed. However, Metropolitan would only process a small proportion of the affected water and would reduce total salinity by blending the processed water with the remaining unprocessed water. Thus, Metropolitan anticipates no significant reductions in water supply availability from these sources due to water quality concerns over the study period.

Colorado River

High salinity levels represent a significant issue associated with Colorado River supplies. In addition, Metropolitan has been engaged in efforts to protect its Colorado River supplies from threats of uranium, perchlorate and Chromium VI, which are discussed later in this chapter. Metropolitan has also been active in efforts to protect these supplies from potential increases in nutrient loading due to urbanization, as well as investigating the sources and occurrence of constituents of emerging concern, such as N-nitrosodimethylamine (NDMA) and pharmaceuticals and personal care products (PPCPs). Metropolitan fully expects its source water protection efforts to be successful, so the only foreseeable water quality constraint to the use of Colorado River water will be the need to blend (mix) it with SWP supplies to meet the adopted salinity standards.

State Water Project

The key water quality issues on the SWP are disinfection byproduct precursors, in particular, total organic carbon and bromide. Metropolitan is working to protect the water quality of this source, but it has needed to upgrade its water treatment

plants to deal adequately with disinfection byproducts. Disinfection byproducts result from total organic carbon and bromide in the source water reacting with disinfectants at the water treatment plant, and they may place some near term restrictions on Metropolitan's ability to use SWP water. Metropolitan expects these treatment restrictions to be overcome through the addition of ozone disinfection at its treatment plants. Arsenic is also of concern in some groundwater storage programs. Groundwater inflows into the California Aqueduct are managed to comply with regulations and protect downstream water quality while meeting supply targets. Additionally, nutrient levels are significantly higher in the SWP system than within the Colorado River, leading to the potential for algal related concerns that can affect water management strategies. Metropolitan is engaged in efforts to protect the quality of SWP water from potential increases in nutrient loading from wastewater treatment plants. Also, as in the Colorado River watershed, Metropolitan is active in studies on the occurrence, sources, and fate and transport of constituents of emerging concern, such as NDMA and PPCPs.

Local Agency Supplies and Groundwater Storage

New standards for contaminants, such as arsenic, and other emerging standards may add costs to the use of groundwater storage and may affect the availability of local agency groundwater sources. These contaminants are not expected to affect the availability of Metropolitan supplies, but they may affect the availability of local agency supplies, which could in turn affect the level of demands on Metropolitan supplies if local agencies abandon supplies in lieu of treatment options. Metropolitan has not analyzed the effect that many of these water quality issues could have on local agency supply availability. There have, however, been some investigations into the supply impacts of perchlorate groundwater contamination as indicated later in this section.

In summary, the major regional concerns include the following:

- Salinity
- Perchlorate
- Total organic carbon and bromide (disinfection byproduct precursors)
- Nutrients (as it relates to algal productivity)
- Arsenic
- Uranium
- Chromium VI
- N-nitrosodimethylamine (NDMA)
- Pharmaceuticals and personal care products (PPCPs)

Metropolitan has taken several actions and adopted programs to address these contaminants and ensure a safe and reliable water supply. These actions, organized by contaminant, are discussed below. Another constituent previously identified in the 2005 RUWMP as a regional concern, methyl tertiary-butyl ether (MTBE), is now a decreasing concern due to the elimination of this chemical as a gasoline additive in California. This is also further discussed below, along with other water quality programs that Metropolitan has been engaged in to protect its water supplies.

Issues of Concern

Salinity

Imported water from the Colorado River has high salinity levels, so it must be blended (mixed) with lower-salinity water from the SWP to meet salinity management goals. Higher salinity levels in either Colorado River water or groundwater would increase the proportion of SWP supplies required to meet the adopted imported water salinity objectives. Metropolitan adopted an imported water salinity goal because higher salinity could increase costs and reduce operating flexibility. For example,

1. If diminished water quality causes a need for membrane treatment, the process typically results in losses of up to 15 percent of the water processed. These losses result both in an increased requirement for additional water supplies and environmental constraints related to brine disposal. In addition, the process is costly. However, only a portion of the imported water would need to be processed, so the possible loss in supplies is small.
2. High total dissolved solids (TDS) in water supplies leads to high TDS in wastewater, which lowers the usefulness and increases the cost of recycled water.
3. Degradation of imported water supply quality could limit the use of local groundwater basins for storage because of standards controlling the quality of water added to the basins.

In addition to the link between water supply and water quality, Metropolitan has identified economic benefits from reducing the TDS concentrations of water supplies. Estimates show that a simultaneous reduction in salinity concentrations of 100 milligrams per liter (mg/L) in both the Colorado River and SWP supplies will yield economic benefits of $95 million per year within Metropolitan's service territory.[1] This estimate has added to Metropolitan's incentives to reduce salinity concentrations within the region's water supplies.

For all of these reasons, Metropolitan's Board approved a Salinity Management Policy on April 13, 1999. The policy set a goal of achieving salinity concentrations in delivered water of less than 500 mg/L TDS. The Salinity Management Policy is further discussed later in this section.

Within Metropolitan's service area, local water sources account for approximately half of the salt loading, and imported water accounts for the remainder. All of these sources must be managed appropriately to sustain water quality and supply reliability goals. The following sections discuss the salinity issues relevant to each of Metropolitan's major supply sources.

Colorado River

Water imported via the Colorado River Aqueduct (CRA) has the highest level of salinity of all of Metropolitan's sources of supply, averaging around 630 mg/L since 1976. Concern over salinity levels in the Colorado River has existed for many years. To deal with the concern, the International Boundary and Water Commission approved Minute No. 242, Permanent and Definitive Solution to the International Problem of the Salinity of the Colorado River in 1973, and the President approved the Colorado River Basin Salinity Control Act in 1974. High TDS in the Colorado River as it entered Mexico and the concerns of the seven basin states regarding the quality of Colorado River water in the United States drove these initial actions. To foster interstate cooperation on this issue, the seven basin states formed the Colorado River Basin Salinity Control Forum (Forum).

The salts in the Colorado River system are indigenous and pervasive, mostly resulting from saline sediments in the Basin that were deposited in prehistoric marine environments. They are easily eroded, dissolved, and transported into the river system. The Colorado River Basin Salinity Control Program is designed to prevent a portion of this abundant salt supply from moving into the river system. The program targets the interception and control of non-point sources, such as surface runoff, as well as wastewater and saline hot springs.

The Forum proposed, the states adopted, and the U. S. Environmental Protection Agency (USEPA) approved water quality standards in 1975, including numeric criteria and a plan for controlling salinity increases. The standards require that the plan ensure that the flow-weighted average annual salinity remain at or below the 1972 levels,

[1] Metropolitan Water District of Southern California and U.S. Bureau of Reclamation, Salinity Management Study: Final Report (June 1999)

while the Basin states continue to develop their 1922 Colorado River Compact-apportioned water supply. The Forum selected three stations on the main stream of the lower Colorado River as appropriate points to measure the river's salinity. These stations and numeric criteria are (1) below Hoover Dam, 723 mg/l; (2) below Parker Dam, 747 mg/l; and (3) at Imperial Dam, 879 mg/l. The numeric criteria are flow-weighted average annual salinity values.

By some estimates, concentrations of salts in the Colorado River cause approximately $353 million in quantified damages in the lower Basin each year. The salinity control program has proven to be very successful and cost-effective. Salinity control projects have reduced salinity concentrations of Colorado River water on average by over 100 mg/L or $264 million per year (2005 dollars) in avoided damages.

During the high water flows of 1983-1986, salinity levels in the CRA dropped to a historic low of 525 mg/L. However, during the 1987-1992 drought, higher salinity levels of 600 to 650 mg/L returned. TDS in Lake Havasu was measured at 628 mg/L in November 2009.

State Water Project

Water supplies from the SWP have significantly lower TDS concentrations than the Colorado River, averaging approximately 250 mg/L in water supplied through the East Branch and 325 mg/L on the West Branch over the long-term, with short term variability as a result of hydrologic conditions.[2] Because of this lower salinity, Metropolitan blends SWP water with high salinity CRA water to reduce the salinity concentrations of delivered water. However, both the supply and the TDS concentrations of SWP water can vary significantly in response to hydrologic conditions in the Sacramento-San Joaquin watersheds.

As indicated above, the TDS concentrations of SWP water can vary widely over short periods of time. These variations reflect seasonal and tidal flow patterns, and they pose an additional problem for use of blending as a management tool to lower the higher TDS from the CRA supply. For example, in the 1977 drought, the salinity of SWP water reaching Metropolitan increased to 430 mg/L, and supplies became limited. During this same event, salinity at the SWP's Banks pumping plant exceeded 700 mg/L. Under similar circumstances, Metropolitan's 500 mg/L salinity objective could only be achieved by reducing imported water from the CRA. Thus, it may not always be possible to maintain both the salinity objective and water supply reliability unless salinity concentrations of source supplies can be reduced.

A federal court ruling and a resulting biological opinion issued through consultation with U.S. Fish and Wildlife Service addressing the effects of the water supply pumping operations on Delta smelt has limited SWP exports at specified times of the year since December 2007. These restrictions have increased reliance on higher salinity Colorado River water, impacting the ability at times to meet Metropolitan's goal of 500 mg/L TDS at its blend plants. Drought conditions leading to lower SWP water supply allocations in recent years also affects Metropolitan's ability to meet its salinity goal.

TDS objectives in Article 19 of the SWP Water Service Contract specify a ten-year average of 220 mg/L and a maximum monthly average of 440 mg/L. These objectives have not been met, and Metropolitan is working with DWR and other agencies on programs aimed at reducing salinity in Delta supplies. These programs aim to improve salinity on the San Joaquin River through modifying agricultural drainage and developing comprehensive basin plans. In addition, studies are underway to evaluate the benefits in reduced salinity of modifying levees in Franks Tract and other flooded islands in the Delta, or by placing operable gates in

[2] The higher salinity in the West Branch deliveries is due to salt loadings from local streams, operational conditions, and evaporation at Pyramid and Castaic Lakes.

strategic locations to impede transport of seawater derived salt.

Recycled Water

Wastewater flows always experience significantly higher salinity concentrations than the potable water supply. Typically, each cycle of urban water use adds 250 to 400 mg/L of TDS to the wastewater. Salinity increases tend to be higher where specific commercial or industrial processes add brines to the discharge stream or where brackish groundwater infiltrates into the sewer system.

Where wastewater flows have high salinity concentrations, the use of recycled water may be limited or require more expensive treatment. Landscape irrigation and industrial reuse become problematic at TDS concentrations of over 1,000 mg/L. Some crops are particularly sensitive to high TDS concentrations, and the use of high-salinity recycled water may reduce yields of these crops. In addition, concern for the water quality in groundwater basins may lead to restrictions on the use of recycled water on lands overlying those basins.

These issues are exacerbated during times of drought, when the salinity of imported water supplies increases because of increased salinity in wastewater flows and recycled water. Basin management plans and recycled water customers may restrict the use of recycled water at a time when its use would be most valuable. To maintain the cost-effectiveness of recycled water, therefore, the salinity level of the region's potable water sources and wastewater flows must be controlled.

In May 2009, the State Water Resources Control Board (SWRCB) adopted a Recycled Water Policy[3] to help streamline the permitting process and help establish uniform statewide criteria for recycled water projects. This policy promotes the development of watershed- or basin-wide salt management plans (to then be adopted by the respective Regional Boards) to meet water quality objectives and protect beneficial uses, rather than imposing project-by-project restrictions. The Recycled Water Policy identifies several criteria to guide recycled water irrigation or groundwater recharge project proponents in developing a salt (and nutrient) management plan.

Groundwater Basins

Increased TDS in groundwater basins occurs either when basins near the ocean are overdrafted, leading to seawater intrusion, or when agricultural and urban return flows add salts to the basins. Much of the water used for agricultural or urban irrigation infiltrates into the aquifer, so where irrigation water is high in TDS or where the water transports salts from overlying soil, the infiltrating water will increase the salinity of the aquifer. In addition, wastewater discharges in inland regions may lead to salt buildup from fertilizer and dairy waste. In the 1950s and 1960s, Colorado River water was used to recharge severely overdrafted aquifers and prevent saltwater intrusion. As a result, the region's groundwater basins received more than 3.0 MAF of this high-TDS imported water, significantly impacting salt loadings.

In the past, these high salt concentrations have caused some basins within Metropolitan's service area to be unsuitable for municipal uses if left untreated. The Arlington Basin in Riverside and the Mission Basin in San Diego required demineralization before they could be returned to municipal service. The capacity of the larger groundwater basins makes them better able to dilute the impact of increasing salinity. While most groundwater basins within the region still produce water of acceptable quality, this resource must be managed carefully to minimize further degradation. Even with today's more heightened concern regarding salinity, approximately 600,000 tons of salts per year accumulate within the region, leading to ever-increasing salinity concentrations in many groundwater basins.

[3] http://www.swrcb.ca.gov/water_issues/programs/water_recycling_policy/docs/recycledwaterpolicy_approved.pdf

Table 4-1 shows the salinity from existing productive groundwater wells within the region, and Figure 4-1 shows the distribution of those salinity concentrations. To protect the quality of these basins, regional water quality control boards often place restrictions on the salinity concentrations of water used for basin recharge or for irrigation of lands overlying the aquifers. Those situations may restrict water reuse and aquifer recharge, or they may require expensive mitigation measures.

Metropolitan has participated with water and wastewater agencies and the Santa Ana Regional Water Quality Control Board (Regional Board) in a coordinated program to develop water quality data for local and imported supplies used to recharge groundwater basins in the Santa Ana River watershed.[4] In January 2008, this workgroup submitted its "Cooperative Agreement to Protect Water Quality and Encourage the Conjunctive Uses of Imported Water in the Santa Ana River Basin" to the Santa Ana Regional Board. This initial agreement addresses nitrogen and TDS and includes the following tasks:

1. Prepare a projection of ambient water quality in each groundwater management zone at six-year intervals for the subsequent 20 years.
2. Determine the impacts of foreseeable recharge projects and compare to baseline ambient water quality with salinity objectives.
3. Compare current water quality in each groundwater management zone with the ambient water quality projection made six years earlier, together with an evaluation of the reason(s) for any differences.

The Salinity Management Policy

The Salinity Management Policy adopted by Metropolitan's Board specified a salinity objective of 500 mg/L for blended imported water. It also identified the need for both local and imported water sources to be managed comprehensively to maintain the ability to use recycled water and groundwater. To achieve these targets, SWP water supplies are blended with Colorado River supplies. Using this approach, the salinity target could be met in seven out of ten years. In the other three years, hydrologic conditions would result in increased salinity and reduced volume of SWP supplies. Metropolitan has alerted its local agencies that such conditions are inevitable, and that despite its best efforts, high salinity could be a concern at such times. Metropolitan has also urged its member agencies to structure the operation of their local projects and groundwater so they are prepared to mitigate the effect of higher salinity levels in imported waters. In addition, Metropolitan will concentrate on obtaining better quality water in the spring/summer months (April through September) to maximize the use of recycled water in agriculture.

Table 4-1
Salinity Levels at Productive Groundwater Wells

TDS Concentration (mg/L)	Annual Production (Million Acre-Feet)	Percent of Production
Less than 500	1.06	78
500 to 1,000	0.15	11
Greater than 1,000	0.15	11
Total	**1.36**	**100**

Source: Metropolitan Water District of Southern California, Salinity Management Study, Final Report, June 1999.

[4] http://www.swrcb.ca.gov/rwqcb8/board_decisions/adopted_orders/orders/2008/08_019.pdf

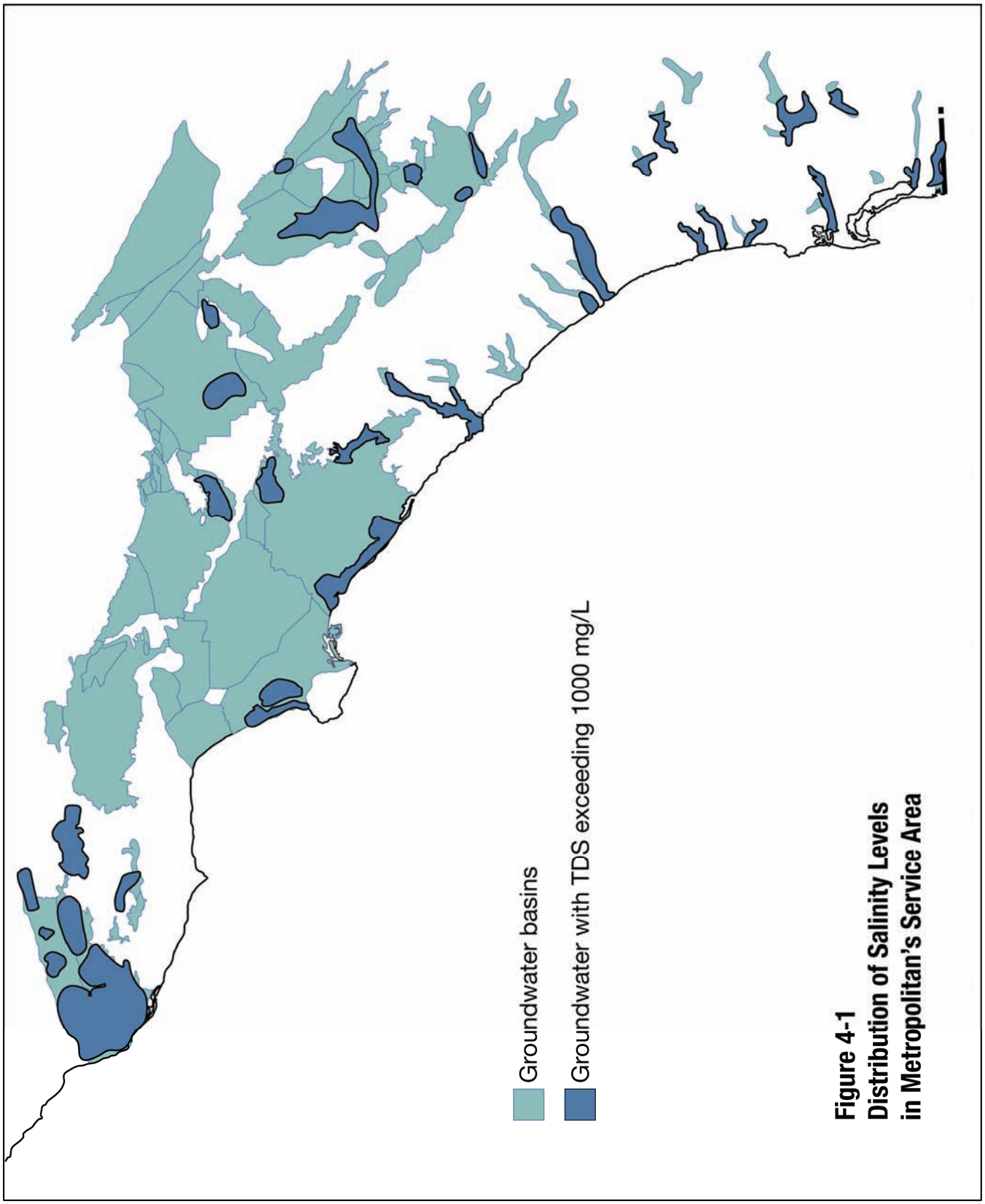

Figure 4-1
Distribution of Salinity Levels in Metropolitan's Service Area

Perchlorate

Perchlorate compounds are used as a main component in solid rocket propellant, and are also found in some types of munitions and fireworks. Perchlorate compounds quickly dissolve and become highly mobile in groundwater. Unlike many other groundwater contaminants, perchlorate neither readily interacts with the soil matrix nor degrades in the environment. Conventional drinking water treatment (as utilized at Metropolitan's water treatment plants) is not effective in removing perchlorate.

The primary human health concern related to perchlorate is its effects on the thyroid. Perchlorate interferes with the thyroid's ability to produce hormones required for normal growth and development. Pregnant women who are iodine deficient and their fetuses, infants and small children with low dietary iodide intake and individuals with hypothyroidism may be more sensitive to the effects of perchlorate.

The California Department of Public Health (CDPH) established a primary drinking water standard for perchlorate with an MCL of 6 micrograms per liter (μg/L)[5] effective October 18, 2007. There is currently no federal drinking water standard for perchlorate, but the USEPA is in the process of making its final regulatory determination for this contaminant. A regulatory determination would be the first step toward developing a national drinking water standard. Metropolitan has offered comments to USEPA during this regulatory process, focusing on the need to protect the Colorado River and to address cleanup of impacted water supplies as a result of federal institutions within its service area. In essence, Metropolitan urged for necessary actions to ensure expedited cleanup in areas that a California drinking water standard could not be enforced.

Perchlorate was first detected in Colorado River water in June 1997 and was traced back to Las Vegas Wash. The source of contamination was found to be emanating from a chemical manufacturing facility in Henderson, Nevada, now owned by Tronox, Inc. Tronox is currently responsible for the ongoing perchlorate remediation of the site. Another large perchlorate groundwater plume is also present in the Henderson area from a second industrial site, and although not known to have reached Las Vegas Wash yet, remediation activities are ongoing for cleanup of that plume by American Pacific Corporation (AMPAC).

Following the detection of perchlorate in the Colorado River, Metropolitan, along with USEPA and agencies in Nevada including the Nevada Division of Environmental Protection (NDEP), organized the forces necessary to successfully treat and decrease the sources of perchlorate loading. Under NDEP oversight, remediation efforts began in 1998 and treatment operations became fully operational in 2004. These efforts have reduced perchlorate loading into Las Vegas Wash from over 1000 lbs/day (prior to treatment) to 60-90 lbs/day since early 2007. This has resulted in over 90 percent reduction of the perchlorate loading entering the Colorado River system. In January 2009, Tronox filed for Chapter 11 bankruptcy protection citing significant environmental liabilities taken from the previous site owner. Tronox has continued operating its remediation system during the bankruptcy proceedings.

Perchlorate levels in Colorado River water at Lake Havasu have decreased significantly in recent years from its peak of 9 μg/L in May 1998 as a result of the aggressive clean-up efforts. Levels have remained less than 6 μg/L since October 2002, and have been typically less than 2 μg/L since June 2006. Metropolitan routinely monitors perchlorate at 34 locations within its system and levels currently remain at non-detectable levels (below 2 μg/L). Metropolitan has not detected perchlorate in the SWP since monitoring began in 1997.

[5] 1 microgram per liter is equivalent to 1 part per billion

Perchlorate has also been found in groundwater basins within Metropolitan's service area, largely from local sources. The vast majority of locations where perchlorate has been detected in the groundwater are associated with the manufacturing or testing of solid rocket fuels for the Department of Defense and the National Aeronautics and Space Administration (NASA), or with the manufacture, storage, handling, or disposal of perchlorate (such as Aerojet in Azusa in the Main San Gabriel Basin and the Jet Propulsion Laboratory/NASA in the Raymond Basin). Past agricultural practices using fertilizers laden with naturally occurring perchlorate have also been implicated in some areas.

Metropolitan has conducted several surveys to determine the impact of perchlorate on its member and retail agencies. As of October 2007, 18 member agencies have detected perchlorate in their service areas at levels greater than 4 μg/L, while 11 have detected levels greater than 6 μg/L in at least 101 out of 1337 wells (7.6 percent). Member and retail agencies have shut down 32 wells over the years due to perchlorate contamination, losing more than 52.5 TAF per year of their groundwater production. Many of these agencies have built new wells, blended their water, or installed ion exchange treatment systems to reduce perchlorate levels, thus lowering their potential additional demand for Metropolitan water supplies to about 15 TAF per year.

Metropolitan has investigated technologies to mitigate perchlorate contamination. Perchlorate cannot be removed using conventional water treatment. Nanofiltration and reverse osmosis do work effectively but at a very high cost. Aerojet has implemented biological treatment through fluidized bed reactors (FBR) in Rancho Cordova and is re-injecting the treated water into the ground. Tronox also utilizes an FBR process train for the cleanup of their Henderson site. A number of sites in Southern California have successfully installed ion exchange systems to treat perchlorate impacted groundwater. The city of Pasadena has been using ion exchange treatment at one well site and, in November 2009, completed a study of biological treatment for perchlorate removal in groundwater. Funding for this study was provided through a Congressional mandate from USEPA to Metropolitan.

Treatment options are available to recover groundwater supplies contaminated with perchlorate. However, it is very difficult to predict whether treatment will be pursued to recover all lost production because local agencies will make decisions based largely on cost considerations, ability to identify potentially responsible parties for cleanup, and the availability of alternative supplies.

Total Organic Carbon and Bromide

Disinfection byproducts (DBPs) form when source water containing high levels of total organic carbon (TOC) and bromide is treated with disinfectants such as chlorine or ozone. Studies have shown a link between certain cancers and DBP exposure. In addition, some studies have shown an association between reproductive and developmental effects and chlorinated water. While many DBPs have been identified and some are regulated under the Safe Drinking Water Act, there are others that are not yet known. Even for those that are known, the potential adverse health effects may not be fully characterized.

Water agencies began complying with new regulations to protect against the risk of DBP exposure in January 2002. This rule, known as the Stage 1 Disinfectants and Disinfection Byproducts (D/DBP) Rule, required water systems to comply with new MCLs and a treatment technique to improve control of DBPs. USEPA then promulgated the Stage 2 D/DBP Rule in January 2006 that makes regulatory compliance more challenging as compliance is based on a locational basis, rather than on a distribution system-wide basis.

Existing levels of TOC and bromide in Delta water supplies present significant concern for Metropolitan's ability to maintain safe drinking water supplies and comply with regulations. Levels of these constituents in SWP water

increase several fold due to agricultural drainage and seawater intrusion as water moves through the Delta. One of Metropolitan's primary objectives for the CALFED Bay-Delta process is protection and improvement of the water quality of its SWP supplies to ensure compliance with current and future drinking water regulations. Source water protection of SWP water supplies is a necessary component of meeting these requirements cost effectively.

The CALFED Record of Decision released in August 2000 adopted the following water quality goals for TOC and bromide:

- Average concentrations at Clifton Court Forebay and other southern and central Delta drinking water intakes of 50 µg/L bromide and 3.0 mg/L total organic carbon, or
- An equivalent level of public health protection using a cost-effective combination of alternative source waters, source control, and treatment technologies.

CALFED's Bay-Delta Program calls for a wide array of actions to improve Bay-Delta water quality, ranging from improvements in treatment technology to safeguarding water quality at the source. These actions include conveyance improvements, alternative sources of supply, changes in storage and operations, and advanced treatment by water supply agencies.

Source water quality improvements must be combined with cost-effective water treatment technologies to ensure safe drinking water at a reasonable cost. Metropolitan has five treatment plants: two that receive SWP water exclusively, and three that receive a blend of SWP and Colorado River water. In 2003 and 2005, Metropolitan completed upgrades to its SWP-exclusive water treatment plants, Mills and Jensen, respectively, to utilize ozone as its primary disinfectant. This ozonation process avoids the production of certain regulated disinfection byproducts that would otherwise form in the chlorine treatment of SWP water. The non-ozone plants utilizing blended water have met federal guidelines for these byproducts through managing the blend of SWP and Colorado River water. To maintain the byproducts at a level consistent with federal law, Metropolitan limits the percentage of water from the SWP used in each plant. In mid 2010, Metropolitan anticipates ozone at the Skinner water treatment plant to come online. Metropolitan's Board has also adopted plans to install ozonation at its other two blend plants with a total estimated ozone retrofit program cost of $1.2 billion for all five plants.

Nutrients

Elevated levels of nutrients (phosphorus and nitrogen compounds) can stimulate nuisance algal and aquatic weed growth that affects consumer acceptability, including the production of noxious taste and odor compounds and algal toxins. In addition to taste and odor toxin concerns, increases in algal and aquatic weed biomass can impede flow in conveyances, shorten filter run times and increase solids production at drinking water treatment plants, and add to organic carbon loading. Further, nutrients can provide an increasing food source that may lead to the proliferation of quagga and zebra mussels, and other invasive biological species. Studies have shown phosphorus to be the limiting nutrient in both SWP and Colorado River supplies. Therefore, any increase in phosphorus loading has the potential to stimulate algal growth, leading to the concerns identified above.

SWP supplies have significantly higher nutrient levels than Colorado River supplies. Wastewater discharges, agricultural drainage, and nutrient-rich soils in the Delta are primary sources of nutrient loading to the SWP. Metropolitan and other drinking water agencies receiving Delta water have been engaged in efforts to minimize the effects of nutrient loading from Delta wastewater plants. Metropolitan reservoirs receiving SWP water have experienced numerous taste and

odor episodes in recent years. For example, in 2005, Metropolitan reservoirs experienced 12 taste and odor events requiring treatment. A taste and odor event can cause a reservoir to be bypassed and potentially have a short-term effect on the availability of that supply. Metropolitan has a comprehensive program to monitor and manage algae in its source water reservoirs. This program was developed to provide an early warning of algae related problems and taste and odor events to best manage water quality in the system.[6]

Although phosphorus levels are much lower in the Colorado River than the SWP, this nutrient is still of concern. Despite relatively low concentrations (Colorado River has been considered an oligotrophic, or low-productivity, system), any additions of phosphorus to Colorado River water can result in increased algal growth. In addition, low nutrient Colorado River water is relied upon by Metropolitan to blend down the high nutrient SWP water in Metropolitan's blend reservoirs. With population growth expected to continue in the future (e.g., Las Vegas area), ensuring high levels of treatment at wastewater treatment plants to maintain existing phosphorus levels will be critical in minimizing the operational, financial, and public health impacts associated with excessive algal growth and protect downstream drinking water uses. In addition, Metropolitan continues its involvement with entities along the lower Colorado River seeking to enhance wastewater management (and therefore better manage nutrient impacts) within river communities.

Although current nutrient loading is of concern for Metropolitan and is anticipated to have cost implications, with its comprehensive monitoring program and response actions to manage algal related issues, there should be no impact on availability of water supplies. Metropolitan's source water protection program will continue to focus on preventing increases in future nutrient loading as a result of urban and agricultural sources.

Arsenic

Arsenic is a naturally occurring element found in rocks, soil, water, and air. It is used in wood preservatives, alloying agents, certain agricultural applications, semi-conductors, paints, dyes, and soaps. Arsenic can get into water from the natural erosion of rocks, dissolution of ores and minerals, runoff from agricultural fields, and discharges from industrial processes. Long-term exposure to elevated levels of arsenic in drinking water has been linked to certain cancers, skin pigmentation changes, and hyperkeratosis (skin thickening).

The MCL for arsenic in domestic water supplies was lowered to 10 μg/L, with an effective date of January 2006 in the federal regulations, and an effective date of November 2008 in the California regulations. The standard impacts both groundwater and surface water supplies. Historically, Metropolitan's water supplies have had low levels of this contaminant and would not require treatment changes or capital investment to comply with this new standard. However, some of Metropolitan's water supplies from groundwater storage programs are at levels near the MCL. These groundwater storage projects are called upon to supplement flow only during low SWP allocation years. Metropolitan has had to restrict flow from one program to limit arsenic increases in the SWP. Implementation of a pilot arsenic treatment facility by one groundwater banking partner has also resulted in increased cost. Moreover, Metropolitan has invested in solids handling facilities and implemented operational changes to manage arsenic in the solids resulting from the treatment process.

In April 2004, California's Office of Environmental Health Hazard Assessment (OEHHA) set a public health goal for arsenic

[6] William D. Taylor et al., *Early Warning and Management of Surface Water Taste-and-Odor Events*, Project No. 2614 (Denver, CO: American Water Works Association Research Foundation, 2006)

of 0.004 µg/L, based on lung and urinary bladder cancer risk. Monitoring results submitted to CDPH in 2001-2003 showed that arsenic is ubiquitous in drinking water sources, reflecting its natural occurrence. They also showed that many sources have arsenic detections above the 10 µg/L MCL. Southern California drinking water sources that contain concentrations of arsenic over 10 µg/L include San Bernardino (64 sources), Los Angeles (48 sources), Riverside (26 sources), Orange (4 sources), and San Diego (5 sources).[7]

The state detection level for purposes of reporting (DLR) of arsenic is 2 µg/L. Between 2001 and 2008, arsenic levels in Metropolitan's water treatment plant effluents ranged from not detected (< 2 µg/L) to 2.9 µg/L. For Metropolitan's source waters, levels in Colorado River water have ranged from not detected to 3.5 µg/L, while levels in SWP water have ranged from not detected to 4.0 µg/L. Increasing coagulant doses at water treatment plants can reduce arsenic levels for delivered water.

Some member agencies may face greater problems with arsenic compliance. A 1992 study for Central Basin Municipal Water District, for example, indicated that some of the Central Basin wells could have difficulty in complying with a lowered standard.[8] Water supplies imported by the Los Angeles Department of Water and Power may also contain arsenic above the MCL. The cost of arsenic removal from these supplies could vary significantly.

Uranium

A 16-million-ton pile of uranium mill tailings near Moab, Utah lies approximately 750 feet from the Colorado River. Due to the proximity of the pile to the Colorado River, there is a potential for the tailings to enter the river as a result of a catastrophic flood event or other natural disaster. In addition, contaminated groundwater from the site is slowly seeping into the river. The U.S. Department of Energy (DOE) is responsible for remediating the site, which includes removal and offsite disposal of the tailings and onsite groundwater remediation.

Previous investigations have shown uranium concentrations contained within the pile at levels significantly above the California MCL of 20 picocuries per liter (pCi/L). Metropolitan has been monitoring for uranium in the Colorado River Aqueduct and at its treatment plants since 1986. Monitoring at Lake Powell began in 1998. Uranium levels measured at Metropolitan's intake have ranged from 1-6 pCi/L, well below the California MCL. Conventional drinking water treatment, as employed at Metropolitan's water treatment plants, can remove low levels of uranium, however these processes would not be protective if a catastrophic event washed large volumes of tailings into the Colorado River. Public perception of drinking water safety is also of particular concern concerning uranium.

Remedial actions at the site since 1999 have focused on removing contaminated water from the pile and groundwater. Through 2009, over 2,700 pounds of uranium in contaminated groundwater have been removed. In July 2005, DOE issued its Final Environmental Impact Statement with the preferred alternative of permanent offsite disposal by rail to a disposal cell at Crescent Junction, Utah, located approximately 30 miles northwest of the Moab site.

Rail shipment and disposal of the uranium mill tailings pile from the Moab, Utah site began in April 2009. Through March 2010, DOE has shipped over 1 million tons of mill tailings to the Crescent Junction disposal cell. Using American Recovery and Reinvestment Act (ARRA) 2009 funding, DOE has increased shipments in order to meet its ARRA project

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[7] From the CDPH web site: http://www.cdph.ca.gov/certlic/drinkingwater/Pages/Arsenic.aspx . Note that the numbers reported there may change because the website is frequently updated.

[8] *Summary Review on the Occurrence of Arsenic in the Central Groundwater Basin, Los Angeles County, California*, prepared by Richard C. Slade & Associates, Sept. 7, 1993.

commitment to ship an additional 2 million tons of mill tailings by September 2011 and accelerate overall clean-up of the site. DOE estimates completing movement of the tailings pile by 2025, with a goal of 2019 should additional funding be secured. Metropolitan continues to track progress of the remediation efforts, provide the necessary legislative support for rapid cleanup, and work with Congressional representatives to support increased annual appropriations for this effort.

Another uranium-related issue began receiving attention in 2008 due to a renewed worldwide interest in nuclear energy and the resulting increase in uranium mining claims filed throughout the western United States. Of particular interest were thousands of mining claims filed near Grand Canyon National Park and the Colorado River. Metropolitan has since sent letters to the Secretary of Interior to highlight source water protection and consumer confidence concerns related to uranium exploration and mining activities near the Colorado River, and advocate for close federal oversight over these activities. In 2009, Secretary of Interior Ken Salazar announced the two-year hold on new mining claims on 1 million acres adjacent to the Grand Canyon to allow necessary scientific studies and environmental analyses to be conducted. In 2009, H.R. 644 – Grand Canyon Watersheds Protection Act was introduced and if enacted, would permanently withdraw areas around the Grand Canyon from new mining activities.

Chromium VI

Chromium is a naturally occurring element found in rocks, soil, plants, and animals. Chromium III is typically the form found in soils and is an essential nutrient that helps the body use sugar, protein, and fat. Chromium VI is used in electroplating, stainless steel production, leather tanning, textile manufacturing, dyes and pigments, wood preservation and as an anti-corrosion agent. Chromium occurs naturally in deep aquifers and can also enter drinking water through discharges of dye and paint pigments, wood preservatives, chrome plating liquid wastes, and leaching from hazardous waste sites. In drinking water, Chromium VI is very stable and soluble in water, whereas chromium III is not very soluble. Chromium VI is the more toxic species and is known to cause lung cancer in humans when inhaled, but the health effects in humans from ingestion are still in question. There is evidence that when Chromium VI enters the stomach, gastric acids may reduce it to chromium III. However, recent studies conducted by the National Toxicology Program have shown that Chromium VI can cause cancer in animals when administered orally.

Currently, there are no drinking water standards for Chromium VI. Total chromium (including chromium III and Chromium VI) is regulated in California with an MCL of 50 μg/L. On August 20, 2009, OEHHA released a draft public health goal (PHG) of 0.06 μg/L for Chromium VI in drinking water. The PHG is a health-protective, non-regulatory level that will be used by CDPH in its development of an MCL. CDPH will set the MCL as close to the PHG as technically and economically feasible.

Metropolitan utilizes an analytical method with a minimum reporting level of 0.03 μg/L, which is less than the State detection level for purposes of reporting (DLR) of 1 μg/L. The results from all of Metropolitan's source and treated waters are less than the State DLR of 1 μg/L (except for one detection of 1 μg/L at the influent to the Mills water treatment plant). The following summarizes Chromium VI levels found in Metropolitan's system:

- In the past 10 years, results of source and treated water monitoring for Chromium VI indicate: Levels in Colorado River water are mostly not detected (<0.03 μg/L) but when detected range from 0.03 – 0.08 μg/L. SWP levels range from 0.03 – 0.8 μg/L. Treated water levels range from 0.03 – 0.7 μg/L.

- There is a slight increase in Chromium VI in the treated water from the oxidation (chlorination and ozonation) of natural background chromium (total) to Chromium VI.
- Colorado River monitoring results upstream and downstream of the Topock site (discussed below) have ranged from not detected (<0.03 μg/L) to 0.06 μg/L.
- Chromium VI in Metropolitan's groundwater pump-in storage programs in the Central Valley has ranged from not detected (< 1 μg/L) to 9.1 μg/L with the average for the different programs from 1.4 to 5.0 μg/L.
- Chromium VI has been detected in a groundwater aquifer on the site of a Pacific Gas and Electric (PG&E) gas compressor station located along the Colorado River near Topock, Arizona.

PG&E used Chromium VI as an anti-corrosion agent in its cooling towers from 1951 to 1985. Wastewater from the cooling towers was discharged from 1951 to 1968 into a dry wash next to the station. Monitoring wells show the plume concentration has peaked as high as 16,000 μg/L. PG&E operates an interim groundwater extraction and treatment system that is protecting the Colorado River. Quarterly monitoring of the river has shown levels of Chromium VI less than 1 μg/L, which are considered background levels. The California Department of Toxic Substances Control and the U. S. Department of Interior are the lead state and federal agencies overseeing the cleanup efforts. Metropolitan participates through various stakeholder workgroups and partnerships that include state and federal regulators, Indian tribes, and other stakeholders (e.g., Colorado River Board) involved in the corrective action process. In 2010, it is anticipated that a final treatment alternative will be selected, and an Environmental Impact Report will be released for the recommended cleanup alternative.

The federal- and state-approved technologies for removing total chromium from drinking water include coagulation/ filtration, ion exchange, reverse osmosis, and lime softening. Potential treatment technologies for Chromium VI in drinking water may include reduction/chemical precipitation, an ion exchange, or reverse osmosis. For several years, the cities of Glendale, Burbank, and Los Angeles have been voluntarily limiting Chromium VI levels in their drinking water to 5 μg/L, an order of magnitude lower than the current statewide total chromium standard of 50 μg/L. The experience of these agencies in the treatment of water containing Chromium VI will be helpful in CDPH's evaluations of treatment technologies and associated costs, which are required as part of a proposed MCL regulation package.

N-Nitrosodimethylamine

N-Nitrosodimethylamine (NDMA) is part of a family of organic chemicals called nitrosamines and is a byproduct of the disinfection of some natural waters with chloramines. Metropolitan utilizes chloramines as a secondary disinfectant at its treatment plants. Wastewater treatment plant effluent and agricultural runoff can contribute organic material into source waters which react to form NDMA at water treatment plants. Certain polymers can also contribute NDMA precursor materials. Some NDMA control measures or removal technologies may be required to avoid adverse impacts on Southern California drinking water supplies. Metropolitan is involved in several projects to understand the watershed sources and occurrence of NDMA precursors in Metropolitan source waters, and to develop treatment strategies to minimize NDMA formation in drinking water treatment plants and distribution systems. Special studies conducted at Metropolitan have shown removal of NDMA using advanced oxidation processes. Other treatment process such as biological, membrane, and carbon adsorption need to be evaluated for NDMA removal.

USEPA considers NDMA to be a probable human carcinogen. USEPA placed NDMA in the Unregulated Contaminant Monitoring

Regulation 2 (UCMR2) and on the Contaminant Candidate List 3 (CCL3). CDPH also considers NDMA to be a probable human carcinogen. CDPH has not established a MCL for NDMA. However, in 1998 CDPH established a notification level of 0.01 µg/L. Occurrences of NDMA in treated water supplies at concentrations greater than 0.01 µg/L are recommended to be included in the utility's annual Consumer Confidence Report. In December 2006, OEHHA set a public health goal for NDMA of 0.003 µg/L. Metropolitan has monitored its source waters (at treatment plant influents) and treated waters on a quarterly basis since 1999. Test results for the presence of NDMA in Metropolitan's system have ranged from non-detect (reporting limit of 0.002 µg/L) to 0.014 µg/L. Preliminary data from UCMR2 confirm that the presence of NDMA is not limited to Metropolitan waters, but is widespread. NDMA, or a broader class of nitrosamines, may likely be the next disinfection byproduct(s) to be regulated by USEPA.

Pharmaceuticals and Personal Care Products

Pharmaceuticals and personal care products (PPCPs) are a growing concern to the water industry. Numerous studies have reported the occurrence of these emerging contaminants in treated wastewater, surface water, and sometimes, in finished drinking water in the United States and around the world. The sources of PPCPs in the aquatic environment include (but may not be limited to) treated wastewater and industrial discharge, agricultural run-off, and leaching of municipal landfills. Currently, there is no evidence of human health risks from long-term exposure to the low concentrations (low ng/L; parts per trillion) of PPCPs found in some drinking water. Furthermore, there are no regulatory requirements for PPCPs in drinking water. In October 2009, USEPA included 13 PPCPs on the CCL3; however, currently there are no standardized analytical methods for these compounds.

In 2007, Metropolitan implemented a monitoring program to determine the occurrence of PPCPs and other organic wastewater contaminants in Metropolitan's treatment plant effluents and selected source water locations within the Colorado River and SWP watersheds. Some PPCPs have been detected at very low ng/L levels, which is consistent with reports from other utilities. However, analytical methods are still being refined and more work is required to fully understand occurrence issues. Metropolitan has been actively involved in various studies related to PPCPs, including analytical methods improvements, and characterization of drinking water sources in California.

Metropolitan has participated with water and wastewater agencies and the Santa Ana Regional Board in a coordinated program to address emerging constituents relevant to local and imported supplies used to recharge groundwater basins in the Santa Ana River watershed. As part of the Regional Board-adopted "Cooperative Agreement to Protect Water Quality and Encourage the Conjunctive Uses of Imported Water in the Santa Ana River Basin", there are provisions for the workgroup to initiate development of monitoring for emerging unregulated constituents. Metropolitan, Orange County Water District, and the National Water Research Institute provided substantial input to the workgroup through its two-year monitoring study of emerging constituents in waters found throughout watersheds of the SWP, Colorado River, and Santa Ana River. In April 2009, the workgroup completed its Phase I Report summarizing its findings and recommendations regarding investigation into emerging constituents in water supplies. In December 2009, the workgroup submitted its proposed 2010/11 plan for monitoring of emerging constituents in imported and local waters. The workgroup also provided input to a Blue Ribbon Panel convened by the State Water Resources Control Board to review the emerging science of unregulated chemicals as it relates to the use of recycled water for irrigation and groundwater recharge.

Decreasing Concerns

Methyl Tertiary-Butyl Ether

Methyl tertiary-butyl ether (MTBE) was the primary oxygenate in virtually all the gasoline used in California, prior to the discovery that MTBE had contaminated groundwater supplies and was also found in surface water supplies. MTBE was banned in California as of December 31, 2003, although the concentration of MTBE in gasoline blends was voluntarily reduced beginning in January 2003. MTBE has subsequently been replaced by ethanol which is now the primary oxygenate in use. CDPH has adopted a primary MCL of 13 μg/L for MTBE based on carcinogenicity studies in animals. MTBE also has a California secondary MCL of 5 μg/L, which was established based on taste and odor concerns.

MTBE was introduced into surface water bodies from the motor exhausts of recreational watercraft. At Diamond Valley Lake and Lake Skinner, Metropolitan has taken steps to reduce the potential for MTBE contamination. In 2003, Metropolitan's Board authorized a non-polluting boating program for these reservoirs that calls for specific boat requirements (MTBE-free fuel and clean burning engines) and a monitoring program that will show if MTBE or other gasoline contaminants appear at the lake. Metropolitan regularly monitors its water supply for contamination from MTBE and other oxygenates. In recent years, MTBE testing results in source waters have remained at non-detectable levels (below 3 μg/L).

MTBE still presents a significant problem to local groundwater basins. Leaking underground storage tanks and poor fuel-handling practices in the past at local gas stations may provide a large source of MTBE. MTBE is very soluble in water and has low affinity for soil particles, so it moves quickly into the groundwater. Within Metropolitan's service area, local groundwater producers have been forced to close some of their wells due to MTBE contamination. MTBE is also resistant to chemical and microbial degradation in water, making treatment more difficult than the treatment of other gasoline components. A combination of an advanced oxidation process (typically ozone and hydrogen peroxide) followed by granular activated carbon has been found to be effective in reducing the levels of these contaminants.

Although some groundwater supplies remain contaminated with this highly soluble chemical, contamination of Metropolitan's surface water supplies are no longer a problem. Further, improved underground storage tank requirements and monitoring, and the phase-out of MTBE as a fuel additive, will decrease the likelihood of MTBE groundwater problems in the future.

Other Water Quality Programs

In addition to monitoring for and controlling specific identified chemicals in the water supply, Metropolitan has undertaken a number of programs to protect the quality of its water supplies. These programs are summarized below.

Source Water Protection

Source water protection is the first step in a multi-barrier approach to provide safe and reliable drinking water. In accordance with California's Surface Water Treatment Rule, Title 22 of the California Code of Regulations, CDPH requires large utilities delivering surface water to complete a Watershed Sanitary Survey every five years to identify possible sources of drinking water contamination, evaluate source and treated water quality, and recommend watershed management activities that will protect and improve source water quality. The most recent sanitary surveys for Metropolitan's water sources were completed in 2005 and 2006.[9] The next Sanitary Surveys for the watersheds of the

9 Metropolitan Water District of Southern California, *Colorado River Watershed Sanitary Survey, 2005 Update*. For the State Water Project, the sanitary survey report was prepared on behalf of the State Water Project Contractors Authority, in 2006, and was titled *California State Water Project Watershed Sanitary Survey, 2006 Update*.

Colorado River and the SWP will report on water quality issues and monitoring data through 2010. Metropolitan has an active source water protection program and continues to advocate on behalf of numerous SWP and Colorado River water quality protection issues.

Support SWP Water Quality Programs

Metropolitan supports DWR policies and programs aimed at maintaining or improving the quality of SWP water delivered to Metropolitan. In particular, Metropolitan supported the DWR policy to govern the quality of non-project water conveyed by the California Aqueduct. In addition, Metropolitan has supported the expansion of DWR's Municipal Water Quality Investigations Program beyond its Bay-Delta core water quality monitoring and studies to include enhanced water quality monitoring and forecasting of the Delta and SWP. These programs are designed to provide early warning of water quality changes that will affect treatment plant operations both in the short-term (hours to weeks) and up to seasonally. The forecasting model is currently suitable for use in a planning mode. It is expected that with experience and model refinement, it will be suitable to use as a tool in operational decision making.

Water Quality Exchanges

Metropolitan has implemented selective withdrawals from the Arvin-Edison storage program and exchanges with the Kern Water Bank to improve water quality. Although these programs were initially designed to provide dry-year supply reliability, they can also be used to store SWP water at periods of better water quality so the stored water may be withdrawn at times of lower water quality, thus diluting SWP water deliveries. Although elevated arsenic levels has been a particular concern in one groundwater banking program, there are also short-term water quality benefits that can be realized through other storage programs, such as groundwater pump-ins into the California Aqueduct with lower TOC levels (as well as lower bromide and TDS, in some programs).

Water Supply Security

The change in the national and international security situation has led to increased concerns about protecting the nation's water supply. In coordination with its member agencies, Metropolitan added new security measures in 2001 and continues to upgrade and refine procedures. Changes have included an increase in the number of water quality tests conducted each year (Metropolitan now conducts over 300,000 analytical tests on samples collected within our service area and source waters), as well as contingency plans that coordinate with the Homeland Security Office's multicolored tiered risk alert system.