City of La Verne

2010 Urban Water Management Plan

Volume 1 - Report

June 2011

Prepared by

CIVILTEC engineering inc.

GENERAL CIVIL, MUNICIPAL, WATER AND WASTEWATER ENGINEERING
PLANNING, CONSTRUCTION MANAGEMENT AND SURVEYING

Providing Professional Engineering Services since 1986

City of La Verne
2010 Urban Water Management Plan
Volume 1 - Report

PREPARED FOR

CITY OF LA VERNE
3660 D STREET
LA VERNE, CA 91750

JUNE 2011

PREPARED BY

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CIVIL AND ENVIRONMENTAL ENGINEERING
PLANNING AND CONSTRUCTION MANAGEMENT
118 W. LIME AVENUE, MONROVIA, CA 91016
(626) 357-0588 FAX: (626) 303-7957

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JUNE 2011

Under the Supervision of:

69578

C. SHEM HAWES, P.E. C.E.

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PREPARER AND CITY CONTACT INFORMATION

Date UWMP was adopted by the City La Verne: June 20, 2011

Date UWMP was submitted to DWR: July 19, 2011

Name of Preparer: Civiltec Engineering, Inc.

Contact Person: W David Byrum, P.E., Principal Engineer

Preparer address: 118 W Lime Avenue, Monrovia CA 91016

Preparer phone: (626) 357-0588

Preparer fax: (626) 303-7957

Preparer email: dbyrum@civiltec.com

Name of supplier: City of La Verne

Supplier status: Urban Retail Water Supplier

Contact Person: Dan Keesey, Director of Public Works

Supplier address: 3660 D Street, La Verne CA 91750

Supplier phone: (909) 596-8741

Supplier fax: (909) 596-8737

Supplier email: dkeesey@ci.la-verne.ca.us

EXECUTIVE SUMMARY

Introduction

The Urban Water Management Planning Act (Act) was adopted in 1983 and may be found in the California Water Code, §§10610-10656. The City of La Verne is obligated to prepare and adopt this Urban Water Management Plan (UWMP) in the manner specified in the Act by virtue of meeting the statutory definition of an "urban retail water supplier".

This UWMP has been prepared in fulfillment of the requirements of the Act and in compliance with the *Guidebook to Assist Water Suppliers in the Preparation of a 2010 Urban Water Management Plan* as provided by the California Department of Water Resources (DWR).

In addition to compliance with state mandate, this UWMP is a living document whose contents fulfill a variety of planning, informational and legal requirements. It will serve as a primary source for integrated water and land use planning at the district, city and county levels per compliance with SB 610 and SB 221 related to water assessment and procurement of water supplies prior to construction of new development. The accuracy, clarity, completeness and usefulness of this UWMP is defensible and representative of the City's best understanding of the state of water management at the time of adoption and/or amendment. To that end, all aspects of water management as they pertain to the City have been delineated in order to provide developers, planners, government agencies and its customers with the tools they need to fulfill their individual missions and interests.

The UWMP serves as an important source document for cities and counties as they update their General Plans. Conversely, General Plans are source documents as water suppliers update their UWMPs. These planning documents are linked and their accuracy and usefulness are interdependent. It is crucial that cities, counties and water suppliers work closely when developing and updating these planning documents.

To assist the reader in understanding the legal mandates involved in the various aspects of this UWMP, relevant and applicable excerpts for the California Water Code (CWC) are provided immediately following each section heading. These excerpts are cited by CWC section designation and offset in italic print to differentiate them from other text. In general, the chapters of this UWMP are laid out as presented in the DWR Guidebook along with recommended tables and other content.

La Verne coordinated with local stakeholders and internal City departments to elicit comments relative to producing an accurate and complete UWMP. Stakeholders include Los Angeles County, Metropolitan Water District of Southern California, Three Valleys Municipal Water District, Golden State Water Company, California Department of Water Resources, Los Angeles County Sanitation Districts, Bonita Unified School District, University of La Verne, Hillcrest Retirement Community and the general public.

Individuals consulted representing the various internal City departments include the Director of Community Development, the City Attorney, the Senior Management Analyst and the Director of Public Works.

Service Area and Population

The water service area comprises approximately 5,330 acres within the incorporated boundary and approximately 861 acres considered to be within the sphere of influence of the City of La Verne. The current and projected service area population is shown in table below.

Population	2010	2015	2020	2025	2030	2035
Service Area	28,932	29,788	30,699	31,878	33,010	34,198

This population analysis considers available data provided by the 2010 US Census, the California Department of Finance and the Southern California Association of Governments. Careful attention was paid to the precise boundary of the service area to assure that all residential water customers were accounted for.

Water Demand

La Verne supports a significant residential population which accounts for the bulk of the City's water deliveries. Also significant are institutional and governmental demands of the various institutions which serve the residential population including schools, churches, civic buildings and most notably the University of La Verne. There are modest industrial and commercial demands related to the various business interests within the City.

The table below shows current and projected water use within the service area.

Water Use	2010 (AFY)	2015 (AFY)	2020 (AFY)	2025 (AFY)	2030 (AFY)	2035 (AFY)
Deliveries and Losses	7,381.95	8,127.2	7,527.2	7,815.8	8,093.8	8,384.7

The projections comply with the mandates of the California Water Conservation Act of 2009 which stipulates minimum water use reduction requirements.

Application of the California Water Conservation Act

The California Water Conservation Act of 2009 (aka 20x2020, aka SB7x7) sets a goal for water use efficiency for all urban retail water suppliers equivalent to a 20% reduction in state-wide water use by the year 2020. Methodologies and techniques for the calculation of a supplier's water use target were developed by DWR following the passage of the Act

and published in 2010 under the title *Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use*.

The table below represents the results of the application of the DWR methodologies to La Verne's case in terms of gallons per capita per day (GPCD).

Water Use Calculation	Effective Date	GPCD
Baseline	2010	268.2
Interim Target	2015	243.6
Compliance Target	2020	218.9

Water Supply

Local groundwater had been the City's primary source of water since the late 1800's. In 1972, the City began importing water to meet the demands associated with population growth. Amendments to the federal and State drinking water standards also influenced the City's decision to import water since some of the City's groundwater sources did not meet the new standards without a substantial investment in treatment infrastructure. Today, water production is a closely monitored process including direct introduction of disinfected groundwater and imported water into the distribution system, blending of imported water with groundwater having nitrate concentrations that exceed the MCL[1], and treatment of groundwater to remove VOCs[2], perchlorate and nitrate.

The table below provides an assessment of La Verne's current and projected supplies.

Water Supply	2010[3] (AFY)	2015 (AFY)	2020 (AFY)	2025 (AFY)	2030 (AFY)	2035 (AFY)
TVMWD	4,865	10,860	10,860	10,860	10,860	10,860
Six Basins	2,517	3,061	3,061	3,061	3,061	3,061
Total	7,382	13,921	13,921	13,921	13,921	13,921

Determination of projected supply considers existing contracts with the local wholesaler and adjudicated rights in area groundwater basins.

Supply Reliability

A comparison of projected demand and projected supply demonstrates that the reliability of La Verne's supply will be adequate to meet normal year, single dry year and multiple dry year demand conditions through the planning horizon of this UWMP. This

[1] MCL = maximum contaminant limit
[2] VOC = volatile organic compounds
[3] Supply for 2010 represents actual production

comparison takes into account the reliability of imported water supplies which are predicted to drop by 14% under single dry year and multiple dry year conditions, and the reliability of groundwater supplies whose infrastructure and treatment facilities require constant monitoring and upgrading to meet water quality standards and to overcome normal deterioration as a result of age and use.

In 1991, La Verne enacted Ordinance No. 822: *An Urgency Ordinance of the City Council of the City of La Verne, County of Los Angeles, State of California, Declaring an Emergency Water Shortage* and adding Chapter 13.15 to the La Verne Drought Surcharge, Conservation Measure, and Water Use Regulations and Restrictions. In 2009, various provisions to the La Verne Municipal Code were enacted with the approval and adoption if Ordinance 1009: *An Ordinance of the City Council of the City of La Verne, County of Los Angeles, State of California, Amending Chapter 13.15 of the La Verne Municipal Code, Regarding Water Conservation, Use and Restrictions*. The collective purposes of these ordinances are "to foster water conservation and to assure that wasteful water practices are eliminated throughout the City's service area" by providing a mechanism enabling the City to initiate appropriate reaction in the event that supply reliability is compromised due to a state of emergency or a prolonged drought.

Demand Management Measures

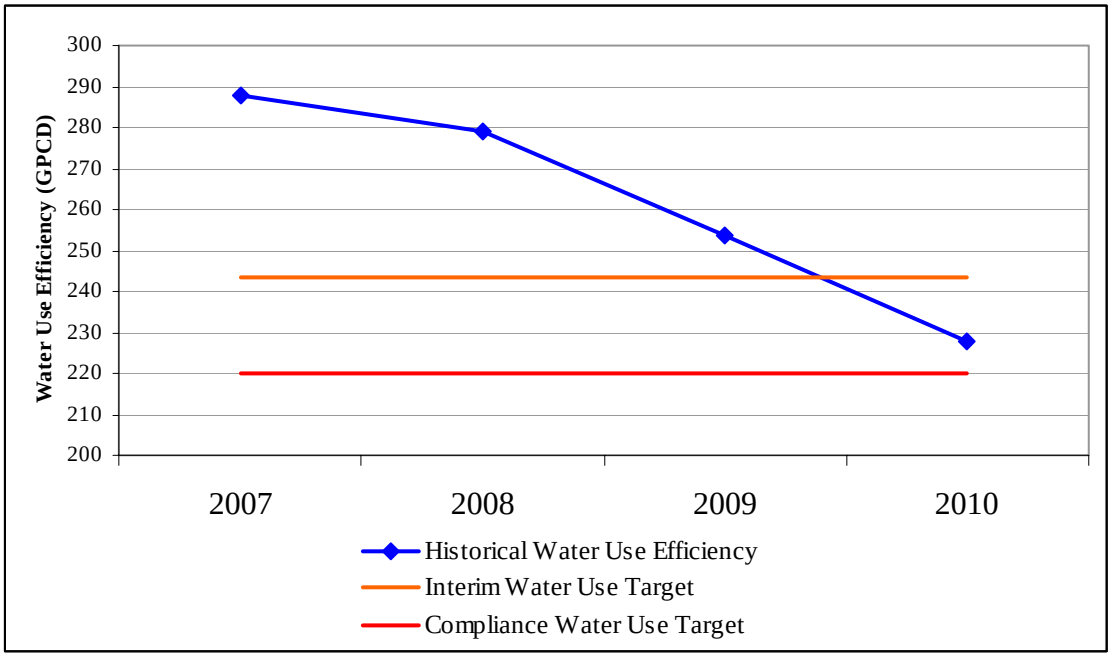
The State requires reporting on the implementation and effectiveness of a series water conservation programs deemed to be feasible for water use reduction at the retail level. These Demand Management Measures (DMM) have been implemented in La Verne at the local and wholesale level in accordance with the California Urban Water Conservation Council (CUWCC). La Verne is an original signatory to CUWCC's *Memorandum of Understanding Regarding Urban Water Conservation Best Management Practices* (MOU) and reports annually its progress toward the reasonable implementation of water conservation Best Management Practices (BMP).

Coordination and reporting with CUWCC has been delayed for FY 2009-10. Technical difficulties with its new automated and interactive website have resulted in the temporary interruption of timely reporting by CUWCC on La Verne's behalf. Consequently, CUWCC's input on DMM effectiveness for FY 2009-10 was not available at the time of the adoption of this UWMP. An estimate of DMM effectiveness has been provided in Section 7.15 in lieu of the CUWCC report. According to this estimate, the continued implementation of all DMMs at their current level will results in an additional water use reduction of approximately 10 GPCD.

Water Use Reduction Plan

Over the past four years, the average annual reduction in per capita water use is 19.9 GPCD thanks in large part to the aggressive implementation of DMMs, specifically conservation pricing. In 2010, the interim water use target of 243.6 GPCD was exceeded by 15.8 GPCD. An additional reduction of 8.9 GPCD is required by 2020 to achieve the compliance water use target of 218.9 GPCD. The figure below provides a graphic

illustration of recent historical water efficiency relative to the interim and compliance water use targets.



Based on the current trend of water use efficiency in La Verne, continued aggressive implementation of water conservation measures is anticipated to achieve the compliance goal years ahead of schedule. The effectiveness of the continued implementation of the DMMs will provide an estimated water use reduction of about 10 GPCD. This estimated water use reduction will result in a water use efficiency of approximately 218 GPCD by 2020 which is anticipated to meet or exceed the compliance water use target of 218.9 GPCD.

No water use reduction planning in addition to the current implementation of DMMs is anticipated to be required at this time in order to comply with the mandates of the California Water Conservation Act.

CHAPTER ONE – INTRODUCTION

1.1 General Description

The Urban Water Management Planning Act (Act) was adopted in 1983 and may be found in the California Water Code, §§10610-10656 (see Appendix A). The City of La Verne is obligated to prepare and adopt this Urban Water Management Plan (UWMP) in the manner specified in the Act by virtue of meeting the statutory definition of an "urban retail water supplier":

> *§10608.12(p) "Urban retail water supplier" means a water supplier, either publicly or privately owned, that directly provides potable municipal water to more than 3,000 end users or that supplies more than 3,000 acre-feet of potable water annually at retail for municipal purposes.*

The Act, and elements of the California Water Conservation Act of 2009, require urban water suppliers to report, describe, and in some cases evaluate:

- water deliveries and uses
- water supply sources
- efficient water uses
- implementation strategy and schedule for demand management measures
- baseline, interim and compliance daily per capita water use
- water supply availability to meet existing and future demands
- water shortage and drought contingency planning

1.2 Purpose

This 2010 Urban Water Management Plan for the City of La Verne (UWMP) has been prepared in fulfillment of the requirements of the California Urban Water Management Planning Act (Act) and in compliance with the *Guidebook to Assist Water Suppliers in the Preparation of a 2010 Urban Water Management Plan* (Guidebook) as provided by the California Department of Water Resources (DWR).

The Guidebook provides guidance respective to the minimum requirements of the California Urban Water Management Planning Act and the recent legislative changes and amendments embodied in the California Water Conservation Act of 2009 and AB 1420 which more narrowly defines eligibility for water management grants and loans.

In addition to compliance with state mandate, this UWMP is a living document whose contents fulfill a variety of planning, informational and legal requirements. It will serve as a primary source for integrated water and land use planning at the district, city and county levels per compliance with SB 610 and SB 221 related to water assessment and procurement of water supplies prior to construction of new development. The accuracy, clarity, completeness and usefulness of this UWMP is defensible and representative of the City's best understanding of the state of water management at the time of adoption and/or amendment. To that end, all aspects of water management as they pertain to the City have been delineated in order to provide developers, planners, government agencies and its customers with the tools they need to fulfill their individual missions and interests.

Substantial growth in the State of California is projected by the State Department of Finance, and there is no end in sight. The challenge facing water agencies, public agencies, planners and project proponents is to identify and secure the sources of water needed for the inevitable increase in population. From a water resources point of view, planning for such growth is addressed by SB 610, SB 221 and related jurisdictional General Plans.

Cities, counties, water districts, property owners, and developers will all be able to utilize the UWMP when planning for and proposing new projects. For certain "projects" meeting the definitions under SB 610 and/or SB 221, a city or county evaluating the environmental effects of that project must request a Water Supply Assessment (WSA) from the water provider or prepare the WSA on its own. A WSA can rely on an adopted and DWR-approved UWMP making the UWMP a foundational document for compliance with both SB 610 and SB 221. Both of these statutes repeatedly identify the UWMP as a planning document that, if properly prepared, can be used by a water supplier to meet the standards set forth in both statutes. A thorough and complete UWMP will allow the City to use the UWMP as a foundation to fulfill the specific requirements of these two statutes.

SB 610 creates a strong link between water supply availability and land use by requiring cities and counties to consider water availability for certain development projects. It promotes collaboration between local water suppliers and cities/counties while recognizing the importance of local control and decision making regarding water availability.

SB 221 requires written verification of sufficient water supply from the water supplier prior to the construction of residential subdivisions of greater than 500 dwelling units. A "sufficient water supply" includes assessment of the water supplier's available projected water supplies for a 20-year period during normal years, single-dry years and multiple-dry years. This assessment must consider the subdivision's water demands in addition to existing and planned future demands.

The UWMP serves as an important source document for cities and counties as they update their General Plans. Conversely, General Plans are source documents as water suppliers update their UWMPs. These planning documents are linked and their accuracy

and usefulness are interdependent. It is crucial that cities, counties and water suppliers work closely when developing and updating these planning documents.

1.3 Organization

To assist the reader in understanding the legal mandates involved in the various aspects of this UWMP, relevant and applicable excerpts for the California Water Code (CWC) are provided immediately following each section heading. These excerpts are cited by CWC section designation and offset in italic print to differentiate them from other text.

In general, the chapters of this UWMP are laid out as presented in the Guidebook along with recommended tables and other content.

1.4 Coordination

> *§10620(d)(2) Each urban water supplier shall coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.*
>
> *§10621(b) 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.*
>
> *§10635(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.*

Table 1 provides a brief summary of coordination activities undertaken on La Verne's behalf for the preparation of this UWMP. Proper notification of stakeholders was provided (see Appendix B).

Table 1 – Coordination with Appropriate Agencies

Coordinating Agencies	Participated in developing the plan	Commented on the draft	Attended public meetings	Was contacted for assistance	Was sent a copy of the draft plan	Was sent a notice of intention to adopt	Not involved / No information
City of La Verne	✓	✓	✓	✓	✓	✓	
Los Angeles County						✓	
Metropolitan Water District						✓	
Three Valleys MWD	✓			✓	✓	✓	
Golden State Water Company						✓	
Department of Water Resources				✓		✓	
LA County Sanitation Districts	✓	✓		✓		✓	
Bonita Unified School District						✓	
University of La Verne						✓	
Hillcrest Retirement Community						✓	
General Public						✓	

1.5 Review

§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.

§10642 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.

§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.

La Verne coordinated with local stakeholders, as indicated in Table 1, and with internal City departments to elicit comments relative to producing an accurate and complete UWMP. Individuals consulted representing the various internal City departments include the Director of Community Development, the City Attorney, the Senior Management Analyst and the Director of Public Works. Comments and responses from the review of the Final Draft are included in Appendix C.

The Final Draft was made available for public review, and notification thereof is included in Appendix D.

The adopted UWMP was made available for public review at the time of submittal to DWR and the State Library.

1.6 Adoption

§10621(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).

§10642 After the hearing, the plan shall be adopted as prepared or as modified after the hearing.

Immediately following a public hearing, this UWMP was adopted by the La Verne City Council on June 20, 2011 pursuant to Resolution #11-62 (see Appendix E).

1.7 Submittal

§10644(a) 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.

§10608.20 A 6-month extension has been granted for submittal of the 2010 UWMPs to provide additional time for suppliers to address the requirements for a 20% reduction from the "baseline daily per capita water use" by Dec. 31, 2020.

This UWMP was submitted July 19, 2011 to:

- California Department of Water Resources
- California State Library
- Los Angeles County
- Three Valleys Municipal Water District
- City of La Verne

1.8 Online Data Submittal

DWR is establishing an online data submittal portal for urban water suppliers. Suppliers will be able to go online and complete tables and download them into their plans. The portal, referred to as DOST (DWR Online Submittal Tool), will have an audit system to allow suppliers to double check they have submitted all the data. Suppliers who use the online data submittal system and have a state water grant or loan or have submitted a grant proposal will receive priority review. DWR sees on line data submittal as a way to speed up reviews, better manage the data received, standardize data reporting, and enable a direct linkage to the data used to prepare the California Water Plan.

La Verne has opted not to participate in online submittal at this time.

1.9 Implementation

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

La Verne pledges to implement this UWMP according to the schedules set forth herein regarding the following elements:

- Water Use Reduction Plan
- Future Supply Projects
- Continued coordination with the California Urban Water Conservation Council

1.10 Judicial Review

Any actions or proceedings to invalidate the decisions of an urban water supplier on the grounds of non-compliance with the UWMP Act must be commenced as follows:

- 90-Day Rule: Any action alleging that a plan, or action taken pursuant to the plan, does not comply with the UWMP Act must be commenced within 90 days after filing of the plan or amendment thereto with DWR.

- 18-Month Rule: Any action alleging failure to adopt a plan must be commenced within 18 months after that adoption is required by the UWMP Act.

In challenging the plan's compliance with the UWMP Act, judicial review is limited to whether there was a prejudicial abuse of discretion. These abuses are limited to the supplier not proceeding in a manner required by law or the plan not being supported by substantial evidence (§10651).

The UWMP standard of judicial review was established per *Sonoma County Water Coalition, et al. v. Sonoma County Water Agency*, California Court of Appeal for the Fourth District, Case No. A124556 (October 8, 2010) as:

> *"In technical matters requiring the assistance of experts and the study of marshaled scientific data as reflected herein, courts will permit administrative agencies to work out their problems with as little judicial interferences as possible."*

This means that the court acknowledges the complexities of collecting and interpreting data related to water supply and demand and defers to the knowledge of the water supplier and expertise of consultants providing their services on the supplier's behalf. No additional standards were deemed necessary by the court to validate conclusions related to collection and interpretation of data.

In addition to diligence in data collection and interpretation, care was taken to present this UWMP as a legal document paying particular attention to the following areas of emphasis in order to avoid becoming a target for litigation:

- Expect this UWMP to be a litigation target.

- Disclose all physical and legal regulatory factors affecting projected availability of existing and planned future sources of water supply.

- Clearly describe the basis for each assumption about how those factors will affect supply availability.

- Clearly describe how projected water demand was calculated

- Disclose assumptions about the effect of water conservation measures on projected demand.

- Clearly describe the basis for conservation assumptions.

1.11 Acknowledgements

We, at ***CIVILTEC engineering inc.***, would like to express our appreciation for the cooperation and valuable assistance of the City of La Verne. In particular, the efforts of the following people, proved to be invaluable:

- Dan Keesey, Director of Public Works
- Jeannette Vagnozzi, Administrative Superintendent/City Treasurer
- James Ranells, Senior Management Analyst
- Jerry Mesa, Utilities Manager

1.12 Abbreviations

As a matter of convenience, a number of abbreviations are used in this UWMP. Generally, the first time a term is used in each chapter, abbreviations will follow in parentheses. Following is a list of the most commonly used abbreviations in this UWMP.

AB	Assembly Bill
AF	acre-feet
AFY	acre-feet per year
AMR	automatic meter reading
BMP	best management practice
CBMWD	Central Basin Municipal Water District
cfs	cubic feet per second
CII	commercial, industrial, and institutional
Civiltec	Civiltec Enigneering, Inc.
CUWCC	California Urban Water Conservation Council
CWC	California Water Code
D	demand
DMM	demand management measure
DOF	California Department of Finance
DOST	DWR online submittal tool
DU	dwelling unit
DWR	California Department of Water Resources
DWR	California Department of Water Resources
F	Fahrenheit
FY	fiscal year
GPCD	gallons per capita per day
gpm	gallons per minute
GRIP	Groundwater Reliability Improvement Project
GSWC	Golden State Water Company
HET	high efficiency toilet
IEUA	Inland Empire Utilities Agency
IRWM	Integrated Regional Water Management
IRWMP	Integrated Regional Water Management Plan

JOS	Joint Outfall System
LACSD	Los Angeles County Sanitation Districts
LVH	La Verne Heights
MCL	maximum contaminant level
MGD	million gallons per day
MOU	Memorandum of Understanding
MWD	Metropolitan Water District of Southern California
OSY	Operating Safe Yield
PSA	Photographic Society of America
RFP	request for proposal
RHNA	Regional Housing Needs Allocation
RWD	Rowland Water District
SB	Senate Bill
SCAG	Southern California Association of Governments
SCWCo	Southern California Water Company
SIFE	Students in Free Enterprise
TVMWD	Three Valleys Municipal Water District
ULFT	ultra low flush toilet
UWMP	Urban Water Management Plan
VOC	volatile organic compounds
WBIC	Weather Based Irrigation Controller
WET	Water Efficient Technologies
WEWAC	Water Education Water Awareness Committee
WRP	Water Reclamation Plant
WSA	Water Supply Assessment
WSAP	Water Supply Allocation Plan

CHAPTER TWO – SYSTEM DESCRIPTION

2.1 General Description

Incorporated in 1906, the City of La Verne is located in the eastern portion of Los Angeles County approximately 32 miles east of metropolitan Los Angeles encompassing approximately 9.09 square miles of land area. The City is bounded on the north by the Angeles National Forest and unincorporated Los Angeles County, on the east by the City of Claremont, on the west by the City of San Dimas and on the south by the City of Pomona and Frank G. Bonelli Regional County Park.

Approximately 53% of the City is zoned residential, 6% is zoned commercial/business park, 2% is zoned industrial and 39% is zoned for community facility or open space use per the 1998 General Plan. During the past 40 years, the City of La Verne has experienced a surge of residential development almost tripling the population since 1970, although growth has been relatively stagnant the last ten years.

2.2 Service Area Description

§10631(a) Describe the service area of the supplier.

The service area boundary, as shown in Exhibit 1, is identical to the City of La Verne incorporated boundary with the following exceptions:

- 819 customers in the southwest corner of the City are serviced by the Golden State Water Company[4] (GSWC). This configuration was put in place due to a division in the development of water supply created following construction of the Puddingstone Channel for flood control purposes.

- Four private water groups located in unincorporated Los Angeles County and within the City's sphere of influence are serviced by the City. These include (1) the Webb Oak Group, (2) the Oakglen Heights Water Group, (3) the Flaten-Heuer Group and (4) the Briney Water Group.

- Water is supplied to Marshall Canyon via a dedicated Los Angeles County master meter. Los Angeles County maintains and manages all water distribution downstream of the master meter including service connections at the Marshall Canyon Golf Course, the Fred M. Palmer Marshall Canyon Equestrian Center, the Marshall Canyon Tree Farm and the Los Angeles County Probation Department Camp Joseph M. Paige Juvenile Detention Facility. Service connections to these facilities are located in unincorporated Los Angeles County and within the City's sphere of influence.

[4] Formerly the Southern California Water Company (SCWCo)

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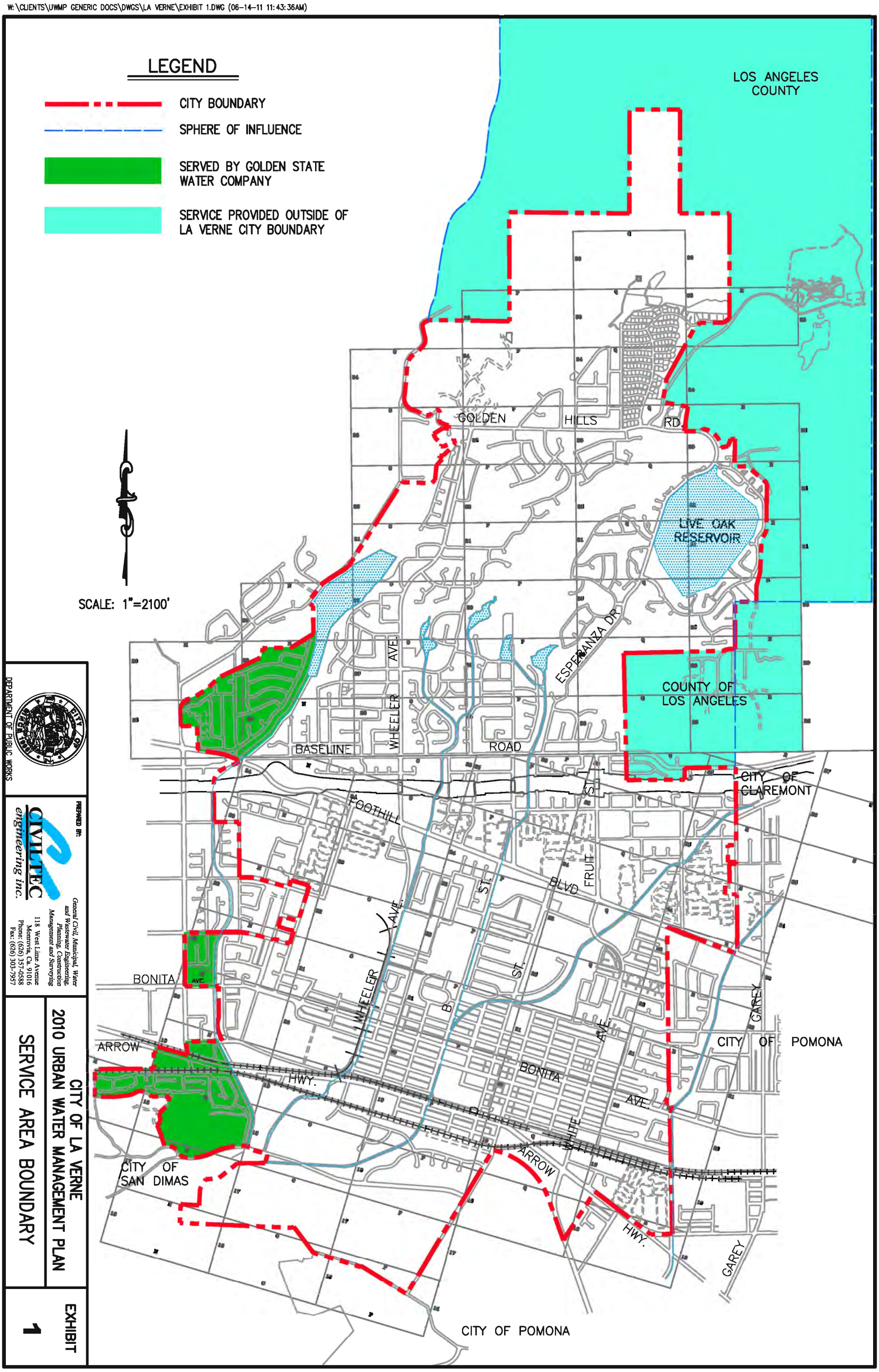


The service area comprises approximately 5,330 acres within the incorporated boundary and approximately 861 acres considered to be within the sphere of influence of the City of La Verne.

2.3 Climate

§10631(a) (Describe the service area) climate.

The distinctive climate of the region, and the City of La Verne, is determined by its terrain and geographical location. The City can be divided into two physiographic areas: a hillside area in the northern section with an existing ground elevation of 1700 feet and a flatter valley area in the southern section with an elevation of 1000 feet. The climate tends to be mild and is tempered by cool offshore breezes. This usually mild climate is interrupted infrequently by periods of extremely hot weather, winter storms, or Santa Ana winds. Data from the climatological stations located in the City of Claremont and the City of Pomona show that average temperatures range from a low of 40 degrees Fahrenheit in the winter months and a high of 90 degrees Fahrenheit in the summer months. Average rainfall is approximately 16 inches annually, most of which occurs during the months of November through April.

2.4 Population

§10631(a) (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 . . . (population projections) shall be in five-year increments to 20 years or as far as data is available.

§10608.20(f) When calculating per capita values for the purposes of this chapter, an urban retail water supplier shall determine population using federal, state, and local population reports and projections.

The 2010 population for the City of La Verne was provided by the California Department of Finance Demographic Research Unit State Census Data Center based on assimilation of 2010 US Census data. Population growth projections for the City of La Verne were provided by the Southern California Association of Governments Adopted 2008 Regional Transportation Plan Growth Forecast based on data from the 2000 US Census. The population was adjusted to reflect the difference between the City's population and the service area population.

Table 2 – Current and Projected Population

Population	2010	2015	2020	2025	2030	2035
La Verne	31,063	31,982	32,960	34,226	35,441	36,717
Service Area	28,932	29,788	30,699	31,878	33,010	34,198

Per the 1998 General Plan, the estimated population within the City at ultimate build-out is 37,430. By observation of the projected population estimate shown in Table 2, ultimate build-out is anticipated to occur at a date beyond the planning horizon of this UWMP.

2.5 Demographics

§10631(a) Describe . . . other demographic factors affecting the supplier's water management planning.

Water consumption varies with population, occupancy, and other social, economic, political, and environmental factors. Demographic data in Table 3 was provided in the *Profile of the City of La Verne* published by SCAG in 2009. The data are relative to 2007 or 2008 as indicated.

Table 3 – Demographic Data

Category	La Verne	Los Angeles County	La Verne relative to Los Angeles County	SCAG Region
Population (2008)	34,046	10,363,850	0.33%	18,636,934
Median Age (Yrs)	39.7	33.9	5.8	33.5
Number of Households (2008)	11,211	3,260,434	0.34%	5,849,833
Number of Housing Units (2008)	11,428	3,403,480	0.34%	6,224,661
Home Ownership Rate	76.90%	47.50%	0.60%	54.70%
Average Household Size (2008)	3.1	3.1	0	3.1
Median Family Income ($) (2007)	87,673	56,930	30,743	61,901
Median Existing Home Price ($) (2008)	480,000	399,000	81,000	382,300
Number of Jobs (2008)	9,386	4,456,896	0.21%	7,845,378

CHAPTER THREE – SYSTEM DEMANDS

3.1 General Description

La Verne supports a significant residential population which accounts for the bulk of the City's water deliveries. Also significant are institutional and governmental demands of the various institutes which serve the residential population including schools, churches, civic buildings and most notably the University of La Verne. There are modest industrial and commercial demands related to the various business interests within the City.

The sections that follow quantify past, current and projected demands by water use sector taking into account population trends and the impact of water conservation measures.

3.2 Historical Water Demands

> *§10631(e)(1) and (2) 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.*

Table 4 delineates historical and current water use by water use sector derived from historical water delivery records. The total represent all water supplied for the respective years and system losses represents the difference between actual deliveries and supply.

Table 4 – Actual Water Deliveries and Losses for 2005 and 2010

Water use sectors[5]	2005 (AFY)	2010 (AFY)
Single-family Residential	4564.37	3697.72
Multi-family Residential	803.43	1062.07
Commercial	670.24	633.90
Industrial	204.82	192.91
Institutional and Governmental	1291.64	1232.38
Landscaping	69.08	45.13
System Losses	1,021.35	517.84
Total	8,624.93	7,381.95

[5] La Verne made no deliveries to the following water use sectors: sales to other agencies, saline water intrusion barriers, groundwater recharge, conjunctive use, agriculture

3.3 Projected Water Demands

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

§10631.1(a) 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.

Projected demands were calculated based on the following assumptions:

- The distribution of demands among the various water use sectors is proportional to the average of the 2005 and 2010 demands included in Table 4.
- System losses are set at 5% of total deliveries.
- Total deliveries for 2015 represent the interim water use efficiency target of 243.6 gallons per capita per day (GPCD) as shown in Table 9 times the projected service area population of 29,788 as shown in Table 2.
- Total deliveries for 2020 and beyond represent the compliance water use efficiency target of 218.9 GPCD as shown in Table 9 times the corresponding projected service area population as shown in Table 2.
- The use of the interim and compliance water use targets may be conservative since current water use efficiency already exceeds the interim target and the trend for projected water use efficiency is to exceed the compliance water use target; however, accurate assessment of the effectiveness of current water conservation measures was not immediately available from the California Urban Water Conservation Council (CUWCC).

Table 5 – Projected Water Deliveries through 2035

Water use sectors	2015 (AFY)	2020 (AFY)	2025 (AFY)	2030 (AFY)	2035 (AFY)
Single-family Residential	4,420.2	4,093.9	4,250.8	4,402.0	4,560.3
Multi-family Residential	998.0	924.4	959.8	993.9	1,029.7
Commercial	697.7	646.2	671.0	694.8	719.8
Industrial	212.8	197.1	204.6	211.9	219.5
Institutional and Governmental	1,350.4	1,250.7	1,298.6	1,344.8	1,393.1
Landscaping	61.1	56.6	58.8	60.9	63.0
System Losses	387.0	358.4	372.2	385.4	399.3
Total	8,127.2	7,527.2	7,815.8	8,093.8	8,384.7

3.4 Summary of Water Demands

Table 6 provides a summary of past, current and projected total water use.

Table 6 – Total Water Use

Water Use	2005 (AFY)	2010 (AFY)	2015 (AFY)	2020 (AFY)	2025 (AFY)	2030 (AFY)	2035 (AFY)
Deliveries and Losses	8,624.93	7,381.95	8,127.2	7,527.2	7,815.8	8,093.8	8,384.7

3.5 Lower-income Water Demands

The City of La Verne 2008-2014 Housing Element was adopted May 3, 2010 in coordination with the Southern California Association of Governments (SCAG). The City cites SCAG as a primary source for application of the Regional Housing Needs Allocation (RHNA) plan. For this reason, data developed both by the City and by SCAG have been gathered and analyzed for purposes of complying with §10631.1(a).

The approach of this analysis was to estimate existing lower-income population, to estimate the increase in lower-income population associated with completion of the City's commitments to fulfilling its near-term RHNA obligations, to estimate the long-term projected lower-income population growth, and to apply typical per capita water use to those population estimates.

For purposes of this analysis, lower-income is either (1) as identified in the La Verne Housing Element or (2) defined as households earning less than $50,000 in 2007 to be consistent with data disseminated by SCAG in the Profile of the City of La Verne.

SCAG estimated that 30.7% of households are lower-income[6]. Assuming a direct correlation between households and population and based on a service area population of 28,931 in 2010, the lower-income population in 2010 was estimated at 8,882.

Per the La Verne Housing Element, 356 lower-income units are to be constructed within the service area in the near-term. Per SCAG, the average household size for the City is 2.9 persons per household. Therefore, the lower-income population is expected to increase by 1,032 in 2015.

Per the La Verne Housing Element, the percentage of new housing needs in the lower-income category is 41.7%. Applying this trend to projected population within the service area, the projected lower-income population is shown in Table 7.

Table 7 – Projected Lower-income Population Served

Year	2015	2020	2025	2030	2035
Lower-income Population	9,914	10,294	10,786	11,258	11,753

The standard residential demand per person is considered to be the cumulative residential demand in 2010 (see Table 4) divided by the population in 2010 (see Table 2), or 0.1645 AFY per person:

$$\frac{D_{single\ family} + D_{multi\ family}}{population} = \frac{3{,}697.72\ AFY + 1{,}062.07\,AFY}{28{,}931\ persons} = 0.1645\,AFY\ \ per\ \ person$$

Assuming that lower-income residences are distributed among single-family and multi-family units proportionally to the city-wide distribution in 2010, Table 8 provides the projected breakdown of the lower-income water demand.

Table 8 – Projected Lower-income Water Demands

Land Use Type	2015 (AFY)	2020 (AFY)	2025 (AFY)	2030 (AFY)	2035 (AFY)
Single-family Residential	1,267.3	1,315.8	1,378.7	1,439.0	1,502.4
Multi-family Residential	363.8	377.7	395.7	413.1	431.2

[6] Profile of the City of La Verne, SCAG (May 2009)

CHAPTER FOUR – WATER CONSERVATION ACT

4.1 Application of the Water Conservation Act

> *§10608.20(e) An urban retail water supplier shall include in its urban water management plan . . . due in 2010 the 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.*

There are multiple methodologies in place for determining water use targets and complying with the Water Conservation Act. This chapter is dedicated to specifying chosen methodologies, justifying those choices, quantifying applicable parameters, performing calculations, stating conclusions about those calculations and applying those conclusions commensurate to the requirements of future water conservation goals as embodied in the Act. Table 9 provides a summary of the various water use calculations performed in this chapter.

Table 9 – Water Use Baseline and Targets

Water Use Calculation	Effective Date	GPCD[7]
Baseline	2010	268.2
Interim Target	2015	243.6
Compliance Target	2020	218.9

4.2 Baseline Per Capita Water Use

The baseline per capita water use was determined to be 268.2 GPCD as delineated in the following sections.

4.2.1 Distribution System Boundary

The distribution system boundary includes all customers that receive water service from the City. This includes all customers within the City's sphere of influence except those customers serviced by the Golden State Water Company[8] (GSWC), as detailed in Section 2.2.

4.2.2 Calculation Period and Baseline Period

Detailed continuous consumption records have been maintained by the City since 2002 on a calendar year basis. The State prefers a baseline period of 10 years, however acknowledges that adequate data may not be available. In such a case, the maximum

[7] GPCD = gallons per capita per day
[8] Formerly the Southern California Water Company (SCWCo)

number of years for which adequate data are available shall be the baseline period. For this reason, the period for calculation of the baseline represents nine years of continuous annual data from 2002 to 2010.

4.2.3 Population Relative to the Calculation Period

Population relative to the calculation period was derived from data provided the California Department of Finance (DOF) and the Southern California Association of Governments (SCAG) taking into account variation between the City of La Verne incorporated boundary and the water distribution system boundary.

Per the DOF, the population for the City of La Verne was determined to be 31,638 in 2000 and 31,063 in 2010. This equates to an annual decline in population of approximately 57.5 persons per year.

There are 819 customers serviced by the Golden State Water Company[9] (GSWC).

There are four private water groups within the City's sphere of influence but outside the City boundary:

- Webb Oak Group (55 customers)
- Oakglen Heights Water Group (4 customers)
- Flaten–Heuer Group (6 customers)
- Briney Water Group (19 customers).

The number of customers associated with these five sub-groups has remained constant throughout the calculation period. SCAG estimated the average household size in La Verne to be 2.9 persons per household. This equates to a net difference between the City's population and the distribution system boundary population of minus 2,132 persons:

$$\Delta P = \left(\sum \textit{private water group customers} - \textit{GSWC customers}\right)\left(\textit{occupancy rate}\right)$$
$$= \left(55 + 4 + 6 + 19 - 819 \textit{ customers}\right)\left(2.9 \textit{ persons per household}\right) \cong -2{,}132 \textit{ persons}$$

where: ΔP is the difference in population between the City and the service area

Table 10 provides the population for the City and the distribution system boundary during the calculation period as established by the methodologies describe above.

[9] Formerly the Southern California Water Company (SCWCo)

Table 10 – Population for Calculation Period

Population	2002	2003	2004	2005	2006	2007	2008	2009	2010
City of La Verne	31,522	31,464	31,406	31,348	31,290	31,232	31,174	31,116	31,063
Service Area	29,390	29,332	29,274	29,216	29,158	29,100	29,042	28,984	28,931

4.2.4 Gross Water Uses

§10608.12(g) "Gross Water Use" is the total volume of water, whether treated or untreated, entering the distribution system of an urban retail water supplier, excluding all of the following:

(1) Recycled water that is delivered within the service area of an urban retail water supplier or its urban wholesale water supplier

(2) The net volume of water that the urban retail water supplier places into longterm storage

(3) The volume of water the urban retail water supplier conveys for use by another urban water supplier

(4) The volume of water delivered for agricultural use, except as otherwise provided

La Verne has no exclusions as defined in §10608.12(g)(1-4); therefore, it's gross water use is the sum of all imported water and groundwater entering the distribution system. Table 11 provides a summary of the gross water use for the calculation period.

Table 11 – Gross Water Use in Acre-feet for Calculation Period

Source	2002	2003	2004	2005	2006	2007	2008	2009	2010
Pomona Basin	1,305.7	1,389.1	1,411.4	1,455.1	1,468.2	1,507.2	1,317.1	1,329.9	1,099.6
Ganesha Basin	125.1	4.7	1.4	1.2	2.3	224.4	377.7	594.4	496.1
Live Oak Basin	140.9	253.8	53.6	220.3	509.0	444.0	619.7	776.8	921.2
TVMWD Import	7,541.6	7,233.6	7,624.2	6,948.4	7,092.7	7,198.1	6,765.9	5,532.5	4,865.0
Total Supply	**9,113.4**	**8,881.2**	**9,090.5**	**8,624.9**	**9,072.1**	**9,373.8**	**9,080.4**	**8,233.6**	**7,382.0**

No accounting for net change in distribution system storage was considered in the calculation of gross water use in Table 11 for the following reasons:

- Records of reservoir surface levels are incomplete for the duration of the calculation period.
- The total volume of distribution system storage is equivalent to 82.9 acre-feet which represents only 0.11% of the total water supply during the calculation period. La Verne maintains fire storage and emergency storage at all times of approximately 50 acre-feet. This means that the largest possible storage fluctuation during the nine-year calculation period is only about 33 acre-feet or 0.04% of the associated total water supplies and was likely much less. This differential volume is statistically insignificant for purposes of calculating gross water use.

4.2.5 Calculation of Baseline

The per capita water use for each of the years in the calculation period and the average per capita water use for the same period are provided in Table 12. The baseline per capita water use is the same as the average per capita water use of 268.2 GPCD.

Table 12 – Calculation of Baseline GPCD

Year	Supply (AF)	Population	GPCD
2002	9,113.4	29,390	276.8
2003	8,881.2	29,332	270.3
2004	9,090.5	29,274	277.2
2005	8,624.9	29,216	263.6
2006	9,072.1	29,158	277.8
2007	9,373.8	29,100	287.6
2008	9,080.4	29,042	279.1
2009	8,233.6	28,984	253.6
2010	7,382.0	28,931	227.8
		Average	**268.2**

4.3 Application of Method 4

La Verne has adopted Provisional Target Method 4 for establishment of its interim and compliance per capita water use targets. Following is a description of the steps taken to calculate the water use targets as delineated in Section M of the Guidebook. For purposes of this method, the same calculation period used to determine baseline water use was applied.

Generally, the amount of water to be conserved by 2020 is called the Total Savings and is broken down into the following four water use sectors:

- Metering Savings
- Indoor Residential Savings
- CII Savings
- Landscape and Water Loss Savings

The following sections describe the calculation of each of the savings associated with its respective water use sector.

4.3.1 Metering Savings

Service areas with unmetered connections must estimate the total amount of water delivered to those connections and reduce that amount by 20%. La Verne has no unmetered connections; therefore, Metered Savings is equal to zero.

4.3.2 Indoor Residential Savings

Indoor Residential Water Savings may be calculated based on a compilation of data related to demographics and the level of saturation of various plumbing and appliance retrofits, or a default savings may be applied. La Verne lacks historical data of adequate detail to accurately calculate Indoor Residential Water Savings, so the default savings of 15 GPCD was applied.

4.3.3 CII Savings

The CII per capita water use for each of the years in the calculation period is presented for each individual sector and the combined CII sector in

Table 13. All data in

Table 13 is presented in terms of GPCD. The baseline CII per capita water use is the same as the average CII per capita water use of 73.0 GPCD.

Table 13 – Baseline CII in GPCD

Year	Commercial	Industrial	Institutional	Total CII
2002	20.4	4.1	44.5	69.1
2003	20.1	5.9	40.4	66.4
2004	23.5	5.5	53.8	82.9
2005	20.5	6.2	39.5	66.1
2006	26.8	7.2	41.4	75.3
2007	32.3	6.5	47.7	86.5
2008	25.9	6.0	45.9	77.8
2009	22.1	5.5	42.2	69.8
2010	19.6	5.9	38.0	63.5
Average CII Per Capita Water Use in GPCD				**73.0**

The CII Savings is 10% of the baseline CII water use, or 7.3 GPCD.

4.3.4 Landscape and Water Loss Savings

Dedicated landscape meters do not necessarily represent all irrigation demand. Water loss is merely an indirect calculation of the difference between supply and demand. For these reasons, an indirect methodology has been developed to estimate the sum of irrigation demand and water loss for purposes of defining this water use sector per the following equation:

$$\begin{aligned} &Landscape\ \&\ Water\ Loss \\ &= Baseline - Standard\ Indoor\ Residential\ Water\ Use - CII\ Water\ Use \end{aligned}$$

- The baseline is 268.2 GPCD as shown in Table 12.
- The standard indoor residential water use has been established as 70 GPCD by DWR.
- The CII water use is 73.0 as shown in
- Table 13.

Landscape and water loss is calculated as 125.2 GPCD per the following equation:

$$Landscape\ \&\ Water\ Loss = 268.2 - 70.0 - 73.0 = 125.2\ GPCD$$

Landscape and Water Loss Savings is 21.6% of Landscape and Water Loss, or 27.0 GPCD.

4.3.5 Summary of Method 4

The Total Savings based on Method 4 is the sum of Metering Savings, Indoor Residential Savings, CII Savings and Landscape and Water Loss Savings per the following equation:

$$Total\ Savings = 0.0 + 15.0 + 7.3 + 27.0 = 49.3\ GPCD$$

4.4 Per Capita Water Use Targets

As defined by Method 4, the compliance water use target is calculated as the Baseline minus the Total Savings:

$$Compliance\ Water\ Use\ Target = Baseline - Total\ Savings = 268.2 - 49.3 = 218.9\ GPCD$$

The interim water use target is calculated as halfway between the Baseline and the compliance water use target:

$$Interim\ Water\ Use\ Target = \frac{Baseline + Compliance\ Water\ Use\ Target}{2}$$

$$= \frac{268.2 + 218.9}{2} = 243.6\ GPCD$$

4.5 Verification of Minimum Water Use Reduction Requirement

> *§10608.22. Notwithstanding the method adopted by an urban retail water supplier pursuant to Section 10608.20, an urban retail water supplier's per capita daily water use reduction shall be no less than 5 percent of base daily per capita water use as defined in paragraph (3) of subdivision (b) of Section 10608.12. This section does not apply to an urban retail water supplier with a base daily per capita water use at or below 100 gallons per capita per day.*

The Baseline was determined to be 268.2 GPCD; therefore, the above verification must be performed since the Baseline exceeds 100 GPCD. Based on data presented in Table 12, verification of meeting the minimum reduction requirement is presented in Table 14.

Table 14 – Verification of Minimum Water Use Reduction

Year	Supply (AF)	Population	GPCD
2003	8,881.2	29,332	270.3
2004	9,090.5	29,274	277.2
2005	8,624.9	29,216	263.6
2006	9,072.1	29,158	277.8
2007	9,373.8	29,100	287.6
		Average	**275.3**
		95% of Average	**261.5**

Since the calculated compliance water use target is lower than 95% of the 5-year average shown in Table 14, the compliance water use target is considered to be valid.

4.6 Water Use Reduction Plan

> *§10608.36 Urban wholesale water suppliers shall include in the urban water management plans . . . an assessment of their present and proposed future measures, programs, and policies to help achieve the water use reductions required by this part.*

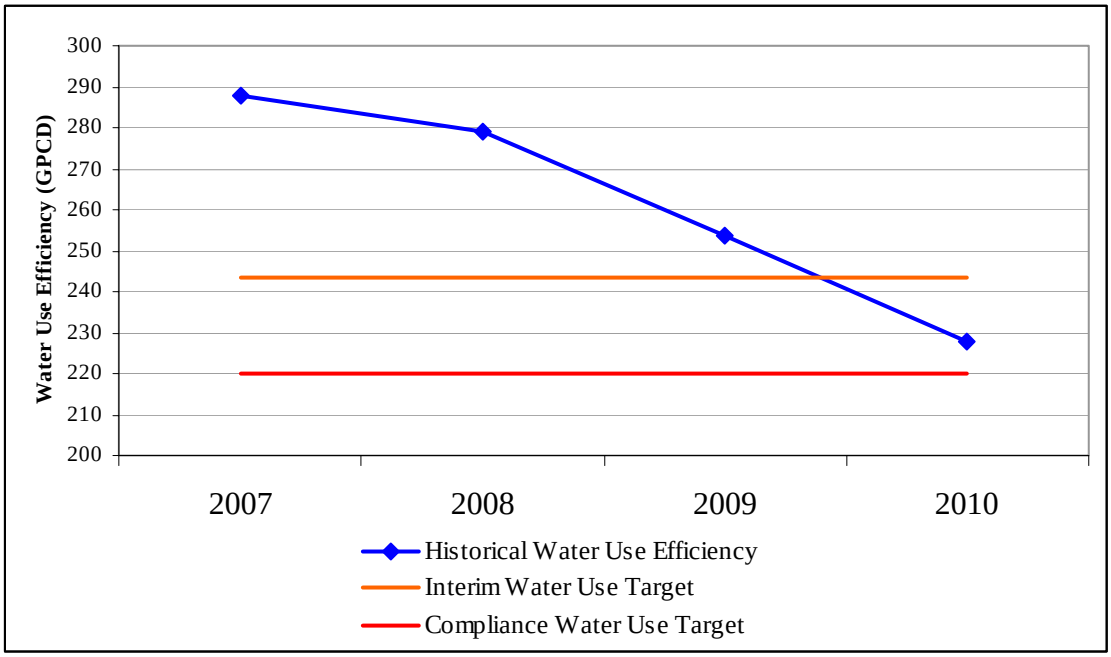
La Verne has recently instituted aggressive water conservation measures the results of which are evident in the downward trend of water use efficiency as detailed in Table 15.

Table 15 – Water Use Efficiency Trend

Year	Supply (AF)	Population	GPCD
2007	9,373.8	29,100	287.6
2008	9,080.4	29,042	279.1
2009	8,233.6	28,984	253.6
2010	7,382.0	28,931	227.8

Over the past four years, the average annual reduction in per capita water use is 19.9 GPCD. In 2010, the interim water use target of 243.6 GPCD was exceeded by 15.8 GPCD. An additional reduction of 8.9 GPCD is required by 2020 to achieve the compliance water use target of 218.9 GPCD. Figure 1 provides a graphic illustration of recent historical water efficiency relative to the interim and compliance water use targets.

Figure 1 – Historical and Target Water Use



Based on the current trend of water use efficiency in La Verne, continued aggressive implementation of water conservation measures is anticipated to achieve the compliance goal years ahead of schedule. Established water conservation measures (aka Demand Management Measures aka Best Management Practices) are described in detail in Chapter 7. The effectiveness of the continued implementation of the Demand Management Measures (DMM) is an estimate water use reduction of 10 GPCD as shown in Table 38. This estimated water use reduction will result in a water use efficiency of approximately 218 GPCD by 2020 which is anticipated to meet or exceed the compliance water use target of 218.9 GPCD.

No water use reduction planning in addition to the current implementation of DMMs is anticipated to be required at this time in order to comply with the mandates of the California Water Conservation Act.

CHAPTER FIVE – SYSTEM SUPPLIES

5.1 General Description

Local groundwater had been the City's primary source of water since the late 1800's. In 1972, the City began importing water to meet the demands associated with population growth. Amendments to the federal and State drinking water standards also influenced the City's decision to import water since some of the City's groundwater sources did not meet the new standards without a substantial investment in treatment infrastructure. Today, water production is a closely monitored process including direct introduction of disinfected groundwater and imported water into the distribution system, blending of groundwater having nitrate concentrations that exceed the MCL[10] with imported water, and treatment of groundwater to remove perchlorate and nitrate.

5.2 Water Sources

> *§10631(b) Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments described in subdivision (a).*

La Verne's firm water sources include imported water from the Three Valleys Municipal Water District's (TVMWD) Miramar Treatment Plant and groundwater extracted from Six Basins. Table 16 indicates the current and projected supplies available from these sources.

Table 16 – Current and Projected Water Supplies

Water Supply	2010[11] (AFY)	2015 (AFY)	2020 (AFY)	2025 (AFY)	2030 (AFY)	2035 (AFY)
TVMWD	4,865	10,860	10,860	10,860	10,860	10,860
Six Basins	2,517	3,061	3,061	3,061	3,061	3,061
Total	7,382	13,921	13,921	13,921	13,921	13,921

5.3 Imported Water

TVMWD, a municipal water district organized pursuant to Division 20 of the California Water Code, is a water wholesaler and one of 26 public agencies that comprise the Metropolitan Water District of Southern California (MWD). TVMWD has the ability to import water from two sources: the Colorado River (originating at Lake Havasu) and the State Water Project (originating at the Delta of the Sacramento and San Joaquin Rivers). TVMWD treats the imported water at the Miramar Water Treatment Plant (Miramar), located on the northeastern corner of the intersection of Miramar Avenue and Padua

[10] MCL = maximum contaminant limit
[11] Supply for 2010 represents actual production

Avenue in the City of Claremont. The treatment process at Miramar includes chemical mixing, tapered energy flocculation, sedimentation, dual media filtration, and disinfection. Typically, Miramar receives 100% State Project Water from MWD's Foothill Feeder and treats that water for potable use. Water imported from the Colorado River is only utilized by TVMWD in the event of an emergency or other outstanding circumstance. More recently, a groundwater production well was drilled at the Miramar site and now augments the imported water production of the plant. The well provides about 4% of the total output of the plant.

The treatment capacity at Miramar is 25.0 million gallons per day (MGD) or 38.7 cubic feet per second (cfs). The normal design capacity is 19.4 MGD or 30.0 cfs with a capability of being expanded; however, there are no current plans to expand this facility within the planning horizon of this document. Golden State Water Company (GSWC) and La Verne are each entitled to a 50% share of the available flow from Miramar. When the plant and pipeline capacities are not fully subscribed to these main participants, TVMWD may sell the water to non-participant agencies on an interruptible basis. It is understood by the participants, that MWD or other suppliers of water, by reason of drought conditions or other emergency conditions, may require TVMWD to impose water conservation or rationing measures. The imposing operations and measurements are subject to TVMWD rules and regulations.

The City has been one of the three participants of Miramar's construction, operation, and maintenance since 1984. Miramar has supplied water to the City since 1987. The City is executing the First Lease-Purchase Miramar Project Sublease Agreement. It shares capital costs pursuant to a 30-year fixed rate in fully amortizing municipal securities.

TVMWD imposes certain restrictions on rates of flow through each connection to its system. These include the following:

- Changes in flow must usually be made 6 hours prior to the requested change. However, TVMWD staff is generally responsive to making requested changes within 30 minutes.
- Within any 24-hour period, changes in rate of flow shall not vary more than 10% above or below the average of the previous 24 hours.
- Average flow during any one month shall not exceed 132 percent of the annual flow.
- When flow through a connection is reduced below 10 percent of the requested flow or 10 percent of the design capacity of the meter, whichever is less, the agency will be charged for flow at 10 percent of the capacity of the meter.

Table 17 indicates La Verne's projected imported water supply from Miramar assuming that 50% of the current normal design capacity is available.

Table 17 – Projected Wholesale Supplies

Basin Designation	2015 (AFY)	2020 (AFY)	2025 (AFY)	2030 (AFY)	2035 (AFY)
TVMWD	10,860	10,860	10,860	10,860	10,860

5.4 Groundwater

§10631(b) (Is) groundwater . . . identified as an existing or planned source of water available to the supplier . . .

§10631(b)(1) (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.

§10631(b)(2) (Provide 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, (provide) a copy of the order or decree adopted by the court or the board. (Provide) 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, (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)(3) (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)(4) (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.

La Verne extracts groundwater from Six Basins in accordance with the Six Basins Judgment (Appendix F). Six Basins, as its name implies, is actually six small interrelated basins: (1) Canyon Basin, (2) Upper Claremont Heights Basin, (3) Lower Claremont

Heights Basin, (4) Pomona Basin, (5) Live Oak Basin and (6) Ganesha Basin. The Judgment specifically defines adjudication for the Four Basins (i.e. the first four basins listed above) and generally defines adjudication for the Two Basins (i.e. the last two basins listed above). The Judgment is overseen by the Six Basins Watermaster, whose duties are currently being performed by TVMWD.

La Verne has an adjudicated right in Four Basins to 7.6015% of the Operating Safe Yield (OSY). Per the Six Basins Judgment, La Verne also has "the right to produce as much groundwater as it may reasonably withdraw from the Two Basins Area on an annual basis so long as it does not substantially injure the rights of any other" parties identified in the Six Basins Judgment. The purpose behind such delineation of rights in the Two Basins involves the proximity of La Verne to the Two Basins and the acknowledgement of water quality issues in the Two Basins whose remediation would require substantial investment and management. La Verne has recently completed construction of the Amherst Groundwater Treatment Plant, which is capable of treating local groundwater for perchlorate and nitrate contamination, and is now in a position to further define and develop its rights in the Two Basins.

Groundwater is extracted from the various basins by nine wells as indicated in Table 18.

Table 18 – Groundwater Production Capacity

Well Designation	Basin	Nominal Flow (gpm)	Equivalent Capacity (AFY)
Lincoln Well	Pomona	1,008	1,626
Mills Tract Well[12]	Pomona	865	0
Old Baldy Well[13]	Ganesha	594	0
Walnut Well	Ganesha	477	769
Amherst Well	Live Oak	511	824
Beech St. Well	Live Oak	350	565
LVH Well 1	Live Oak	211	340
LVH Well 2	Live Oak	252	406
LVH Well 3	Live Oak	489	789

The following sections provide descriptions of those basins where La Verne extracts groundwater. A map of the basin with respect to the La Verne incorporated boundary is provided in Exhibit 2.

[12] Lincoln Well and Mill Tract Well can not be operated simultaneously for water quality and blending purposes. For planning purposes, Mill Tract Well is considered to be off-line and Lincoln Well is considered to govern extraction capacity in the Pomona Basin.

[13] Old Baldy Well is off-line due to water quality issues.

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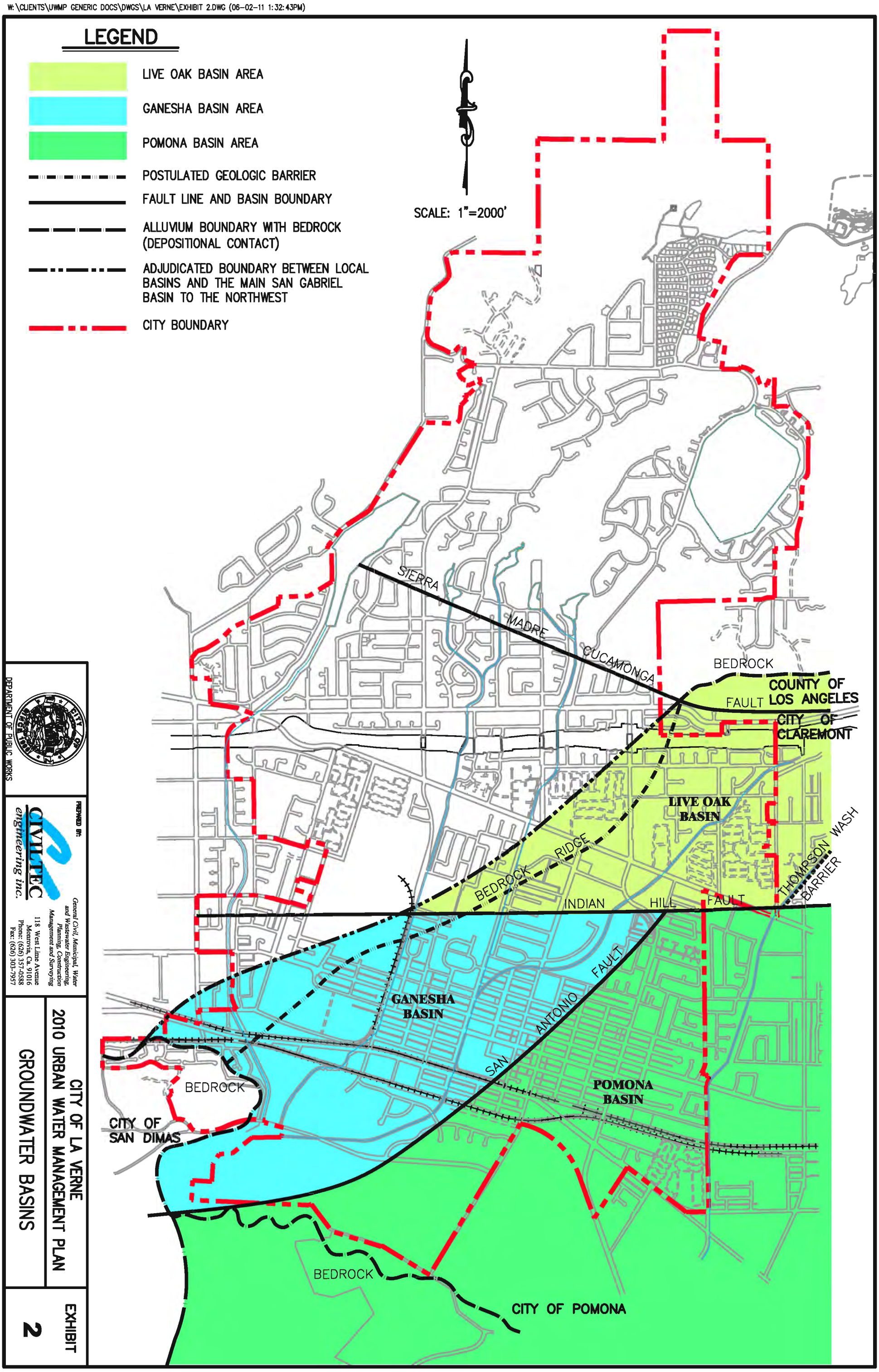


DEPARTMENT OF PUBLIC WORKS

PREPARED BY:

CIVILTEC engineering inc.

General Civil, Municipal, Water and Wastewater Engineering, Planning, Construction Management and Surveying

118 West Lime Avenue
Monrovia, Ca. 91016
Phone: (626) 357-0588
Fax: (626) 303-7957

CITY OF LA VERNE
2010 URBAN WATER MANAGEMENT PLAN

GROUNDWATER BASINS

EXHIBIT 2

5.4.1 Live Oak Basin

The Live Oak Basin is bounded by the Sierra Madre-Cucamonga fault on the north, (which is considered an active fault) and the Indian Hill fault on the south. The Indian Hill fault separates the Live Oak Basin from the Ganesha and Pomona Basins. Subsurface ridges of relatively impermeable bedrock may act as barriers that separate the Live Oak Basin from the Main San Gabriel Basin (the San Dimas Basin) on the west and the Lower Claremont Heights Basin on the east. Total thickness of alluvium in the Live Oak Basin is from about 350 feet to over 500 feet (as described in the drillers' logs of La Verne Heights Well No. 1). The shape of the underlying bedrock controls alluvium thickness, which is a factor of the ancient surface topography and tectonics. As the relative motion along both basin-bounding faults is predominantly north-side up, faulting, folding, and tilting associated with these structures has apparently allowed somewhat thicker accumulations of alluvium to be deposited in the northern and northeastern portions of the Live Oak Basin. Relatively speaking, alluvial thickness in this basin is considered the thinnest with respect to the accumulation of alluvial deposits in the adjoining basins.

5.4.2 Ganesha Basin

The Ganesha Basin is a narrow groundwater basin that lies between the Indian Hill fault on the north, the San Antonio fault on the south, and the Main San Gabriel Basin on the north and west. A depositional contact between the alluvium within the Ganesha Basin and the underlying tertiary bedrock forms the southwest boundary of the basin. Alluvium thickness revealed on the drillers' logs of wells in the Ganesha Basin range from as much as 750 feet in the northeast portion of the basin to near zero at the contact with tertiary bedrock to the southwest. The basin contains a high percentage of clay in the upper 100 feet of alluvium, which partially inhibits deep percolation of direct rainfall.

5.4.3 Pomona Basin

Only the northwestern portion of the Pomona Basin underlies the City of La Verne. The Basin is south of the Live Oak Basin and is bounded on the north by the Indian Hill Fault, on the northwest by the San Antonio fault, on the southeast by the San Jose fault, and on the southwest by a depositional contact with tertiary bedrock. The Pomona Basin has the thickest alluvium compared with the other basins underlying the City. Within the basin, alluvium is thickest in the southeastern portion. The thickness of alluvium at Cartwright Well is approximately 900 feet thick and nearly 800 feet thick at Mills Tract Well.

5.4.4 Summary of Groundwater Production

Table 19 includes the volumes of water pumped for the last five years from the various basins where La Verne maintains groundwater production facilities.

Table 19 – Groundwater Pumped for Last Five Years

Basin Designation	2006 (AFY)	2007 (AFY)	2008 (AFY)	2009 (AFY)	2010 (AFY)
Pomona Basin	1,468.2	1,507.2	1,317.1	1,329.9	1,099.6
Ganesha Basin	2.3	224.4	377.7	594.4	496.1
Live Oak Basin	509.0	444.0	619.7	776.8	921.2
Total	1,979.4	2,175.7	2,314.5	2,701.1	2,517.0

The volume projected to be extracted from the Pomona Basin represents maximization of La Verne's adjudicated rights in the Four Basins assuming an average OSY of 20,000 AFY.

The safe yields for the Ganesha and Live Oak Basins are currently unknown. As La Verne continues to develop these basins for groundwater production, it is anticipated that a greater understanding of the respective safe yields will emerge. In light of this, the maximum historical annual production from these basins is assumed to be the safe yield. These historical production volumes are indicated in Table 19 as 594.4 AFY in 2009 for the Ganesha Basin and 921.2 in 2010 for the Live Oak Basin.

Table 20 includes the volumes of water projected to be pumped through 2035.

Table 20 – Groundwater Projected to Be Pumped

Basin Designation	2015 (AFY)	2020 (AFY)	2025 (AFY)	2030 (AFY)	2035 (AFY)
Pomona Basin	1,546	1,546	1,546	1,546	1,546
Ganesha Basin	594	594	594	594	594
Live Oak Basin	921	921	921	921	921
Total	3,061	3,061	3,061	3,061	3,061

5.5 Transfer Opportunities

§10631(d) Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.

La Verne has no transfer or exchange opportunities at this time.

5.6 Desalinated Water Opportunities

§10631(i) Describe the opportunities for development of desalinated water, including, but not limited to, ocean water, brackish water, and groundwater, as a long-term supply.

There are no opportunities for the City to develop desalinated water as a long-term supply.

5.7 Recycled Water Opportunities

§10633 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(a) (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(b) (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(c) (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(d) (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(e) (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(f) (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(g) (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.

The 2005 La Verne UWMP projected zero recycled water use for 2010, which is consistent with actual recycled water use for 2010. The lack of recycled water development is explained in the following sections.

5.7.1 Disposition of Wastewater Collection and Treatment

Wastewater generated within the City of La Verne is collected in City sewers and discharged to a regional trunk sewer pipeline owned by the Los Angeles County Sanitation Districts (LACSD) where it flows by gravity to either the Pomona Water Reclamation Plant (WRP) or the San Jose Creek WRP. Per LACSD, these facilities have the physical and performance characteristics as shown in Table 21.

Table 21 – Local Wastewater Treatment

WRP	Pomona	San Jose Creek
Distance from La Verne (miles)	3.5	15.6
Nominal Capacity (AFY)	14,570	112,055
Volume meeting Title 22 Standards in FY 2007-08 (AF)	9,839	82,593
Volume Actually Reused in FY 2007-08 (AF)	8,143	34,814
Volume Discharged to the Ocean in FY 2007-08 (AF)	1,696	47,779

5.7.2 Potential Recycled Water Use and Incentives

Development of recycled water use is proceeding rapidly in the City of Pomona and in Walnut Valley Water District. As a result of these activities, it is anticipated that 100% of the recycled produced at the Pomona WRP will be reused locally.

At this time, the development of recycled water distribution infrastructure to transport recycled water from the San Jose Creek WRP, which is more than 15 miles away from La Verne, has been found to be economically infeasible.

As such, there are no plans for the development of recycled water during the 20-year planning horizon of this UWMP because nearby recycled water production at Pomona is unavailable and more distant recycle water production at San Jose Creek is too far away.

A comprehensive analysis of potential recycled water use has not been performed to date largely because the prospect of developing recycled water as a source has been determined to be infeasible. The following summary demonstrates qualitatively the potential recycled water uses in La Verne which will be further refined in the event a more feasible solution is found in the future:

- 10 schools
- 19 parks
- 2 golf courses
- 1 tree farm
- Limited commercial and industrial application
- Extensive irrigation of medians and other public lands

Data on the potential use of recycled water related to wildlife habitat, groundwater recharge and indirect potable reuse are not immediately available and are not considered to be within the purview of the City. These activities have been deferred to Los Angeles County and the various Watermasters responsible for management of area basins. There is no potential use of recycled water for wetlands, seawater barriers or energy.

There is no incentive at this time to promote local recycled water use.

5.7.3 Future Recycled Water Projects

Local purveyors are planning to expand recycled water availability for groundwater replenishment purposes as part of the Groundwater Reliability Improvement Project (GRIP). The project includes the development 25,000 AFY of recycled water at the San Jose Creek Water Reclamation Plant. The project includes improvement to treatment capacity and quality and improvements to recycled water distribution and replenishment infrastructure. Although the project will not directly benefit La Verne, there will be significant improvements to water reliability in the San Gabriel Valley which will in turn improve the potential for reliability of those sources that La Verne depends on. As a result, there may be opportunities to enter into transfer agreements with neighboring suppliers to promote conjunctive use or other management plans contingent upon groundwater reliability.

5.8 Other Future Water Projects

§10631(h) (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.

The 2010 Water Master Plan Update cites four supply-related projects to be implemented within a ten-year planning horizon.

5.8.1 Live Oak Basin Well

A new well is planned to be constructed to extract groundwater from the Live Oak Basin as a replacement for the LVH No. 1 Well. The new well is required to compensate for losses in specific capacity of the LVH No. 1 Well and other vicinity wells. This project represents the continuation of a supply enhancement project that included the development of the Beech Street Well. In conjunction with the Beech Street Well whose capacity is 350 gpm, the project goal is to achieve a combined production capacity of between 500 gpm and 1,000 gpm (800 AFY – 1,600 AFY). This project is scheduled to be completed by 2015.

5.8.2 Old Baldy Well Restoration

A study is planned to be conducted regarding the restoration of the Old Baldy Well which has been deactivated intermittently since 1990 for issues related to local water quality, specifically VOC and nitrate contamination. The study will focus on water quality and hydrology and investigate the possibility of restoring production through treatment, blending or replacement. This study is scheduled to be completed and recommendations implemented by 2015.

5.8.3 Pomona Basin Well

A new well is planned to be constructed to extract groundwater from the Pomona Basin as a replacement for the Cartwright Well which is at the end of its service life. The capacity of the new well is anticipated to be approximately 1,000 gpm (1,600 AFY). This project is scheduled to be completed by 2020.

5.8.4 Ion Exchange Treatment Plant

An ion exchange treatment plant is being evaluated for construction at the City's White Avenue Plant location. The plant is intended to treat groundwater extracted from the Pomona and Ganesha Basins at a capacity of 2,000 gpm (3,200 AFY). The purpose of the plant is to provide greater flexibility in maximizing groundwater production which is currently limited by blending requirements. This project is scheduled to be completed by 2020.

5.8.5 Summary of Future Projects

La Verne has exclusive rights to groundwater extracted from the Live Oak Basin and the Ganesha Basin. The safe yield from these basins is unknown at this time. Improvements to water treatment capacity will increase the City's ability to further develop these exclusive rights; however, the amount of increased production is complicated to predict. For purposes of this UWMP, the safe yield of the respective basins is considered to be equivalent to the maximum historical annual production from each basin.

As a result, none of the four projects described above is expected to increase supply. Rather, they are intended to replace aging infrastructure, improve supply reliability and provide flexibility of system operations. As a result, the net increase in supply is anticipated to be zero, pending continued development of the Live Oak Basin and the Ganesha Basin.

CHAPTER SIX – WATER SUPPLY RELIABILITY

6.1 General Description

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

§10631(c)(1) 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.

The sections that follow provide detailed information regarding the reliability of La Verne's supplies and how those supplies compare to projected demand.

6.2 Summary of Historical Water Year Data

§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.

Table 22 provides historical data for La Verne's annual supply and for annual precipitation measured at San Antonio Dam for the 19-year period from the 1992 through 2010. Runoff in the vicinity of the San Antonio Dam directly influences the Six Basins; therefore, this data source was considered the most pertinent to La Verne's water reliability under varying supply conditions. In the sections that follow, normal, dry and multiple dry years have been identified, and the demands associated with La Verne's response to those supply conditions have been quantified.

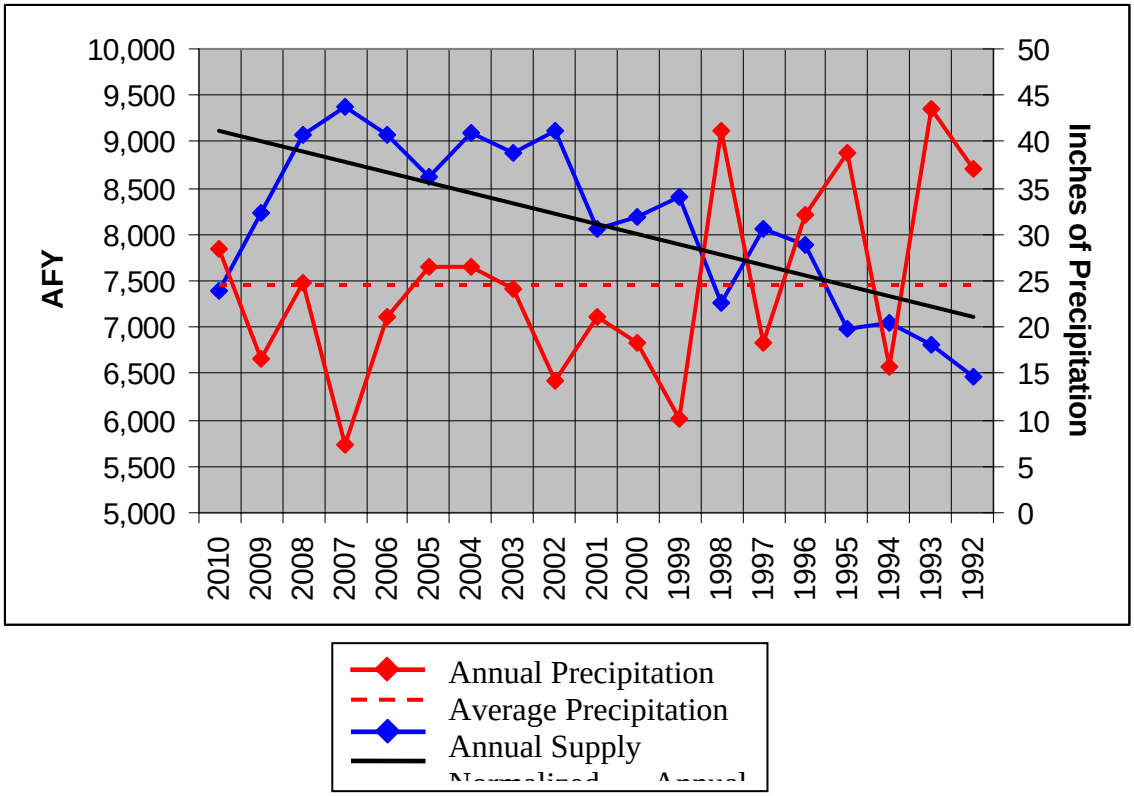
Table 22 – Historical Supply Data

Year	Supply (AFY)	Precipitation (in.)
2010	7,382	28.48
2009	8,234	16.53
2008	9,080	24.71
2007	9,374	7.36
2006	9,072	21.12
2005	8,625	26.53
2004	9,091	26.53
2003	8,881	24.18
2002	9,113	14.19
2001	8,054	21.17
2000	8,198	18.30
1999	8,412	10.07
1998	7,271	41.13
1997	8,071	18.26
1996	7,898	32.11
1995	6,991	38.71
1994	7,043	15.69
1993	6,807	43.52
1992	6,464	37.06

The normal year is considered the average of this 19-year period, or 8,108 AFY.

Figure 2 shows how supply has escalated in order to meet demand since 1992.

Figure 2 – Normalized Annual Supply



6.2.1 Historical Single Dry Year Variation from Norm

2007 was selected for calculation of variation between the normal dry year and the single dry year. As shown in Table 22, at 7.36 inches of annual precipitation, 2007 is the driest year on record.

The variation of the single dry year is considered as the percent difference of the supply in 2007 compared to the normalized supply in 2007, or 6.75%:

$$\left(\frac{9{,}374\ AFY}{8{,}781\ AFY} - 1\right)(100\%) = 6.75\%$$

6.2.2 Historical Multiple Dry Year Variation from Norm

By observation, 1999 through 2003 are the driest continuous years on record per Table 22; therefore, this 5-year period was selected for calculation of variation between the normal year and the multiple dry year.

The variation of a multiple dry year is considered as the percent difference of the cumulative supply from 1996 to 2000 compared to the cumulative normalized supply for the same period. These data are shown in Table 23.

Table 23 – Summary of Data for Multiple Dry Year Calculation

Year	Actual Supply (AFY)	Normalized Supply (AFY)	Variation
2003	8,881	8,335	6.6%
2002	9,113	8,223	10.8%
2001	8,054	8,112	-0.7%
2000	8,198	8,000	2.5%
1999	8,412	7,888	6.6%

6.2.3 Projected Normal Year Supply and Demand

Table 24 provides a summary of projected normal year supply and demand. Projected normal year supply is delineated in Table 16 and projected normal year demand is estimated in Table 5.

Table 24 – Normal Year Supply and Demand Comparison

Item	2015 (AFY)	2020 (AFY)	2025 (AFY)	2030 (AFY)	2035 (AFY)
Supply	13,921	13,921	13,921	13,921	13,921
Demand	8,127	7,527	7,816	8,094	8,385
Difference	5,794	6,394	6,105	5,827	5,536
Difference as % of Supply	41.6%	45.9%	43.9%	41.9%	39.8%
Difference as % of Demand	71.3%	84.9%	78.1%	72.0%	66.0%

6.2.4 Projected Single Dry Year Supply and Demand

Table 25 provides a summary of projected single dry year supply and demand.

Projected single dry year supply assumes the following:

- Implementation of TVMWD's Water Supply Allocation Plan (WSAP) Shortage Level 2 (6,299 AF)
- A 20% temporary overdraft of the Ganesha and Live Oaks Basins (1,818 AF)
- Adjudicated rights of 7.6015% of the OSY in 2007 of 18,500 AF (1,406 AF)

Projected single dry year demand is equivalent to the estimated normal year demand plus an increase of 6.75% to account for typical variation from norm as discussed in §6.2.1.

Table 25 – Single Dry Year Supply and Demand Comparison

Item	2015 (AFY)	2020 (AFY)	2025 (AFY)	2030 (AFY)	2035 (AFY)
Supply	9,523	9,523	9,523	9,523	9,523
Demand	8,676	8,035	8,343	8,640	8,951
Difference	847	1,488	1,180	883	572
Difference as % of Supply	8.9%	15.6%	12.4%	9.3%	6.0%
Difference as % of Demand	9.8%	18.5%	14.1%	10.2%	6.4%

6.2.5 Projected Multiple Dry Year Supply and Demand

Table 26 provides a summary of projected multiple dry year supply and demand.

Projected multiple dry year supply assumes the following:

- Implementation of TVMWD's Water Supply Allocation Plan (WSAP) Shortage Level 2 (6,299 AF)
- Typical production from the of the Ganesha and Live Oaks Basins (1,515 AF)
- Adjudicated rights of 7.6015% of the OSY in 1999 through 2003
    - 1999 – OSY 24,000 AF (1,824 AF)
    - 2000 – OSY 22,000 AF (1,672 AF)
    - 2001 – OSY 22,000 AF (1,672 AF)
    - 2002 – OSY 19,500 AF (1,482 AF)
    - 2003 – OSY 18,000 AF (1,368 AF)

Projected multiple dry year demand is equivalent to the estimated normal year demand plus an increase of the percentage shown in Table 23 to account for typical variation from norm as discussed in §6.2.2.

Table 26 – Multiple Dry Year Supply and Demand Comparison

Year	Item	2015 (AFY)	2020 (AFY)	2025 (AFY)	2030 (AFY)	2035 (AFY)
1	Supply	9,638	9,638	9,638	9,638	9,638
	Demand	8,664	8,024	8,332	8,628	8,938
	Difference	974	1,614	1,306	1,010	700
	Difference as % of Supply	10.1%	16.7%	13.6%	10.5%	7.3%
	Difference as % of Demand	11.2%	20.1%	15.7%	11.7%	7.8%
2	Supply	9,486	9,486	9,486	9,486	9,486
	Demand	8,330	7,715	8,011	8,296	8,594
	Difference	1,156	1,771	1,475	1,190	892
	Difference as % of Supply	12.2%	18.7%	15.5%	12.5%	9.4%
	Difference as % of Demand	13.9%	23.0%	18.4%	14.3%	10.4%
3	Supply	9,486	9,486	9,486	9,486	9,486
	Demand	8,070	7,474	7,761	8,037	8,326
	Difference	1,416	2,012	1,725	1,449	1,160
	Difference as % of Supply	14.9%	21.2%	18.2%	15.3%	12.2%
	Difference as % of Demand	17.5%	26.9%	22.2%	18.0%	13.9%
4	Supply	9,296	9,296	9,296	9,296	9,296
	Demand	9,005	8,340	8,660	8,968	9,290
	Difference	291	956	636	328	6
	Difference as % of Supply	3.1%	10.3%	6.8%	3.5%	0.1%
	Difference as % of Demand	3.2%	11.5%	7.3%	3.7%	0.1%
5	Supply	9,182	9,182	9,182	9,182	9,182
	Demand	8,664	8,024	8,332	8,628	8,938
	Difference	518	1,158	850	554	244
	Difference as % of Supply	5.6%	12.6%	9.3%	6.0%	2.7%
	Difference as % of Demand	6.0%	14.4%	10.2%	6.4%	2.7%

6.3 Potential Supply Issues and Constraints

§10631(c)(2) 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.

Planning documents inherently deal with uncertainties about the future. Uncertainty cannot be avoided; however, adequate documentation and applied reason ensures defensibility against legal challenges, completeness and comprehensiveness. The

following steps have been employed, documented as necessary, to satisfy issues surrounding supply uncertainty as they pertain to development of this UWMP:

- Acknowledge the uncertainty
- Specify the conclusion and how the conclusion was reached
- Reference supporting evidence
- Evaluate the likelihood that the conclusion is incorrect
- Provide an alternative in case the conclusion is proved incorrect
- Respond to comments regarding the conclusion
- Pay attention to the wholesaler's plans
- Use the latest and best data available

6.3.1 Imported Water Reliability

As a retail member agency, La Verne receives imported water from TVMWD. As a wholesale member agency of MWD and per the TVMWD 2010 UWMP, TVMWD relies primarily on the availability of MWD supplies to gauge reliability. To a lesser degree, TVMWD has access to local supplies, but it is its member retail agencies that have greater access and demand greater use of those local resources. To that end, TVMWD encourages the development and use of local supplies by the member retail agencies when it is available. TVMWD's overall water resource management scheme focuses on maximizing local resource development recognizing that the availability of imported water can be highly variable and overall import supply may dwindle in the future due to competing statewide interests.

Meanwhile, MWD's import supply reliability is dependent on the State Water Project and the Colorado River Aqueduct. These two primary sources are subject to a whole host of legal, environmental, water quality, and climatic factors that affect available deliveries on almost an annual basis. MWD has developed its 2010 Regional Urban Water Management Plan wherein MWD explains the measures it has taken to try to guard against shortages in import supplies coming from the two primary sources. Such measures include groundwater banking/storage agreements within and outside of the MWD service area, surface water storage at its terminal reservoirs, and conservation/water resource programs that promote water efficiency. Likewise, TVMWD has sought similar measures within its own service area to improve overall reliability. TVMWD seeks to maximize available local groundwater storage for conjunctive use purposes, promotes conservation efforts, and coordinates with its retail member agencies in developing local resource projects that will offset the need to import water.

Groundwater Storage/Conjunctive Use

TVMWD's service area overlies five groundwater basins (Chino Basin, Main San Gabriel Basin, Puente Basin, Six Basins, and Spadra Basin). Within three of these basins, TVMWD is involved in the following storage/conjunctive use programs:

- The Chino Basin Dry-Year Yield Program is a cooperative agreement between MWD and Chino Basin stakeholders, of which TVMWD is one. The program included a potential storage capability of 100,000 AF, withdrawal of which is limited to a third of that amount per year. On a practical basis, TVMWD and its member retail agency can account for about 6,000 AF of that amount or a quantity on the order of 2,000 AFY.

- In the Main San Gabriel Basin, TVMWD maintains a cyclic storage account that allows up to 40,000 AF of storage. Import water is typically delivered to storage when it is available and then extracted from the groundwater basin by TVMWD's member retail agencies during periods of shortage or drought. Annual extraction limits are not limited but are capped by the practical pumping capacity of the retail member agencies. This provides another hedge against dwindling import supplies and short-term emergencies.

- The Live Oak Basin and Upper Claremont Heights Basin conjunctive use projects utilize two of the sub-basins within Six Basins. Combined, the projects allow for a maximum storage amount of 6,000 AF with annual withdrawal limits of 2,000 AF.

Groundwater storage programs/projects help to relieve pressures on the import water systems during periods when those sources are less plentiful. The ability to effectively coordinate the conjunctive use of import supplies and the local groundwater basins remains a challenge but is the key to effective management of the water resources of the region.

Groundwater Recovery

In addition to improving the ability to put water into the local groundwater basins, TVMWD is also working with its retail member agencies to develop or recover the capability to use groundwater with marginal water quality issues. Years ago, many groundwater producers deactivated wells after seeing high concentrations of contaminants such as nitrate, volatile organic compounds (VOCs), perchlorate, and others. When faced with the added expense treatment before putting groundwater into a potable system, many instead chose the alternative of replacing that supply with imported water.

As the future of imported water supplies has become more tentative over the past few years, TVMWD and its retail member agencies are reassessing those earlier decisions regarding the use of slightly impaired groundwater supplies. With the advent of reliable

treatment technology to address water quality problems and experience gained by those who have installed such facilities, past analyses showing groundwater treatment to be too costly may no longer be valid.

For those retail member agencies that have access to recycled water, expansion of dedicated systems and conversion of appropriate demands from potable water to recycled water is the key to reducing future imported water use and managing resources for growing populations within the service area.

The noteworthy idea behind groundwater recovery is that for every acre-foot of water produced, a like amount of potable supply – typically imported water – can be replaced. The displaced amount then manifests itself as a reduced demand and a potential resource for future growth in the region.

Conclusions

In response to the challenges that TVMWD faces with respect to the reliability of its MWD sources and its efforts to develop local programs and sources, La Verne has developed the following approach:

- Under normal year and wet year conditions, imported water is assumed to be available at a rate equivalent to 50% of the normal production capacity of the Miramar Water Treatment Plant, per La Verne current entitlement.

- Under dry year and multiple dry year conditions, imported water is assumed to be available at a rate equivalent Shortage Level 2 of the TVMWD Water Supply Allocation Plan (WSAP) or 6,299 AFY. The implementation of Shortage Level 2 represents a 14% reduction in typical imported water supply. Per TVMWD, Shortage Level 2 allocations were implemented in FY 2009-10 (a recent single dry year occurrence) and from 2004 to 2006 (a recent multiple dry year occurrence).

These assumptions have been applied in supply and demand comparison through this UWMP.

6.3.2 Imported Water Redundancy

In order to bolster imported water redundancy, La Verne has acquired access to water production from MWD's Weymouth Water Treatment Plant. This source is presently used only to supplement peak demand and in emergencies, and is therefore not considered a long-term supply.

In 1956, the Joint Feeder Commission was established between the City of Pomona, Walnut Valley Water District (WVWD) and Rowland Water District (RWD). A result of this commission was an agreement, which states that the three public agencies are to jointly participate in the construction of a segment of water line (Joint Feeder) for the

purpose of receiving delivery of imported water from the Weymouth Water Treatment Plant. The original agreement continued for 50 years through 2006 when it was extended an additional 50 through 2056 with no additional changes. The new agreement will continue through 2056, unless earlier terminated in accordance with the provisions of the agreement, and may be extended, as the contracting public agencies so desire.

In 1960, La Verne signed an agreement with RWD regarding a portion of RWD's capacity from the Joint Feeder. The City leases 2.128% of the capacity of the Joint Feeder, which is a portion of 19.858% owned by RWD, estimated at 4 cfs. The lease started July 1, 1960, and has been extended through 2056. The City pays a sum equal to 2.97% of the amount that RWD is required to pay to the Joint Feeder Commission as its share of administrative expenses.

In 1962, La Verne signed an agreement with the City of Pomona regarding a portion of its capacity from the Joint Feeder. La Verne is leasing 2.128% of the capacity of the Joint Feeder, which is a portion of 51.77% owned by Pomona, estimated at 3 cfs. The lease started February 1, 1962, and has been extended through 2056. The City pays to Pomona a sum equal to 2.9% of the amount that Pomona is required to pay to the Joint Feeder Commission as its share of administrative expenses.

The City built the Hillcrest Booster Station in the early 1980s to exercise its lease agreements with RWD and Pomona. The station has a nominal capacity of 2,400 gpm.

6.3.3 Groundwater Quality

> *§10634The 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.*

La Verne maintains a system of blending and treatment facilities to mitigate the impacts of various water quality issues on its groundwater supply. Deteriorating groundwater quality and progressively stricter water quality standards necessitate the close monitoring of all groundwater sources and appropriate mitigation measures.

La Verne recently completed construction of the Amherst Groundwater Treatment Facility with a capacity to treat local groundwater at a rate of up to 2,750 gpm (4,430 AFY) for nitrate and perchlorate contamination. Groundwater from five wells (LVH 1, LVH 2, LVH 3, Amherst and Beech) is collected and treated at this facility.

Production from the Lincoln and Mills Tract Wells pass through an air stripper to remove VOCs[14] prior to being blending with imported water via a static mixer located in the City's White Avenue Plant. The blending process lowers the nitrate concentration below

[14] VOC = volatile organic compounds

80% of the MCL[15] for nitrate. The configuration and capacity of the air stripper and static mixer allow only one of the two wells to be in operation at a time.

The City is also planning to install a new Ion Exchange Treatment Plant in the near future at the White Avenue Plant. This facility will eliminate dependence on imported water as a blending source and will allow simultaneous operation of the Lincoln and Mills Tract Wells. The plant will have a capacity of 2,000 gpm (3,200 AFY) and is scheduled to be on line by 2020.

As indicated in the City of La Verne Water Quality Report 2010 (see Appendix G), proper and vigilant management of local groundwater sources have resulted in no MCL violations.

La Verne prides itself on staying one step ahead of water quality issues that may impact supply. The Amherst Groundwater Treatment Facility was constructed even though blending was a viable solution. As a result, La Verne is now able to maximize its groundwater resources, especially in the Live Oak Basin where it enjoys unlimited groundwater rights, while decreasing its dependence on imported water. Through these efforts, La Verne groundwater reliability includes 100% reliability of its adjudicated rights in the Pomona Basin, and ever-increasing reliability of its unlimited rights in the Live Oak and Ganesha Basins. Quantification of the potential yield of the Live Oak and Ganesha Basin is unknown at this time and has been assumed as equivalent to recent extractions; however, a conjunctive use agreement with TVMWD to develop long-term storage in those basins is expected to provide a more reliable estimate in the future.

6.3.4 Reliability of Groundwater Production Infrastructure

La Verne closely monitors the condition of its groundwater production infrastructure and has continuous programs in place for inspection, repair and replacement of such infrastructure. The following projects are scheduled to be completed within the next ten years to address various issues related to observed deterioration of infrastructure (see Section 5.8 for additional information):

- Live Oak Basin Well replacement
- Old Baldy Well Restoration feasibility study
- Pomona Basin Well replacement
- Ion Exchange Treatment Plant

Continued vigilance in maintaining groundwater production infrastructure results in a high degree of reliability of local resources.

[15] MCL = maximum contaminant level

6.4 Water Shortage Contingency Planning

§10632(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.

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

§10632(d) Additional, mandatory prohibitions against specific water use practices during water shortages, including, but not limited to, prohibiting the use of potable water for street cleaning.

§10632(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.

§10632(f) Penalties or charges for excessive use, where applicable.

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

§10632(h) A draft water shortage contingency resolution or ordinance.

§10632(i) A mechanism for determining actual reductions in water use pursuant to the urban water shortage contingency analysis.

In 1991, La Verne enacted Ordinance No. 822: An Urgency Ordinance of the City Council of the City of La Verne, County of Los Angeles, State of California, Declaring an Emergency Water Shortage and Adding Chapter 13.15 to the La Verne Drought Surcharge, Conservation Measure, and Water Use Regulations and Restrictions (see Appendix H). In 2009, various provisions to the La Verne Municipal Code were enacted with the approval and adoption if Ordinance 1009: An Ordinance of the City Council of the City of La Verne, County of Los Angeles, State of California, Amending Chapter 13.15 of the La Verne Municipal Code, Regarding Water Conservation, Use and Restrictions (see Appendix I). The following sections summarize the implementation of these two ordinances, the collective purposes of which are "to foster water conservation

and to assure that wasteful water practices are eliminated throughout the City's service area."

6.4.1 Rationing Stages

The rationing stages, including the reduction objective and level of participation, for La Verne's water shortage and drought contingency planning are shown in Table 27.

Table 27 – Water Shortage and Drought Rationing Stages

Rationing Stage	Reduction Objective	Participation
Phase I	10%	Voluntary
Phase II	5%	Mandatory
Phase III	10%	Mandatory
Phase IV	15%	Mandatory
Phase V	20%	Mandatory
Phase VI	25%	Mandatory
Phase VII	30%	Mandatory
Phase VIII	40%	Mandatory
Phase IX	50%	Mandatory

Phase I is entirely voluntary and as such there is no associated enforcement. All other phases include the implementation of conservation or drought pricing to be applied to the following service designation levels:

- Single-family Residential levels A through E
- Multi-family Residential levels A through C
- Irrigation and Other Accounts levels A through C
- All Remaining Accounts levels A through C

The following tables delineate the thresholds for each level as they relate to Phases II through IX. A surcharge shall be levied for exceeding the established baseline allowance. That surcharge shall be established by the City Council for each level indicated above, as needed. For purposes of establishing the various levels, the base year is defined as *"the average amount of water delivered to each non-residential customer's property during the corresponding bimonthly billing period during calendar years 2004-2006"* (§13.15.015(A) of the La Verne Municipal Code) provided that no customer shall be deemed to *"reduce their water consumption to an amount less than ten thousand gallons per bimonthly billing period"* (§13.15.025 of the La Verne Municipal Code).

Table 28 – Phase II Levels

Category	Level	Description of Level
Single-family Residential	A	0-37,000 gallons
	B	37,001-47,000 gallons
	C	47,001-67,000 gallons
	D	67,001-97,000 gallons
	E	97,001 gallons or greater
Multi-family Residential	A	≤95% of base year
	B	>95% of base year and <100% of base year
	C	≥100% of base year
Irrigation and Other Accounts	A	≤90% of base year
	B	>90% of base year and <100% of base year
	C	≥100% of base year
All Remaining Accounts	A	≤95% of base year
	B	>95% of base year and <100% of base year
	C	≥100% of base year

Table 29 – Phase III Levels

Category	Level	Description of Level
Single-family Residential	A	0-34,000 gallons
	B	34,001-44,000 gallons
	C	44,001-64,000 gallons
	D	64,001-94,000 gallons
	E	94,001 gallons or greater
Multi-family Residential	A	≤90% of base year
	B	>90% of base year and <100% of base year
	C	≥100% of base year
Irrigation and Other Accounts	A	≤80% of base year
	B	>80% of base year and <100% of base year
	C	≥100% of base year
All Remaining Accounts	A	≤90% of base year
	B	>90% of base year and <100% of base year
	C	≥100% of base year

Table 30 – Phase IV Levels

Category	Level	Description of Level
Single-family Residential	A	0-31,000 gallons
	B	31,001-41,000 gallons
	C	41,001-61,000 gallons
	D	61,001-91,000 gallons
	E	91,001 gallons or greater
Multi-family Residential	A	≤85% of base year
	B	>85% of base year and <100% of base year
	C	≥100% of base year
Irrigation and Other Accounts	A	≤70% of base year
	B	>70% of base year and <100% of base year
	C	≥100% of base year
All Remaining Accounts	A	≤85% of base year
	B	>85% of base year and <100% of base year
	C	≥100% of base year

Table 31 – Phase V Levels

Category	Level	Description of Level
Single-family Residential	A	0-28,000 gallons
	B	28,001-38,000 gallons
	C	38,001-58,000 gallons
	D	58,001-88,000 gallons
	E	88,001 gallons or greater
Multi-family Residential	A	≤80% of base year
	B	>80% of base year and <100% of base year
	C	≥100% of base year
Irrigation and Other Accounts	A	≤60% of base year
	B	>60% of base year and <100% of base year
	C	≥100% of base year
All Remaining Accounts	A	≤80% of base year
	B	>80% of base year and <100% of base year
	C	≥100% of base year

Table 32 – Phase VI Levels

Category	Level	Description of Level
Single-family Residential	A	0-25,000 gallons
	B	25,001-35,000 gallons
	C	35,001-55,000 gallons
	D	55,001-85,000 gallons
	E	85,001 gallons or greater
Multi-family Residential	A	≤75% of base year
	B	>75% of base year and <100% of base year
	C	≥100% of base year
Irrigation and Other Accounts	A	≤50% of base year
	B	>50% of base year and <100% of base year
	C	≥100% of base year
All Remaining Accounts	A	≤75% of base year
	B	>75% of base year and <100% of base year
	C	≥100% of base year

Table 33 – Phase VII Levels

Category	Level	Description of Level
Single-family Residential	A	0-22,000 gallons
	B	22,001-32,000 gallons
	C	32,001-52,000 gallons
	D	52,001-82,000 gallons
	E	82,001 gallons or greater
Multi-family Residential	A	≤70% of base year
	B	>70% of base year and <100% of base year
	C	≥100% of base year
Irrigation and Other Accounts	A	≤40% of base year
	B	>40% of base year and <100% of base year
	C	≥100% of base year
All Remaining Accounts	A	≤70% of base year
	B	>70% of base year and <100% of base year
	C	≥100% of base year

Table 34 – Phase VIII Levels

Category	Level	Description of Level
Single-family Residential	A	0-18,000 gallons
	B	18,001-28,000 gallons
	C	28,001-48,000 gallons
	D	48,001-78,000 gallons
	E	78,001 gallons or greater
Multi-family Residential	A	≤60% of base year
	B	>60% of base year and <100% of base year
	C	≥100% of base year
Irrigation and Other Accounts	A	≤30% of base year
	B	>30% of base year and <100% of base year
	C	≥100% of base year
All Remaining Accounts	A	≤60% of base year
	B	>60% of base year and <100% of base year
	C	≥100% of base year

Table 35 – Phase XI Levels

Category	Level	Description of Level
Single-family Residential	A	0-16,000 gallons
	B	16,001-23,000 gallons
	C	23,001-43,000 gallons
	D	43,001-73,000 gallons
	E	73,001 gallons or greater
Multi-family Residential	A	≤50% of base year
	B	>50% of base year and <100% of base year
	C	≥100% of base year
Irrigation and Other Accounts	A	≤25% of base year
	B	>25% of base year and <100% of base year
	C	≥100% of base year
All Remaining Accounts	A	≤50% of base year
	B	>50% of base year and <100% of base year
	C	≥100% of base year

6.4.2 Consumptive Reduction Methods

Consumptive reduction methods consist of voluntary measures encouraged under a Phase I rationing stage.

6.4.3 Mandatory Prohibitions

Mandatory prohibitions under the various rationing stages are listed below:

Phase II

1. Hose washing of sidewalks, walkways, driveways, parking areas, or other paved surfaces shall be prohibited.

2. Washing of motor vehicles, trailers, boats, and other types of mobile equipment shall be done only with a hand-held water container or a hose equipped with a positive shut off nozzle for quick rinses, except that washing may be done on the immediate premises of a commercial car wash or with reclaimed water.

3. No water shall be used to clean, fill or maintain levels in decorative fountains, or other similar aesthetic structures unless such water is part of a recycling system.

4. No restaurant, hotel, café, cafeteria, or other public place where food is sold, served, or offered for sale, shall serve drinking water to any customer unless expressly requested.

5. All leaks from indoor and outdoor plumbing fixtures shall be repaired within forty-eight hours of discovery or notification.

6. Watering of landscape or other turf area shall only be permitted between the hours of one hour before sunset and ten a.m. except that this provision shall not apply to commercial nurseries, golf courses, and other water dependant industries; except that there shall be no restriction on watering with reclaimed water, provided that signs are posted that identify reclaimed water is being used. The use of properly operating drip irrigation systems or hand held buckets shall be permitted at any time.

7. Water runoff from landscaped areas in adjoining streets, sidewalks, or other paved areas shall be prohibited.

8. Construction water for grading and other purposes shall be limited to ground produced water at the discretion of the City.

9. Installation of single-pass cooling systems shall be prohibited in buildings requesting new water service.

10. Installation of non-recirculating water systems shall be prohibited in new commercial conveyor car wash and new commercial laundry systems.

11. Food preparation establishments, such as restaurants or cafes, shall be prohibited from using non-water conserving dish wash spray valves.

Phase III

1. The same restrictions identified for Phase II apply.

Phase IV

1. The same restrictions identified for Phase II apply with the exception of irrigation restrictions (see below).

2. Watering of landscape or other turf area, including that of commercial nurseries, golf courses, and other water dependant industries shall only be permitted between the hours of one hour before sunset and ten a.m. for no more than five minutes per station or area, and not to exceed more than twenty minutes per week; except that there shall be no restriction on watering with reclaimed water, provided that signs are posted that identify reclaimed water is being used. The use of properly operating drip irrigation systems or hand held buckets shall be permitted at any time.

Phase V

1. The same restrictions identified for Phase II apply with the exception of irrigation restrictions (see below).

2. Watering of landscape or other turf area, including that of commercial nurseries, golf courses, and other water dependant industries shall only be permitted between the hours of one hour before sunset and ten a.m. for no more than five minutes per station or area, and not to exceed more than twenty minutes per week; except that there shall be no restriction on watering with reclaimed water, provided that signs are posted that identify reclaimed water is being used. The use of properly operating drip irrigation systems or hand held buckets shall be permitted at any time.

Phase VI

1. The same restrictions identified for Phase II apply with the exception of irrigation restrictions (see below).

2. Watering of landscape or other turf area, including that of commercial nurseries, golf courses, and other water dependant industries shall only be permitted between the hours of one hour before sunset and ten a.m. for no more than five minutes per station or area, and not to exceed more than twenty minutes per week; except that there shall be no restriction on watering with reclaimed water, provided that signs are posted that identify reclaimed water is being used. The use of properly operating drip irrigation systems or hand held buckets shall be permitted at any time.

Phase VII

1. The same restrictions identified for Phase II apply with the exception of irrigation restrictions and pool and spa permitting (see below).

2. Watering of landscape or other turf area, including that of commercial nurseries, golf courses, and other water dependant industries shall only be permitted between the hours of one hour before sunset and ten a.m. for no more than five minutes per station or area, and not to exceed more than twenty minutes per week; except that there shall be no restriction on watering with reclaimed water, provided that signs are posted that identify reclaimed water is being used. The use of properly operating drip irrigation systems or hand held buckets shall be permitted at any time.

3. New swimming pool and spa permits shall be issued at the discretion of the public works director based upon the availability of water.

Phase VIII

1. The same restrictions identified for Phase II apply with the exception of Item II-6, Item VIII-3 and Item VIII-4.

2. All outdoor irrigation is prohibited except for hand held watering or use of properly operating drip irrigation systems to water mature trees and mature shrubs. Commercial nurseries and other water dependant industries shall only water landscape stock by use of properly operating drip irrigation systems of hand held buckets. Watering of all outdoor turf areas is prohibited, excepting golf course greens.

3. Issuance of new swimming pool and spa permits shall be prohibited.

4. No new water service connections will be permitted nor will an increase in the size of an already existing water service connection be permitted, nor will there be any net increase in plumbing fixtures to an already existing water service connection.

6.4.4 Penalties and Charges

It is unlawful for any customer to fail to comply with the provisions of mandatory prohibitions. It is unlawful for customers in the categories of Multi-family Residential, Irrigation and Other Accounts and All Remaining Accounts for Level C to consume water in excess of the base year. The City reserves the right to install a flow restricting device on the service line at the customer's expense for continued violation of mandatory prohibitions or excess consumption.

Exceptions include the maintenance of active parks, routinely used athletic fields or essential governmental or emergency services.

6.4.5 Determination of Water Shortage Reduction Effectiveness

The City of La Verne's water distribution system is highly automated and production data is reviewed daily. The global impact of imposed mandatory restrictions will be evident as a result of this routine overview of system performance.

6.5 Drought Planning

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

Table 36 provides a summary of La Verne's capacity to withstand an immediate multiple dry year condition based on historical conditions from 1999 to 2001.

Multiple dry year supply assumes the following:

- Implementation of TVMWD's Water Supply Allocation Plan (WSAP) Shortage Level 2 (6,299 AF)
- Typical production from the of the Ganesha and Live Oaks Basins (1,515 AF)
- Adjudicated rights of 7.6015% of the OSY in 1999 through 2001
    - 1999 – OSY 24,000 AF (1,824 AF)
    - 2000 – OSY 22,000 AF (1,672 AF)
    - 2001 – OSY 22,000 AF (1,672 AF)

Multiple dry year demand is equivalent to the normal year demand of 8,108 AFY plus an increase of the percentage shown in Table 23 to account for typical variation from norm as discussed in §6.2.2.

Table 36 – Capacity to Withstand an Immediate 3-year Drought

Year	Item	(AFY)
1	Supply	9,638
	Demand	8,643
	Difference	995
	Difference as % of Supply	10.3%
	Difference as % of Demand	11.5%
2	Supply	9,486
	Demand	8,311
	Difference	1,175
	Difference as % of Supply	12.4%
	Difference as % of Demand	14.1%
3	Supply	9,486
	Demand	8,109
	Difference	1,377
	Difference as % of Supply	14.5%
	Difference as % of Demand	17.0%

Per Table 36, La Verne has adequate reliable sources to withstand an immediate 3-year drought.

CHAPTER SEVEN – DEMAND MANAGEMENT MEASURES

7.1 General Description

§10631(f)(1) and (2) (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-lowflush toilet replacement programs.

§10631(f)(3) A description of the methods, if any, that the supplier will use to evaluate the effectiveness of water demand management measures implemented or described under the plan.

§10631(f)(4) An estimate, if available, of existing conservation savings on water use within the supplier's service area, and the effect of the savings on the supplier's ability to further reduce demand.

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

Demand Management Measures (DMMs) have been implemented at the local and wholesale level in accordance with the California Urban Water Conservation Council (CUWCC). La Verne is an original signatory to CUWCC's Memorandum of Understanding Regarding Urban Water Conservation Best Management Practices (MOU) and reports annually its progress toward the reasonable implementation of water conservation Best Management Practices (BMP). The following sections provide detail on implementation and effectiveness of each MDD. There is a degree of duplication between the efforts of La Verne and TVMWD. As a matter of convention, all information regarding MDD implementation at the wholesale level has been included in Section 7.11 (Wholesale Agency Programs).

Coordination and reporting with CUWCC has been delayed for FY 2009-10. Technical difficulties with its new automated and interactive website have resulted in the temporary interruption of timely reporting by CUWCC on La Verne's behalf. Consequently, CUWCC's input on BMP effectiveness for FY 2009-10 was not available at the time of the adoption of this UWMP. An estimate of BMP effectiveness has been provided in Section 7.15 in lieu of the CUWCC report. La Verne will compare this estimate to the conclusions of CUWCC upon availability of the report.

7.2 Residential Water Survey Programs

Previously, the City had offered residential water audits on a request-only basis. Additionally, during the mid 90's the City assisted and participated in the development and implementation of a pilot program offered by MWD. The top 40% of the City's customers were offered a complete indoor/outdoor water use survey. Approximately 500 customers participated in the program.

The City has recently completed a survey and retrofit program. Surveys were offered to 100 customers and provided to over 50.

The City is in the process of implementing another survey and retrofit program. This program targets the top 1% of residential users and provides a detailed outdoor audit. Installation of a Weather Based Irrigation Controller (WBIC) and water conserving rotating sprinkler nozzles will be provided.

7.3 Residential Plumbing Retrofit

The City has integrated this program through other DMMs by providing hundreds of retrofit items to local residents during special events and programs. Retrofit items include low-flow showerheads, tank displacements tools, leak detecting dyes, shower timers and faucet aerators. The City continues to distribute retrofit items at special events and upon request.

7.4 Water Audits, Leak Detection and Repair

Each year there is a review of water purchases and production versus the sale of water to measure total water losses. The City has divided the service area into three sectors and performs a water audit for each sector in successive years; therefore, a comprehensive system-wide water audit is completed every three years.

There are programs in place for the inspection, repair and replacement of aging distribution and supply infrastructure as well as the inspection, calibration and replacement of service meters including the installation of Automatic Meter Reading (AMR) devices. The City has invested more than $500,000 in meter replacement greatly improving accuracy. The City continually monitors meter telemetry for anomalies, which may be caused by a sudden change in water use behavior, unauthorized use, an inaccurate meter or a leak. Any identified leaks are immediately repaired.

The City has hired a contractor to perform leak detection and water loss audits. Results have been very effective in reducing water losses.

7.5 Metering with Commodity Rates for All New and Retrofit of Existing Connections

The City is fully metered for all customer sectors. There are no unmetered services within the customer base.

7.6 Large Landscape Conservation Programs and Incentives

The City identified the top ten large water users and completed water audits that identified ways that these customers could improve water efficiency outdoors as well as adding a component to identify savings and efficiencies indoors. Consumption is periodically reviewed for these customers and initial water savings recorded after the audit appear to have remained constant.

Incentives for irrigation retrofit include the following:

- $100 to participants of outdoor audit and retrofit program
- Free Weather Based Irrigation Controller (WBIC)
- Free sprinkler retrofit

The City conducts approximately 30 audits per year and installed 19 WBICs in 2010. The City recently hosted an event called the California Friendly Landscape Training Class for 30 participants.

The City is currently developing an ordinance addressing water efficient landscaping. Until adoption of this ordinance, the City is regulated by the State of California's Landscape Ordinance (see Appendix K).

The City coordinates its landscaping conservation efforts with the following groups:

- Executive Advisory Committee
- San Gabriel River Watershed Management Group
- MWD as a participant in the IRWMP process
- Community groups

7.7 High-efficiency Washing Machine Rebate Programs

In cooperation with TVMWD, the City has offered a rebate of $100 to any resident that wants to purchase a high-efficiency washing machine that meets program qualifications.

The City has exhausted this program after offering it for ten years.

7.8 Public Information Programs

The City works in coordination with MWD, TVMWD, Southern California Edison and Southern California Gas Company to develop and disseminate public outreach information. There are several informational outreach strategies that are provided to the public by the City. Information on efficient water use is posted on the City's website, broadcast on local cable access channel, published in newsletters, and distributed directly in customer water bills.

The City has provided Protector Del Agua classes that teach water efficient landscaping and irrigation techniques. City representatives have also presented at local home expos about water conservation, and assisted in the creation of demonstration gardens that promote water saving native plants. Locations of recent demonstration gardens include La Verne City Hall and the Fairplex at the Los Angeles County Fairgrounds.

7.9 School Education Programs

La Verne has been actively involved with providing water education programs in local schools. Foremost, the City is involved in the Water Education Water Awareness Committee (WEWAC), which provides several water related educational opportunities. This regional committee provides grants to teachers who present water curriculum to students and curriculum training for teachers, and sponsors a high school contest for videos on water related issues.

Specific educational programs include:

- PSA contest
- Project WET programs
- In class presentations to 5th graders
- SIFE program for 8th graders

The City contributes to such water educational organizations as the Water Education Foundation, whose mission is to create a better understanding of water issues and help resolve water resource problems through educational programs.

The City has formed a partnership with the University of La Verne in distributing take home water audits that students complete with parents and bring back results.

7.10 Conservation Programs for CII Accounts

In collaboration with TVMWD, the City has worked to improve water use efficiency in institutionalized settings, such as restaurants, schools, laundromats, and group residential communities such as retirement homes. The recent efforts have included distribution of equipment such as pre-rinse spray nozzles, efficient toilets and urinals, cooling tower conductivity controllers, commercial high-efficiency clothes washers, and Waterbrooms. A number of these tools have been installed or distributed within area schools, restaurants, group residential communities, and various public agencies.

The City has previously implemented a program that replaced older toilets and urinals with low-flow versions.

CII type businesses in La Verne are relatively new. At the time of construction of these facilities, legislation was in place that required low-flow fixtures and toilets.

Additional programs that provide rebate opportunities are offered through an MWD program. The City and TVMWD advertise this MWD CII rebate program directly to all local businesses.

The City has performed 47 water audits in the health care, office, restaurant and retail/wholesale sectors.

7.11 Wholesale Agency Programs

Per the TVMWD 2010 UWMP (see Appendix J), TVMWD is one of the charter signatories to the 1992 Memorandum of Understanding Regarding Urban Water Conservation Best Management Practices (MOU), a document which established the California Urban Water Conservation Council (CUWCC) – a self-regulating body

composed of signatories to the MOU. That process also resulted in the initial list of conservation Best Management Practices (BMPs). Since that time, TVMWD encouraged its retail member agencies to sign the MOU to expedite implementation of reasonable urban conservation measures. A number of the TVMWD member agencies are signatories to the MOU including the Cities of Covina, Glendora, La Verne, and Pomona, Covina Irrigating Company, Rowland Water District, Golden State Water Company, and Walnut Valley Water District.

In its role as a wholesale water agency, TVMWD does not have the responsibility for direct implementation of some BMPs. Rather, TVMWD is responsible to provide financial and technical support, and when mutually agreeable and beneficial, direct management of conservation projects on behalf of a retail supplier. Nevertheless, wholesalers like TVMWD have a direct responsibility to help implement all of the BMPs. TVMWD fulfills these responsibilities as follows:

- Provide financial incentives (or equivalent resources) to retail water agency customers on all cost-effective BMPs;
- Offer workshops for retail agency personnel on CUWCC procedures and reporting requirements, and the technical, programmatic, strategic or other pertinent issues in water conservation; and
- Have the necessary staff or other resources available to respond to retail agencies' needs for assistance.

TVMWD meets the first requirement by passing through financial incentives offered by MWD through its Conservation Credits Program. TVMWD offers additional incentives directly to the retail member agencies by covering program implementation costs and outreach costs for many programs, including:

- recycling costs for HET distribution events (old toilets MUST be recycled)
- outreach costs for the targeted outdoor/retrofit/survey program
- application costs for the regional rebate provider to run the Turf Removal program
- substitute teacher costs for Project WET workshops

These costs assist the retail member agencies while preserving the distinct relationship between retail water suppliers and their customers. TVMWD provides some in-kind services such as managing contracts for all of its retail member agencies participating in HET distribution events. In this way, a single vendor may be selected for several agencies' projects. Thus, a better per unit price may be negotiated due to economies of scale. By managing the contracts centrally it is hoped that (1) the transaction costs to the

retail member agencies are minimized and (2) administrative oversight and assistance to the retail member agencies that have limited staff for conservation activities is provided.

TVMWD participates by running programs and serving as the financial administrator for the Water Education Water Awareness Committee (WEWAC). WEWAC is a consortium of water agencies begun back in the early 1980s and today still exists with 14 water agencies covering the service areas of TVMWD and Inland Empire Utilities Agency (IEUA), the wholesale water agency directly east of the TVMWD service area boundary. The mission of WEWAC is to promote the efficient use of water and to increase public awareness of the importance of water in Southern California.

To take advantage of location, increase efficiency and increase public outreach and awareness, TVMWD has partnered with neighboring agencies to benefit a larger population and to assist our retail member agencies in keeping costs down and achieving larger outreach goals. In recent years, numerous programs, classes and events have been held in partnership with IEUA and the Chino Basin Water Conservation District, a groundwater protection and education agency that serves portions of San Bernardino County. California Friendly Landscape Training classes have been held at and in conjunction with the Rancho Santa Ana Botanic Garden to take advantage of their expertise and reputation for being the local authorities on California native plants.

TVMWD periodically hosts a water conservation meeting with staff from the retail member agencies. These meetings serve as a forum to discuss general developments in the water conservation field, or more specific programs/news from the California Urban Water Conservation Council or MWD.

Table 37 indicates TVMWD's activities and involvement in all the BMPs. TVMWD believes that it serves an important function assisting its retail member agencies to achieve 100% implementation of the CUWCC's goals. Accordingly, TVMWD assists at all levels where retail member agencies request such assistance.

Table 37 – Wholesale Agency Programs and Actions

BMP #	BMP Title	Actions Taken by TVMWD
BMP-1	Residential Water Survey Programs	Encourages the implementation of Residential Surveys through administrative activities, such as contacting consultants on behalf of member agencies, seeking RFPs and coordinating multiple agencies located in close proximity to one another to create a better value. To date, City of La Verne and City of Pomona are considering implementing Residential Surveys upcoming fiscal year.
BMP-2	Residential Plumbing Retrofit	To date, distributed, and provided for distribution by its member agencies, 60,088 low flow shower heads and 2,400 residential retrofit kits (showerhead, faucet aerators, toilet tummies, rain/sprinkler gauges) during ULFT distribution events, educational programs and other events and activities.
BMP-3	Water Audits, Leak Detection and Repair	Performs monthly evaluations of water sales, purchases and losses. TVMWD has averaged less than 1.3% unaccounted for water on an annual basis.
BMP-5	Large Landscape Conservation Programs and Incentives	Encourages its member agencies to complete and/or offer these types of audits by contacting possible consultants for group pricing and implementation. Paid for large landscape audits in cases where the need is extreme and the member agency has proven uninterested. The information is passed directly on to the customer for implementation of the water-saving corrections/activities.
BMP-6	High-efficiency Washing Machine Rebate Programs	Administers and run the efficiency clothes washer rebate program for its member agencies for the last three years. TVMWD passes the BMP credit on to the member agencies for inclusion in their CUWCC reports. All rebates, correspondence and administration are done in-house by TVMWD. Public notice is done in conjunction with member agencies this.
BMP-7	Public Information Programs	Publishes water conservation information (Think Environment, Living Here) Produces cable public information series (Straight from the Tap) Hosts quarterly community outreach and networking events (Leadership Breakfast)
BMP-8	School Education Programs	Visits classroom and give presentation whenever invited by schools or member agencies. Provides tours of TVMWD facilities to kindergarten through college students. Provides educational materials for school libraries and in-classroom use. Hosts and participates in Project WET Workshops. Provides guidance and sponsorship for MWD Solar Cup program. Works with MWD to distribute and inform teachers about available materials.
BMP-9	Conservation Programs for CII Accounts	Co-hosted CII workshop with IEUA. Signed MWD CII Conservation Agreement. Provides devices (waterbrooms, ULFTs, urinals) to member agencies for distribution to CII locations.
BMP-11	Conservation Pricing	Implemented rates reflecting Tier 1 and Tier 2 pricing. Member agencies are give a water sales allocation based on historical purchases. If they exceed that allocation, the will be charged the Tier 2 rate for water. This method directly reflects the new MWD pricing methodologies.
BMP-12	Water Conservation Coordinator	TVMWD has a position which assists the member agencies with all the BMPs, conservation activities, outreach activities and fund raising. Additional TVMWD staff is provided when necessary to assist with large programs and outreach events.
BMP-14	Residential ULFT Replacement Programs	Negotiated consultant contract for standardized reporting, programs and low per-unit price for member agencies. Provided direct replacement with ULFT in cases where need was identified but member agency was unable to assist.

7.12 Conservation Pricing

The City of La Verne implements an increasing block pricing structure for all water connections. The price per unit is constant; therefore, the greater the consumption, the greater the cost to the customer. Sewer fees are charged at a flat rate for residential customers; however, CII customers are charged a rate that is based on a percentage of water consumption.

The City recently implemented water conservation surcharge penalties for excessive use which is credited for reducing overall water use by 15%.

7.13 Water Conservation Coordinator

The City maintains an active equivalent conservation coordinator position to manage conservation programs.

7.14 Residential Ultra-low-flush Toilet Replacement Programs

The City initiated a highly visible Ultra Low Flush Toilet (ULFT) rebate program in July 1991 which is still available to customers.

In 1998, the City implemented a program which distributed over 7,000 ULFTs direct and free to customers.

In May 2009, the City provided an event where 200 ULFTs were distributed.

To date, the City has distributed approximately 20,000 ULFTs achieving a market saturation of at least 75%.

7.15 DMM Summary

Based on guidance provided by DWR in the *Final 20x2020 Water Conservation Plan* (2010), an estimate of the effectiveness of La Verne's implementation of DMMs is provided in Table 38. The estimate takes into account the degree of saturation of the various DMMs already achieved by La Verne, recognizing that additional savings will be small, negligible or zero. By convention, TVMWD's role in supporting La Verne's water conservation efforts has been considered and incorporated into the appropriate DMM effectiveness estimate.

Table 38 – DMM Effectiveness

BMP #	DMM Title	Estimated Reduction (GPCD)
1	Residential Water Survey Programs	2
2	Residential Plumbing Retrofit	0
3	Water Audits, Leak Detection and Repair	2
4	Metering with Commodity Rates for All New and Retrofit of Existing Connections	0
5	Large Landscape Conservation Programs and Incentives	2
6	High-efficiency Washing Machine Rebate Programs	0
7	Public Information Programs	0
8	School Education Programs	0
9	Conservation Programs for CII Accounts	3
10	Wholesale Agency Programs	0
11	Conservation Pricing	0
12	Water Conservation Coordinator	0
13	Residential Ultra-low-flush Toilet Replacement Programs	1
Total Savings		10

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PREPARED BY

CIVILTEC
engineering inc.

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PREPARED FOR

CITY OF LA VERNE
3660 D STREET
LA VERNE, CA 91750

JUNE 2011

PREPARED BY

CIVILTEC
engineering inc.
CIVIL AND ENVIRONMENTAL ENGINEERING
PLANNING AND CONSTRUCTION MANAGEMENT
118 W. LIME AVENUE, MONROVIA, CA 91016
(626) 357-0588 FAX: (626) 303-7957

INTRODUCTION

This volume is intended to accompany the La Verne 2010 Urban Water Management Plan (UWMP). Its purpose is to provide reference material indicated as appendices and cited in the UWMP either as mandated by the California Urban Water Management Planning Act or in support thereof.

LIST OF APPENDICES

Appendix A – California Urban Water Management Planning Act
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Appendix A

California Water Code relevant to the
Urban Water Management Planning Act

Section K: California Water Code, Division 6, Part 2.6: Urban Water Management Planning

The following sections of California Water Code Division 6, Part 2.6, are available online at http://www.leginfo.ca.gov/calaw.html.

Chapter 1. General Declaration and Policy	§10610-10610.4
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Article 2.5. Water Service Reliability	§10635
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Chapter 4. Miscellaneous Provisions	§10650-10656

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, 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.

(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 that 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) (1) 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.

(2) 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) For purposes of this part, urban water suppliers that are members of the California Urban Water Conservation Council shall be deemed in compliance with the requirements of subdivisions (f) and (g) by complying with all the provisions of the “Memorandum of Understanding Regarding Urban Water Conservation in California,” dated December 10, 2008, as it may be amended, and by submitting the annual reports required by Section 6.2 of that memorandum.

(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).

10631.1.

(a) 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.

(b) It is the intent of the Legislature that the identification of projected water use for single-family and multifamily residential housing for lower income households will assist a supplier in complying with the requirement under Section 65589.7 of the Government Code to grant a priority for the provision of service to housing units affordable to lower income households.

10631.5.

(a) (1) Beginning January 1, 2009, the terms of, and eligibility for, a water management grant or loan made to an urban water supplier and awarded or administered by the department, state board, or California Bay-Delta Authority or its successor agency shall be conditioned on the implementation of the water demand management measures described in Section 10631, as determined by the department pursuant to subdivision (b).

(2) For the purposes of this section, water management grants and loans include funding for programs and projects for surface water or groundwater storage, recycling, desalination, water conservation, water supply reliability, and water supply augmentation. This section does not apply to water management projects funded by the federal American Recovery and Reinvestment Act of 2009 (Public Law 111-5).

(3) Notwithstanding paragraph (1), the department shall determine that an urban water supplier is eligible for a water management grant or loan even though the supplier is not implementing all of the water demand management measures described in Section 10631, if the urban water supplier has submitted to the department for approval a schedule, financing plan, and budget, to be included in the grant or loan agreement, for implementation of the water demand management measures. The supplier may request grant or loan funds to implement the water demand management measures to the extent the request is consistent with the eligibility requirements applicable to the water management funds.

(4) (A) Notwithstanding paragraph (1), the department shall determine that an urban water supplier is eligible for a water management grant or loan even though the supplier is not implementing all of the water demand management measures described in Section 10631, if an urban water supplier submits to the department for approval documentation demonstrating that a water demand management measure is not locally cost effective. If the department determines that the documentation submitted by the urban water supplier fails to demonstrate that a water demand management measure is not locally cost effective, the

department shall notify the urban water supplier and the agency administering the grant or loan program within 120 days that the documentation does not satisfy the requirements for an exemption, and include in that notification a detailed statement to support the determination.

(B) For purposes of this paragraph, “not locally cost effective” means that the present value of the local benefits of implementing a water demand management measure is less than the present value of the local costs of implementing that measure.

(b) (1) The department, in consultation with the state board and the California Bay-Delta Authority or its successor agency, and after soliciting public comment regarding eligibility requirements, shall develop eligibility requirements to implement the requirement of paragraph (1) of subdivision (a). In establishing these eligibility requirements, the department shall do both of the following:

(A) Consider the conservation measures described in the Memorandum of Understanding Regarding Urban Water Conservation in California, and alternative conservation approaches that provide equal or greater water savings.

(B) Recognize the different legal, technical, fiscal, and practical roles and responsibilities of wholesale water suppliers and retail water suppliers.

(2) (A) For the purposes of this section, the department shall determine whether an urban water supplier is implementing all of the water demand management measures described in Section 10631 based on either, or a combination, of the following:

(i) Compliance on an individual basis.

(ii) Compliance on a regional basis. Regional compliance shall require participation in a regional conservation program consisting of two or more urban water suppliers that achieves the level of conservation or water efficiency savings equivalent to the amount of conservation or savings achieved if each of the participating urban water suppliers implemented the water demand management measures. The urban water supplier administering the regional program shall provide participating urban water suppliers and the department with data to demonstrate that the regional program is consistent with this clause. The department shall review the data to determine whether the urban water suppliers in the regional program are meeting the eligibility requirements.

(B) The department may require additional information for any determination pursuant to this section.

(3) The department shall not deny eligibility to an urban water supplier in compliance with the requirements of this section that is participating in a multiagency water project, or an integrated regional water management plan, developed pursuant to Section 75026 of the Public Resources Code, solely on the basis that one or more of the agencies participating in the project or plan is not implementing all of the water demand management measures described in Section 10631.

(c) In establishing guidelines pursuant to the specific funding authorization for any water management grant or loan program subject to this section, the agency administering the grant or loan program shall include in the guidelines the eligibility requirements developed by the department pursuant to subdivision (b).

(d) Upon receipt of a water management grant or loan application by an agency administering a grant and loan program subject to this section, the agency shall request an eligibility determination from the department with respect to the requirements of this section. The department shall respond to the request within 60 days of the request.

(e) 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. In addition, for urban water suppliers that are signatories to the Memorandum of Understanding Regarding Urban Water Conservation in California and submit annual reports to the California Urban Water Conservation Council in accordance with the memorandum, the department may use these reports to assist in tracking the implementation of water demand management measures.

(f) This section shall remain in effect only until July 1, 2016, and as of that date is repealed, unless a later enacted statute, that is enacted before July 1, 2016, deletes or extends that date.

10631.7. The department, in consultation with the California Urban Water Conservation Council, shall convene an independent technical panel to provide information and recommendations to the department and the Legislature on new demand management measures, technologies, and approaches. The panel shall consist of no more than seven members, who shall be selected by the department to reflect a balanced representation of experts. The panel shall have at least one, but no more than two, representatives from each of the following: retail water suppliers, environmental organizations, the business community, wholesale water suppliers, and academia. The panel shall be convened by January 1, 2009, and shall report to the

Legislature no later than January 1, 2010, and every five years thereafter. The department shall review the panel report and include in the final report to the Legislature the department's recommendations and comments regarding the panel process and the panel's recommendations.

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, indirect potable reuse, 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.

Article 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 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.

(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 exemplary elements of the individual plans. The department shall provide a copy of the report to each urban water supplier that has submitted its plan to 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.

(c) (1) For the purpose of identifying the exemplary elements of the individual plans, the department shall identify in the report those water demand management measures adopted and implemented by specific urban water suppliers, and identified pursuant to Section 10631, that achieve water savings significantly above the levels established by the department to meet the requirements of Section 10631.5.

(2) The department shall distribute to the panel convened pursuant to Section 10631.7 the results achieved by the implementation of those water demand management measures described in paragraph (1).

(3) The department shall make available to the public the standard the department will use to identify exemplary water demand management measures.

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.

Section L: California Water Code, Division 6, Part 2.55: Water Conservation

The following sections of California Water Code Division 6, Part 2.55, are available online at http://www.leginfo.ca.gov/calaw.html.

Chapter 1. General Declarations and Policy	§10608-10608.8
Chapter 2. Definitions	§10608.12
Chapter 3. Urban Retail Water Suppliers	§10608.16-10608.44

Legislative Counsel's Digest

Senate Bill No. 7
Chapter 4

An act to amend and repeal Section 10631.5 of, to add Part 2.55 (commencing with Section 10608) to Division 6 of, and to repeal and add Part 2.8 (commencing with Section 10800) of Division 6 of, the Water Code, relating to water.

[Approved by Governor November 10, 2009. Filed with Secretary of State November 10, 2009.]

Legislative Counsel's Digest

SB 7, Steinberg. Water conservation.

(1) Existing law requires the Department of Water Resources to convene an independent technical panel to provide information to the department and the Legislature on new demand management measures, technologies, and approaches. "Demand management measures" 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.

This bill would require the state to achieve a 20% reduction in urban per capita water use in California by December 31, 2020. The state would be required to make incremental progress towards this goal by reducing per capita water use by at least 10% on or before December 31, 2015. The bill would require each urban retail water supplier to develop urban water use targets and an interim urban water use target, in accordance with specified requirements. The bill would require agricultural water suppliers to implement efficient water management practices. The bill would require the department, in consultation with other state agencies, to develop a single standardized water use reporting form. The bill, with certain exceptions, would provide that urban retail water suppliers, on and after July 1, 2016, and agricultural water suppliers, on and after July 1, 2013, are not eligible for state water grants or loans unless they comply with the water conservation requirements established by the bill. The bill would repeal, on July 1, 2016, an existing requirement that conditions

eligibility for certain water management grants or loans to an urban water supplier on the implementation of certain water demand management measures.

(2) Existing law, until January 1, 1993, and thereafter only as specified, requires certain agricultural water suppliers to prepare and adopt water management plans.

This bill would revise existing law relating to agricultural water management planning to require agricultural water suppliers to prepare and adopt agricultural water management plans with specified components on or before December 31, 2012, and update those plans on or before December 31, 2015, and on or before December 31 every 5 years thereafter. An agricultural water supplier that becomes an agricultural water supplier after December 31, 2012, would be required to prepare and adopt an agricultural water management plan within one year after becoming an agricultural water supplier. The agricultural water supplier would be required to notify each city or county within which the supplier provides water supplies with regard to the preparation or review of the plan. The bill would require the agricultural water supplier to submit copies of the plan to the department and other specified entities. The bill would provide that an agricultural water supplier is not eligible for state water grants or loans unless the supplier complies with the water management planning requirements established by the bill.

(3) The bill would take effect only if SB 1 and SB 6 of the 2009–10 7th Extraordinary Session of the Legislature are enacted and become effective.

The people of the State of California do enact as follows:

SECTION 1. Part 2.55 (commencing with Section 10608) is added to Division 6 of the Water Code, to read:

Part 2.55. Sustainable Water Use and Demand Reduction

Chapter 1. General Declarations and Policy

10608. The Legislature finds and declares all of the following:

(a) Water is a public resource that the California Constitution protects against waste and unreasonable use.

(b) Growing population, climate change, and the need to protect and grow California's economy while protecting and restoring our fish and wildlife habitats make it essential that the state manage its water resources as efficiently as possible.

(c) Diverse regional water supply portfolios will increase water supply reliability and reduce dependence on the Delta.

(d) Reduced water use through conservation provides significant energy and environmental benefits, and can help protect water quality, improve streamflows, and reduce greenhouse gas emissions.

(e) The success of state and local water conservation programs to increase efficiency of water use is best determined on the basis of measurable outcomes related to water use or efficiency.

(f) Improvements in technology and management practices offer the potential for increasing water efficiency in California over time, providing an essential water management tool to meet the need for water for urban, agricultural, and environmental uses.

(g) The Governor has called for a 20 percent per capita reduction in urban water use statewide by 2020.

(h) The factors used to formulate water use efficiency targets can vary significantly from location to location based on factors including weather, patterns of urban and suburban development, and past efforts to enhance water use efficiency.

(i) Per capita water use is a valid measure of a water provider's efforts to reduce urban water use within its service area. However, per capita water use is less useful for measuring relative water use efficiency between different water providers. Differences in weather, historical patterns of urban and suburban development, and density of housing in a particular location need to be considered when assessing per capita water use as a measure of efficiency.

10608.4. It is the intent of the Legislature, by the enactment of this part, to do all of the following:

(a) Require all water suppliers to increase the efficiency of use of this essential resource.

(b) Establish a framework to meet the state targets for urban water conservation identified in this part and called for by the Governor.

(c) Measure increased efficiency of urban water use on a per capita basis.

(d) Establish a method or methods for urban retail water suppliers to determine targets for achieving increased water use efficiency by the year 2020, in accordance with the Governor's goal of a 20-percent reduction.

(e) Establish consistent water use efficiency planning and implementation standards for urban water suppliers and agricultural water suppliers.

(f) Promote urban water conservation standards that are consistent with the California Urban Water Conservation Council's adopted best management practices and the requirements for demand management in Section 10631.

(g) Establish standards that recognize and provide credit to water suppliers that made substantial capital investments in urban water conservation since the drought of the early 1990s.

(h) Recognize and account for the investment of urban retail water suppliers in providing recycled water for beneficial uses.

(i) Require implementation of specified efficient water management practices for agricultural water suppliers.

(j) Support the economic productivity of California's agricultural, commercial, and industrial sectors.

(k) Advance regional water resources management.

10608.8.

(a) (1) Water use efficiency measures adopted and implemented pursuant to this part or Part 2.8 (commencing with Section 10800) are water conservation measures subject to the protections provided under Section 1011.

(2) Because an urban agency is not required to meet its urban water use target until 2020 pursuant to subdivision (b) of Section 10608.24, an urban retail water supplier's failure to meet those targets shall not establish a violation of law for purposes of any state administrative or judicial proceeding prior to January 1, 2021. Nothing in this paragraph limits the use of data reported to the department or the board in litigation or an administrative proceeding. This paragraph shall become inoperative on January 1, 2021.

(3) To the extent feasible, the department and the board shall provide for the use of water conservation reports required under this part to meet the requirements of Section 1011 for water conservation reporting.

(b) This part does not limit or otherwise affect the application of Chapter 3.5 (commencing with Section 11340), Chapter 4 (commencing with Section 11370), Chapter 4.5 (commencing with Section 11400), and Chapter 5 (commencing with Section 11500) of Part 1 of Division 3 of Title 2 of the Government Code.

(c) This part does not require a reduction in the total water used in the agricultural or urban sectors, because other factors, including, but not limited to, changes in agricultural economics or population growth may have greater effects on water

use. This part does not limit the economic productivity of California's agricultural, commercial, or industrial sectors.

(d) The requirements of this part do not apply to an agricultural water supplier that is a party to the Quantification Settlement Agreement, as defined in subdivision (a) of Section 1 of Chapter 617 of the Statutes of 2002, during the period within which the Quantification Settlement Agreement remains in effect. After the expiration of the Quantification Settlement Agreement, to the extent conservation water projects implemented as part of the Quantification Settlement Agreement remain in effect, the conserved water created as part of those projects shall be credited against the obligations of the agricultural water supplier pursuant to this part.

Chapter 2. Definitions

10608.12. Unless the context otherwise requires, the following definitions govern the construction of this part:

(a) “Agricultural water supplier” means a water supplier, either publicly or privately owned, providing water to 10,000 or more irrigated acres, excluding recycled water. “Agricultural water supplier” includes a supplier or contractor for water, regardless of the basis of right, that distributes or sells water for ultimate resale to customers. “Agricultural water supplier” does not include the department.

(b) “Base daily per capita water use” means any of the following:

(1) The urban retail water supplier's estimate of its average gross water use, reported in gallons per capita per day and calculated over a continuous 10-year period ending no earlier than December 31, 2004, and no later than December 31, 2010.

(2) For an urban retail water supplier that meets at least 10 percent of its 2008 measured retail water demand through recycled water that is delivered within the service area of an urban retail water supplier or its urban wholesale water supplier, the urban retail water supplier may extend the calculation described in paragraph (1) up to an additional five years to a maximum of a continuous 15-year period ending no earlier than December 31, 2004, and no later than December 31, 2010.

(3) For the purposes of Section 10608.22, the urban retail water supplier's estimate of its average gross water use, reported in gallons per capita per day and calculated over a continuous five-year period ending no earlier than December 31, 2007, and no later than December 31, 2010.

(c) “Baseline commercial, industrial, and institutional water use” means an urban retail water supplier's base daily per capita water use for commercial, industrial, and institutional users.

(d) “Commercial water user” means a water user that provides or distributes a product or service.

(e) “Compliance daily per capita water use” means the gross water use during the final year of the reporting period, reported in gallons per capita per day.

(f) “Disadvantaged community” means a community with an annual median household income that is less than 80 percent of the statewide annual median household income.

(g) “Gross water use” means the total volume of water, whether treated or untreated, entering the distribution system of an urban retail water supplier, excluding all of the following:

(1) Recycled water that is delivered within the service area of an urban retail water supplier or its urban wholesale water supplier.

(2) The net volume of water that the urban retail water supplier places into long-term storage.

(3) The volume of water the urban retail water supplier conveys for use by another urban water supplier.

(4) The volume of water delivered for agricultural use, except as otherwise provided in subdivision (f) of Section 10608.24.

(h) “Industrial water user” means a water user that is primarily a manufacturer or processor of materials as defined by the North American Industry Classification System code sectors 31 to 33, inclusive, or an entity that is a water user primarily engaged in research and development.

(i) “Institutional water user” means a water user dedicated to public service. This type of user includes, among other users, higher education institutions, schools, courts, churches, hospitals, government facilities, and nonprofit research institutions.

(j) “Interim urban water use target” means the midpoint between the urban retail water supplier's base daily per capita water use and the urban retail water supplier's urban water use target for 2020.

(k) "Locally cost effective" means that the present value of the local benefits of implementing an agricultural efficiency water management practice is greater than or equal to the present value of the local cost of implementing that measure.

(l) "Process water" means water used for producing a product or product content or water used for research and development, including, but not limited to, continuous manufacturing processes, water used for testing and maintaining equipment used in producing a product or product content, and water used in combined heat and power facilities used in producing a product or product content. Process water does not mean incidental water uses not related to the production of a product or product content, including, but not limited to, water used for restrooms, landscaping, air conditioning, heating, kitchens, and laundry.

(m) "Recycled water" means recycled water, as defined in subdivision (n) of Section 13050, that is used to offset potable demand, including recycled water supplied for direct use and indirect potable reuse, that meets the following requirements, where applicable:

(1) For groundwater recharge, including recharge through spreading basins, water supplies that are all of the following:

(A) Metered.

(B) Developed through planned investment by the urban water supplier or a wastewater treatment agency.

(C) Treated to a minimum tertiary level.

(D) Delivered within the service area of an urban retail water supplier or its urban wholesale water supplier that helps an urban retail water supplier meet its urban water use target.

(2) For reservoir augmentation, water supplies that meet the criteria of paragraph (1) and are conveyed through a distribution system constructed specifically for recycled water.

(n) "Regional water resources management" means sources of supply resulting from watershed-based planning for sustainable local water reliability or any of the following alternative sources of water:

(1) The capture and reuse of stormwater or rainwater.

(2) The use of recycled water.

(3) The desalination of brackish groundwater.

(4) The conjunctive use of surface water and groundwater in a manner that is consistent with the safe yield of the groundwater basin.

(o) "Reporting period" means the years for which an urban retail water supplier reports compliance with the urban water use targets.

(p) "Urban retail water supplier" means a water supplier, either publicly or privately owned, that directly provides potable municipal water to more than 3,000 end users or that supplies more than 3,000 acre-feet of potable water annually at retail for municipal purposes.

(q) "Urban water use target" means the urban retail water supplier's targeted future daily per capita water use.

(r) "Urban wholesale water supplier," means a water supplier, either publicly or privately owned, that provides more than 3,000 acre-feet of water annually at wholesale for potable municipal purposes.

Chapter 3. Urban Retail Water Suppliers

10608.16.

(a) The state shall achieve a 20-percent reduction in urban per capita water use in California on or before December 31, 2020.

(b) The state shall make incremental progress towards the state target specified in subdivision (a) by reducing urban per capita water use by at least 10 percent on or before December 31, 2015.

10608.20.

(a) (1) Each urban retail water supplier shall develop urban water use targets and an interim urban water use target by July 1, 2011. Urban retail water suppliers may elect to determine and report progress toward achieving these targets on an individual or regional basis, as provided in subdivision (a) of Section 10608.28, and may determine the targets on a fiscal year or calendar year basis.

(2) It is the intent of the Legislature that the urban water use targets described in subdivision (a) cumulatively result in a 20-percent reduction from the baseline daily per capita water use by December 31, 2020.

(b) An urban retail water supplier shall adopt one of the following methods for determining its urban water use target pursuant to subdivision (a):

(1) Eighty percent of the urban retail water supplier's baseline per capita daily water use.

(2) The per capita daily water use that is estimated using the sum of the following performance standards:

(A) For indoor residential water use, 55 gallons per capita daily water use as a provisional standard. Upon completion of the department's 2016 report to the Legislature pursuant to Section 10608.42, this standard may be adjusted by the Legislature by statute.

(B) For landscape irrigated through dedicated or residential meters or connections, water efficiency equivalent to the standards of the Model Water Efficient Landscape Ordinance set forth in Chapter 2.7 (commencing with Section 490) of Division 2 of Title 23 of the California Code of Regulations, as in effect the later of the year of the landscape's installation or 1992. An urban retail water supplier using the approach specified in this subparagraph shall use satellite imagery, site visits, or other best available technology to develop an accurate estimate of landscaped areas.

(C) For commercial, industrial, and institutional uses, a 10-percent reduction in water use from the baseline commercial, industrial, and institutional water use by 2020.

(3) Ninety-five percent of the applicable state hydrologic region target, as set forth in the state's draft 20x2020 Water Conservation Plan (dated April 30, 2009). If the service area of an urban water supplier includes more than one hydrologic region, the supplier shall apportion its service area to each region based on population or area.

(4) A method that shall be identified and developed by the department, through a public process, and reported to the Legislature no later than December 31, 2010. The method developed by the department shall identify per capita targets that cumulatively result in a statewide 20-percent reduction in urban daily per capita water use by December 31, 2020. In developing urban daily per capita water use targets, the department shall do all of the following:

(A) Consider climatic differences within the state.

(B) Consider population density differences within the state.

(C) Provide flexibility to communities and regions in meeting the targets.

(D) Consider different levels of per capita water use according to plant water needs in different regions.

(E) Consider different levels of commercial, industrial, and institutional water use in different regions of the state.

(F) Avoid placing an undue hardship on communities that have implemented conservation measures or taken actions to keep per capita water use low.

(c) If the department adopts a regulation pursuant to paragraph (4) of subdivision (b) that results in a requirement that an urban retail water supplier achieve a reduction in daily per capita water use that is greater than 20 percent by December 31, 2020, an urban retail water supplier that adopted the method described in paragraph (4) of subdivision (b) may limit its urban water use target to a reduction of not more than 20 percent by December 31, 2020, by adopting the method described in paragraph (1) of subdivision (b).

(d) The department shall update the method described in paragraph (4) of subdivision (b) and report to the Legislature by December 31, 2014. An urban retail water supplier that adopted the method described in paragraph (4) of subdivision (b) may adopt a new urban daily per capita water use target pursuant to this updated method.

(e) An urban retail water supplier shall include in its urban water management plan required pursuant to Part 2.6 (commencing with Section 10610) due in 2010 the 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.

(f) When calculating per capita values for the purposes of this chapter, an urban retail water supplier shall determine population using federal, state, and local population reports and projections.

(g) An urban retail water supplier may update its 2020 urban water use target in its 2015 urban water management plan required pursuant to Part 2.6 (commencing with Section 10610).

(h) (1) The department, through a public process and in consultation with the California Urban Water Conservation Council, shall develop technical methodologies and criteria for the consistent implementation of this part, including, but not limited to, both of the following:

(A) Methodologies for calculating base daily per capita water use, baseline commercial, industrial, and institutional water use, compliance daily per capita water use, gross water use, service area population, indoor residential water use, and landscaped area water use.

(B) Criteria for adjustments pursuant to subdivisions (d) and (e) of Section 10608.24.

(2) The department shall post the methodologies and criteria developed pursuant to this subdivision on its Internet Web site, and make written copies

available, by October 1, 2010. An urban retail water supplier shall use the methods developed by the department in compliance with this part.

(i) (1) The department shall adopt regulations for implementation of the provisions relating to process water in accordance with subdivision (l) of Section 10608.12, subdivision (e) of Section 10608.24, and subdivision (d) of Section 10608.26.

(2) The initial adoption of a regulation authorized by this subdivision is deemed to address an emergency, for purposes of Sections 11346.1 and 11349.6 of the Government Code, and the department is hereby exempted for that purpose from the requirements of subdivision (b) of Section 11346.1 of the Government Code. After the initial adoption of an emergency regulation pursuant to this subdivision, the department shall not request approval from the Office of Administrative Law to readopt the regulation as an emergency regulation pursuant to Section 11346.1 of the Government Code.

(j) An urban retail water supplier shall be granted an extension to July 1, 2011, for adoption of an urban water management plan pursuant to Part 2.6 (commencing with Section 10610) due in 2010 to allow use of technical methodologies developed by the department pursuant to paragraph (4) of subdivision (b) and subdivision (h). An urban retail water supplier that adopts an urban water management plan due in 2010 that does not use the methodologies developed by the department pursuant to subdivision (h) shall amend the plan by July 1, 2011, to comply with this part.

10608.22. Notwithstanding the method adopted by an urban retail water supplier pursuant to Section 10608.20, an urban retail water supplier's per capita daily water use reduction shall be no less than 5 percent of base daily per capita water use as defined in paragraph (3) of subdivision (b) of Section 10608.12. This section does not apply to an urban retail water supplier with a base daily per capita water use at or below 100 gallons per capita per day.

10608.24.

(a) Each urban retail water supplier shall meet its interim urban water use target by December 31, 2015.

(b) Each urban retail water supplier shall meet its urban water use target by December 31, 2020.

(c) An urban retail water supplier's compliance daily per capita water use shall be the measure of progress toward achievement of its urban water use target.

(d) (1) When determining compliance daily per capita water use, an urban retail water supplier may consider the following factors:

(A) Differences in evapotranspiration and rainfall in the baseline period compared to the compliance reporting period.

(B) Substantial changes to commercial or industrial water use resulting from increased business output and economic development that have occurred during the reporting period.

(C) Substantial changes to institutional water use resulting from fire suppression services or other extraordinary events, or from new or expanded operations, that have occurred during the reporting period.

(2) If the urban retail water supplier elects to adjust its estimate of compliance daily per capita water use due to one or more of the factors described in paragraph (1), it shall provide the basis for, and data supporting, the adjustment in the report required by Section 10608.40.

(e) When developing the urban water use target pursuant to Section 10608.20, an urban retail water supplier that has a substantial percentage of industrial water use in its service area, may exclude process water from the calculation of gross water use to avoid a disproportionate burden on another customer sector.

(f) (1) An urban retail water supplier that includes agricultural water use in an urban water management plan pursuant to Part 2.6 (commencing with Section 10610) may include the agricultural water use in determining gross water use. An urban retail water supplier that includes agricultural water use in determining gross water use and develops its urban water use target pursuant to paragraph (2) of subdivision (b) of Section 10608.20 shall use a water efficient standard for agricultural irrigation of 100 percent of reference evapotranspiration multiplied by the crop coefficient for irrigated acres.

(2) An urban retail water supplier, that is also an agricultural water supplier, is not subject to the requirements of Chapter 4 (commencing with Section 10608.48), if the agricultural water use is incorporated into its urban water use target pursuant to paragraph (1).

10608.26.

(a) In complying with this part, an urban retail water supplier shall conduct at least one public hearing to accomplish all of the following:

(1) Allow community input regarding the urban retail water supplier's implementation plan for complying with this part.

(2) Consider the economic impacts of the urban retail water supplier's implementation plan for complying with this part.

(3) Adopt a method, pursuant to subdivision (b) of Section 10608.20, for determining its urban water use target.

(b) In complying with this part, an urban retail water supplier may meet its urban water use target through efficiency improvements in any combination among its customer sectors. An urban retail water supplier shall avoid placing a disproportionate burden on any customer sector.

(c) For an urban retail water supplier that supplies water to a United States Department of Defense military installation, the urban retail water supplier's implementation plan for complying with this part shall consider the United States Department of Defense military installation's requirements under federal Executive Order 13423.

(d) (1) Any ordinance or resolution adopted by an urban retail water supplier after the effective date of this section shall not require existing customers as of the effective date of this section, to undertake changes in product formulation, operations, or equipment that would reduce process water use, but may provide technical assistance and financial incentives to those customers to implement efficiency measures for process water. This section shall not limit an ordinance or resolution adopted pursuant to a declaration of drought emergency by an urban retail water supplier.

(2) This part shall not be construed or enforced so as to interfere with the requirements of Chapter 4 (commencing with Section 113980) to Chapter 13 (commencing with Section 114380), inclusive, of Part 7 of Division 104 of the Health and Safety Code, or any requirement or standard for the protection of public health, public safety, or worker safety established by federal, state, or local government or recommended by recognized standard setting organizations or trade associations.

10608.28.

(a) An urban retail water supplier may meet its urban water use target within its retail service area, or through mutual agreement, by any of the following:

(1) Through an urban wholesale water supplier.

(2) Through a regional agency authorized to plan and implement water conservation, including, but not limited to, an agency established under the Bay Area Water Supply and Conservation Agency Act (Division 31 (commencing with Section 81300)).

(3) Through a regional water management group as defined in Section 10537.

(4) By an integrated regional water management funding area.

(5) By hydrologic region.

(6) Through other appropriate geographic scales for which computation methods have been developed by the department.

(b) A regional water management group, with the written consent of its member agencies, may undertake any or all planning, reporting, and implementation functions under this chapter for the member agencies that consent to those activities. Any data or reports shall provide information both for the regional water management group and separately for each consenting urban retail water supplier and urban wholesale water supplier.

10608.32. All costs incurred pursuant to this part by a water utility regulated by the Public Utilities Commission may be recoverable in rates subject to review and approval by the Public Utilities Commission, and may be recorded in a memorandum account and reviewed for reasonableness by the Public Utilities Commission.

10608.36. Urban wholesale water suppliers shall include in the urban water management plans required pursuant to Part 2.6 (commencing with Section 10610) an assessment of their present and proposed future measures, programs, and policies to help achieve the water use reductions required by this part.

10608.40. Urban water retail suppliers shall report to the department on their progress in meeting their urban water use targets as part of their urban water management plans submitted pursuant to Section 10631. The data shall be reported using a standardized form developed pursuant to Section 10608.52.

10608.42. The department shall review the 2015 urban water management plans and report to the Legislature by December 31, 2016, on progress towards achieving a 20-percent reduction in urban water use by December 31, 2020. The report shall include recommendations on changes to water efficiency standards or urban water use targets in order to achieve the 20-percent reduction and to reflect updated efficiency information and technology changes.

10608.43. The department, in conjunction with the California Urban Water Conservation Council, by April 1, 2010, shall convene a representative task force consisting of academic experts, urban retail water suppliers, environmental organizations, commercial water users, industrial water users, and institutional water users to develop alternative best management practices for commercial, industrial, and institutional users and an assessment of the potential statewide water use efficiency improvement in the commercial, industrial, and institutional sectors that would result from implementation of these best management practices. The taskforce, in conjunction with the department, shall submit a report to the Legislature by April 1, 2012, that shall include a review of multiple sectors within commercial, industrial, and institutional users and that shall recommend water use efficiency standards for

commercial, industrial, and institutional users among various sectors of water use. The report shall include, but not be limited to, the following:

(a) Appropriate metrics for evaluating commercial, industrial, and institutional water use.

(b) Evaluation of water demands for manufacturing processes, goods, and cooling.

(c) Evaluation of public infrastructure necessary for delivery of recycled water to the commercial, industrial, and institutional sectors.

(d) Evaluation of institutional and economic barriers to increased recycled water use within the commercial, industrial, and institutional sectors.

(e) Identification of technical feasibility and cost of the best management practices to achieve more efficient water use statewide in the commercial, industrial, and institutional sectors that is consistent with the public interest and reflects past investments in water use efficiency.

10608.44. Each state agency shall reduce water use on facilities it operates to support urban retail water suppliers in meeting the target identified in Section 10608.16.

Appendix B

Stakeholder Notification

CITY OF LA VERNE
CITY HALL
3660 "D" Street, La Verne, California 91750-3599
www.ci.la-verne.ca.us

March 16, 2011

County of Los Angeles
Chief Executive Officer, William Fujioka
713 Kenneth Hahn Hall of Administration
500 West Temple Street
Los Angeles 90012

Subject: Notification of the Preparation of a 2010 Urban Water Management Plan for the City of La Verne

Dear Mr. Fujioka,

The California Urban Water Management Planning Act requires water suppliers providing water to 3,000 or more customers to update and adopt an Urban Water Management Plan (UWMP) every five years. The plan aids water utilities in assessing their water resource needs to ensure the appropriate level of service reliability as well as the capacity to meet customer demand. Pursuant to §10621(b) of the California Water Code, the City of La Verne is providing notification of the preparation of the 2010 Urban Water Management Plan (UWMP) in compliance with the Urban Water Management Planning Act.

This notification is intended to inform interested parties of the opportunity to consult with and submit comments for consideration by the City of La Verne regarding the UWMP during the review process. The City Council is tentatively scheduled to hold a public hearing on Monday, May 16, 2011. If your agency should wish to participate in the drafting of the UWMP, please contact me no later than April 15, 2011. I can be reached by email at jranells@ci.la-verne.ca.us or by phone at (909) 596-8741.

Sincerely,

JR Ranells
Sr. Management Analyst

All stakeholders receiving notification of intent to update the La Verne UWMP

- MWD-P.O. Box 54153 Los Angeles, CA 90054-0153
- TVMWD-1021 E Miramar Avenue Claremont, CA 91711
- Golden State Water Company- 630 E. Foothill Blvd., San Dimas, CA 91773
- LA County-500 W. Temple St. Los Angeles, CA 90012
- Sanitation Dist.- P.O. Box 4998 Whittier, CA 90607-4998
- California Dept. of Water Resources-P.O. Box 942836 Sacramento, CA 94236
- Bonita Unified -115 W Allen Ave San Dimas, CA 91773
- University of La Verne-1950 Third Street La Verne, CA 91750
- Hillcrest -2705 Mountain View Drive La Verne, CA 91750
- La Verne Chamber of Commerce-2078 Bonita Ave La Verne, CA 91750

Appendix C

Comments and Responses

La Verne 2010 UWMP
Initial Draft Review

Source	Section	Comment	Response
JR	1.11	Title for JR Ranells is actually a Sr. Management Analy:	Concur
JR	2.1	In second paragraph there is a population number from CA DOF of 32,233. We should be consistent and use the latest Census data of 31,06:	All references to population moved to appropriate sections and updated per 2010 US Census.
JR	2.1	Remove 3rd, 4th, and 5th paragraph as they are repetitive. Information is already captured in the second paragraph	Concur
JR	2.2	beginning of section 2.2 with "The service area is…." I would use a different wor than coincident (maybe analogous or similar)	"Coincident" is a term from geometry which refers to two curves of the same shape which occupy the same space. It precisely describes the relationship between portions of the service area boundary and the incorporated boundary. "Analogous" implies equivalent function which is not the case here. "Similar" implies a lack of precision which is not the case here. The following terms provide more common language while avoiding possible confusion related to the introduction of mathematical vocabulary: same, identical, matching Suggest: "The service area boundary is identical to the City of La Verne incorporated boundary with the following exceptions:"
JR	2.5.1-2.5.8	Not happy with the use of these sections, nor do I completely understand the purpose of using them. I would suggest either rewriting or removing them all together unless required to have information include	removed
JR	3.5	paragraph 4 the population number used is again different. Is this the service area population number you calculated after eliminating GS State customers and adding County areas served by La Verne?	recalculated based on service area population of 28,932 in 2010 and prjected population in Table 2.
JR	4.2.1	section names Southern California Water Company but their name has changed to Golden State Water Co	Updated agency name throughout.
JR	4.2.3	under the 3rd line same issue with not using Golden State	Updated agency name.
JR	4.3.3	awkward spacing with possible missing information and intermittent bold use	Formatting corrected.
JR	4.3.4	missing or incomplete bullets	Formatting corrected.
JR	5.3	at the end of paragraph 1 there is mention of no TVMWD ground water. They now have a well at Miramar treatment plant. Please contact them for more details	Updated per TVMWD 2010 UWMP Draft: More recently, a groundwater production well was drilled at the Miramar site and now augments the imported water production of the plant. The well provides about 4% of the total output of the plant.
JR	5.3	second paragraph quotes Miramar AF cost = $478 in 2004. Current cost as of 2010 is $754 and will be increasing to $793 in 201	Imported water rates omitted.
JR	5.3	start of third paragraph uses "Table 9 below" there is no table 9 for this section	Adjusted accordingly.

JR = James Ranells, City of La Verne Senior Management Analyst
DT = Donald Tom, Los Angeles County Sanitation Districts

La Verne 2010 UWMP
Initial Draft Review

Source	Section	Comment	Response
JR	5.3	remove TVMWD phone number in second paragraph for security purposes	Concur
JR	5.5	Second to last paragraph talks about 50 year agreement that expires in December of 2006. This agreement was extended an additional 50 years to 2056 with no additional changes	Moved to Section 6.3.2. Updated: The original agreement continued for 50 years through 2006 when it was extended an additional 50 through 2056 with no additional changes. The new agreement will continue through 2006, unless earlier terminated in accordance with the provisions of the agreement, and may be extended, as the contracting public agencies so desire.
JR	5.5	Same issue on page 34 in first second and 4th paragraph	Moved to Section 6.3.2. Updated: The lease started July 1, 1960, and has been extended through 2056.
JR	5.5	6th paragraph needs to be updated with new Amherst information. Have requeste from Jerry and he should get to me next week	Well capacity updated per 2010 Water Master Plan Draft in Section 5.4 - Groundwater (see Table 18). Treatment Capacity updated per 2010 Water Master Plan Draft in Section 6.4 - Water Quality.
JR	5.5	Bottom sections need to be updated with new information from MWD	Imported Water reliability updated per TVMWD 2010 UWMP Draft in Section 6.3 - Potential Supply Issues and Constraint
JR	5.5	Table 20 will be 0 as there will not be any transfers or exchanges	Adjusted accordingly
JR	5.7	No recycled water use projected or otherwise	Adjusted recycled water opportunities accordingly. Updated Section 5.8 - Other Future Water Projects per 2010 Water Master Plan Draf
JR	7.1	BMP's are being worked on and will be 09' & 10'	Probably eliminate CUWCC report due to delays. Will provide language and estimate of effectiveness: Coordination and reporting with CUWCC has been delayed for FY 2009-10. Technical difficulties with its new automated and interactive website have resulted in the temporary interruption of timely reporting by CUWCC on La Verne's behalf. Consequently, CUWCC's input on BMP effectiveness for FY 2009-10 was not available at the time of the adoption of this UWMP. As estimate of BMP effectiveness has been provided in Section 7.15 in lieu of the CUWCC report. La Verne will compare this estimate to the conclusions of CUWCC upon availability of the report.
JR	7.2	End of section 7.2 details process of surveying customers. The City has actually completed one survey and retrofit program and is currently in the process of another. This program targets the top 1% of residential users and provides a detailed outdoor audit. Also provides a new WBIC as well as water conserving rotating sprinkler nozzles.	Updated: The City has recently completed a survey and retrofit program The city is in the process of implementing another survey and retrofit program. This program targets the top 1% of residential users and provides a detailed outdoor audit. Installation of a Weather Based Irrigation Controller (WBIC) and water conserving rotating sprinkler nozzles will be provided.
JR	7.4	the City has also hired someone specifically for leak detection and water loss purposes to help City with this issue. Results have been very effective in cutting losses	Updated: The City has hired a contractor to perform leak detection and water loss audits. Results have been very effective in reducing water losses.

JR = James Ranells, City of La Verne Senior Management Analyst
DT = Donald Tom, Los Angeles County Sanitation Districts

La Verne 2010 UWMP
Initial Draft Review

Source	Section	Comment	Response
JR	7.7	the City has exhausted this program after providing it for 10 year	Updated: The City has exhausted this program after offering it for ten years
JR	7.12	please include information about the City's recent use of conservation surcharge penalties and success of reducing overall use by 15%	Update: The City recently implemented water conservation surcharge penalties for excessive use which is credited for reducing overall water use by 15%
JR	7.14	the City also provided an event where 200 toilets were distributed in May of 2009	Updated: In May 2009, the City provided an event where 200 ULFTs were distributed.
DT	5.7.1	1st paragraph: Wastewater generated within the City of La Verne iscollected in City sewers and discharged to a regional trunk sewer pipeline owned bythe Los Angeles County Sanitation Districts (LACSD) where it flows by gravity to either the Pomona Water Reclamation Plant (WRP) or the San Jose Creek WRP. Per LACSD, these facilities have the physical and performance characteristics as shown in Table 21	Updated: Wastewater generated within the City of La Verne is collected in City sewers and discharged to a regional trunk sewer pipeline owned by the Los Angeles County Sanitation Districts (LACSD) where it flows by gravity to either the Pomona Water Reclamation Plant (WRP) or the San Jose Creek WRP. Per LACSD, these facilities have the physical and performance characteristics as shown in Table 21.
DT	5.7.1	2nd & 3rd paragraphs: Shouldn't these paragraphs be in the next section (§5.7.2)? In the 2nd paragraph, 1st sentence, is "Pomona" the City of Pomona?	Moved to Section 5.7.2 and updated: Development of recycled water use is proceeding rapidly in the City of Pomona and in Walnut Valley Water District. As a result of these activities, it is anticipated that 100% of the recycled produced at the Pomona WRP will be reused locally. At this time, the development of recycled water distribution infrastructure to transport recycled water from the San Jose Creek WRP, which is more than 15 miles away from La Verne, has been found to be economically infeasible. As such, there are no plans for the development of recycled water during the 20-year planning horizon of this UWMP because nearby recycled water production at Pomona is unavailable and more distant recycle water production at San Jose Creek is too far away.
DT	5.7.3	Rewrite and keep it general because the JPA is being dissolved and USGVMWD pulled out of the project. I suggest saying something like the local purveyors are planning to expand the recycled water supply/availability for groundwater replenishment purposes	Updated: Local purveyors are planning to expand recycled water availability for groundwate replenishment purposes as part of the Groundwater Reliability Improvement Project (GRIP). The project includes the development 25,000 AFY of recycled water at the San Jose Creek Water Reclamation Plant.

JR = James Ranells, City of La Verne Senior Management Analyst
DT = Donald Tom, Los Angeles County Sanitation Districts

La Verne 2010 UWMP
Final Draft Review

Source	Draft Page	Section	Comment	Response
JR	2	Table of Contents	5.4.1 “Liver” Oak should be Live Oak	Concur
JR	2	Table of Contents	6.4.2 Consumptive Reduction(eliminate s)	Concur
BK	5	Contact Info	Preparer address is Lime not Line	Concur
DK	5	Contact Info	Change District in heading to City	Concur
JR	6	Executive Summary	6th paragraph last line – use Director of Community Development instead of City Planner, Sr. Management Analyst for City Analyst	Updated (see also Section 1.5): Individuals consulted representing the various internal City departments include the Director of Community Development, the City Attorney, the Senior Management Analyst and the Director of Public Works.
JR	7	Executive Summary	first sentence under Demand heading add “of the” after bulk	Concur
JR	7	Executive Summary	sentence under water use table should reduction(eliminate s)	Concur
BK	7	Executive Summary	second sentence institutes should be institutions	Concur
JR	8	Executive Summary	sentence below water supply table add “with” the local …..	Concur
DK	8	Executive Summary	in second to the last paragraph last sentence make the sentence read La Verne is an original signatory….	Updated: La Verne is an original signatory to CUWCC’s Memorandum of Understanding Regarding Urban Water Conservation Best Management Practices (MOU) and reports annually its progress toward the reasonable implementation of water conservation Best Management Practices (BMP).
JR	9	Executive Summary	second sentence should start with An not as	Concur
JR	9	Executive Summary	second from bottom paragraph This estimated water use reduction will result (add in) a water use ….	Concur
JR	11	1.2	4th paragraph prior (add to) the construction…	Concur
JR	12	1.4	sentence above Table 1 La Verne(add ‘s)	Concur
JR	12	1.4	Add TVMWD to receiving copy of Draft in table	So noted.
JR	13		add “which” between Table 1 and provides in first sentence not in italics	Corrected formatting issue
JR	13		La Verne(add ‘s) in first sentence	Corrected formatting issue
JR	13		second paragraph first sentence not complete or awkward sentence	Corrected formatting issue
JR	13	1.5	second paragraph use Community Development Director & Sr. Management Analyst	Updated (see also Executive Summary, page 6): Individuals consulted representing the various internal City departments include the Director of Community Development, the City Attorney, the Senior Management Analyst and the Director of Public Works.
JR	13	1.6	sentence under 1.6 Adoption change Reso # to 11-39 I will send the Reso.	So noted.

DK = Dan Keesey, City of La Verne Director of Public Works
JR = James Ranells, City of La Verne Senior Management Analyst
BK = Bob Kress, City of La Verne City Attorney

La Verne 2010 UWMP
Final Draft Review

Source	Draft Page	Section	Comment	Response
JR	17	2.2	Under the third bullet, I'm not familiar with something called the Marshall Cyn. Tree Farm.	There is an existing tree farm in Marshall Canyon currently receiving service from Los Angeles County via a master meter serviced by La Verne. Updated: Water is supplied to Marshall Canyon via a dedicated Los Angeles County master meter. Los Angeles County maintains and manages all water distribution downstream of the master meter including service connections at the Marshall Canyon Golf Course, the Fred M. Palmer Marshall Canyon Equestrian Center, the Marshall Canyon Tree Farm and the Los Angeles County Probation Department Camp Joseph M. Paige Juvenile Detention Facility. Service connections to these facilities are located in unincorporated Los Angeles County and within the City's sphere of influence.
BK	18		Legend refers to Southern California Water Co instead of Golden State	Updated Legend to: Golden State Water Company, Updated Title to Service Area Boundary
JR	21	3.1	3.1 General Description first sentence add of the between bulk and city's	Concur
JR	22		fifth bullet add the before CUWCC	Concur
JR	28	4.3	Sec 4.3 before bullets on the word sector(add 's)	Concur
JR	29	4.3.3	Sec. 4.33 formatting issue with sentence ending separately	Corrected formatting issue
DK	29	4.3.1	Under 4.3.1 Metering Savings Dan's comment was "What about meter accuracies? We've invested more than $500K in meter replacement	Section 4.3.1 refers to potential savings of installing meters at connections where no meters currently exist. Updated Section 7.4: There are programs in place for the inspection, repair and replacement of aging distribution and supply infrastructure as well as the inspection, calibration and replacement of service meters including the installation of Automatic Meter Reading (AMR) devices. The City has invested more than $500,000 in meter replacement greatly improving accuracy. The City continually monitors meter telemetry for anomalies, which may be caused by a sudden change in water use behavior, unauthorized use, an inaccurate meter or a leak. Any identified leaks are immediately repaired.
JR	30	4.3.4	4th bullet formatting issue should be end of 3rd	Corrected formatting issue
DK	31	4.5	First paragraph the baseline should be 268.2 not 258.2	Concur
JR	32	4.6	second paragraph "reduction will result add in here) a water ….	Concur
JR	33	5.2	make Three Valley plural under 5.2 Water Sources	Concur
JR	34	5.3	4th and last paragraph under the bullets remove the after La Verne's	Concur
DK	35	5.4	In the last paragraph first sentence change 7.73% to 7.6015%	So noted.
JR	38	5.4.1	5.4.1 Live Oak Basin not Liver	Concur
JR	38	5.4.4	5.4.4 first sentence make year years	Concur
JR	38	5.4.4	last sentence should be la Verne's not Verve's	Concur
BK	39	5.5	Under Transfer Opportunities the City Attorney questioned whether we truly didn't have any opportunities but it is accurate as is.	Civiltec conferred with JR. There are no known opportunities at this time.
DK	39	5.4.4	in the first paragraph second sentence eliminate "and MWD" add an s to continue and eliminate "and conjunctive use"	Updated: As La Verne continues to develop these basins for groundwater production, it is anticipated that a greater understanding of the respective safe yields will emerge.
JR	41	5.7.2	add "the" before City at the end of the first sentence after bullets	Concur

DK = Dan Keesey, City of La Verne Director of Public Works
JR = James Ranells, City of La Verne Senior Management Analyst
BK = Bob Kress, City of La Verne City Attorney

La Verne 2010 UWMP
Final Draft Review

Source	Draft Page	Section	Comment	Response
BK	41	5.7.2	Remove 1 tree farm from bullet – the only one we are aware of doesn't exist any longer	The Marshall Canyon Tree Farm is within the Sphere of Influence of the City; however, service is provided indirectly via Los Angeles County. Civiltec has confirmed that the Tree Farm exists and recommends that the reference remains.
DK	41	5.7.2	change third bullet to 2 golf courses	Concur: Marshall Canyon Golf Course & Sierra La Verne Golf Course
JR	42	5.8.2	5.8.2 add "to" in first sentence between related and local	Concur
DK	42	5.8.4	Change 5.8.4 to read "An ion exchange treatment plant is being evaluated for construction at the City's White…..	Updated: An ion exchange treatment plant is being evaluated for construction at the City's White Avenue Plant location.
DK	42	5.8.5	Dan doesn't agree with 5.8.5 Summary of Future Projects. His comment is that any of the projects could increase supply (ie larger capacity well, treatment plant affords ability to fully use local sources.	Updated: La Verne has exclusive rights to groundwater extracted from the Live Oak Basin and the Ganesha Basin. The safe yield from these basins is unknown at this time. Improvements to water treatment capacity will increase the City's ability to further develop these exclusive rights; however, the amount of increased production is complicated to predict. For purposes of this UWMP, the safe yield of the respective basins is considered to be equivalent to the maximum historical annual production from each basin. As a result, none of the four projects described above is expected to increase supply. Rather, they are intended to replace aging infrastructure, improve supply reliability and provide flexibility of system operations. As a result, the net increase in supply is anticipated to be zero, pending continued development of the Live Oak Basin and the Ganesha Basin.
JR	43	6.1	first sentence change provided to provide	Concur
JR	43	6.2	first sentence under 6.2 is awkward (has been derived the data set"?	Updated: Table 22 provides historical data for La Verne's annual supply and for annual precipitation measured at San Antonio Dam for the 19-year period from the 1992 through 2010. Runoff in the vicinity of the San Antonio Dam directly influences the Six Basins; therefore, this data source was considered the most pertinent to La Verne's water reliability under varying supply conditions. In the sections that follow, normal, dry and multiple dry years have been identified, and the demands associated with La Verne's response to those supply conditions have been quantified.
JR	46	6.2.4	Capitalize all bullets to remain consistent with the rest of the plan	Concur
DK	46	6.2.4	third bullet under 6.2.4 change 7.73% to 7.6015 and the (1430) to (1406)	So noted. Adjusted Table 25 accordingly.
DK	47	6.2.5	third bullet change 7.73% to 7.6015 and sub bullets as follows	So noted. Adjusted Table 26 accordingly.
DK	47	6.2.5	· (1855 to 1824)	So noted.
DK	47	6.2.5	· (1701 to 1672)	So noted.
DK	47	6.2.5	· (1701 to 1672)	So noted.
DK	47	6.2.5	· (1507 to 1482)	So noted.
DK	47	6.2.5	· (1391 to 1368)	So noted.
JR	48		move bullet at bottom to next page	Corrected formatting issue
JR	51	6.3.2	I would add Water District to Rowland in the third paragraph	Changed to RWD

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La Verne 2010 UWMP
Final Draft Review

Source	Draft Page	Section	Comment	Response
JR	51	6.3.3	second sentence first paragraph under 6.3.3 add of between monitoring all groundwater	Concur
JR	51	6.3.3	second paragraph under 6.3.3 add "at" between treated this facility	Concur
JR	51	6.3.3	last line remove the word at "with imported water at via a static mixer…	Concur
DK	51	6.3.3	second to last paragraph change groundwater at a rate of up to 2750 not 2,000 and 3,200 AFY to 4430	So noted.
JR	52	6.3.3	third paragraph change resulting to resulted and add in	Concur
JR	52	6.3.3	fourth paragraph second sentence change "through" to "though"	Concur
JR	52	6.3.4	6.3.3 is already used on page 51	Renumbered as 6.3.4
JR	54	6.4.1	last paragraph third sentence remove "of these"	Concur
JR	59	6.4.3	#2 make equipments singular	Concur
JR	59	6.4.3	Phase IV #2 end of sentence refers to II-6? Not sure what that is	Updated: 1. The same restrictions identified for Phase II apply with the exception of irrigation restrictions (see below).
JR	60	6.4.3	II-6 used under phase V – Phase VI – Phase VII and Phase VIII	Updated: 1. The same restrictions identified for Phase II apply with the exception of irrigation restrictions (see below).
JR	60	6.4.3	Phase VIII #2 change irritation to irrigation	Concur
JR	61	6.4.4	6.4.4 change City Reserved to reserves	Concur
JR	61	6.5	Capitalize the bullets	Concur
DK	61	6.5	third bullet at bottom of page change 7.73% to 7.6015 and revise sub bullets as necessary	So noted. Updated Table 36 accordingly.
JR	63	7.1	Change As in last paragraph to An estimate of BMP…	Concur
DK	63	7.1	First regular paragraph second sentence make the sentence read La Verne is an original signatory	So noted.
JR	64	7.2	7.2 add to second separate line that surveys were offered to 100 customers and given to over 50	Updated: The City has recently completed a survey and retrofit program. Surveys were offered to 100 customers and provided to over 50.
JR	65	7.6	third line eliminate "with"	Concur
DK	65	7.6	second paragraph adjust language to state that the City is currently developing an ordinance addressing water efficient landscaping but is currently regulated by the State of California's Landscape Ordinance	Update: The City is currently developing an ordinance addressing water efficient landscaping. Until adoption of this ordinance, the City is regulated by the State of California's Landscape Ordinance (see Appendix K). Added Appendix K - AB 1881, Water Conservation in Landscaping Act
JR	66	7.1	third paragraph under 7.10 end the first sentence after relatively new and eliminate the rest of that sentence	Updated: CII type businesses in La Verne are relatively new. At the time of construction of these facilities, legislation was in place that required low-flow fixtures and toilets.
JR	67	7.11	If possible make Table 37 all on one page.	Not practical

DK = Dan Keesey, City of La Verne Director of Public Works
JR = James Ranells, City of La Verne Senior Management Analyst
BK = Bob Kress, City of La Verne City Attorney

Appendix D

Notification of Public Review

CITY OF LA VERNE
CITY HALL
3660 "D" Street, La Verne, California 91750-3599
www.ci la-verne ca us

NOTICE OF PUBLIC HEARING
BEFORE THE LA VERNE
CITY COUNCIL

NOTICE IS HEREBY GIVEN of a public hearing to be held before the La Verne City Council on Monday, June 6, 2011, at 6 30 p m , in the City Council Chamber of the La Verne City Hall, 3660 "D" Street, La Verne, on the following matter:

Adoption of the City of La Verne's 2010 Urban Water Management Plan

This project is exempt from the California Environmental Quality Act pursuant to Water Code Section 10652

A copy of the Draft Urban Water Management Plan is available for public review in the office of the City Clerk during regular business hours Any person interested in the above proceedings may appear at the time and place indicated to testify in support of, or in opposition to, the item Written comments will be accepted and should be received no later than June 3, 2011, and be addressed to the individual noted below If you desire additional information or have any questions, please feel free to contact the La Verne Public Works Department at (909) 596-8741

EVELYN CLARK, MMC
CLERK

By JR Ranells
Sr. Management Analyst

DATED this 23rd day
of May, 2011

PUBLISH In the Inland Daily Bulletin, May 23, & 30, 2011

I declare under pen[illegible] of perjury that I am employed by the Ci[illegible] of La Verne in the city clerk department; and that I posted this Public Notice at La Verne City Hall ~~at~~ LVPD, Library Library

05-23-11 Lupe Estrella
Date Signature

Appendix E

Resolution of Adoption

RESOLUTION NO. 11-62

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF LA VERNE, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, APPROVING AND ADOPTING THE 2010 URBAN WATER MANAGEMENT PLAN

WHEREAS, the California Legislature enacted Assembly Bill 797 and as amended subsequently (Water Code Section 10610 et seq., known as the Urban Water Management Planning Act), which mandates that every supplier providing water for municipal purposes to more than 3,000 customers prepare an Urban Water Management Plan; and

WHEREAS, the primary objective of this document is to plan for conservation and efficient use of water; and

WHEREAS, the City has therefore prepared and circulated for public review a draft Urban Water Management Plan; and

WHEREAS, notice of public hearing regarding said plan was published on May 23rd and May 30th, 2011 in the Inland Valley Daily Bulletin and said hearing was held by the City Council on June 20, 2011; and

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF LA VERNE DOES RESOLVE AS FOLLOWS:

Section 1. That the City of La Verne 2010 Urban Water Management Plan is hereby, approved and ordered filed with the City Clerk by the La Verne City Council, said plan being in form and attached hereto and made a part hereof by reference as though the same were set forth in full herein.

Section 2. The City Council HEREBY FINDS and DETERMINES that approval of this Urban Water Management Plan is exempt from environmental review under Section 10652 of the California Water Code.

Section 3. That the Mayor shall sign and the City Clerk shall certify to the passage and adoption of this Resolution.

PASSED, APPROVED AND ADOPTED this 20th day of June 2011 by the following vote:

AYES:
NOES:
ABSENT:
ABSTAIN:

_____
Mayor of the City of La Verne

ATTEST:

_____
City Clerk

Appendix F

Six Basins Judgment

Appendix B

SCOTT S. SLATER, ESQ. (State Bar No. 117317)
ROBERT J. SAPERSTEIN, ESQ. (State Bar No. 166051)
HATCH AND PARENT, PC
21 East Carrillo Street
Santa Barbara, CA 93101
Telephone: (805) 963-7000

Attorneys for Plaintiff,
Special Counsel for Southern California Water Company

FILED
NGELES SUPERIOR
DEC 18 1998
JOHN A. CLARKE, CLERK

SUPERIOR COURT OF THE STATE OF CALIFORNIA

FOR THE COUNTY OF LOS ANGELES

SOUTHERN CALIFORNIA WATER COMPANY Plaintiff, vs. CITY OF LA VERNE, CITY OF CLAREMONT, CITY OF POMONA, CITY OF UPLAND, POMONA COLLEGE, POMONA VALLEY PROTECTIVE ASSOCIATION, SAN ANTONIO WATER COMPANY, SIMPSON PAPER COMPANY, THREE VALLEYS MUNICIPAL WATER DISTRICT, WEST END CONSOLIDATED WATER COMPANY, and DOES 1 through 1,000, Inclusive, Respondents and Defendants.	**CASE NO.** KC029152 Assigned for All Purposes to Judge William O. McVittie Department O **(Complaint Filed, September 28, 1998)** **JUDGMENT**

THE DOCUMENT TO WHICH THIS CERTIFICATE IS ATTACHED IS A FULL, TRUE, AND CORRECT COPY OF THE ORIGINAL ON FILE AND OF RECORD IN MY OFFICE.

ATTEST DEC 18 1998

JOHN A. CLARKE

Executive Officer/Clerk of the Superior Court of California, County of Los Angeles

By _____, Deputy

C. MORALES

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PRELIMINARY FINDINGS

A. Complaint.

The Southern California Water Company ("SCWC"), (or "Plaintiff"), and the City of La Verne ("La Verne"), City of Claremont ("Claremont"), City of Pomona ("Pomona"), City of Upland ("Upland"), Pomona College ("Pomona College"), Pomona Valley Protective Association ("PVPA"), San Antonio Water Company ("San Antonio"), Simpson Paper Company ("Simpson"), Three Valleys Municipal Water District ("TVMWD"), West End Consolidated Water Company ("West End"), collectively (Defendants) either:

i. account for essentially all of the current production of groundwater from or the replenishment to the Canyon Basin, the Upper Claremont Heights Basin, the Lower Claremont Heights Basin, the Pomona Basin, the Live Oak Basin and the Ganesha Basin ("Six Basins Area"), located in Los Angeles and San Bernardino Counties, and described in Exhibits "A,"and "B" attached hereto, and further defined in Judgment Section I(A) below; or

ii. are public agencies with an interest in the efficient and responsible management of groundwater resources within the Six Basins.

On or about September 28, 1998 the Plaintiff filed a complaint against Defendants and Does 1 through 1,000 requesting a declaration of their individual and collective rights to groundwater and a mandatory and prohibitory injunction requiring the reasonable use and equitable management of groundwater within the Six Basins pursuant to *Article X, Section 2 of the California Constitution*. The pleadings further allege that the Plaintiff and Defendants collectively claim substantially all rights of groundwater use, replenishment and storage within the Six Basins Area, that the available Safe Yield (as defined in Judgment Section I(A), below) is being exceeded and that the groundwater supply to the Six Basins Area is inadequate to meet the current and long term demands of Plaintiff and Defendants without the imposition of a physical solution. Plaintiff requests a determination of all groundwater rights, including replenishment and storage rights, of whatever nature within the boundaries of the Six Basins and request the imposition of an equitable physical solution.

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B. **Answers and Cross-Complaints.** On or before November 13, 1998, Plaintiff and Defendants filed a stipulation for entry of judgment.

C. **Jurisdiction.** This Court has jurisdiction to enter judgment declaring and adjudicating the Plaintiff's and Defendants' ("the Parties") rights to the reasonable and beneficial use of groundwater by the Parties in the Six Basins Area pursuant to *Article X, Section 2 of the California Constitution* and to impose a complete physical solution. All pre-existing rights to groundwater within the Basin held or claimed by any Party (as defined in Section I(A) of the Judgment below) are hereby settled and defined as the production allocations and the other rights and obligations set forth under this judgment ("Judgment"). The respective allocations for each Party are expressly set forth in Exhibit "D."

D. **Parties.**

1. SCWC is an investor-owned public utility incorporated under the laws of the State of California. (*See Public Utilities Code Section 1001 et seq. and 2701 et seq.*) SCWC produces groundwater from the Six Basins and delivers it for use on land within its certificated service area that predominantly overlies some portion of the Six Basins, and otherwise is within the Counties of Los Angeles and San Bernardino.

2. Pomona is a charter city situated in the County of Los Angeles. Pomona produces groundwater from the Six Basins and delivers it for use on land within its incorporated boundaries, on land lying outside its incorporated boundaries within the County of Los Angeles and on City owned lands that predominantly overlie some portion of the Six Basins. Pomona owns and controls land in the Six Basins Area upon which it has historically diverted, for direct use and spreading, surface water from San Antonio Creek and Evey Canyon.

3. La Verne is a general law city situated in the County of Los Angeles. La Verne produces groundwater from the Six Basins and delivers it for use on land within its incorporated boundaries, on land lying outside its incorporated boundaries within the County of Los Angeles and on City owned lands that predominantly overlie some portion of the Six Basins.

4. Upland is a general law city situated in the County of San Bernardino. Upland produces groundwater from the Six Basins and delivers it for use on land within its incorporated boundaries some portion of which overlie the Six Basins. It possesses a majority of the shares of stock in San Antonio and West End.

5. San Antonio is a mutual water corporation incorporated under the laws of the State of California, with its principal place of business in San Bernardino County. San Antonio produces groundwater from the Six Basins and delivers it for use by its shareholders.

6. West End is a mutual water corporation, incorporated under the laws of the State of California, with its principal place of business in San Bernardino County. West End produces groundwater from the Six Basins and delivers it for use by its shareholders.

7. Claremont is a general law city situated in the County of Los Angeles. Claremont's incorporated boundaries and City owned lands overlie a portion of the Six Basins. The City has executed an agreement with SCWC with respect to its groundwater rights.

8. Pomona College is a California corporation, with a principal place of business in the County of Los Angeles. Pomona College owns land and groundwater production facilities that overlie the Six Basins Area and it has executed operating leases with SCWC regarding these facilities. Pomona College has executed an agreement with SCWC with respect to its groundwater rights.

9. Simpson is a Washington corporation, which is doing business in the State of California and the County of Los Angeles. Simpson produces groundwater from the Six Basins for its own use and also purchases water service from Pomona.

10. PVPA is a California corporation, operating on a non-profit basis for the mutual benefit of its members with its principal place of business in the County of Los Angeles. Shareholders of PVPA include Pomona, Pomona College, San Antonio, SCWC, Simpson, Upland and West End. PVPA owns the primary spreading grounds and recharge facilities for the Six Basins and owns other lands which also overlie the Six Basins. PVPA has undertaken ongoing studies and evaluation of groundwater conditions in the Six Basins Area.

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11. TVMWD is a California Municipal Water District formed pursuant to the provisions of the municipal water district act and with the power to acquire, control, distribute, store, and spread water for beneficial purposes within its boundaries.

E. Settlement Negotiations.

1. Importance of Groundwater. Groundwater is an important water supply source for businesses, individuals and public agencies that overlie or extract groundwater from the Six Basins. The Parties have a mutual and collective interest in the efficient and reasonable use of groundwater and the coordinated management of water resources to ensure the prudent use of the resource. The Parties have a further collective interest in furthering the efficient and reasonable use of groundwater and the coordinated and comprehensive management of water resources to ensure that the common resource may be sustained and enhanced.

2. Coordinated Study. PVPA has conducted and continues to conduct technical studies of the Six Basins and has developed groundwater models of the Six Basins. To achieve the goals of coordinated basin management and to ensure and promote the sustainable and enhanced use of the groundwater resources of the Six Basins, the Parties joined in a collaborative process, reviewed prior groundwater production reports and hydrologic studies, other historical data and engaged in new technical studies to supplement the previous work of PVPA. Substantial engineering, hydrologic and geologic data not previously known have been collected and jointly analyzed and verified by the Parties. Included therein are estimates of production and reported production from the Six Basins and further refinement of PVPA's groundwater models. The results of these efforts provide the technical foundation for this Judgment.

3. Overdraft.

a. Native Safe Yield. The Native Safe Yield (as defined in Judgment, Section I(A), below) of the Six Basins Area has historically been augmented generally by the spreading activities conducted by PVPA, Pomona and La Verne and from return flows from water imported to the Six Basins Area through TVMWD. There is no precise estimate of the Native Safe Yield; however, without augmentation comprised of the substantial spreading operations conducted

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by PVPA and others, and the return flows from imported water, the amount of groundwater comprising the Native Safe Yield is substantially less than the Safe Yield which is allocated to the parties pursuant to this Judgment.

b. Safe Yield. Safe Yield (as defined in Judgment, Section I(A), below) for all groundwater supplies within the Six Basins, including the benefits of historic augmentation is nineteen thousand three hundred (19,300) acre feet per year.

c. Groundwater Production. Reports filed with the State of California pursuant to *Water Code Section 4999 et seq.*, production records reported to PVPA by its members, and independent verification by the Parties all demonstrate that the cumulative groundwater production of the Parties from the Six Basins Area annually has been greater than twenty thousand (20,000) acre feet in each of the five years immediately preceding the filing of this action. Therefore, groundwater production has exceeded the available Safe Yield and *a fortiori* the Native Safe Yield in each of the last five years.

F. <u>Stipulation.</u> The Parties, whose production from the Six Basins cumulatively comprise essentially all of the groundwater production in the Six Basins Area, which have engaged in long-standing groundwater replenishment activities or otherwise have an interest in the efficient and coordinated management of groundwater, have stipulated to the entry of this Judgment. Each of the Parties stipulate that this Judgment is a physical solution (as defined in Judgment, Section I(A), below) which provides due consideration to the environment, the respective groundwater rights of the Parties, and that this Judgment will not cause substantial material injury to any Party under these circumstances of a lengthy period of overdraft and the competing claims to groundwater. The Parties further stipulate that the Judgment is a fair and equitable allocation of water in accordance with the provisions of *Article X, Section 2 of the California Constitution*.

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93101-2782

JUDGMENT

IT IS HEREBY ORDERED, ADJUDGED AND DECREED:

I. INTRODUCTION

A. Definitions.

1. **"Base Annual Production Right"** means the average annual production , in acre-feet, for each Party for the twelve year period beginning on January 1 of 1985 and ending on December 31 of 1996 as set forth in Exhibit "D".

2. **"Carryover Rights"** means the maximum percentage of a Party's annual allocation of Operating Safe Yield production of which may be deferred until the following Year free of any Replacement Water Assessment.

3. **"Effective Date"** means January 1, 1999.

4. **"Four Basins or Four Basins Area"** means the following groundwater basins and the area overlying them: Canyon, Upper Claremont Heights, Lower Claremont Heights and Pomona as shown on Exhibit "A" and further described in Exhibit "B".

5. **"Groundwater"** means all water beneath the ground surface and contained within any one of the Six Basins except as provided in Article IIIA Section 1.

6. **"Imported Water"** means water that is not naturally tributary to the Six Basins Area and which is delivered to the Six Basins Area.

7. **"In Lieu Procedures"** means a method of either providing Replacement Water or water to be stored under a Storage and Recovery Agreement whereby a Party receives direct deliveries of Imported Water or water other than Replenishment Water in exchange for foregoing the production of an equivalent amount of such Party's share of the Operating Safe Yield.

8. **"Minimal Producers"** means any producer whose production is less than 25 acre feet each Year.

9. **"Native Groundwater"** means groundwater within the Six Basins Area that originates from the deep percolation of rainfall, natural stream flow or subsurface inflow, and

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expressly excluding groundwater which originates from (a) the Parties' replenishment activities and (b) return flows from both imported water and the Parties' replenishment activities, and water described in Article IIIA Section 1.

10. **"Native Safe Yield"** means the amount of Native Groundwater, in acre feet, that can be extracted from the Six Basins Area on an annual basis without causing an undesirable result. Expressed as a formula: Native Safe Annual Yield = Annually Available Groundwater - (Replenishment Water + return flows from Imported Water and Replenishment Water).

11. **"Native Water"** means water which is naturally tributary to the Six Basins Area.

12. **"Non-party"** means any person or entity which is not a party to this Judgment.

13. **"Operating Plan"** means the plan, developed by Watermaster (as defined in Judgment, Article V below) for the Four Basins Area, by which the purpose and objectives of the Physical Solution will be implemented and realized.

14. **"Operating Safe Yield"** means the amount of groundwater, in acre feet, which the Watermaster shall determine can be produced from the Four Basins Area by the Parties during any single year, free of any replacement obligation under the Physical Solution herein. Because of the benefits created by coordinated management of groundwater provided by the Physical Solution, the Operating Safe Yield set by Watermaster may exceed the Safe Yield that would otherwise be available for production by the Parties. The Two Basins Area is excluded from the Operating Safe Yield allocated pursuant to this Judgment with its annual Safe Yield being equivalent to the amount of groundwater La Verne may reasonably produce from the Two Basins Area on an annual basis without causing substantial injury to any other Party.

15. **"Overdraft"** means a condition wherein the total annual production from a groundwater basin exceeds the Safe Yield.

16. **"Party or Parties"** means any person(s) or entity(ies) named in this action, who has/have intervened in this case or has/have become subject to this Judgment through succession, stipulation, transfer, default, trial or otherwise.

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17. **"Physical Solution"** means the efficient and equitable coordinated management of groundwater within the Six Basins Area to maximize the reasonable and beneficial use of groundwater resources in a manner that is consistent with the public interest, *Article X, Section 2 of the California Constitution,* and with due regard for the environment.

18. **"Producer"** means a person, firm, association, organization, joint venture, partnership, business, trust, corporation or public entity who, or which, produces or has a right to produce groundwater from the Six Basins Area.

19. **"Production"** means the process of pumping groundwater; also, the gross amount of groundwater pumped.

20. **"Replacement Water"** means imported water or water other than Replenishment Water supplied through in-lieu procedures that is acquired by the Watermaster or provided by a Party to replace production by such Party in excess of the amount of its share of the Operating Safe Yield, Carry-Over Rights and Storage and Recovery rights authorized by Watermaster.

21. **"Replacement Water Assessment"** means an assessment levied by Watermaster pursuant to Article XII A, Section 4 of this Judgment.

22. **"Replenishment"** means a program to spread or inject Replenishment Water into the Six Basins Area. A description of the current replenishment programs is attached hereto as Exhibit "E."

23. **"Replenishment Water"** means native water which augments the Native Safe Yield and thereby comprises a portion of the Operating Safe Yield pursuant to a historical replenishment program as described in Article VIB, Section 9 and Exhibit E.

24. **"Return Flows"** means water which percolates, infiltrates or seeps into the Six Basins after having been previously applied to some end use by one of the Parties or any user of water.

25. **"Safe Yield"** means the amount of groundwater, including Replenishment and return flows from Imported Water, that can be reasonably produced from the combined Two Basins

and the Four Basins Areas on an annual basis without causing an undesirable result, including but not limited to land subsidence, water quality degradation, and harm from high groundwater levels, i.e. 19,300 acre feet per year.

26. "Six Basins or Six Basins Area" means the Four Basins Area plus the Two Basins Area, as shown on Exhibit "A" and further described in Exhibit "B."

27. "Spreading" means a method of groundwater recharge whereby water is placed in permeable impoundments and allowed to percolate into a basin.

28. "Storage and Recovery" means a program administered under an agreement between the Watermaster and a Party to store water either directly by sinking, spreading or injecting or by in-lieu procedures, into the Four Basins, and subsequently recovering such water without regard to the limitations imposed by the Party's Base Annual Production Right.

29. "Storage and Recovery Agreement" means an agreement between Watermaster and a Party for Storage and Recovery of water by such Party. An acceptable pre-approved Storage and Recovery Agreement between Watermaster and Pomona is listed on Exhibit "F."

30. "Transfer" means temporary or permanent assignment, sale, contract or lease of any Party's Base Annual Production Right and its associated percentage of the Safe Yield, Carry-Over Rights or rights to recover water stored under a Storage and Recover Agreement to any other Party or a person that becomes a Party. A lease shall not be considered a "permanent transfer" unless both the Lessee and Lessor jointly agree to such characterization.

31. "Two Basins or Two Basins Area" means the Live Oak and Ganesha Basins and the areas overlying them, as shown on Exhibit "A" and further described in Exhibit "B."

32. "Water Shortage Emergency" means the substantial impairment, which cannot be promptly mitigated, of the ability of the Parties to provide sufficient water for human consumption, sanitation and fire protection because of: (a) a sudden occurrence such as storm, flood, fire, unexpected equipment outage; or (b) an extended period of drought.

33. "Watermaster" means the committee with the powers and duties defined in Article V of this Judgment.

34. **"Year"** means a calendar year.

B. **Exhibits.** Each exhibit is expressly incorporated herein and made part of this Judgment.

Exhibit A: Six Basin Map

Exhibit B: General Description of the Six Basins Area

Exhibit C: Memorandum of Agreement between Watermaster and PVPA

Exhibit D: Base Annual Production Rights of Parties

Exhibit E: Description of Replenishment Programs

Exhibit F: City of Pomona Storage and Recovery Agreement

Exhibit G: Initial Operating Plan

II. FINDINGS AND HYDROLOGIC CONDITIONS

A. **Safe Yield.** Prior to the imposition of this Physical Solution, the Safe Yield of the Six Basins is historically found to be 19,300 acre feet per year.

B. **Overdraft and Prescriptive Circumstances.** For a period in excess of five consecutive Years prior to the filing of the complaint herein, the Native Safe Yield and the Safe Yield have been exceeded by the aggregate Production therefrom and the Six Basins have been in a continuous state of Overdraft. The court finds that the Production constituting such Overdraft has been open, notorious, continuous, adverse, hostile, and under claim of right. The court further finds that the groundwater Production has exceeded the Native Safe Yield and the Safe Yield in each of the last five years and thus all the required elements necessary to establish prescription have been satisfied.

1. **Adversity.** The Native Safe Yield of the Six Basins Area has been continuously exceeded for decades. It is only through the ongoing Replenishment undertaken by PVPA, Pomona and La Verne coupled with the availability of and return flows from Imported Water that a further decline in water levels has been averted. An unmanaged downward decline in water levels is known to have severe adverse impacts on the rights of groundwater producers and groundwater quality, to cause land subsidence and to cause increased pump-lifts. Moreover, the Court finds that presently

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estimated Safe Yield of 19,300 acre feet, with the full benefit of the Replenishment carried on by the Parties has been exceeded and if Production is not managed pursuant to this Physical Solution, severe adverse impacts will result.

2. **Continuity.** The Native Safe Yield has been continuously exceeded for at least two decades. For each of the last five Years the Safe Yield has been exceeded. The Court finds that cumulative total Production from the Six Basins Area for the Years 1993 through 1997 is as follows:

1993	21,020 acre feet
1994	20,313 acre feet
1995	22,959 acre feet
1996	23,584 acre feet
1997	21,902 acre feet

3. **Notice.** Each of the Parties with a Base Annual Production Right, or their agents, have filed groundwater production reports with the State Department of Water Resources pursuant to *Water Code Section 4999*. These reports are public records and are available for inspection by any member of the public. SCWC is an investor-owned public utility subject to regulation by the California Public Utilities Commission (PUC). Its records, reports and filings with the PUC regularly include information regarding the wells used and groundwater produced from the Six Basins Area. The PUC has held publicly noticed rate hearings which have been attended by the public and representatives from Claremont. Pomona, La Verne and Upland are all public entities and their groundwater production information are public records and open to public inspection upon reasonable notice. PVPA has frequently published reports which indicate the nature of its Replenishment and the volume of groundwater produced in the Six Basins Area. At least two settlement agreements have been entered between certain Parties on matters related to the adverse impacts of increased groundwater production. Both of these agreements were approved by a public entity and are public records. Moreover, the negotiations leading up to the entry of this Judgment were open to all persons claiming the right to produce groundwater by virtue of their owning overlying land or having corporate boundaries overlying the Six Basins Area. Regular meetings concerning these negotiations

have been held at the headquarters of TVMWD, a public agency, and were personally attended by representatives from each of the Parties. These meetings have taken place at regular intervals for more than twelve consecutive months and the contents of this Judgment and the status of groundwater conditions in the Six Basins Area has remained readily available. Accordingly, the Court finds that all persons claiming the right to produce had actual notice, constructive notice or could have easily determined upon reasonable diligence that the Six Basins Area was in Overdraft and of each Party's claim to groundwater. The circumstances of such Overdraft and water use are such that each of the Parties either: (i) had actual knowledge of such circumstances; or (ii) should have discovered such circumstances upon the exercise of reasonable diligence or (iii) received constructive notice of the adverse nature of such aggregate production through the public record filings with the State of California pursuant to *Water Code Section 4999* and through the various reports published by the Parties.

C. <u>High Groundwater Levels</u>. There are cienegas and springs in the Four Basins Area and there is a potential for groundwater to rise to the surface regardless of the replenishment, replacement or storage operations of the Watermaster and carried out by the Parties. Periodically, though not in the past twelve years, high groundwater levels have constituted an important causative factor, in creating damage in the Four Basins Area.

D. <u>Water Quality Problems</u>. Some of the Six Basins have experienced problems of high concentrations of nitrates and volatile organic compounds (VOC's) in groundwater. Potential sources of the nitrate are historical agricultural practices and individual wastewater disposal systems, most of which have been abandoned. The Two Basins Area and some of the Four Basins Area have been adversely impacted by high concentrations of nitrates and VOC's and may also require remediation.

III. DECLARATION OF RIGHTS AND RESPONSIBILITIES

A. <u>General Provisions</u>.

1. <u>Surface Water Rights</u>. Pomona and San Antonio have prior and paramount pre-1914 water rights, superior to the rights of any other party, to the surface water and supporting

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subsurface flows historically and presently diverted therefrom in San Antonio and Evey Canyon, except as provided in Article VIB Section 9 and as referenced in Article IIIA Section 1d.

a. Historically, Pomona and San Antonio have diverted, and presently are diverting, surface waters and supporting subsurface flows from San Antonio Canyon.

b. Historically, Pomona has diverted, and presently is diverting, surface water and supporting subsurface flows from Evey Canyon.

c. Pomona and San Antonio are under no obligation to spread such waters.

d. Surface waters and supporting subsurface flows diverted in San Antonio and Evey Canyons at existing diversion locations are excluded from (i) the operation of this Judgment and (ii) the determination of Operating Safe Yield, except to the extent of the portion of such waters which are spread by Pomona at its Pedley Treatment Plant, which portion is governed by the provisions of Article VIB, Section 9.

e. The diversion and the use of surface waters and supporting subsurface flows shall not be subject to this Judgment.

f. The above-referenced surface waters and supporting subsurface flows shall not be subject to allocation among the Parties pursuant to this Judgment.

g. Surface waters and supporting subsurface flows may be used by Pomona and San Antonio to satisfy Replacement Water obligations as provided in Article VIB, Section 5.

2. **Loss of Priorities.** By reason of the long continued overdraft in the Six Basins, and in light of the complexity of determining appropriative priorities and the need for conserving and making maximum beneficial use of the water resources of the State, each and all of the Parties listed in Exhibit "D" are estopped and barred from asserting special priorities or preferences *inter se* to groundwater except as expressly provided herein. All the Parties' rights to groundwater are accordingly deemed and considered to be of equal priority unless otherwise expressly stated herein.

3. **Limitations on Export.** Other than the limitation on Pomona's use of 109 acre feet as further described in Exhibit "D", any Party's share of the Operating Safe Yield, including Carryover Rights and Transfers, may be produced and exported for use outside the Six Basins Area.

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However, groundwater stored and recovered pursuant to a Storage and Recovery Agreement may be produced and exported only in accordance with the terms and conditions of the Storage and Recovery Agreement.

4. **No Abandonment of Rights.** It is in the interest of reasonable beneficial use of the Six Basins Area and its water supply, that no Party be encouraged to take and use more water in any Year than is actually required. Failure to produce all of the water to which a Party is entitled hereunder shall, in and of itself, not be deemed to be, or constitute an abandonment of such Party's right, in whole or in part.

5. **Pre-Existing Rights.** This Judgment controls each Party's rights to the Production, Replenishment, Storage and Recovery of groundwater and expressly supersedes other rights, claims or defenses arising from agreement, operation of law, prior use or a prior judgment to the extent that they are inconsistent with this Judgment. However, nothing in this Judgment shall alter or affect any rights or remedies that any Party may have under any contract or agreement with any other Party on matters which are not inconsistent with or are unrelated to the provisions of this Judgment or as provided in Article IVC herein.

6. **Physical Solution.** This Judgment represents a total and complete Physical Solution for the Six Basins Area and all basins included therein. Although prior hydrologic and physical conditions limited the Safe Yield to 19,300 acre feet per year, through the coordinated and equitable management of the Four Basins and Two Basins Areas provided under this Judgment, an Operating Safe Yield, Operating Plan and Base Annual Production Rights shall be independently established for the Four Basins Area. However, La Verne shall be entitled to produce groundwater from the Two Basins Area in addition to its equitable share of the Four Basins Operating Safe Yield, as provided in accordance with the terms of this Judgment.

7. **Portability Between the Two Basins and Four Basins Areas.** A Party's right to produce, store or recover groundwater accruing under this Judgment in the Four Basins Area may not be transferred, exchanged or exercised in the Two Basins Area. A Party's right to produce, store or

recover groundwater accruing under this Judgment in the Two Basins Area may not be transferred, exchanged or exercised in the Four Basins Area.

B. Rights of the Parties to Produce Groundwater from the Four Basins.

1. Declaration of Rights. The Parties listed in Exhibit "D" are the owners of appropriative rights, including rights by prescription, and exercised and unexercised overlying rights of equal priority, and each Party shall be entitled to produce groundwater under the Physical Solution and to share in the Operating Safe Yield of the Four Basins according to the percentages set forth in Exhibit "D" as Base Annual Production Rights in a manner consistent with the provisions of this Judgment.

2. Carryover Rights. Any Party that produces less than its share of the Operating Safe Yield in any Year shall have the right to carry the unproduced portion forward to be produced in the following year subject to the following limitations: (a) the first water produced in any Year shall be deemed to be an exercise of any Carryover Right; (b) a Party's Carryover Right cannot exceed 25 (twenty-five) per cent of such Party's share of the current Operating Safe Yield for the prior Year; and (c) Carryover Rights may be lost in the event replenishment is discontinued or curtailed as provided below in Article IIIB, Section 7.

3. Transferability of Rights. Subject to the limitations set forth in his Judgment, a Base Annual Production Right and its associated percentage of the Operating Safe Yield, as well as any Carryover Rights and water stored under a Storage and Recovery Agreement, may be transferred, in whole or in part, among existing Parties or to any other person that becomes a Party on either a temporary or permanent basis provided that no Party is substantially injured by the Transfer. Production pursuant to any such Transfer shall be subject to the limitations on carryover and portability set forth in Article IIIB, Section 4. Any such Transfer shall become effective upon being recorded with Watermaster. Watermaster shall revise Exhibit "D" annually, to reflect any permanent Transfers. The permanent Transfer of any Party's full Base Annual Production Right shall require Watermaster approval. Upon Watermaster approval the permanent Transfer of a Party's full Base Annual Production Right may require an adjustment in the Party representatives to the Watermaster

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and the number of votes of the Party's representatives as provided in Article V. Notwithstanding the provision of this Article IIIB, Section 3, Pomona shall not be entitled to Transfer 109 acre feet of its Base Annual Production Right and its associated percentage of Operating Safe Yield.

4. **Portability of Rights Among the Four Basins.** Any Party with a Base Annual Production Right, shall have the right to produce its share of the Operating Safe Yield of the Four Basins, including any Carryover Rights or Transfers, from any or all of the Four Basins, subject to the following conditions.

a. **No Substantial Injury**. Any groundwater production from a "new" location shall not cause substantial injury to another Party.

b. **Advance Written Notice to Watermaster.** Any Party that intends to undertake any of the following actions shall provide thirty (30) days' advance written notice to the Watermaster: (i) acquire, construct or operate a "new" groundwater production facility in any one of the Four Basins in which it is then producing groundwater; (ii) change the point of extraction from an existing groundwater production facility to a "new" groundwater production facility where the old and the new groundwater production facilities are both within the Canyon or Upper Claremont Heights or Lower Claremont Heights Basins; (iii) change the point of extraction from an existing groundwater production facility on one side of the Indian Hill Fault to a "new" facility on the other side of the Indian Hill Fault.

c. **Prior Watermaster Approval.** Any Party that changes the point of extraction from an existing groundwater production facility on one side of the Indian Hill Fault to a "new" facility located on the other side of the Indian Hill Fault and increases the cumulative rate of annual extraction therefrom by more than 2,000 acre feet per year shall be required to obtain the prior written approval of the Watermaster.

d. **New Facility Defined.** "New" as used in this Section 4 means either (i) an increase or enlargement in the pre-existing design capacity of a groundwater production facility or (ii) a movement in the location of a groundwater extraction facility by more than three hundred (300) feet or from one legal parcel to another legal parcel.

e. **Procedure for Resolution of Disputes.** The Watermaster shall make all necessary determinations and resolve all disputes arising under this Article IIIB, Section 4 in accordance with the provisions of Article VIII.

5. **Rights to Unused Groundwater Storage Capacity.** From time to time there may exist in the Four Basins, unused storage capacity. Parties holding Base Annual Production Rights pursuant to this Judgment and TVMWD for the sole purpose of storing Imported Water, shall have the exclusive rights to use such storage capacity, and subject to the complete discretion of the Watermaster, may sink, spread or inject water into the Four Basins Area pursuant to a Storage and Recovery Agreement.

6. **Priorities for Use of Groundwater Storage Capacity.** In directing spreading and controlling the use of groundwater storage capacity, the Watermaster shall give first priority to Replenishment Water; second priority to Carryover Rights; third priority to Storage and Recovery of water which is naturally tributary to the Six Basins Area; fourth priority to Storage and Recovery of Imported Water, and fifth priority to Storage and Recovery of other water.

7. **Loss of Stored and Carryover Water.** After providing notice and opportunity to be heard to any affected Party pursuant to Article IXA, if the Watermaster reasonably determines that Replenishment had to be terminated or curtailed in any year, or that Replenishment Water was rejected because of insufficient storage capacity, some or all of a Party's unproduced Carryover Rights or Storage and Recovery rights may be deemed lost. The amount of water subject to loss shall be equal to that quantity of Replenishment Water which was curtailed or rejected solely because of insufficient storage capacity in the Four Basins.

The burden of a determination by Watermaster that rejected recharge has occurred and that there shall be a loss of stored and Carryover water, shall be shared proportionately by each Party to the extent the quantity of water held by each Party at the time of the loss bears to the total quantity of water within each of the classification. Any losses shall be charged first to the storage of other water, then to the storage of Imported Water, then to the storage of Native Water, then to Carryover Water as expressly set forth below.

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a. Highest priority shall be given to Replenishment Water.

b. Second priority against loss shall be given to Carryover Water.

c. Third priority against loss shall be given to storage of Native Water.

d. Fourth priority against loss shall be given to storage of Imported Water.

e. Fifth priority against loss shall be given to storage of other water.

8. **Consideration of Groundwater Levels.** Watermaster shall make every reasonable effort to establish water operations limits so that the spreading of Replenishment or Replacement water, groundwater storage pursuant to a Storage and Recovery Agreement, or the determination of Operating Safe Yield shall not cause high groundwater levels that result in material damage to overlying property (not including sand and gravel excavations or operations) or cause groundwater to surface above the undisturbed natural terrain.

C. **The Parties' Rights to Groundwater and Storage in the Two Basins.**

1. **Declaration of Rights.** In recognition of the remediation efforts that are likely to be necessary to maximize groundwater production from the Two Basins; because of the detected high nitrate concentrations and in recognition that La Verne is uniquely situated to remedy these water quality conditions and exploit future opportunities; because of the minimal hydrologic communication between the Four Basins and Two Basins, and in furtherance of a complete and total physical solution for the Six Basins Area, La Verne shall have the right to produce as much groundwater as it may reasonably withdraw from the Two Basins Area on an annual basis so long as it does not substantially injure the rights of any other Party.

2. **Storage and Recovery.** La Verne has the sole right to use available storage capacity in the Two Basins in its complete discretion for the Storage and Recovery of groundwater so long as it does not cause substantial injury to any other Party. La Verne shall not be required to obtain a Storage and Recovery Agreement from the Watermaster for Storage and Recovery programs carried out within the Two Basins Area provided that (i) such production or use of storage capacity shall not cause substantial injury to any other Party and (ii) La Verne provides 60 (sixty) days' advance written notice to Watermaster before initiating such a Storage and Recovery program.

3. **Transferability of Rights.** Subject to the limitations set forth in Article III A, Section 7, La Verne's right to produce groundwater from the Two Basins Area may be transferred, in whole or in part, among existing Parties or to any other person that becomes a Party, on either a temporary or permanent basis provided that no Party is substantially injured by the Transfer. The permanent Transfer of the right to produce groundwater from the Two Basins Area shall not be effective until approved by Watermaster.

D. **Rights and Responsibilities of PVPA.**

1. **Spreading Operations.** PVPA and the other Parties have negotiated a Supplemental Memorandum of Agreement, attached hereto as Exhibit "C". This Supplemental Memorandum of Agreement and all modifications or amendments thereto shall include a provision for Watermaster's indemnity of PVPA for all Replenishment activities undertaken by PVPA at the direction of the Watermaster. Within sixty (60) days of entry of this Judgment, Watermaster and PVPA shall execute the Agreement. Upon execution, the Agreement shall become part of the Physical Solution. PVPA shall not be required to execute a Storage and Recovery Agreement with Watermaster for its Replenishment activities carried out under the direction of the Watermaster. The Spreading operations conducted by PVPA may result in incidental Replenishment to the Two Basins Area and none of the Parties have a right to object thereto. This Replenishment is authorized under the Judgment.

2. **Waiver of Claims Against PVPA.** The Parties expressly waive any and all claims against PVPA arising from facts, conditions or occurrences in existence before the Effective Date and arising from PVPA's spreading operations including but not limited to water quality degradation, subsurface infiltration, high groundwater or groundwater Overdraft within the Six Basins Area.

E. **Non-parties.**

1. **Minimal Producers.** Minimal producers are not bound or affected by this Judgment. No person may produce twenty-five acre feet or more in any Year without becoming a Party.

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2. **Parties' Rights Versus Non-parties Reserved.** The Parties expressly reserve all rights, without limitation, concerning any and all claims raised by persons not a Party to this Judgment as provided in Article IV C Section 1.

IV. REMEDIES

A. Injunctions.

1. **Injunction Against Unauthorized Production.** Each and every Party, its officers, agents, employees, successors and assigns is enjoined and restrained from producing water from the Six Basins except as authorized herein.

2. **Injunction Against Unauthorized Storage.** Each and every Party, its officers, agents, employees, successors and assigns is enjoined and restrained from storing water in the Six Basin Area except as authorized herein.

3. **Injunction Against Unauthorized Replenishment.** Each and every Party, its officers, agents, employees, successors and assigns is enjoined and restrained from replenishing water in the Six Basin Area except as authorized herein.

B. Continuing Jurisdiction

1. **Jurisdiction Reserved.** Full jurisdiction, power and authority are retained by and reserved to the Court upon the application of any Party, by a motion noticed in accordance with the review procedures of Article XIA, Section 6 hereof, to make such further or supplemental order or directions as may be necessary or appropriate for interpretation, enforcement or implementation of this Judgment, and to modify, amend or amplify any of the provisions of this Judgment or to add to the provisions thereof consistent with the rights herein decreed; provided that nothing in this paragraph shall authorize a reduction of the Base Annual Production Right of any Party except pursuant to a Transfer.

2. **Intervention After Judgment.** Any Non-party who proposes to produce Groundwater from the Six Basins Area in an amount equal to or greater than 25 acre feet per Year, may seek to become a Party to this Judgment through (a) a stipulation for intervention entered into with Watermaster or (b) any Party or Watermaster filing a complaint against the Non-party requesting

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that the Non-party be joined in and bound by this Judgment. Watermaster may execute said Stipulation on behalf of the other Parties herein, but such stipulation shall not preclude a Party from opposing such intervention at the time of the Court hearing thereon. A stipulation for intervention must thereupon be filed with the Court, which will consider an order confirming said intervention following thirty (30) days' notice to the Parties. Thereafter, if approved by the Court, such intervenor shall be a Party bound by this Judgment and entitled to the rights and privileges accorded under the Physical Solution herein, including a Base Annual Production Right in an amount equal to its average annual production in the twelve-year period beginning on January 1, of 1985 and ending on December 31, 1996, or any Base Annual Production Right it may obtain by a transfer.

C. **Reservation of Other Remedies.**

1. **Claims By and Against Non-parties.** Nothing in this Judgment shall expand or restrict the rights, remedies or defenses available to any Party in raising or defending against claims made by any Non-party. Any Party shall have the right to initiate an action against any Non-party to enforce or compel compliance with the provisions of this Judgment.

2. **Claims Between Parties on Matters Unrelated to the Judgment.** Nothing in this Judgment shall either expand or restrict the rights or remedies of the Parties concerning subject matter which is unrelated to the quantity and quality of groundwater allocated and equitably managed pursuant to this Judgment other than as provided in Article IIIA, Section 1.

3. **Groundwater Levels.** Except as expressly provided herein, nothing in this Judgment shall either expand or restrict the rights or remedies at law that any Party may have against any other Party for money damages to real or personal property resulting from high groundwater or defenses thereto for events or occurrences after the Effective Date.

V. WATERMASTER

A. **Composition, Voting and Compensation.** The Watermaster shall be a committee composed of one representative of each of the following Parties, and each representative shall have the authority to cast the indicated number of votes on any question before the committee:

City of La Verne	5 votes

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City of Pomona	5 votes
City of Upland	5 votes
Southern California Water Company	5 votes
City of Claremont	2 votes
TVMWD	2 votes
PVPA	2 votes
~~Simpson Paper~~	~~1 vote~~
Pomona College	1 vote
San Antonio	1 vote

Committee representatives having the combined authority to cast twenty votes shall constitute a quorum for the transaction of affairs of Watermaster and seventeen affirmative votes shall be required to constitute action by Watermaster. Representatives shall be compensated for their services by their respective appointing authorities. Representatives may be reimbursed by Watermaster for out of pocket expenses incurred on authorized Watermaster business.

B. **Nomination and Appointment Process.** Each of the Parties named in Article VA, above, shall within thirty (30) days of entry of this Judgment submit to the Court its nominees for its representative member of the Watermaster Committee and one alternate and the Court shall in the ordinary course confirm the same by an appropriate order of appointment. Once appointed representatives and their alternates shall normally serve until a replacement is designated by the Party or until removed by the Court. If a representative or alternate is no longer willing or able to serve for any reason the Party represented by such member or alternate shall promptly submit a replacement for the member or their alternate. There shall be no need for replacement representative members or alternates to be approved by the Court. In its annual report to the Court, Watermaster shall update the list of its representative members and alternates.

C. **Succession.** For the purpose of determining whether a permanent Transfer of a Base Annual Production Right shall affect whether a Party shall have a Representative on the Watermaster Committee and the number of votes held by the representative, the following guidelines shall apply:

1. **Partial Succession.** The permanent Transfer of less than any Party's full Base Annual Production Right shall be considered a "partial" succession. A partial succession shall not create any new or additional voting rights in the successor Party or require any modifications to the rules and procedures under this Article V. The full Base Annual Production Right of any Party shall be equal to the entire quantity of the Base Annual Production Right for that Party set forth in Exhibit D on the Effective Date.

2. **Non-Party Successor.** A permanent Transfer of the full Base Annual Production Right of any Party to a Non-Party shall automatically include the authority to cast the number of votes held by the Party. In addition, the Non-Party shall succeed to all other rights and responsibilities of their predecessor Party under this Judgment.

3. **Party Successor.** A permanent Transfer of the full Base Annual Production Right between Parties shall automatically include the authority to cast a number of votes equal to the greater of: (a) the number of votes indicated for the acquiring Party on the Effective Date or (b) the number of votes indicated for the Party whose Base Annual Production Right has been acquired at the time the Transfer is approved by the Watermaster. The number of votes equal to the lesser of 3(a) or 3(b) shall be extinguished. The acquisition of one Party's full Base Annual Production Right by another Party shall not cause a change in the number of votes required to constitute a quorum or to take an action under this Article. However, in the event more than two votes are eliminated, any Party or the Watermaster upon its own motion, may petition the Court to revise the required number of votes to constitute a quorum or to take action under this Judgment.

D. Powers and Duties. Subject to the continuing supervision and control of the Court and the limitations set forth in this Judgment, Watermaster shall have and may exercise the following express powers, and shall perform the following duties, together with any specific powers, authority and duties granted or imposed elsewhere in this Judgment or hereafter ordered or authorized by the Court in the exercise of its continuing jurisdiction:

1. Developing, Maintaining and Implementing the Operating Plan.

2. Adopting Rules, Regulations, Procedures, Criteria and Time Schedules.

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3. Acquiring or Investing in Facilities or Facility Improvements.

4. Acquiring or Investing in Monitoring Facilities.

5. Inspecting and Testing Measuring Devices.

6. Levying Assessments

7. Requiring the Acquisition of and Recharge of Replacement Water.

8. Contracting for Necessary Services. (Including the execution of agreements regarding spreading and groundwater modeling.)

9. Employing Agents, Experts and Legal Counsel provided that Watermaster shall not contract with or otherwise engage a Party with a Base Annual Production Right to perform directly or indirectly, administrative services. However, this limitation shall not apply to spreading services under Exhibit C, and meter reading.

10. Adopting an annual budget for monitoring and reporting legal and administrative costs.

11. Managing Watermaster Funds.

12. Cooperating with Federal, State and Local Agencies.

13. Entering and Administering Storage and Recovery Agreements.

14. Maintaining a Notice List.

15. Reporting Annually to the Court.

16. Engaging in Dispute Resolution.

17. Prosecuting litigation against Non-parties in furtherance of the Judgment.

18. Limiting groundwater production to Operating Safe Yield during a Water Shortage Emergency.

E. **Organization and Meetings.** At its first meeting in each Year Watermaster shall elect a chair, vice chair, secretary and treasurer and such other officers as may be appropriate. Watermaster shall hold regular meetings at places and times specified in its rules and regulations, and may hold such special meetings as may be required. Watermaster shall provide notices of all regular and special meetings to all parties and any person requesting notice in writing. Any meeting may be adjourned

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to a time and place specified in the order of adjournment. Meetings shall be conducted to the extent practicable in accordance with the provisions of the California Open Meetings Law ("Brown Act") *California Government Code Section 54950*, et seq as it may be amended from time to time.

F. **Limits on Assessments.** Watermaster shall not have the authority to levy assessments beyond those specifically described herein.

VI. PHYSICAL SOLUTION FOR THE SIX BASINS AREA

A. General Purposes and Objectives.

1. **Physical Solution is Consistent With the Public Interest.** The Physical Solution is consistent with each Party's full enjoyment and the reasonable exercise of its respective water rights will not materially injure the interests of any Parties and will promote coordinated groundwater management with due regard for the environment and it is therefore consistent with the public interest and the reasonable and beneficial use of water.

2. **Balance of Equities.** This Physical Solution constitutes a legal and practical means for balancing the needs of the Parties for a reliable water supply, providing an appropriate incentive for remediation of poor water quality conditions, managing the available groundwater storage capacity to protect against loss of available groundwater and against damage from high groundwater levels with due regard for the environment .

3. **Flexibility.** It is essential that this Physical Solution provides maximum flexibility so that the Watermaster and the Court may be free to adapt and accommodate future changed conditions or new institutional or technological considerations. To that end the Court's retained jurisdiction may be utilized to augment or adjust the Physical Solution without adjustment to a Party's Base Annual Production Right.

B. Guidelines for Operation of Four Basins Area.

All production, replenishment, replacement, and Storage and Recovery of water in the Four Basins Area must be conducted pursuant to the Operating Plan adopted by Watermaster in accordance with the principles and procedures contained in this Judgment. The following general pattern of operations is contemplated:

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1. **Replenishment.** Groundwater will be replenished pursuant to Exhibit "E" or under any other replenishment program or activity to the extent water which is naturally tributary to the Six Basin Area, is available for that purpose and can safely be spread.

2. **Storage and Recovery.** Other Native Water, imported water or other water may be stored and recovered pursuant to Storage and Recovery Agreements.

3. **Operating Safe Yield.** Watermaster will annually, not later than September 15, establish the Operating Safe Yield for the Four Basins for the following Year, taking into consideration the amount of water in storage and the need to control water table elevations. Watermaster shall review the condition of the Four Basins at least quarterly during the Year and may make any appropriate adjustments of the Operating Safe Yield.

4. **Production.** In any Year, each Party will be free to produce its share of the Operating Safe Yield, including any Carryover Rights or Transfers, plus any water authorized to be recovered pursuant to a Storage and Recovery Agreement. Except upon Transfer, no change shall be made to any Party's Base Annual Production Rights.

5. **Replacement Water.** Notwithstanding any limitation contained in this Judgment, a Party may produce and export water from the Four Basins in excess of its Base Annual Production Right and its share of the Operating Safe Yield, plus unused Carryover rights and recoverable groundwater pursuant to an approved Storage and Recovery Agreement, subject to the requirement to provide Replacement Water in the manner set forth herein.

a. **Obligation to Provide Replacement Water.** To the extent a Party's production in the Four Basins or in any basin exceeds that Party's share of the Operating Safe Yield, plus unused Carryover rights and recoverable groundwater pursuant to an approved Storage and Recovery Agreement, the Party shall arrange for delivery of Replacement Water in an amount equal to the Party's excess production by any of the following: (i) acquiring Replacement Water directly from TVMWD except Upland which may also acquire Replacement Water from the Inland Empire Utilities Agency ("the Empire"); (ii) arranging for delivery of a Native water supply other than Replenishment Water; or (iii) paying a Replacement Water Assessment to Watermaster for the

purpose of acquiring Replacement Water directly from TVMWD except as to Upland for which Watermaster may acquire replacement water from the Empire.

b. In Lieu Procedures. Replacement Water may be supplied through In-Lieu Procedures, spreading or other method at a place, time and manner, acceptable to Watermaster, for a price and upon terms to be determined by TVMWD except as to Upland for which the price and terms may be determined by the Empire.

c. Replacement Water Assessment. Watermaster will use Replacement Water Assessment proceeds to acquire Replacement Water from TVMWD, or as to Upland, the Empire.

6. <u>Development, Maintenance and Implementation of the Operating Plan</u>. Watermaster is directed to maintain and implement the Operating Plan such that Production, Replenishment and Storage and Recovery of water are consistent with and implement the purpose and objectives of the Physical Solution herein. The Operating Plan shall include rules, regulations, procedures, criteria and time schedules, as appropriate, for at least the following elements:

a. Establishing and adjusting the Operating Safe Yield.

b. Replenishment.

c. Execution of supplemental agreements with PVPA regarding spreading grounds and the funding thereof.

d. Acquisition and delivery of Replacement Water.

e. Standard terms and conditions of Storage Agreements.

f. Replenishment, replacement and storage limits needed to protect against high groundwater levels.

g. Remediation of water quality problems.

h. Monitoring systems and protocols, including such for groundwater levels.

i. Monitoring, reporting and verification programs.

j. Transfers.

k. Annual budgets.

l. Financial management.

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m. Reporting to the Court.

n. Levying Assessments.

7. **Initial Operating Plan.** Within six months of the effective date of this Judgment Watermaster shall submit to the Court for approval an initial Operating Plan. An outline of the Initial Operating Plan is attached as Exhibit "G."

8. **Annual Review of the Operating Plan.** Watermaster shall review the Operating Plan at least annually and, subsequent to each such review, submit to the Court for its approval any proposed amendments or revisions.

9. **Replenishment.** PVPA and Pomona historically augmented the Native Safe Yield within the Four Basins Area through replenishment programs or activities. For many years these replenishment programs or activities have resulted in the spreading and percolation of native waters originating in the San Antonio Canyon and Evey Canyon. To the extent such waters have been historically spread, they comprise a portion of the Safe Yield and Operating Safe Yield subject to management under this Physical Solution.

a. All Replenishment shall be at the direction of the Watermaster.

b. At the direction and sole discretion of the Watermaster PVPA shall, pursuant to the Memorandum of Agreement set forth in Exhibit "C" or any subsequent amendments thereto, continue to spread such native waters as it receives.

c. Unless it is acting for the benefit of another Party pursuant to a Storage and Recovery Agreement approved by the Watermaster, except for Replacement Water, all water PVPA spreads, sinks or injects shall be considered Replenishment and shall comprise a portion of the Operating Safe Yield.

d. Although Pomona has no continuing obligation to spread or replenish, all waters spread in excess of its "historical replenishment" shall not be considered Replenishment and a part of the Operating Safe Yield of the Four Basins Area. The "historical replenishment" of Pomona shall be equal to a twelve (12) year annual average for the twelve (12) years immediately preceding the filing of the complaint

(1985-1996), which is determined to be one-hundred and thirty) acre feet. All water Pomona spreads, sinks or injects, or causes to be spread, sunk or injected (collectively augmentation) in excess of the historical replenishment shall not be considered a portion of the Operating Safe Yield, and shall not be allocated among the Parties pursuant to their Base Annual Production Rights. Pomona shall be entitled to produce such excess quantity in addition to its Base Annual Production Right under a pre-approved Storage and Recovery Agreement as provided in Article VIA, Section 10 in a form substantially similar to Exhibit F hereto, which is ordered to be executed by Watermaster and Pomona within sixty (60) days from the Effective Date. Measurement of Pomona's rights to recover water under any Storage and Recovery Agreement shall be administered as follows:

i. Pomona shall be entitled to recover the amount by which its augmentation of water over the twelve (12) year period ending with the current year exceeds 1,560 acre feet.

ii. If less than twelve (12) years have elapsed since the effective date of this Judgment, Pomona shall have the right to recover the amount by which the total number of acre feet of groundwater augmented by Pomona exceeds one hundred thirty (130) acre feet times the number of years elapsed.

iii. The amount in excess of Pomona's historical replenishment may be recovered by Pomona as provided in the Storage and Recovery Agreement.

10. <u>Storage and Recovery Pursuant to Storage and Recovery Agreements</u>. Watermaster may enter a Storage and Recovery Agreement with any Party holding a Base Annual Production Right or TVMWD so long as the Storage and Recovery of groundwater will not cause an unreasonably high groundwater table and physical damage. A Storage and Recovery Agreement shall contain uniform terms and conditions as set forth in the Operating Plan and may also contain

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special terms and conditions as deemed appropriate by Watermaster. Water that may be stored pursuant to a Storage Agreement includes any water other than Replenishment Water including augmentation in excess of historical replenishment as expressly set forth under Article VIB, Section 9.

11. **Special Projects.** Any Party may propose for Watermaster approval, special projects including projects for controlling water levels or for remediation of water quality problems. Any such proposal shall be accompanied by an analysis that identifies the benefits of the project as well as any potential adverse impacts on any Party and any proposed mitigation measures. After notice to all Parties, if any Party files a written objection to the proposed project, Watermaster shall hold a hearing to determine whether the objections to the proposed project can be resolved. If there are no objections or if objections are resolved to the satisfaction of the Parties or if Watermaster determines that the objections are without merit, then Watermaster shall approve the proposed project. Groundwater produced under authorization as a Special Project shall not be eligible for the accrual of Carryover Rights unless authorized by Watermaster.

12. **Temporary Surplus Groundwater.** From time to time it may be in the best interest of the Parties, for the control of high groundwater, water quality remediation or other reasons, to produce groundwater over and above the then declared Operating Safe Yield. Therefore, from time to time, the Watermaster may declare a Temporary Surplus of groundwater to be available for production. The Parties' rights to the Temporary Surplus shall be in the same percentages as the Base Annual Production Right bears to the Operating Safe Yield. A Party's rights to temporary surplus shall not be eligible for the accrual of Carryover Rights set forth in Article IIIB, Section 2.

C. **Guidelines for Operation of the Two Basins Area.** All Production, Replenishment and Storage and Recovery rights for groundwater in the Two Basins Area are reserved to La Verne. However, La Verne's Production, Replenishment and Storage and Recovery of groundwater must not substantially injure other Parties.

1. **Replenishment.** La Verne shall have sole and complete discretion in the operation of Replenishment programs in the Two Basins Area provided that no other Party is substantially

injured by the program. La Verne shall provide written notice to Watermaster sixty (60) days in advance of any Replenishment program being undertaken.

2. **Storage and Recovery.** La Verne shall have sole and complete discretion in the operation of a Storage and Recovery program in the Two Basins Area provided that no other Party is substantially injured by the program. La Verne shall provide written notice to Watermaster sixty (60) days in advance of any Storage and Recovery program being undertaken. La Verne shall annually report the quantity of groundwater stored pursuant to a Storage and Recovery Program in the Two Basins Area.

3. **Production**. La Verne shall have sole and complete discretion to produce groundwater from the Two Basins Area provided that no other Party is substantially injured by such production. La Verne shall report its groundwater production to the Watermaster on a monthly basis.

VII. ASSESSMENTS

A. Ground Rules

1. **Authorization.** Subject to the continuing supervision of the Court and the limitations set forth in the Judgment, Watermaster is authorized to levy assessments to fund Replacement Water acquisition costs, administrative costs and other costs determined by Watermaster to be necessary for the implementation of the physical solution.

2. **Assessment Spread.** Excluding Replacement Water Assessments, all assessments levied by the Watermaster shall be spread such that Claremont, Pomona College and TVMWD (collectively, the "Minor Parties") shall each individually be assessed three and one half (3.5) percent of the total assessment , and eighty-nine and one half (89.5) percent of the total assessment is spread among La Verne, Pomona, Upland, San Antonio, West End, Simpson and SCWC (collectively, the "Major Parties") in proportion to their then-current holdings of Base Annual Production Rights, provided that for assessments other than for Replacement Water or administration (a) the total amount spread among Minor Parties shall not exceed sixty-thousand $60,000, escalated, in any year without their unanimous consent and (b) the total amount spread among the Major Parties in any year shall not exceed ten dollars ($10.00), escalated, per acre foot of their Base Annual Production Rights

without their unanimous consent. "Escalated" shall mean an annual adjustment in the specified dollar value based upon the Consumer Price Index for Southern California in the immediately preceding Year. No escalation adjustment shall be made until the Judgment has been in effect for twelve consecutive calendar months. PVPA shall not have any obligation to pay any assessments.

3. **Administrative Assessment.** Watermaster is authorized to levy an annual assessment that is sufficient to fund the costs of administering the Judgment. The administrative assessment shall not exceed the cost of Watermaster's administrative budget and shall be due and payable according to a schedule established by Watermaster. The administrative assessment for the first Year following entry of Judgment shall be $8.00 and shall be due and payable on January 15, 1999. Late payment shall bear an interest penalty to be established annually by Watermaster.

4. **Replacement Water Assessments.** To the extent Watermaster must acquire and recharge the groundwater with Replacement Water pursuant to the terms of this Judgment, in order to fund the costs thereof, Watermaster is authorized to levy Replacement Water Assessments. Replacement Water Assessments levied against any Party shall be sufficient to pay the costs to replace such Party's production in excess of the sum of such Party's share of the Operating Safe Yield, any Carryover Right or Transfers and any storage recovery, Production of Temporary Surplus or pursuant to Special Project authorization, during the prior Year, minus any Replacement Water provided to Watermaster by the Party. Any Replacement Water Assessment shall be paid within sixty (60) days from the date of the written invoice from Watermaster.

VIII. DISPUTE RESOLUTION

A. **Entity for Resolution of Dispute.** All disputes arising under this Judgment initially shall be submitted to Watermaster for resolution in accordance with the provisions of this Article.

B. **Determination Regarding Substantial Injury.** Any Party having a right to be protected against "substantial injury" caused by any other Party; the right to proceed so long as not causing substantial injury to another party; or any other claim, right or remedy against any other Party arising under the provisions of this Judgment may file a written request with the Watermaster to hold a hearing.

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C. **Notice and Hearing.** Upon receipt of the written request, Watermaster shall provide written notice to each Party which generally describes the nature of the dispute. Thereafter, Watermaster shall cause an item to be placed on the agenda for the next regularly scheduled meeting of the Watermaster or if requested by the moving Party, call a special meeting for the purpose of providing a full hearing of the dispute and providing the interested Parties with notice and opportunity to be heard. No later than 30 days following the conclusion of the hearing(s) Watermaster shall issue a written decision which is dispositive of the dispute and which is supported by written findings. Any Party may seek review of an adverse decision of the Watermaster in accordance with the provisions of Article IX.

IX. ADDITIONAL PROVISIONS

A. Procedure

1. **Designation of Address for Notice and Service.** Each Party shall designate the name and address to be used for purposes of all subsequent notices and service herein, either by its endorsement on the Stipulation for Judgment or by a separate designation to be filed within thirty (30) days after Judgment has been entered. Said designation may be changed from time to time by filing a written notice of such change with Watermaster. Any Party desiring to be relieved of receiving notices of Watermaster activity may file a waiver of notice on a form to be provided by Watermaster. Watermaster shall maintain at all times a current list of Parties to whom notices are to be sent and their address for purposes of service. Watermaster shall also maintain a full current list of names and addresses of all Parties or their successors, as filed herein. Copies of such lists shall be available to any person. If no designation is made, a Party's designee shall be deemed to be, in order of priority: (i) the Party's attorney of record; (ii) if the Party does not have an attorney of record, the Party itself at the address on the Watermaster list.

2. **Service of Documents.** Delivery to or service upon any Party by Watermaster, by any other Party, or by the Court, of any document required to be served upon or delivered to a Party under or pursuant to this Judgment shall be deemed made if made by deposit thereof (or by copy thereof)

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in the mail, first class postage prepaid, addressed to the designee of the Party and at the address shown in the latest designation filed by that Party.

3. **Recordation of Notice.** Within sixty (60) days following entry of this Judgment, Watermaster shall record in the office of the County Recorder of the Los Angeles and San Bernardino Counties a notice substantially complying with the notice content requirements set forth in *Section 2529 of the California Water Code* as it exists on the Effective Date.

4. **Judgment Binding on Successors.** Subject to specific provisions hereinbefore contained, this Judgment and all provisions thereof are applicable to and binding upon and inure to the benefit of not only the Parties to this action, but also to their respective heirs, executors, administrators, successors, assigns, lessees, licensees and to the agents, employees and attorneys in fact of any such Persons.

5. **Costs.** No Party stipulating to this Judgment shall recover any costs or attorneys fees in this proceeding from another stipulating Party. In any future proceedings, the costs of notice or service, shall be levied in accordance with the provisions of Article XIA, Section 6.

6. **Review Procedures.** Any action, decision, rule or procedure of Watermaster pursuant to this Judgment shall be subject to review by the Court on its own motion or on timely motion by any Party, as follows:

a. **Effective Date of Watermaster Action.** Any order, decision or action of Watermaster pursuant to this Judgment on noticed specific agenda items shall be deemed to have occurred on the date of the order, decision or action.

b. **Notice of Motion.** Any Party may, by a regularly noticed motion, petition the Court for review of Watermaster's action or decision pursuant to this Judgment. The motion shall be deemed to be filed when a copy, conformed as filed with the Court, has been delivered to Watermaster together with the service fee established by Watermaster sufficient to cover the cost to photocopy and mail the motion to each Party. Watermaster shall prepare copies and mail a copy of the motion to each Party or its designee according to the official service list which shall be maintained by Watermaster according to Article XIA, Section 1, a Party's obligation to serve notice

of a motion upon the Parties is deemed to be satisfied by filing the motion as provided herein. Unless ordered by the Court, any such petition shall not operate to stay the effect of any Watermaster action or decision which is challenged.

c. **Time for Motion.** A motion to review any Watermaster action or decision shall be filed within ninety (90) days after such Watermaster action or decision, except that motions to review Watermaster Assessments hereunder shall be filed within thirty (30) days of mailing of notice of the Assessment.

d. **De Novo Nature of Proceeding.** Upon filing of a petition to review Watermaster action, the Watermaster shall notify the Parties of a date when the Court will take evidence and hear argument. The Court's review shall be de novo and the Watermaster decision or action shall have no evidentiary weight in such proceeding.

e. **Payment of Assessments.** Payment of Assessments levied by Watermaster hereunder shall be made when due, notwithstanding any motion for review of Watermaster action, decision, rules or procedures, including review of Watermaster Assessments.

B. Entry of Judgment. The Clerk shall enter this Judgment.

Dated: DEC 18 1998 1998.

Judge of the Superior Court

WILLIAM J. McVITTIE

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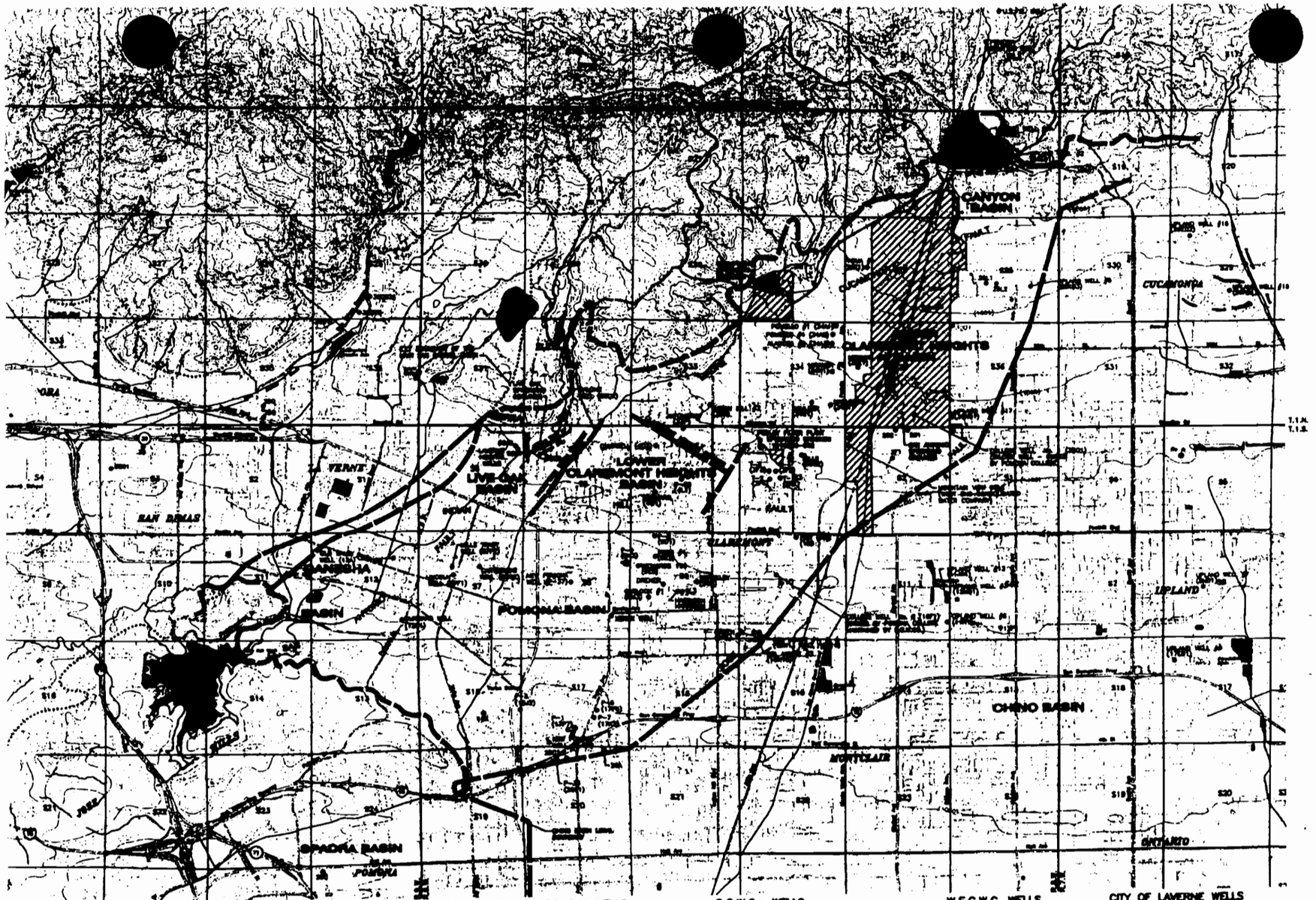

LEGEND

- THOMPSON CREEK WATERSHED BOUNDARY
- LIVE OAK WATERSHED BOUNDARY
- SAN ANTONIO WATERSHED BOUNDARY
- FAULT LINE
- LEGAL BOUNDARY OF ADJUDICATED BASIN
- GEOLOGIC FEATURE
- ALLUVIUM BOUNDARY
- MAIN SAN GABRIEL BASIN WATERSHED BOUNDARY
- MAIN SAN GABRIEL BASIN
- GROUNDWATER RECHARGE FACILITY

SCALE: 1" = 2000'

CITY OF UPLAND WELLS

STATE ID #	CITY ID #	WELL AND NUMBER
3400	UPLAND WELL	1A
3400	UPLAND WELL	2
1800	UPLAND WELL	3 (INACTIVE)
3800	UPLAND WELL	5
3800	UPLAND WELL	7
1101	UPLAND WELL	8 (INACTIVE)
1700	UPLAND WELL	9
1100	UPLAND WELL	13 (INACTIVE)
3800	UPLAND WELL	14
3800	UPLAND WELL	15
3800	UPLAND WELL	17

CITY OF POMONA WELLS

STATE ID #	CITY ID #	WELL AND NUMBER
1370	1	1
1370	2	2
1370	3	3
1370	4	4
1370	5	5
1370	6	6
1370	7	7
1370	8	8
1370	9	9
1370	10	10
1370	11	11
1370	12	12
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1370	26	26
1370	27	27
1370	28	28
1370	29	29
1370	30	30
1370	31	31
1370	32	32
1370	33	33
1370	34	34
1370	35	35
1370	36	36

S.C.W.Co. WELLS

STATE ID #	COMPANY ID #	WELL AND NUMBER
3443	ALMADEN #2	
3401	BEVERLY	
3401	BERNARD	
3401	BOULDER	
3401	CAMPBELL	
3401	COLLEGE WELL	
3401	DEL MONTE #1	
3401	DEL MONTE #2	
3401	DEL MONTE #3	
3401	DEL MONTE #4	
3401	DRESSER	
3401	DIAMOND WELL	
3401	FAIR OAKS	
3401	FORD #1	
3401	GARLOCK #1	
3401	GREEN	
3401	HARRISON #1	
3401	HARRISON #2	

STATE ID #	COMPANY ID #	WELL AND NUMBER
3401	HAMILTON HILL #2	
3401	HAMILTON	
3401	HILLS #1	
3401	HOWARD #3	
3401	HOWARD #4	
3401	PIONA #1	
3401	PRIMULA #1	
3401	PRIMULA #4	
3401	POMEROY	
3401	RICHARDS 149	

W.E.C.W.C. WELLS

STATE ID #	COMPANY ID #	WELL AND NUMBER
100.3	LOMAS HEIGHTS #4	
301	LIL VIEW #1	
371	LIL VIEW #4	
1371	WEST END WELL #1 (INACTIVE)	
301	WEST END WELL #3	
303	WEST END WELL #4	
301.1.2	UPLAND-POMONA #3	

CITY OF LAVERNE WELLS

STATE ID #	CITY ID #	WELL AND NUMBER
3700	CONTINENTAL	
3371	LINCOLN	
3800	MALONE 2 (INACTIVE)	
3373	MILLS TRACT	
1371	OLD BALDY	
3800	LAVERNE HEIGHTS 1	
3800	LAVERNE HEIGHTS 2	
3800	LAVERNE HEIGHTS 3	

S.A.W.C. WELLS

STATE ID #	COMPANY ID #	WELL AND NUMBER

SIMPSON PAPER CO.

STATE ID #	COMPANY ID #	WELL AND NUMBER

POMONA COLLEGE

STATE ID #	COMPANY ID #	WELL AND NUMBER

PREPARED BY:

SIX BASINS AREA

EXHIBIT B

DESCRIPTION OF SIX BASINS AREA

The Six Basins Area lies between the San Jose Hills on the south, the Chino Basin on the east, the San Gabriel Mountains on the north and the Main San Gabriel Basin on the west. The boundaries of the Main San Gabriel Basin are set forth in the Judgment in the case of the *Upper San Gabriel Valley Municipal Water District vs. City of Alhambra, et al.*, Superior Court of the State of California, Los Angeles County, Case No. 924128, and the boundaries of the Chino Basin are set forth in the Judgment in the case of *Chino Basin Municipal Water District vs. City of Chino, et al, Superior Court for the State of California*, San Bernardino County, Case No. 164327. The Area consists of six interconnected groundwater basins. Each basin consists of all alluvium or other water-bearing formations lying beneath the surface of the basin. The approximate boundaries of the surface of each basin are shown on EXHIBIT A and are described generally as follows:

Canyon Basin. The surface of the Canyon Basin is bounded on the south and east by the surface trace of the Sierra Madre/Cucamonga Fault and on the north and west by the surface trace of the bedrock/alluvium interface between(a) the point of intersection in Township 1 North, Range 8 West, Section 31, SBB&M, of the Sierra Madre/Cucamonga Fault with easterly boundary of the Main San Gabriel Basin and (b) the point of intersection in Township 1 North, Range 8 West, Section 20, SBB&M, of the Sierra Madre/Cucamonga Fault with the San Gabriel Mountains. The northernmost extent of the bedrock/alluvium interface is assumed to be at the southern boundary of Township 1 North, Range 8 West, Section 13, SBB&M in San Antonio Canyon.

Upper Claremont Heights Basin. The surface of the Upper Claremont Heights Basin is bounded on the south by the surface trace of the Indian Hill Fault, on the east by the westerly boundary of the Chino Basin, on the north by the surface trace of the Sierra Madre/Cucamonga Fault and on the west by the surface trace of the Claremont Heights Barrier.

Lower Claremont Heights Basin. The surface of the Lower Claremont Heights Basin is bounded on the south by the surface trace of the Indian Hill Fault, on the east by the surface trace of the Claremont Heights Barrier, on the north by the surface trace of the Sierra Madre/Cucamonga Fault on the west by the surface trace of the Thompson Wash Barrier.

Live Oak Basin. The surface of the Live Oak Basin is bounded on the south by the surface trace of the Indian Hill Fault, on the east by the surface trace of the Thompson Wash Barrier, on the north by the surface trace of the Sierra Madre/Cucamonga Fault and on the west by the easterly boundary of the Main San Gabriel Basin.

Ganesha Basin. The surface of the Ganesha Basin is bounded on the south and east by the surface of the San Antonio Fault, on the north surface trace of the Indian Hill Fault, and on the west by easterly boundary of the Main San Gabriel Basin and by the surface trace of the bedrock/alluvium interface between (a) the point of intersection in Township 1 South, Range 9 West, Section 11, SBB&M, of the easterly boundary of the Main San Gabriel Basin with the San Jose Hills and (b)

the point of intersection in Township 1 South, Range 9 West, Section 14, SBB&M, of the surface trace of the San Antonio Fault with the San Jose Hills.

Pomona Basin. The surface of the Pomona Basin is bounded on the south by the surface trace of the bedrock/alluvium boundary between (a) the intersection in Township 1 South, Range 9 West, Section 14, SBB&M, of the surface trace of the San Antonio Fault with the San Jose Hills and (b) the intersection in Township 1 South, Range 8 West, Section 19, SBB&M, of the boundary of the Chino Basin, on the north by the surface trace of the Indian Hill Fault on the west by the surface of the San Antonio Fault.

MEMORANDUM OF AGREEMENT

BETWEEN THE POMONA VALLEY PROTECTIVE ASSOCIATION

AND WATERMASTER OF THE SIX BASINS RELATING TO

WATER SPREADING AND RELATED ACTIVITIES

THE AGREEMENT, made, entered into, and executed as of this ___ day of _____, 1999, by and between the Pomona Valley Protective Association ("PVPA"), and Watermaster of the Six Basins ("Watermaster"), relating to water spreading and related activities in connection with the Canyon Basin, the Upper Claremont Height Basin, the Lower Claremont Heights Basin, the Live Oak Basin, the Ganesha Basin and the Pomona Basin (collectively, the "Six Basins").

RECITALS

WHEREAS, the rights to groundwater in connection with the Six Basins were adjudicated by the court in an action entitled "*Southern California Water Company v. City of La Verne, et al,*" Case No. KC029152 in the Superior Court of the State of California, County of Los Angeles, (the "Judgment"); and

WHEREAS, the Judgment requires the Watermaster to determine annually an Operating Safe Yield of the Six Basins and to develop an Operating Plan, which will include the monitoring and direction of all production, replenishment, replacement and storage of groundwater in the Six Basins; and

WHEREAS, PVPA, a California corporation, formed in 1910 by various water interests in Pomona Valley, engages in water conservation activities for the benefit of its shareholders, which include the City of Upland, Southern California Water Company, the City of Pomona, Simpson Paper Co., Pomona College, the San Antonio Water Company, and the West End Water Company; and

WHEREAS, PVPA owns certain real property in and around the Six Basins area primarily consisting of two spreading grounds: the San Antonio Spreading Grounds and the Thompson Creek Spreading Grounds together with appurtenant diversion and conveyance facilities (the "Spreading Grounds" herein); and

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WHEREAS, in connection with its water conservation activities, PVPA has conducted several technical studies of the Six Basins including the development of a numerical groundwater model which assists in the prediction of the Six Basins' response to PVPA's spreading activities, and is used to control the groundwater resources for the Six Basins and to mitigate high groundwater in the Six Basins; and

WHEREAS, the parties to the Judgment have conducted additional studies including the enhancement and refinement of the PVPA groundwater model.

NOW, THEREFORE, in consideration of mutual promises, agreements, and covenants of Watermaster and PVPA collectively referred to herein as "the Parties" agree as follows:

I. DEFINITIONS

A. The Judgment defines certain important terms. Except as to the definitions provided in this Agreement, the terms used in this Agreement which have been defined in the Judgment shall have the meaning set forth in the Judgment and the definitions set forth in the Judgment are incorporated herein by this reference

B. "Emergency" shall mean a sudden event which threatens life or property.

C. "Models" shall mean the spreadsheet and the basin wide models used by PVPA in development of an Operating Plan and any subsequent version or improvement thereof.

D. "Parties" written with an upper case P, refer to the Watermaster and to PVPA. Parties written with a lower case p, refer to the parties to the Judgment as defined therein.

II. SPREADING GROUNDS AND SPREADING OPERATIONS

A. Watermaster Direction and PVPA Reservation. PVPA shall use and operate the Spreading Grounds primarily for the spreading of replenishment, replacement and storage water under the direction of the Watermaster Plan. PVPA reserves the right to use the Spreading Grounds for other lawful activities consistent with its water spreading activities so long as doing so does not impair PVPA's ability to spread replenishment water in quantities substantially comparable to historic quantities.

B. Impossibility and related defenses. PVPA shall not be liable, in breach or in default of the Agreement if PVPA is unable, either temporarily or permanently, to perform its obligations

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under the Agreement for reasons beyond PVPA's reasonable control, including but not limited to, acts of God, eminent domain, impossibility or impracticability of performance, interference of a third party and natural disasters, including without limitation, floods, earthquakes, and fires.

C. PVPA Discretion. PVPA shall have discretion to make operational decisions in discharging its obligation hereunder within the scope of Watermaster direction.

D. Common conditions of spreading. In addition to the direction of Watermaster PVPA shall spread replenishment, replacement or storage waters subject to the following conditions.

1. Cessation of Spreading for Emergencies. PVPA reserves the right to cease spreading at any time, without prior notice to Watermaster if, in the discretion of PVPA, such action shall be warranted by, and in connection with, any emergency condition. PVPA will give Watermaster immediate notice of any such cessation.

2. Water Quality. PVPA bears no responsibility for the quality of replenishment, replacement or storage water or the impacts of spreading such water upon water quality of the Six Basins.

3. High Groundwater. PVPA bears no responsibility for high groundwater due to any spreading of replenishment, replacement or storage water.

4. Rejected water. PVPA bears no responsibility for loss of replenishment, replacement or storage water which is rejected or otherwise lost.

5. Measurement and Reporting. Watermaster shall provide adequate measuring devices to measure the spreading of replenishment, replacement and storage waters and any such water rejected or lost. PVPA will keep, maintain and furnish to Watermaster on a monthly basis, records of the quantities of replenishment waters spread and rejected.

6. Record of Deliveries and Spreading. Watermaster shall keep, maintain and furnish to PVPA records of the quantities and quality of replacement or storage waters delivered within 30 days following delivery of such waters. PVPA shall keep, maintain, and furnish to Watermaster the quantities of replacement and storage waters spread within 30 days following delivery of such water together with an estimate of the quantities of water bypassing the spreading facilities, if any.

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7. Compensation. Subject to review by the court under its continuing jurisdiction in Case No. KC029152, Watermaster shall pay PVPA's actual, reasonable and necessary costs incurred by PVPA in spreading replenishment, replacement and storage water. PVPA will bill Watermaster such costs on a quarterly basis and such bill will include a reasonably detailed accounting of such costs under generally accepted accounting principles (GAAP). Payment is due upon billing. PVPA's costs may be subject to review or audit by an outside accounting firm selected and paid by Watermaster (within thirty days following billing). Within thirty (30) days following billing, Watermaster shall either contest the billing or accept said billing.

E. Replenishment water. In addition to the above, PVPA shall spread replenishment water as it becomes available. PVPA has no control over the availability of replenishment waters and is under no obligation to spread any specific quantity of replenishment water.

F. Replacement Water. In addition to the above, PVPA shall spread Replacement Water on the Spreading Grounds under the following terms and conditions. Pursuant to the Judgment, only qualified parties under the Judgment may store water in the Six Basins upon entry into a Storage and Recovery Agreement with Watermaster. Upon request, PVPA shall spread storage water under the following terms and conditions:

1. Terms of Delivery. Watermaster shall deliver and PVPA shall spread storage water under the same terms and conditions as replacement waters.

2. Replacement Water Flows. PVPA will assist Watermaster in determining the allowable daily rates and the duration of replacement water deliveries, based upon conditions existing from time to time, including any unused capacity available at and in PVPA spreading facilities.

3. Notice of New or Changed Replacement Water Flows. Watermaster, at least seven (7) days prior to any anticipated delivery of replacement water, shall notify PVPA that water will be available for transport and spreading and shall give PVPA at least forty-eight (48) hours notice of any anticipated change in previously established flow rates of delivery for such water.

4. Spreading Grounds Limitations. PVPA may require changes in delivery flow rates when, in PVPA's opinion, continued spreading (in whole or in part) cannot be carried out

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hereunder due to operational and/or maintenance problems, including, but not limited to, trespassing, insect infestations, scarification, weed abatement, and/or construction in or at PVPA's conveyance and spreading facilities. When it is reasonable to do so, PVPA will give Watermaster at least twenty-four (24) hours' notice of any such changes.

III. OWNERSHIP AND IMPROVEMENTS OF SPREADING GROUNDS

A. No Dedication. Nothing in this Agreement shall be construed as a dedication of the PVPA Spreading Grounds or its facilities to Watermaster, the other parties to the Judgment, or to the public use or benefit. The spreading grounds and appurtenant facilities are, and remain, the sole property of PVPA. PVPA may sell, lease, or otherwise dispose of portions of its spreading grounds at its own discretion but not inconsistent with this Agreement.

B. Spreading Grounds Improvements. Nothing in this Agreement obligates or otherwise requires PVPA to construct new or additional facilities in connection with its spreading operations. PVPA may at its discretion construct new or additional facilities. Watermaster may propose improvements to PVPA's spreading grounds and facilities at its own expense.

C. Condemnation. Watermaster agrees to and does waive and disclaim any interest in any award or settlement which may be made in any proceeding in eminent domain concerning all or part of the Spreading Grounds whether the taking be total or partial, or for easement purposes. If the taking be such as to render the Spreading Grounds totally unfit and unsuitable for the above use, then, pursuant to Paragraph II,A, PVPA is not in default or breach.

IV. GROUNDWATER MODEL

A. License for use. PVPA grants Watermaster a license to use its Spreadsheet Models pursuant to the terms and conditions of this agreement for the development of an Operating Plan. In developing the initial operating plan, Watermaster has used PVPA's Groundwater Models. In developing subsequent operating plans or revising such plans, Watermaster shall use PVPA's Groundwater Models and any subsequent version or improvement thereof, or other criteria at Watermaster's discretion.

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1. Custody of the PVPA's Groundwater Models. Watermaster shall have physical custody of a copy of the model. However, PVPA shall have the right to access the Models for any purpose which is not inconsistent with the Judgment or the direction of the Watermaster.

2. Updates to Model.

Said license shall include, following consultation with PVPA, the right to make changes, modifications, improvements, updates, or refinements in or to PVPA's Groundwater Model at the sole expense of Watermaster and without any contribution from PVPA.

B. Terms and Conditions. For daily operations, Watermaster shall be responsible for keeping, maintaining and reporting on the data base necessary for use of PVPA's Groundwater Models. Watermaster shall collect water level and quality data necessary, including key well levels and rainfall data, to use the Groundwater Models to implement the Physical Solution. Watermaster shall provide this data to PVPA by the fifteenth day of each month. PVPA shall provide Watermaster readings of replenishment water spread, on a daily basis. PVPA then shall provide Watermaster with a monthly report on available storage and water levels of monitoring wells.

1. Compensation. PVPA grants Watermaster this license at no cost other than the continuing costs which may be incurred by PVPA as a result of Watermaster operating the Models.

2. No Warranty. PVPA makes no warranty and disclaims all warranties regarding PVPA's Groundwater Model and its subsequent updates or improvements.

3. Field Conditions. PVPA shall report to Watermaster any field conditions that may have an impact on Spreading Operations.

V. INDEMNIFICATION

A. Watermaster Obligations. To the extent which is allowed by law, Watermaster shall indemnify and hold harmless, PVPA, its officers, directors, employees, agents, and representatives against any and all claims, demands, costs, and/or liabilities due to, or arising from any act or omission by PVPA, its officers, directors, employees, or agents arising from any activities not connected with the spreading of water under the direction of Watermaster.

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VI. INSURANCE

A. Subject to the above, PVPA shall obtain and maintain during the term of this Agreement the following insurance policies:

1. General Liability Insurance: PVPA shall maintain general liability insurance for bodily injury, property damage, personal injury, errors and omissions, and if practicable, flooding. The insurance shall be on an occurrence basis. The policy limits shall be at least $1,000,000.

2. Property: PVPA shall obtain insurance to provide for replacement of real and personal property owned by PVPA in the event of loss by fire, flood or vandalism. This insurance shall be provided on an occurrence basis and the policy limits shall be at least $1,000,000.

VII. MISCELLANEOUS PROVISIONS

A. Effective Date. This Agreement shall not be effective until executed by the Parties and approved by the court upon motion of Watermaster in said action in Case No. KC029152.

B. Written Amendments. This Agreement may only be modified, amended, or supplemented by a subsequent writing executed by each Party hereto and approved by the Court with jurisdiction in Case No. KC029152.

C. Choice of Law. This Agreement shall be governed by and interpreted under the laws of the State of California.

D. Delivery of Notices. All notices permitted or required under this Agreement shall be addressed to the representative Parties at the following address, or such other address as the respective Parties may provide in writing for this purpose:

PVPA:	President Pomona Valley Protective Association 414 Yale Avenue, Suite H Claremont, California 91711
Six Basins Watermaster	As may be designated by Watermaster

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Such Notices shall be deemed made when personally delivered or, when mailed, forty-eight (48) hours after deposit in the U.S. mail, first class postage pre-paid and addressed to the Party at its applicable address.

E. Successors and Assigns. This Agreement is binding on and shall inure to the benefit of the Parties, their respective successors in interest and assigns.

F. Assignment. No Party shall have the right to assign it rights or delegate any of its obligations hereunder without the express written consent of the other Party.

G. Construction. Each Party and/or its respective counsel has taken part in the negotiation, drafting, and preparation of this Agreement, and, therefore, any ambiguity or uncertainty in this Agreement shall not be construed against any Party. To ensure that this Agreement is not construed against any Party, the Parties expressly agree that any common law or statutory provision providing that an ambiguous or uncertain term will be construed against the drafter of an Agreement is waived and shall not apply to the construction of this Agreement.

H. Entire Agreement. This Agreement embodies the entire and final Agreement and understanding of the Parties pertaining to the subject matter of this Agreement, and supersedes all prior Agreements, understandings, negotiations, representations, and discussions pertaining to that subject matter, whether verbal or written, of the Parties. The Parties acknowledge that there are no representations, promises, warrantees, conditions, or obligations of any Party, or counsel (or any Party), pertaining to that subject matter other than is contained in this Agreement, and that no Party has executed this agreement in reliance on any representation, promise, warranty, condition, or obligation, other than is contained in this Agreement.

I. Execution. The Parties to this Agreement acknowledge that they have executed this Agreement voluntarily and without any duress or undue influence. The Parties further acknowledge that they (1) have been represented by counsel of their own choice in connection with the negotiation and execution of this Agreement, or have been advised to seek independent counsel of their own choice prior to executing this agreement; (2) have read this Agreement in its entirety; and (3) have entered into this Agreement of their own volition and not as a result of any representations or advice by other Party or counsel for any other Party.

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J. Counter Parts. This Agreement may be executed in one or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument. This agreement shall become effective and binding immediately upon its execution by both Parties. This Agreement consists of nine (9) pages, including the signature page.

K. Termination. Upon motion made by either Party to this Agreement in accordance with the procedures set forth in Article IX, Section A of the Judgment and approval of the Court, this Agreement shall be terminated.

DATED: _____ WATERMASTER

_____

By:

DATED: _____ POMONA VALLEY PROTECTIVE ASSOCIATION

_____

By:

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EXHIBIT D

BASE ANNUAL GROUNDWATER PRODUCTION IN EACH BASIN, 1985- 1996
AND TOTAL BASE ANNUAL GROUNDWATER PRODUCTION, 1985- 1996
FOR EACH PARTY, AND EACH PARTY'S PERCENTAGE OF THE AGGREGATE OPERATING SAFE
YIELD FOR THE CANYON, UPPER CLAREMONT HEIGHTS, LOWER CLAREMONT HEIGHTS AND POMONA BASINS

Party	Base Annual Production, Acre Feet per Year					Percentage of Aggregate Operating Safe Yield
	Canyon Basin Basin	Upper Claremont Heights Basin	Lower Claremont Heights Basin	Pomona Basin	Total	
City of La Verne	0	0	0	1,492	1,492	7.731
City of Pomona*	0	1,234	961	1,128	3,323	17.218
Simpson Paper	0	0	0	691	691	3.580
Southern Cal. Water Co.	56	2,895	107	3,647	6,705	34.741
City of Claremont	0	267	0	268	535	2.772
Pomona College	0	357	0	0	357	1.850
City of Upland	408	1,434	0	0	1,842	9.544
West End Consolidated Water Company	0	2,972	0	0	2,972	15.399
San Antonio Water Company	0	1,383	0	0	1,383	7.166
TOTAL	464	10,542	1,068	7,226	19,300	100.000%

* Pomona shall have the right to produce an additional 109 acre feet of groundwater per year subject to the following:

(a) Pomona shall provide at least 436 acre feet of recycled water to the property presently designated by the Los Angeles County Assessor as Assessor's Parcel Nos. 834-800-8001, 834-800-8002, 834-800-8009, 834-800-5013 and 834-800-6001.

(b) Pomona's additional production right shall be added to its Base Annual Production Right and shall be subject to all provisions of the Judgment relating to Base Annual Production Rights; provided however, such additional right shall not be subject to transfer or the water produced delivered for use outside the Pomona service area.

(c) To the extent in any year Pomona provides less than 436 acre feet of recycled water to the above described property, the additional right of Pomona shall be reduced to an amount equal to one fourth (1/4) of the amount of recycled water provided. However, no reduction shall occur to the extent the failure to deliver recycled water is the result of sudden occurrences such as storms, floods, fires, earthquakes, accidents or unexpected equipment outage) or acts or omissions of the Los Angeles County Sanitation District which impair the ability of Pomona to make recycled water deliveries.

EXHIBIT E

DESCRIPTION OF REPLENISHMENT PROGRAMS

San Antonio Spreading Grounds

Owned and operated by the Pomona Valley Protective Association (PVPA), this private facility is comprised of 600 acres of spreading grounds on both the east and west sides of San Antonio channel. The grounds consist of ditches, check levees, gates, metering stations, shallow basins and deep basins. The primary source of water for this facility is from San Antonio Creek by way of controlled releases from San Antonio Dam which is owned and operated by the U.S. Army Corps of Engineers. Water is released from the dam directly into San Antonio Flood Control Channel. Upon entering the channel, water is diverted into an underground basin where control gates allow regulated flow onto the spreading grounds. Additional sources of water include uncontrolled surface flows from adjacent properties in San Bernardino and Los Angeles Counties. The Corps coordinates its releases with PVPA. Four metering stations are used for flow measurements, and a series of ditches, check levees, gates and appurtenances allow the water to be directed into shallow and deep basins. Since 1896, PVPA has regularly spread water at its facility.

Thompson Creek Spreading Grounds

Owned and maintained by PVPA, this private facility is comprised of approximately 53 acres of spreading grounds south of Thompson Creek Dam and east of Thompson Creek. PVPA operates this facility with the cooperation of the Los Angeles County Flood Control District. The grounds consist of ditches, check levees, gates, shallow and deep basins. The sources of water for this facility are Cobal, Williams, Palmer, and Padua Creeks which are diverted to the grounds by PVPA with the cooperation of the Los Angeles County Department of Public Works through the Palmer Diversion. Surface runoff is diverted onto the grounds by way of Chicken Creek through a diversion located directly north of the grounds. PVPA's facility can also receive water from Thompson Creek Dam when the reservoir exceeds the elevation of 1625 feet above sea level. Since 1918, PVPA has spread water at this facility.

Pomona Spreading Grounds

Owned and operated by the City of Pomona, this facility is comprised of 8 acres of spreading grounds adjacent to the City's Pedley Water Treatment Plant. The City acquired this property in October 1926. The present deep basin configuration of the facility was completed in 1957. The source of water for this facility is San Antonio Creek water delivered through the Loop Merserve Canyon Water Company pipeline and Evey Canyon water. This facility also receives some local runoff. Water has been spread in this vicinity on and off since about 1897.

Live Oak Spreading Grounds

Owned and operated by the Los Angeles County Department of Public Works, this facility consists of approximately 5 acres of spreading grounds. Approximately 1.5 acres north of Baseline Road and 3.5 acres south of route 30 freeway extension. The source of water for this facility is controlled releases from Live Oak Dam and Live Oak Debris Basin. This facility was first used in the 1961-62 water year.

WATER STORAGE AND RECOVERY AGREEMENT

1. IDENTIFICATION

THIS AGREEMENT dated _____ by and between the CITY OF POMONA, a chartered municipal corporation (Pomona), and the SIX BASINS WATERMASTER, a court appointed entity established by the Los Angeles County Superior Court (Watermaster), and is based upon the following recitals.

2. RECITALS

2.1 Water rights have been adjudicated in the Six Basins Area according to the Judgment in Los Angeles County Superior Court Case No. KC 029152, entitled Southern California Water Company v. the City of La Verne.

2.2 Said Judgment establishes the Watermaster as the court empowered entity responsible for managing the Six Basins Area. Under the provisions of Paragraph VI.B.10 of the Judgment, Watermaster is authorized to enter into Storage and Recovery Agreements with any party holding a base annual production right.

2.3 Pomona is a party holding a base annual production right. In addition, Pomona has historically replenished the Six Basins Area. While Pomona is under no obligation to replenish the Six Basins Area, to the extent that it does augment groundwater supplies in excess of its historical replenishment as provided in Paragraph VI.B.9 of the Judgment, Pomona is authorized to recover such water.

2.4 Spreading and injecting or otherwise recharging groundwater in the Six Basins Area is restricted according to Paragraph IV.B of the Judgment; however, pursuant to Paragraph VI.B.10,

Watermaster is authorized to enter into storage and recovery agreements for the utilization of groundwater storage capacity and for subsequent recovery use or credit by the storing entity.

2.5 Pomona and Water master desire to enter into an agreement for the storage and recovery of water.

3. AGREEMENTS

In consideration for the mutual promises and conditions contained herein and for other valuable consideration, the parties agree as follows:

3.1 Pomona may, subject to the conditions hereinafter set forth, spread and cause to be spread water which would be stored for Pomona's account. The amount of water stored and recovered shall be all amounts it has spread or caused to be spread in the Six Basins Area in excess of 130 acre feet annually as specifically provided in Paragraph VI.B.9 of the Judgment. Without limitation on accumulations, Pomona shall acquire and retain ownership of all such storage in excess of the historical replenishment of 130 acre feet per year until such water is produced by Pomona or transferred as a credit toward any Replacement Water obligation.

NO LIMITS

3.2 Pomona shall issue a report to Watermaster on a quarterly basis indicating the amount of water which Pomona has spread. The report shall be due the last day of the month next following the end of the relevant quarter.

3.3 Recovery of water by Pomona shall be accounted for as follows:

3.3.1 The first water Pomona produces in a calendar year shall be the carryover of unused rights in accordance with Paragraph III.B.2.

3.3.2 The next such water produced shall be Pomona's Base Annual Production Right.

3.3.3 The next such water produced shall be water stored pursuant to this storage and Recovery Agreement.

3.4 This Agreement shall be effective upon court approval of the Judgment in the above-referenced case.

3.5 Any notices required hereunder may be given by mail postage prepaid and addressed as follows:

TO WATERMASTER:

TO CITY OF POMONA:

Henry Pepper, Director of Utilities
Public Works Department
City of Pomona
505 S. Garey Avenue
Pomona, CA 91769-0660

EXECUTED this _____ day of _____, 1998, at _____, CA.

CITY OF POMONA

By: _____

WATERMASTER

By: _____

EXHIBIT G

INITIAL OPERATING PLAN

1. **Replenishment.** PVPA shall continue to replenish the basin as it has historically done. PVPA shall curtail replenishment when the Index Water Level is at 1455 or higher, where the Index Water Level is the average of the water level elevations above Mean Sea Level for the following five Key Wells:

Upland-Foothill No. 3 (Owner: WECWC)
Mountain View No. 4 (Owner: WECWC)
Miramar No. 3 (Owner: SCWC)
College No. 1 (Owner: Pomona College)
Tunnel Well No. 3 (Owner: Pomona)

On the second Monday of each month owners of the Key Wells shall measure and report to Watermaster and to PVPA the water level elevations in the Key Wells. Water level elevations shall be measured using protocols specified by Watermaster.

2. **Production Measurement and Reporting.** Within 180 days following Entry of Judgment each producer shall have installed on all of its producing wells a calibrated device to measure production. Such devices shall conform to, and be regularly calibrated in accordance with, specifications developed by Watermaster. Each producer shall record the monthly production from each well in acre feet and shall report such monthly production for each well and the total for all wells for the month and for the year to date to Watermaster by not later than the third working day following the end of the month.

3. **Operating Safe Yield.** The initial Operating Safe Yield of the Four Basins is 24,000 acre feet per year.

PROOF OF SERVICE

I am a resident of the State of California, over the age of eighteen years, and not a party to the within action. My business address is 21 East Carrillo Street, Santa Barbara, California 93101-2782. On December 21, 1998, I served the within document:

NOTICE OF ENTRY OF JUDGMENT

[ ] by transmitting via facsimile the document(s) listed above to the fax number(s) set forth below on this date before 5:00 p.m.

[x] by placing the document listed above in a sealed envelope with postage thereon fully prepaid, in the United States mail at Santa Barbara, California as set forth below.

[ ] by causing personal delivery by _____ of the document(s) listed above to the person(s) at the address(es) set forth below.

[ ] by personally delivering the document(s) listed above to the person(s) at the address(es) set forth below.

SEE ATTACHED LIST

I am readily familiar with the firm's practice of collection and processing correspondence for mailing. Under that practice it would be deposited with the U.S. Postal Service on that same day with postage thereon fully prepaid in the ordinary course of business. I am aware that on motion of the party served, service is presumed invalid if postal cancellation date or postage meter date is more than one day after date of deposit for mailing in affidavit.

[x] *(State)* I declare under penalty of perjury under the laws of the State of California that the above is true and correct.

Executed on December 21, 1998, at Santa Barbara, California.

Gina Lane

GINA M. LANE

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21 EAST CARRILLO STREET
SANTA BARBARA, CA
93101-2782

Jess Senecal, Esq.
Lagerlof, Senecal, Bradley and Swift
301 North Lake Ave., 10th Floor
Pasadena, CA 91101

Art Littleworth, Esq.
Best, Best & Krieger
3750 University Ave.
Riverside, CA 92502-1028

Burt Gindler, Esq.
Morrison & Foerster
555 West Fifth St.
Los Angeles, CA 90013-1024

Steven Kennedy, Esq.
Three Valleys Mutual Water District
1839 Commercenter Way
Riverside, CA 92412

Robert Hawkins, Esq.
Law Offices of Robert C. Hawkins
110 Newport Center Drive, Suite 200
Newport Beach, CA 92660

James Markman, Esq.
Boyd Hill, Esq.
Markman, Arczynski, Hanson, Curley & Slough
One Civic Center Circle
Brea, CA 92822-1059

Arthur Kidman, Esq.
McCormick, Kidman & Behrens
695 Town Center Drive, Suite 1400
Costa Mesa, CA 92626-1924

Jerome Craig, Esq.
Morrison & Foerster, LLP
555 West Fifth St., Suite 3500
Los Angeles, CA 90013

Keith Johnson
Allard, Shelton & O'Connor
319 Harvard Ave.
Claremont, CA 91711

Tom McPeters, Esq.
San Antonio Water Company
Home Savings of Am. Building, 2nd Floor
4 West Redlands Blvd.
Redlands, CA 92378

Jeanne Verville, Esq.
Simpson Paper Company
1301 Fifth Ave., Suite 2800
Seattle, Washington 98101-2613

Appendix G

La Verne 2009 Consumer Confidence Report

City of La Verne Water Quality Report 2010

Each year, California water utilities provide an annual water quality report to their customers. This year's report covers calendar year 2009 water quality testing and has been prepared in compliance with new regulations called for in the 1996 reauthorization of the Safe Drinking Water Act (SDWA). This report will give you an overview of how the City of La Verne provides your tap water and will explain the many steps we take to insure that the high quality of our water stays protected. The City of La Verne vigilantly safeguards its water supply and, as in years past, the water delivered to your home meets or exceeds the standards required by the state and federal regulatory agencies. In accordance with the SDWA, the City monitors many constituents in your water supply. This report includes only the constituents actually detected in the water. As you will see throughout this report, the water provided to City of La Verne customers meets or exceeds all federal and state quality standards.

If you would like more information, or have any questions regarding the quality or delivery of your water service, please contact Daniel W. Keesey, Director of Public Works, City of La Verne, 3660 "D" Street, La Verne, CA 91750, or by phone at (909) 596-8741. The City Council meets on the first and third Mondays of the month in the Council Chambers at the same address above.

Types and locations of water sources: Local groundwater provides approximately 30 percent of our water; however, most of our supply (70 percent) is purchased from the Three Valleys Municipal Water District (TVMWD) who treats water received from the Metropolitan Water District of Southern California (MWD). MWD provides supplemental water to about 300 cities and unincorporated areas in Southern California, importing water from two separate sources: the Colorado River and the State Water Project. The water we purchase is treated by Three Valleys Municipal Water District at the Miramar Treatment Plant.

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include:

- *Microbial contaminants*, such as viruses and bacteria that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- *Inorganic contaminants*, such as salts and metals, that can be naturally-occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- *Pesticides and herbicides*, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.
- *Organic chemical contaminants*, including synthetic and volatile organic chemicals that are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems.
- *Radioactive contaminants*, which can be naturally occurring or be the result of oil and gas production and mining activities.

A source water assessment was conducted for Cartwright Well, La Verne Heights Well 02, La Verne Heights Well 03, Lincoln Well, Mills Tract Well, Old Baldy Well, Amherst Well, and Walnut Well for the City of La Verne Water Department in March 2002. These sources are considered most vulnerable to the following activities not associated with any detected contaminants: hospitals, high density housing, storm drain discharge points, transportation corridors – road-right-of-ways, sewer collection systems, high density septic system, dry cleaners, historic gas stations, confirmed leaking underground fuel tanks, automobile gas stations, plastics/synthetics producers. A copy of the complete assessment may be viewed at: DHS Los Angeles District Office, 1449 Temple Street, Room 202, Los Angeles, CA 90026. You may request a summary of the assessment be sent to you by contacting Jeff O'Keefe, District Engineer, Metropolitan District, (213) 580-5723.

In December 2002, Metropolitan Water District of Southern California completed its source water assessment of its Colorado River and State Water Project supplies. Colorado River supplies are considered to be most vulnerable to recreation, urban/storm water runoff, increasing urbanization in the watershed and wastewater. State Water Project supplies are considered to be most vulnerable to urban/storm water runoff, wildlife, agriculture, recreation and wastewater. A copy of the assessment can be obtained by contacting MWD by phone at (213) 217-6850.

Tables 1, 2, 3, 4, and 5 list all of the drinking water contaminants that were detected during the most recent sampling for the constituent. The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk. The Department requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Some of the data, though representative of the water quality, are more than one year old. The City also participated in unregulated contaminant monitoring. Unregulated contaminant monitoring helps EPA determine where certain contaminants occur and whether it needs to establish regulations for those contaminants. All constituents for this testing were non-detectable (ND) in our groundwater supply with the exception of boron, perchlorate, and vanadium which are listed in table 5.

Este informe contiene información muy importante sobre su agua beber.
Tradúzcalo ó hable con alguien que lo entienda bien.

TABLE 1 - SAMPLING RESULTS SHOWING THE DETECTION OF COLIFORM BACTERIA

Microbiological Contaminants (to be completed only if there was a detection of bacteria)	Groundwater (30. %)	Miramar Plant (70%)	MCL	PHG (MCLG)	MCL Violation	Typical Source of Contaminant
Total Coliform Bacteria Highest percent of positive samples in one month .02%	No acute violations, 1 positive sample	No acute violations, 0 positive samples	More than 5% of samples collected in one month with positive detection	0	No	Naturally present in the environment
Fecal Coliform or *E. coli*	No acute violations, 0 positive samples	No acute violations, 0 positive samples	A routine sample and a repeat sample detect total coliform and either sample also detects fecal coliform or *E. coli*	0	No	Human and animal fecal waste-

TABLE 2 - SAMPLING RESULTS SHOWING THE DETECTION OF LEAD AND COPPER AT RESIDENTIAL TAPS

Lead and Copper (last tested 2009; next test due 2010)	Samples collected	90th percentile level detected	No. of Sites exceeding AL	AL	PHG (MCLG)	AL Violation	Typical Source of Contaminant
Lead (ppb)	31	13	0	15	2	No	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits.
Copper (ppm)	31	0.28	0	1.3	0.17	No	Internal corrosion of household water plumbing systems; erosion of natural deposits; leaching from wood preservatives.

TABLE 3 - SAMPLING RESULTS FOR SODIUM AND HARDNESS

Chemical or Constituent (and reporting units) (ast tested in 2007; next test 2010)	Groundwater (30%) (Range)	Miramar Plant 70% (Average)	MCL	PHG (MCLG)	MCL Violation	Typical Source of Contaminant
Sodium (ppm)	31 - 81	63.2	none	none	No	Generally found in ground and surface water
Hardness (ppm)	76 - 420	100	none	None	No	Generally found in ground and surface water

TABLE 4 - DETECTION OF CONTAMINANTS WITH A PRIMARY DRINKING WATER STANDARD

Chemical or Constituent (and reporting units)	Groundwater (30%) (Range)	Miramar Plant 70% (Average)	MCL	PHG (MCLG)	MCL Violation	Typical Source of Contaminant
CLARITY						
Combined Filter Effluent Turbity (NTU)	0.1 – 0.3	0.03 – 0.11/0.05	5	NS	No	Soil runoff
ORGANIC CHEMICALS (last tested 2008)						
Dibromochloropropane (DBCP)	ND – 0.068/0.018	ND	200	—	No	Banned nematocide that may still be present in soils
1,1Dichloroethylene (1,1 – DCE)	ND – 1.3/0.21	ND	6	10	No	Discharge from industrial chemical factories
Tetrachloroethylen (PCE)	ND – 0.6/0.13	ND	5	—	No	Discharge from factories, dry cleaners, auto shops
Trichloroethylene (ppb)	ND – 19/4.0	ND	5	0.8	No	Discharge from metal degreasing sites and other factories
Total Trihalomethanes (ppb)	ND – 1.5/0.2	35.7 – 47.1/42.2	80	N/A	No	By-product of drinking water chlorination
INORGANIC CHEMICALS (testing required every three years; last tested 2007)						
Flouride (ppm) *(naturally occurring)*	.33 - .66/.48	ND	2	1	No	Erosion of natural deposits; water additive that promotes strong teeth
Nitrate as NO3 (ppm)	34 – 110/74.2*	2.55 – 3.67/0.32	45	45	No*	Runoff & leaching from fertilizer; leaching from septic tanks & sewage; erosion of natural deposits
Perchlorates (ppm)	ND – 21/8.3*	ND	6	6	No*	Industrial waste discharge
RADIONUCLIDES (testing required every nine years; last tested 2006)						
Gross Beta Particle Activity (pCi/L)	ND – 4.3/.23	ND	50	(0)	No	Decay of natural and manmade deposits
Uranium (pCi/L)	3.2	ND	20	(0)	No	Erosion of natural deposits
Radium 226	—	0.08	N/A	0.05	No	Erosion of natural deposits
Radium 228	ND	0.33	N/A	0.019	No	Erosion of natural deposits

TERMS USED IN THIS REPORT

Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the PHGs (or MCLGs) as is economically and technologically feasible. Secondary MCLs are set to protect the odor, taste, and appearance of drinking water.

Primary Drinking Water Standards (PDWS): MCLs for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.

Secondary Drinking Water Standards (SDWS): MCLs for contaminants that affect taste, odor, or appearance of the drinking water. Contaminants with SDWSs do not affect the health at the MCL levels.

Public Health Goal (PHG): The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the California Environmental Protection Agency.

Maximum Residual Disinfectant Level (MRDL): The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the U.S. Environmental Protection Agency (USEPA).

Regulatory Action Level (AL): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

Treatment Technique (TT): A required process intended to reduce the level of a contaminant in drinking water

Variances and Exemptions: Department permission to exceed an MCL or not comply with a treatment technique under certain conditions.

NC: not collected
ND: not detectable at testing limit
ppm: parts per million or milligrams per liter (mg/L)
ppb: parts per billion or micrograms per liter (ug/L)
ppt: parts per trillion or nanograms per liter (ng/L)
pCi/L: picocuries per liter (a measure of radiation)

Maximum Residual Disinfectant Level Goal (MRDLG): The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

TABLE 5 - DETECTION OF CONTAMINANTS WITH A SECONDARY DRINKING WATER STANDARD

Chemical or Constituent (and reporting units)	Groundwater (30%) (Range)	Miramar Plant 70% (Average)	MCL	PHG (MCLG)	MCL Violation	Typical Source of Contaminant
AESTHETIC STANDARDS (testing required every three years; last tested 2007)						
Aluminum (ppb)	ND	5.15	200	600	No	Residue from treatment process; erosion of natural deposits.
Chloride (ppm)	15 – 66/44	75.8	500	NS[2]	No	Runoff/leaching from natural deposits; seawater influence
Heterotrophic Plate Count (CFU/mg/L)	N/A	ND – 59/ND	NS	NS	No	Naturally present in the environment
Iron (ppb)	ND – 190/21.1	ND	300	NA	No	Leaching from natural deposits; industrial waste
Manganese (ppb)	ND	1.05	50	NL=500	No	Leaching from natural deposits
Odor Threshold (units)	1	ND	3	NS	No	Naturally occurring organic materials
Specific Conductance (mS/cm)	480 – 950/771	443	1600	NS	No	Substances that form ions when in water; seawater influence
Sulfate (ppm)	70 – 150/103	45	500	NS	No	Runoff/leaching from natural deposits; industrial wastes
Total Dissolved Solids (ppm)	310 – 660/540	210 – 350/279	1000	NS	No	Runoff/leaching from natural deposits; seawater influence
ADDITIONAL PARAMETERS						
Alkalinity (ppm)	130 – 220/181	55 - 165/78	NS	NS	No	Measure of water quality
Calcium (ppm)	26 – 140/96	25.9	NS	NS	No	Measure of water quality
Magnesium (ppm)	3 – 28/19	8.41	NS	NS	No	Measure of water quality
pH (units)	7.0 – 7.8/7.43	7.82 – 8.5/8.25	NS	NS	No	Measure of water quality
Potassium (ppm)	1. – 2.7/2.17	2.91 – 3.20/3.06	NS	NS	No	Measure of water quality
Total Organic Carbon (ppm)	ND	1.1 – 2.3/1.6	NS	NS	No	Various natural and manmade sources
UNREGULATED CHEMICALS OF NOTE REQUIRING MONITORING						
Boron (ppb)	ND – 270/64	190	NS	NL=1000	No	Runoff/leaching from natural deposits; industrial wastes
Vanadium	5 – 15/8.5	ND	NS	NL=50	No	Naturally occurring; industrial waste discharge

* Any MCL or AL above the MCL is asterisked. Additional information regarding the asterisked items is listed on the back.

1 MWD has developed a flavor profile analysis method that can more accurately detect odor occurrences. For more information, contact Three Valleys Municipal Water District (909) 621-5568

2 NS means no standard has been set as an MCL or PHG

Summary Information for Contaminants Exceeding an MCL or AL

The range for nitrate in the groundwater sample results may be above the MCL. These values are for wells only which account for approximately 30 percent of the total water supplied to our customers. The content at your tap is well below the MCL, ranging from 25 to 34 ppm for nitrate and nondetectable to 4.8 ppm for perchlorate. The range for trichloroethylene in the groundwater sample results may also be above the MCL; however, the groundwater goes through an air stripping process that reduces the trichloroethylene to nearly nondetectable levels.

Nitrate in dinking water at levels above 45 mg/L is a health risk for infants of less than six months of age. Such nitrate levels in drinking water can interfere with the capacity of the infant's blood to carry oxygen, resulting in a serious illness; symptoms include shortness of breath and blueness of the skin. Nitrate levels above 45 mg/L may also affect the ability of the blood to carry oxygen in other individuals, such as pregnant women and those with certain specific enzyme deficiencies. If you are caring for an infant, or you are pregnant, you should ask advice from your healthcare provider.

Lead in Drinking Water

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The City of La Verne is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at *http://www.epa.gov/safewater/lead.*

Additional General Information On Drinking Water

All drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the USEPA's Safe Drinking Water Hotline (1-800-426-4791).

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. USEPA/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).

More Resources for Water Information

The City of La Verne cares about our customers and the water we supply to them. We always welcome any calls or questions regarding the quality or delivery of our water. Our customer service office can be reached at (909) 596-8744. For more information about water use efficiency and available rebates, please visit the City's website at www.ci.la-verne.ca.us and look for environmental programs in the Public Works Department section.

Appendix H

La Verne Ordinance No. 822

Appendix B

ORDINANCE NO. 822

AN URGENCY ORDINANCE OF THE CITY COUNCIL OF THE CITY OF LA VERNE, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, DECLARING AN EMERGENCY WATER SHORTAGE AND ADDING CHAPTER 13.15 TO THE LA VERNE MUNICIPAL CODE RELATING TO THE ESTABLISHMENT OF CALIFORNIA DROUGHT SURCHARGES, CONSERVATION MEASURES, AND WATER USE REGULATIONS AND RESTRICTIONS

WHEREAS, the State of California and the Colorado River watershed are experiencing a fifth consecutive year of drought; and

WHEREAS, as a result of the drought, the reservoirs of the State Water Project and the groundwater and surface storage reserves of the Metropolitan Water District of Southern California have been significantly depleted; and

WHEREAS, the California State Department of Water Resources has informed water districts throughout the state, including the Metropolitan Water District of Southern California, that it will be necessary to curtail water deliveries to municipal and industrial customers in 1991; and

WHEREAS, the Federal Bureau of Reclamation's current annual operating plan projects an approximate 25 percent reduction of Colorado River water supply to the Metropolitan Water District of Southern California; and

WHEREAS, on November 20, 1990, the Metropolitan Water District of Southern California adopted its Incremental Interruption and Conservation Plan (IICP), a multi-staged plan to distribute its limited water supply in a manner which will protect, to the extent possible, an adequate water supply of water for the current year and thereafter should the drought continue; and

WHEREAS, Metropolitan instituted Stage I of its IICP effective December 1, 1990 which suggested a voluntary reduction in consumption of 10 percent; and

WHEREAS, on January 29, 1991, the Three Valleys Municipal Water District (TVMWD), a member agency of the Metropolitan Water District, adopted an ordinance which passes along the provisions of Metropolitan's IICP to TVMWD's member agencies; and

WHEREAS, the City of La Verne is a member agency of TVMWD; and

WHEREAS, Metropolitan dismissed Stage II of its IICP and went directly to Stage III effective February 1, 1991, which mandated a 10 percent reduction in consumption; and

WHEREAS, Metropolitan dismissed Stage IV of its IICP and instituted Stage V effective March 1, 1991, which requires a mandatory 20 percent reduction in water consumption; and

WHEREAS, the City of La Verne obtains approximately 80 percent of its water from TVMWD; and

WHEREAS, the City of La Verne's water wells contain high levels of nitrates and must be blended with import water from TVMWD to lower said nitrate levels; and

WHEREAS, the City Council is authorized and empowered under Section 13.08.030 of the La Verne Municipal Code to enact and enforce restrictions on water use and conservation to conserve precious water supplies and to prevent wasteful practices throughout its service area;

WHEREAS, on February 4, 1991, the City Council appointed an ad hoc water conservation committee to develop measures and restrictions which would result in the conservation of water; and

WHEREAS, the City Council considered the recommendations of the water conservation committee on March 4, 1991;

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF LA VERNE DOES ORDAIN AS FOLLOWS:

Section 1. The City Council HEREBY FINDS and DECLARES that a water shortage exists in Southern California which could have severe consequences within the City of La Verne and that the regulations set forth herein are necessary and proper to protect the water supply for human consumption, sanitation, and fire protection during the term of this emergency water shortage condition.

Section 2. The City Council HEREBY FINDS and DETERMINES that there exists within the City an emergency water shortage condition and that, as a result, there is an urgent necessity to take legislative action through the exercise of police powers to protect the public peace, health and safety of this City.

Section 3. Chapter 13.15 is HEREBY ADDED to the La Verne Municipal Code to read as follows:

CHAPTER 13.15

WATER CONSERVATION, USE, AND RESTRICTIONS

13.15.010 Purpose. The purpose of this chapter is to foster water conservation and to assure that wasteful water practices are eliminated throughout the city's service area. The regulations set forth in this Chapter shall become effective immediately and shall remain in effect until repealed by the City Council.

13.15.015 Definitions. For the purposes of this chapter, the following definitions shall apply:

A. "Base Year" shall mean the amount of water delivered to each customer's property during the corresponding bimonthly billing period during fiscal year 1989-90.

B. "Appeal Officer" shall be the Director of Public Works or his designee.

C. "Customer" shall refer to the person whose name water service is rendered as evidenced by the signature on the application, contract or agreement for water service, or, in the absence of a signed instrument, by receipt and payment of bills for such service regularly issued in such person's name regardless of the identity of the actual user of such water service. For the purposes of this chapter, only one meter shall be issued per each individual customer account.

13.15.020 California Drought Surcharge. In addition to the base rate for water as established from time to time by the City Council, the following surcharges shall be levied for each and every customer who exceeds the adopted allowances identified in Section 13.15.030 of this ordinance. Such surcharges shall be based upon a daily equivalent and shall be computed based upon the actual number of service days. All surcharges are computed per thousand (1,000) gallons or fraction thereof for each of the corresponding levels.

A. Single Family Residential

- Level 'A' = NO SURCHARGE
- Level 'B' = $0.18 per 1,000 gallons
- Level 'C' = $0.60 per 1,000 gallons
- Level 'D' = $1.96 per 1,000 gallons
- Level 'E' = $5.13 per 1,000 gallons

B. Multi-family Residential (including condominiums, townhouses, apartments, and mobile home parks)

- Level 'A' = NO SURCHARGE
- Level 'B' = $1.21 per 1,000 gallons
- Level 'C' = $2.42 per 1,000 gallons

C. Irrigation and Other Accounts

- Level 'A' = NO SURCHARGE
- Level 'B' = $1.21 per 1,000 gallons
- Level 'C' = $2.42 per 1,000 gallons

D. All Remaining Accounts (including all nonresidential, commercial, industrial, public authority, churches, etc.)

- Level 'A' = NO SURCHARGE
- Level 'B' = $1.21 per 1,000 gallons
- Level 'C' = $2.42 per 1,000 gallons

13.15.025 Exceptions to Surcharge. Nothing contained in this ordinance shall be deemed to require any customer to reduce their water consumption to an amount less than ten thousand (10,000) gallons per bimonthly billing period.

13.15.030 Water Use Limits. Limits on the amount of water consumed by any customer of the La Verne Water Department may be restricted by the City Council. The effective limits of such rationing shall be determined by resolution of the City Council adopting the appropriate phase of this ordinance as the City Council deems necessary to meet the conservation targets imposed by the Metropolitan Water District and TVMWD. All limits are based upon water use for a two month period (bimonthly billing period).

A. Phase I. The City Council HEREBY ORDERS that overall water consumption be reduced by 10%. Such conservation shall be considered voluntary and shall not be subject to any of the restrictions identified in Section 13.15.040 except on a voluntary basis.

B. Phase II. The City Council HEREBY ORDERS that overall water consumption be reduced by 5%. Such conservation shall be mandatory and is subject to the following limits:

1. Single Family Residential

- Level 'A' = 0 - 29,000 gallons
- " 'B' = 29,001 - 39,000 gallons
- " 'C' = 39,001 - 59,000 gallons
- " 'D' = 59,001 - 89,000 gallons
- " 'E' = 89,001 gallons or greater

2. Multi-family Residential

- Level 'A' = Less than or equal to 95% of base year, calculated on an individual account basis
- Level 'B' = Greater than 95% of base year, but less than 100% of base year, calculated on an individual account basis
- Level 'C' = 100% or greater of base year, calculated on an individual account basis

3. Irrigation and Other Accounts

- Level 'A' = Less than or equal to 80% of base year, calculated on an individual account basis
- Level 'B' = Greater than 80% of base year, but less than 100% of base year, calculated on an individual account basis
- Level 'C' = 100% or greater of base year, calculated on an individual account basis

4. All Remaining Accounts

- Level 'A' = Less than or equal to 95% of base year, calculated on an individual account basis
- Level 'B' = Greater than 95% of base year, but less than 100% of base year, calculated on an individual account basis
- Level 'C' = 100% or greater of base year, calculated on an individual account basis

C. Phase III. The City Council HEREBY ORDERS that overall water consumption be reduced by 10%. Such conservation shall be mandatory and is subject to the following limits:

1. Single Family Residential

- Level 'A' = 0 - 26,000 gallons
- " 'B' = 26,001 - 36,000 gallons
- " 'C' = 36,001 - 56,000 gallons
- " 'D' = 56,001 - 86,000 gallons
- " 'E' = 86,001 gallons or greater

2. Multi-family Residential

- Level 'A' = Less than or equal to 90% of base year, calculated on an individual account basis
- Level 'B' = Greater than 90% of base year, but less than 100% of base year, calculated on an individual account basis
- Level 'C' = 100% or greater of base year, calculated on an individual account basis

3. Irrigation and Other Accounts

- Level 'A' = Less than or equal to 70% of base year, calculated on an individual account basis
- Level 'B' = Greater than 70% of base year, but less than 100% of base year, calculated on an individual account basis
- Level 'C' = 100% or greater of base year, calculated on an individual account basis

4. All Remaining Accounts

- Level 'A' = Less than or equal to 90% of base year, calculated on an individual account basis
- Level 'B' = Greater than 90% of base year, but less than 100% of base year, calculated on an individual account basis
- Level 'C' = 100% or greater of base year, calculated on an individual account basis

D. Phase IV. The City Council HEREBY ORDERS that overall water consumption be reduced by 15%. Such conservation shall be mandatory and is subject to the following limits:

1. Single Family Residential

- Level 'A' = 0 - 23,000 gallons
- " 'B' = 23,001 - 33,000 gallons
- " 'C' = 33,001 - 53,000 gallons
- " 'D' = 53,001 - 83,000 gallons
- " 'E' = 83,001 gallons or greater

2. Multi-family Residential

- Level 'A' = Less than or equal to 85% of base year, calculated on an individual account basis
- Level 'B' = Greater than 85% of base year, but less than 100% of base year, calculated on an individual account basis
- Level 'C' = 100% or greater of base year, calculated on an individual account basis

3. Irrigation and Other Accounts

- o Level 'A' = Less than or equal to 60% of base year, calculated on an individual account basis
- o Level 'B' = Greater than 60% of base year, but less than 100% of base year, calculated on an individual account basis
- o Level 'C' = 100% or greater of base year, calculated on an individual account basis

4. All Remaining Accounts

- o Level 'A' = Less than or equal to 85% of base year, calculated on an individual account basis
- o Level 'B' = Greater than 85% of base year, but less than 100% of base year, calculated on an individual account basis
- o Level 'C' = 100% or greater of base year, calculated on an individual account basis

E. Phase V. The City Council HEREBY ORDERS that overall water consumption be reduced by 20%. Such conservation shall be mandatory and is subject to the following limits:

1. Single Family Residential

- o Level 'A' = 0 - 20,000 gallons
- o " 'B' = 20,001 - 30,000 gallons
- o " 'C' = 30,001 - 50,000 gallons
- o " 'D' = 50,001 - 80,000 gallons
- o " 'E' = 80,001 gallons or greater

2. Multi-family Residential

- o Level 'A' = Less than or equal to 80% of base year, calculated on an individual account basis
- o Level 'B' = Greater than 80% of base year, but less than 100% of base year, calculated on an individual account basis
- o Level 'C' = 100% or greater of base year, calculated on an individual account basis

3. Irrigation and Other Accounts

- o Level 'A' = Less than or equal to 50% of base year, calculated on an individual account basis
- o Level 'B' = Greater than 50% of base year, but less than 100% of base year, calculated on an individual account basis
- o Level 'C' = 100% or greater of base year, calculated on an individual account basis

4. All Remaining Accounts

- Level 'A' = Less than or equal to 80% of base year, calculated on an individual account basis
- Level 'B' = Greater than 80% of base year, but less than 100% of base year, calculated on an individual account basis
- Level 'C' = 100% or greater of base year, calculated on an individual account basis

F. Phase VI. The City Council HEREBY ORDERS that overall water consumption be reduced by 25%. Such conservation shall be mandatory and is subject to the following limits:

1. Single Family Residential

- Level 'A' = 0 - 17,000 gallons
- " 'B' = 17,001 - 27,000 gallons
- " 'C' = 27,001 - 47,000 gallons
- " 'D' = 47,001 - 77,000 gallons
- " 'E' = 77,001 gallons or greater

2. Multi-family Residential

- Level 'A' = Less than or equal to 75% of base year, calculated on an individual account basis
- Level 'B' = Greater than 75% of base year, but less than 100% of base year, calculated on an individual account basis
- Level 'C' = 100% or greater of base year, calculated on an individual account basis

3. Irrigation and Other Accounts

- Level 'A' = Less than or equal to 40% of base year, calculated on an individual account basis
- Level 'B' = Greater than 40% of base year, but less than 100% of base year, calculated on an individual account basis
- Level 'C' = 100% or greater of base year, calculated on an individual account basis

4. All Remaining Accounts

- Level 'A' = Less than or equal to 75% of base year, calculated on an individual account basis
- Level 'B' = Greater than 75% of base year, but less than 100% of base year, calculated on an individual account basis
- Level 'C' = 100% or greater of base year, calculated on an individual account basis

G. Phase VII. The City Council HEREBY ORDERS that overall water consumption be reduced by 30%. Such conservation shall be mandatory and is subject to the following limits:

1. Single Family Residential

- Level 'A' = 0 - 14,000 gallons
- " 'B' = 14,001 - 24,000 gallons
- " 'C' = 24,001 - 44,000 gallons
- " 'D' = 44,001 - 74,000 gallons
- " 'E' = 74,001 gallons or greater

2. Multi-family Residential

- Level 'A' = Less than or equal to 70% of base year, calculated on an individual account basis
- Level 'B' = Greater than 70% of base year, but less than 100% of base year, calculated on an individual account basis
- Level 'C' = 100% or greater of base year, calculated on an individual account basis

3. Irrigation and Other Accounts

- Level 'A' = Less than or equal to 30% of base year, calculated on an individual account basis
- Level 'B' = Greater than 30% of base year, but less than 100% of base year, calculated on an individual account basis
- Level 'C' = 100% or greater of base year, calculated on an individual account basis

4. All Remaining Accounts

- Level 'A' = Less than or equal to 70% of base year, calculated on an individual account basis
- Level 'B' = Greater than 70% of base year, but less than 100% of base year, calculated on an individual account basis
- Level 'C' = 100% or greater of base year, calculated on an individual account basis

H. Phase VIII. The City Council HEREBY ORDERS that overall water consumption be reduced by 40%. Such conservation shall be mandatory and is subject to the following limits:

1. Single Family Residential

- Level 'A' = 0 - 10,000 gallons
- " 'B' = 10,001 - 20,000 gallons
- " 'C' = 20,001 - 40,000 gallons
- " 'D' = 40,001 - 70,000 gallons
- " 'E' = 70,001 gallons or greater

2. Multi-family Residential

- Level 'A' = Less than or equal to 60% of base year, calculated on an individual account basis
- Level 'B' = Greater than 60% of base year, but less than 100% of base year, calculated on an individual account basis
- Level 'C' = 100% or greater of base year, calculated on an individual account basis

3. Irrigation and Other Accounts

- Level 'A' = Less than or equal to 10% of base year, calculated on an individual account basis
- Level 'B' = Greater than 10% of base year, but less than 100% of base year, calculated on an individual account basis
- Level 'C' = 100% or greater of base year, calculated on an individual account basis

4. All Remaining Accounts

- Level 'A' = Less than or equal to 60% of base year, calculated on an individual account basis
- Level 'B' = Greater than 60% of base year, but less than 100% of base year, calculated on an individual account basis
- Level 'C' = 100% or greater of base year, calculated on an individual account basis

13.15.035 Base Year Adjustments. The city, in its discretion, may adjust the base year assigned to any customer if that customer establishes, to the satisfaction of the appeal officer, that the base year, as provided herein, would cause great hardship in accordance with the provisions of Section 13.15.050.

Any customer who was not a customer on the premises for which service was billed during the base period shall be assigned the same base period for such or similar premises as provided herein, and the city shall have the further discretion to adjust the base year in the event such customer's use of the premises is substantially different from the previous use thereof during the base period.

13.15.040 Water Use Restrictions. The following water use restrictions and regulations shall apply to the respective phases of this ordinance as approved by the City Council. Except under Phase I of this ordinance, compliance with these regulations shall be mandatory.

A. Phase I - Voluntary Restrictions

1. Compliance with any of the restrictions identified under this section shall be voluntary and is encouraged.

B. Phase II - Mandatory Restrictions

1. Hose washing of sidewalks, walkways, driveways, parking areas, or other paved surfaces shall be prohibited.

2. Washing of motor vehicles, trailers, boats, and other types of mobile equipments shall be done only with a hand held water container or a hose equipped with a positive shut off nozzle for quick rinses, except that washing may be done on the immediate premises of a commercial car wash or with reclaimed water.

3. No water shall be used to clean, fill, or maintain levels in decorative fountains, or other similar aesthetic structures unless such water is part of a recycling system.

4. No restaurant, hotel, cafe, cafeteria, or other public place where food is sold, served, or offered for sale, shall serve drinking water to any customer unless expressly requested.

5. All leaks from indoor and outdoor plumbing fixtures shall be repaired within 48 hours of discovery or notification.

6. Watering of landscape or other turf area shall only be permitted between the hours of 8:00 p.m. and 10:00 a.m., except that this provision shall not apply to commercial nurseries, golf courses, and other water dependent industries; except that there shall be no restriction on watering with reclaimed water, providing that signs are posted that identify reclaimed water is being used. The use of properly operating drip irrigation systems or hand held buckets shall be permitted at any time.

7. Water runoff from landscaped areas into adjoining streets, sidewalks, or other paved areas shall be prohibited.

8. Construction water for grading and other purposes shall be limited to ground produced water at the discretion of the city.

C. Phase III - Mandatory Restrictions

1. The restrictions identified in 13.15.040.B shall remain in effect with no further restrictions applying.

D. Phase IV - Mandatory Restrictions

1. The restrictions identified in 13.15.040.B, excepting 13.15.040.B.6, shall remain in effect.

2. Watering of landscape or other turf area, including that of commercial nurseries, golf courses, and other water dependent industries shall only be permitted between the hours of 8:00 p.m. and 10:00 a.m. for no more than five (5) minutes per station or area, and not to exceed more than twenty (20) minutes per week; except that there shall be no restriction on watering with reclaimed water, providing that signs are posted that identify reclaimed water is being used. The use of properly operating drip irrigation systems or hand held buckets shall be permitted at any time.

E. Phase V - Mandatory Restrictions

1. The restrictions identified in 13.15.040.B, excepting 13.15.040.B.6, shall remain in effect.

2. Watering of landscape or other turf area, including that of commercial nurseries, golf courses, and other water dependent industries shall only be permitted between the hours of 8:00 p.m. and 10:00 a.m. for no more than five (5) minutes per station or area, and not to exceed more than twenty (20) minutes per week; except that there shall be no restriction on watering with reclaimed water, providing that signs are posted that identify reclaimed water is being used. The use of properly operating drip irrigation systems or hand held buckets shall be permitted at any time.

F. Phase VI - Mandatory Restrictions

1. The restrictions identified in 13.15.040.B, excepting 13.15.040.B.6, shall remain in effect.

2. Watering of landscape or other turf area, including that of commercial nurseries, golf courses, and other water dependent industries shall only be permitted between the hours of 8:00 p.m. and 10:00 a.m. for no more than five (5) minutes per station or area, and not to exceed more than twenty (20) minutes per week; except that there shall be no restriction on watering with reclaimed water, providing that signs are posted that identify reclaimed water is being used. The use of properly operating drip irrigation systems or hand held buckets shall be permitted at any time.

G. Phase VII - Mandatory Restrictions

1. The restrictions identified in 13.15.040.B, excepting 13.15.040.B.6, shall remain in effect.

2. Watering of landscape or other turf area, including that of commercial nurseries, golf courses, and other water dependent industries shall only be permitted between the hours of 8:00 p.m. and 10:00 a.m. for no more than five (5) minutes per station or area, and not to

exceed more than twenty (20) minutes per week; except that there shall be no restriction on watering with reclaimed water, providing that signs are posted that identify reclaimed water is being used. The use of properly operating drip irrigation systems or hand held buckets shall be permitted at any time.

3. New swimming pool and spa permits shall be issued at the discretion of the public works director based upon the availability of water.

H. Phase VIII - Mandatory Restrictions

1. The restrictions identified in 13.15.040.B, excepting 13.15.040.B.6, shall remain in effect.

2. All outdoor irrigation is prohibited except for handheld watering or use of properly operating drip irrigation systems to water mature trees and mature shrubs. Commercial nurseries and other water dependent industries shall only water landscape stock by use of properly operating drip irrigation systems or handheld buckets. Watering of all outdoor turf areas is prohibited, excepting golf course greens.

3. Issuance of new swimming pool and spa permits shall be prohibited.

4. No new water service connections will be permitted nor will an increase in the size of an already existing water service connection be permitted, nor will there be any net increase in plumbing fixtures to an already existing water service connection.

13.15.043 Failure to Comply. It shall be unlawful for any customer to fail to comply with the provisions of this chapter. Further, it shall be unlawful for any customer to consume water in excess of the base year, or as provided in Level 'C' of Sections 13.15.030 B, C, D, E, F, and G. In addition to any other penalties or surcharges provided for in any other section of this chapter, the City reserves the right to install a flow restricting device on the service line at the customer's expense for continued violation of the provisions of this chapter or for excess consumption for two consecutive billing periods.

13.15.045 Exceptions. The prohibited uses and restrictions on water shall not be applicable to that use of water which is necessary for essential governmental services such as police, fire, and other similar emergency services.

13.15.050 Appeals. Any customer may appeal the provisions of this ordinance on the basis of hardship or billing error. Appeals shall be processed as set forth herein:

A. All appeals shall be submitted in writing on forms provided by the Customer Service Division to the

Public Works Director within ten (10) business days after the receipt of the disputed billing and shall include the name and address of the party submitting the appeal as well as a brief explanation on the nature of the appeal. The appeal should also include what remedy the appellant seeks, if any.

B. To avoid additional late penalties or discontinuance of service, water bills shall be paid under protest prior to the due date and pending the conclusion of the appeal procedure.

C. In the event that an appeal is requested for irrigation of trees in residential categories, for any agricultural use or business related use, the City may use the services of a qualified consultant in determining the validity of the request.

D. The appeal officer, as defined in Section 13.15.015.B, shall review and decide all appeals within fifteen (15) business days. A written decision shall be sent to the appellant.

E. After review of the appeal by the appeal officer, a site visit may be scheduled to aid in determining the facts of the appeal.

F. The appeal officer shall have the power, upon the filing of an appeal by an aggrieved customer, to take such steps as necessary and reasonable to resolve said appeals. In reviewing the appeal, the appeal officer shall take into consideration all relevant factors including, but not limited to, the following:

1. Whether any additional reduction will result in unemployment;

2. Increased number of employees in commercial, industrial, or governmental offices;

3. Increased production requiring increased process water;

4. Adjustments to water use caused by emergency health of safety hazards;

5. Water use necessary for reasons related to family illness or health;

6. Whether additional members have been added to the household (average per household equals 3 per multi-family and 4 per single family residence);

7. Valid home occupation requiring process water;

8. Irrigation of mature fruit trees;

9. Plantings required for fire protection and slope stability;

10. Hospital and/or health care facility;

11. Customer currently employing maximum water conservation measures.

F. If the appellant is aggrieved of the appeal officer's decision, an appeal may be filed in the same manner as set forth in Section 13.15.040.a.1 to the city manager or his designee whose decision shall be final. Said appeals shall be accompanied by a $50.00 nonrefundable filing fee for residential customer accounts and a $100.00 nonrefundable filing fee for all other customer accounts; except that in the event that the appeal or portion of the appeal is granted, a proportional amount of the filing fee shall be refunded.

G. No appeal shall be granted unless the customer can show maximum practical reduction in water consumption other than in the specific areas in which relief is being sought. Further, in no event shall an appeal be granted for the purpose of maintaining turf and similar landscape. The appeal officer may request, and the customer shall provide, reasonable and necessary information for the resolution of the customer's application for appeal. This includes the installation and use of the following water efficient plumbing fixtures and/or irrigation systems:

1. Ultra low volume toilets (1.6 gallons per flush or less) as approved by the building official.

2. Low flow shower heads (2.5 gallons per minute or less at 40 psi).

3. Drip, mini emitter or low volume sprinkler irrigation systems.

4. Moisture sensors in association with automated irrigation systems.

5. Sink and lavatory faucets which limit the flow of water to a maximum of 2.5 gallons per minute at 40 psi.

13.15.060 Suspension of Surcharge. The City Council may, by resolution and without repealing this ordinance, suspend the California Drought Surcharge, as identified in Section 13.15.020, at such time that the City Council determines that the threatened water shortage no longer exists or that the threat has been substantially reduced so that the surcharge is no longer necessary to motivate conservation. Similarly, the City Council may, by resolution, impose the surcharge upon finding that the threatened water shortage conditions have reappeared. Suspension or imposition of the surcharge shall not affect the requirements of the adopted phase of this conservation plan.

13.15.070 Effective Date. This ordinance shall be effective immediately upon adoption. The California Drought Surcharge shall be applicable to all water billing periods commencing on or after March 5, 1991.

13.15.080 Enforcement. The City Manager and the Director of Public Works, and their appointed designees, shall have the duty and are hereby authorized to enforce the provisions of this ordinance and shall have the powers and authority contained in California Penal Code Section 836.5, including the power to issue written notice to appear. Each law enforcement officer of the City shall, in connection with those duties empowered by law, diligently enforce the provisions of this ordinance.

13.15.090 Reports and Recommendations. The Director of Public Works shall submit a written report to the City Council on compliance with this ordinance in light of future water supply conditions and shall also report on the administration of this ordinance. Said reports shall be bimonthly and commence May 1991.

13.15.100 Severability. If any section, subsection, sentence clause, or phrase of this ordinance is for any reason held to be invalid or unconstitutional by the decision of any court of competent jurisdiction, such decision shall not affect the validity of the remaining portions of this ordinance. The City Council hereby declares that it would have passed this ordinance and each section, subsection, clause or phrase hereof, irrespective of the fact that any one or more of the sections, subsection, sentences, clauses or phrases hereof be declared invalid or unconstitutional.

Section 4. The City Council HEREBY DIRECTS the Finance Officer to establish a California Drought Surcharge Project within the Water department's account system to be used for the Utility's costs and expenses of administering and enforcing the provisions of this Chapter. Monies collected from the California Drought Surcharge shall be placed accounted for separately. The project may also be used to offset the cost of, and to provide Council approved incentives for, customer conservation efforts and retrofits.

Section 5. The City Council HEREBY DIRECTS that Phase VII of this Ordinance be implemented upon adoption and that it shall remain in effect until otherwise ordered by resolution of the City Council in accordance with Section 13.15.030.

Section 6. The City Council HEREBY FINDS and DETERMINES that adoption of this Ordinance is exempt from the provisions of the California Environmental Quality Act, Section 15307, and City of La Verne environmental guidelines as an action taken to prevent or mitigate an emergency involving a water shortage.

Section 7. The Mayor shall sign and the City Clerk shall certify to the passage and adoption of this Ordinance and thereupon the same shall take effect and be in force.

APPROVED AND ADOPTED this 4th day of March, 1991.

Jon Blickenstaff
Mayor of the City of La Verne

ATTEST:

N. Kathleen Tolmm
City Clerk

CORRECTED

STATE OF CALIFORNIA)
COUNTY OF LOS ANGELES) ss.
CITY OF LA VERNE)

I, N. KATHLEEN HAMM, City Clerk of the City of La Verne, California, do hereby certify that the foregoing Ordinance No. 822 was adopted as an urgency action at a regular meeting of the City Council of said City duly held on 4th day of March, 1991 and duly passed and adopted by the said City Council and thereupon duly signed by the Mayor of said City, attested by the City Clerk of said City, and passed and adopted by the following vote:

AYES: COUNCILMEN: Rodriguez, Gatti, Walters and Mayor Blickenstaff.

NOES: COUNCILMEN: None.

ABSENT: COUNCILMEN: Harvey.

ABSTAIN: COUNCILMEN: None.

N. Kathleen Hamm

N. Kathleen Hamm
City Clerk of the
City of La Verne

DATE: March 5, 1991

(Seal)

Appendix I

La Verne Ordinance No. 1009

ORDINANCE NO. 1009

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF LA VERNE, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AMENDING CHAPTER 13.15 OF THE LA VERNE MUNICIPAL CODE, REGARDING WATER CONSERVATION, USE AND RESTRICTIONS

WHEREAS, Southern California is a semi-arid region and is largely dependent upon imported water supplies, making it highly susceptible to reliability issues due to a growing population, climate change, environmental concerns, and other factors in other parts of the State and western United States; and

WHEREAS, careful water management that includes active water conservation measures not only in times of drought, but at all times, is essential to ensure a reliable minimum supply of water to meet current and future water supply needs; and

WHEREAS, the amendment of the water conservation use and restrictions is necessary to strengthen the City of La Verne's ability to manage its potable water supply in the short and long-term and to avoid or minimize the effects of drought and shortage within the City of La Verne.

NOW, THEREFORE, the City Council of the City of La Verne **DOES ORDAIN** as follows:

Section 1. The City Council HERBY FINDS and DETERMINES that the amendment to water conservation use and restrictions ordinance is necessary to ensure a reliable and sustainable minimum supply of water for the public health, safety and welfare and minimize the effect of drought and shortage within the City of La Verne.

Section 2. The City Council HEREBY AMENDS Chapter 13.15 to the La Verne Municipal Code as follows:

13.15.010 Purpose.

The purpose of this chapter is to foster water conservation and to assure that wasteful water practices are eliminated throughout the city's service area. The regulations set forth in this chapter shall become effective immediately and shall remain in effect until repealed by the city council. (Ord. 822 § 3 (part), 1991)

13.15.015 Definitions.

For the purposes of this chapter, the following definitions shall apply:

A. "Base year" means the average amount of water delivered to each nonresidential customer's property during the corresponding bimonthly billing period during calendar years 2004-2006. A baseline for residential customers is set forth in Section 13.15.030.

B. "Appeal officer" shall be the director of public works or his designee.

C. "Customer" means and refers to the person whose name water service is rendered as evidenced by the signature on the application, contract or agreement for water service, or, in the absence of a signed instrument, by receipt and payment of bills for such service regularly issued in such person's name regardless of the identity of the actual user of such water service. For the purposes of this chapter, only one meter shall be issued per each individual customer account. (Ord. 822 § 3 (part), 1991)

3.15.020 California drought surcharge established.

In addition to the base rate for water as established from time to time by the city council, surcharges shall be levied for each and every customer who exceeds the baseline allowances as established from time to time by resolution of the city council. Such surcharges shall be based upon a bimonthly consumption or a daily equivalent for any pro-rated bill. All surcharges are computed per thousand gallons or fraction thereof for each of the corresponding levels.

13.15.025 Exceptions to surcharge.

Nothing contained in this chapter shall be deemed to require any customer to reduce their water consumption to an amount less than ten thousand gallons per bimonthly billing period. (Ord. 822 § 3 (part), 1991)

13.15.030 Water use limits established.

Limits on the water consumed by any customer of the La Verne water department may be restricted by the city council. The effective limits of such rationing shall be determined by resolution of the city council adopting the appropriate phase as set out in subsections A through H of this section as the city council deems necessary to meet the conservation targets imposed on the City of La Verne by the Metropolitan Water District and Three Valleys Municipal Water District. All limits are based upon water use for a two month period (bimonthly billing period).

A. Phase I. The city council orders that overall water consumption be reduced by ten percent. Such conservation shall be considered voluntary and shall not be subject to any of the restrictions identified in Section 13.15.040 of this chapter except on a voluntary basis.

B. Phase II. The city council orders that overall water consumption be reduced by five percent. Such conservation shall be mandatory and is subject to the following limits:

1. Single-family Residential:

a. Level A = 0 - 37,000 gallons,

b. Level B = 37,001 - 47,000 gallons,

c. Level C = 47,001 - 67,000 gallons,

d. Level D = 67,001 - 97,000 gallons,

e. Level E = 97,001 gallons or greater;

2. Multi-family Residential:

a. Level A = Less than or equal to ninety-five percent of base year, calculated on an individual account basis,

b. Level B = Greater than ninety-five percent of base year, but less than one hundred percent of base year, calculated on an individual account basis,

c. Level C = One hundred percent or greater of base year, calculated on an individual account basis;

3. Irrigation and Other Accounts:

a. Level A = Less than or equal to ninety percent of base year, calculated on an individual account basis,

b. Level B = Greater than ninety percent of base year, but less than one hundred percent of base year, calculated on an individual account basis,

c. Level C = One hundred percent or greater of base year, calculated on an individual account basis;

4. All Remaining Accounts:

a. Level A = Less than or equal to ninety-five percent of base year, calculated on an individual account basis,

b. Level B = Greater than ninety-five percent of base year, but less than one hundred percent of base year, calculated on an individual account basis,

c. Level C = One hundred percent or greater of base year, calculated on an individual account basis;

C. Phase III. The city council orders that overall water consumption be reduced by ten percent. Such conservation shall be mandatory and is subject to the following limits:

1. Single-family Residential:

a. Level A = 0 - 34,000 gallons,

b. Level B = 34,001 - 44,000 gallons,

c. Level C = 44,001 - 64,000 gallons,

d. Level D = 64,001 - 94,000 gallons,

e. Level E = 94,001 gallons or greater;

2. Multi-family Residential:

a. Level A = Less than or equal to ninety percent of base year, calculated on an individual account basis,

b. Level B = Greater than ninety percent of base year, but less than one hundred percent of base year, calculated on an individual account basis,

c. Level C = One hundred percent or greater of base year, calculated on an individual account basis;

3. Irrigation and Other Accounts:

a. Level A = Less than or equal to eighty percent of base year, calculated on an individual account basis,

b. Level B = Greater than eighty percent of base year, but less than one hundred percent of base year, calculated on an individual account basis,

c. Level C = One hundred percent or greater of base year, calculated on an individual account basis;

4. All Remaining Accounts:

a. Level A = Less than or equal to ninety percent of base year, calculated on an individual account basis,

b. Level B = Greater than ninety percent of base year, but less than one hundred percent of base year, calculated on an individual account basis,

c. Level C = One hundred percent or greater of base year, calculated on an individual account basis.

D. Phase IV. The city council orders that overall water consumption be reduced by fifteen percent. Such conservation shall be mandatory and is subject to the following limits:

1. Single-family Residential:

a. Level A = 0 - 31,000 gallons,

b. Level B = 31,001 - 41,000 gallons,

c. Level C = 41,001 - 61,000 gallons,

d. Level D = 61,001 - 91,000 gallons,

e. Level E = 91,001 gallons or greater;

2. Multi-family Residential:

a. Level A = Less than or equal to eighty-five percent of base year, calculated on an individual account basis,

b. Level B = Greater than eighty-five percent of base year, but less than one hundred percent of base year, calculated on an individual account basis,

c. Level C = One hundred percent or greater of base year, calculated on an individual account basis;

3. Irrigation and Other Accounts:

a. Level A = Less than or equal to seventy percent of base year, calculated on an individual account basis,

b. Level B = Greater than seventy percent of base year, but less than one hundred percent of base year, calculated on an individual account basis,

c. Level C = One hundred percent or greater of base year calculated on an individual account basis;

4. All Remaining Accounts:

a. Level A = Less than or equal to eighty-five percent of base year, calculated on an individual account basis,

b. Level B = Greater than eighty-five percent of base year, but less than one hundred percent of base year, calculated on an individual account basis,

c. Level C = One hundred percent or greater of base year, calculated on an individual account basis.

E. Phase V. The city council orders that overall water consumption be reduced by twenty percent. Such conservation shall be mandatory and is subject to the following limits:

1. Single-family Residential:

a. Level A = 0 - 28,000 gallons,

b. Level B = 28,001 - 38,000 gallons,

c. Level C = 38,001 - 58,000 gallons,

d. Level D = 58,001 - 88,000 gallons,

e. Level E = 88,001 gallons or greater;

2. Multi-family Residential:

a. Level A = Less than or equal to eighty percent of base year, calculated on an individual account basis,

b. Level B = Greater than eighty percent of base year, but less than one hundred percent of base year, calculated on an individual account basis,

c. Level C = One hundred percent or greater of base year, calculated on an individual account basis;

3. Irrigation and Other Accounts:

a. Level A = Less than or equal to sixty percent of base year, calculated on an individual account basis,

b. Level B = Greater than sixty percent of base year, but less than one hundred percent of base year, calculated on an individual account basis,

c. Level C = One hundred percent or greater of base year, calculated on an individual account basis;

4. All Remaining Accounts:

a. Level A = Less than or equal to eighty percent of base year, calculated on an individual account basis,

b. Level B = Greater than eighty percent of base year, but less than one hundred percent of base year, calculated on an individual account basis,

c. Level C = One hundred percent or greater of base year, calculated on an individual account basis.

F. Phase VI. The city council orders that overall water consumption be reduced by twenty-five percent. Such conservation shall be mandatory and is subject to the following limits:

1. Single-family Residential:

a. Level A = 0 - 25,000 gallons,

b. Level B = 25,001 - 35,000 gallons,

c. Level C = 35,001 - 55,000 gallons,

d. Level D = 55,001 - 85,000 gallons,

e. Level E = 85,001 gallons or greater;

2. Multi-family Residential:

a. Level A = Less than or equal to seventy-five percent of base year, calculated on an individual account basis,

b. Level B = Greater than seventy-five percent of base year, but less than one hundred percent of base year, calculated on an individual account basis,

c. Level C = One hundred percent or greater of base year, calculated on an individual account basis;

3. Irrigation and Other Accounts:

a. Level A = Less than or equal to fifty percent of base year, calculated on an individual account basis,

b. Level B = Greater than fifty percent of base year, but less than one hundred percent of base year, calculated on an individual account basis,

c. Level C = One hundred percent or greater of base year, calculated on an individual account basis;

4. All Remaining Accounts:

a. Level A = Less than or equal to seventy-five percent of base year, calculated on an individual account basis,

b. Level B = Greater than seventy-five percent of base year, but less than one hundred percent of base year, calculated on an individual account basis,

c. Level C = One hundred percent or greater of base year, calculated on an individual account basis;

G. Phase VII. The city council orders that overall water consumption be reduced by thirty percent. Such conservation shall be mandatory and is subject to the following limits:

1. Single-family Residential:

a. Level A = 0 - 22,000 gallons,

b. Level B = 22,001 - 32,000 gallons,

c. Level C = 32,001 - 52,000 gallons,

d. Level D = 52,001 - 82,000 gallons,

e. Level E = 82,001 gallons or greater;

2. Multi-family Residential:

a. Level A = Less than or equal to seventy percent of base year, calculated on an individual account basis,

b. Level B = Greater than seventy percent of base year, but less than one hundred percent of base year, calculated on an individual account basis,

c. Level C = One hundred percent or greater of base year, calculated on an individual account basis;

3. Irrigation and Other Accounts:

a. Level A = Less than or equal to forty percent of base year, calculated on an individual account basis,

b. Level B = Greater than forty percent of base year, but less than one hundred percent of base year, calculated on an individual account basis,

c. One hundred percent or greater of base year, calculated on an individual account basis;

4. All Remaining Accounts:

a. Level A = Less than or equal to seventy percent of base year, calculated on an individual account basis,

b. Level B = Greater than seventy percent of base year, but less than one hundred percent of base year calculated on an individual account basis,

c. Level C = One hundred percent or greater of base year, calculated on an individual account basis.

H. Phase VIII. The city council orders that overall water consumption be reduced by forty percent. Such conservation shall be mandatory and is subject to the following limits:

1. Single-family Residential:

a. Level A = 0 - 18,000 gallons,

b. Level B = 18,001 - 28,000 gallons,

c. Level C = 28,001 - 48,000 gallons,

d. Level D = 48,001 - 78,000 gallons,

e. Level E = 78,001 gallons or greater;

2. Multi-family Residential:

a. Level A = Less than or equal to sixty percent of base year, calculated on an individual account basis,

b. Level B = Greater than sixty percent of base year, but less than one hundred percent of base year, calculated on an individual account basis,

c. Level C = One hundred percent or greater of base year, calculated on an individual account basis;

3. Irrigation and Other Accounts:

a. Level A = Less than or equal to thirty percent of base year, calculated on an individual account basis,

b. Level B = Greater than thirty percent of base year, but less than one hundred percent of base year, calculated on an individual account basis,

c. Level C = One hundred percent or greater of base year, calculated on an individual account basis;

4. All Remaining Accounts:

a. Level A = Less than or equal to sixty percent of base year, calculated on an individual account basis,

b. Level B = Greater than sixty percent of base year, but less than one hundred percent of base year, calculated on an individual account basis,

c. Level C = One hundred percent or greater of base year, calculated on an individual account basis. (Ord. 830 § 2, 1991: Ord. 822 § 3 (part), 1991)

I. Phase IX. The city council orders that overall water consumption be reduced by fifty percent. Such conservation shall be mandatory and is subject to the following limits:

1. Single-family Residential:

a. Level A = 0 - 16,000 gallons,

b. Level B = 16,001 - 23,000 gallons,

c. Level C = 23,001 - 43,000 gallons,
d. Level D = 43,001 - 73,000 gallons,
e. Level E = 73,001 gallons or greater;
2. Multi-family Residential:
a. Level A = Less than or equal to 50 percent of base year, calculated on an individual account basis,
b. Level B = Greater than 50 percent of base year, but less than one hundred percent of base year, calculated on an individual account basis,
c. Level C = One hundred percent or greater of base year, calculated on an individual account basis;
3. Irrigation and Other Accounts:
a. Level A = Less than or equal to twenty-five percent of base year, calculated on an individual account basis,
b. Level B = Greater than twenty-five percent of base year, but less than one hundred percent of base year, calculated on an individual account basis,
c. Level C = One hundred percent or greater of base year, calculated on an individual account basis;
4. All Remaining Accounts:
a. Level A = Less than or equal to fifty percent of base year, calculated on an individual account basis,
b. Level B = Greater than fifty percent of base year, but less than one hundred percent of base year, calculated on an individual account basis,
c. Level C = One hundred percent or greater of base year, calculated on an individual account basis.

13.15.035 Base year adjustments.

A. The city, in its discretion, may adjust the base year assigned to any customer if that customer establishes, to the satisfaction of the appeal officer, that the base year, as provided herein, would cause great hardship in accordance with the provisions of Section 13.15.050.

B. Any nonresidential customer who was not a customer on the premises for which service was billed during the base period shall be assigned the same base period for such or similar premises as provided herein and the city shall have the further discretion to adjust the base year in the event such customer's use of the premises is substantially different from the previous use thereof during the base period. (Ord. 822 § 3 (part), 1991)

13.15.040 Water use restrictions established.

The following water use restrictions and regulations shall apply to the respective phases of this section as approved by the city council. Except under Phase I of this section, compliance with these regulations shall be mandatory.

A. Phase I. Voluntary Restrictions.

1. Compliance with any of the restrictions identified under this section shall be voluntary and is encouraged.

B. Phase II. Mandatory Restrictions.

1. Hose washing of sidewalks, walkways, driveways, parking areas, or other paved surfaces shall be prohibited.

2. Washing of motor vehicles, trailers, boats, and other types of mobile equipments shall be done only with a hand-held water container or a hose equipped with a positive shut off nozzle for quick rinses, except that washing may be done on the immediate premises of a commercial car wash or with reclaimed water.

3. No water shall be used to clean, fill or maintain levels in decorative fountains, or other similar aesthetic structures unless such water is part of a recycling system.

4. No restaurant, hotel, cafe, cafeteria, or other public place where food is sold, served, or offered for sale, shall serve drinking water to any customer unless expressly requested.

5. All leaks from indoor and outdoor plumbing fixtures shall be repaired within forty-eight hours of discovery or notification.

6. Watering of landscape or other turf area shall only be permitted between the hours of one hour before sunset and ten a.m., except that this provision shall not apply to commercial nurseries, golf courses, and other water dependent industries; except that there shall be no restriction on watering with reclaimed water, providing that signs are posted that identify reclaimed water is being used. The use of properly operating drip irrigation systems or hand held buckets shall be permitted at any time.

7. Water runoff from landscaped areas into adjoining streets, sidewalks, or other paved areas shall be prohibited.

8. Construction water for grading and other purposes shall be limited to ground produced water at the discretion of the city.

9. Installation of single pass cooling systems shall be prohibited in buildings requesting new water service.

10. Installation of non-re-circulating water systems shall be prohibited in new commercial conveyor car wash and new commercial laundry systems.

11. Food preparation establishments, such as restaurants or cafes, shall be prohibited from using non-water conserving dish wash spray valves.

C. Phase III. Mandatory Restrictions.

1. The restrictions identified in Section 13.15.040 (B) shall remain in effect with no further restrictions applying.

D. Phase IV. Mandatory Restrictions.

1. The restrictions identified in Section 13.15.040 (B), excepting Section 13.15.040 (B)(6), shall remain in effect.

2. Watering of landscape or other turf area, including that of commercial nurseries, golf courses, and other water dependent industries shall only be permitted between the hours of one hour before sunset and ten a.m. for no more than five minutes per station or area, and not to exceed more than twenty minutes per week; except that there shall be no restriction on watering with reclaimed water, providing that signs are posted that identify reclaimed water is being used. The use of properly operating drip irrigation systems or hand held buckets shall be permitted at any time.

E. Phase V. Mandatory Restrictions.

1. The restrictions identified in 13.15.040 (B), excepting 13.15.040 (B) (6), shall remain in effect.

2. Watering of landscape or other turf area, including that of commercial nurseries, golf courses, and other water dependent industries shall only be permitted between the hours of one hour before sunset and ten a.m. for no more than five minutes per station or area, and not to exceed more than twenty minutes per week; except that there shall be no restriction on watering with reclaimed water, providing that signs are posted that identify reclaimed water is being used. The use of properly operating drip irrigation systems or hand held buckets shall be permitted at any time.

F. Phase VI. Mandatory Restrictions.

1. The restrictions identified in 13.15.040 (B), excepting 13.15.040 (B) (6), shall remain in effect.

2. Watering of landscape or other turf area, including that of commercial nurseries, golf courses, and other water dependent industries shall only be permitted between the hours of one hour before sunset and ten a.m. for no more than five minutes per station or area, and not to exceed more than twenty minutes per week; except that there shall be no restriction on watering with reclaimed water, providing that signs are posted that identify reclaimed water is being used. The use of properly operating drip irrigation systems or hand held buckets shall be permitted at any time.

G. Phase VII. Mandatory Restrictions.

1. The restrictions identified in 13.15.040 (B), excepting 13.15.040 (B)(6), shall remain in effect.

2. Watering of landscapes and other turf area, including that of commercial nurseries, golf courses, and other water dependent industries shall only be permitted between the hours of one hour before sunset and ten a.m. for no more than five minutes per station or area, and not to exceed more than twenty minutes per week; except that there shall be no restriction on

watering with reclaimed water, providing that signs are posted that identify reclaimed water is being used. The use of properly operating drip irrigation systems or hand held buckets shall be permitted at any time.

3. New swimming pool and spa permits shall be issued at the discretion of the public works director based upon the availability of water.

H. Phase VIII. Mandatory Restrictions.

1. The restrictions identified in 13.15.040 (B), excepting 13.15.040 (B)(6), shall remain in effect.

2. All outdoor irrigation is prohibited except for hand held watering or use of properly operating drip irrigation systems to water mature trees and mature shrubs. Commercial nurseries and other water dependent industries shall only water landscape stock by use of properly operating drip irrigation systems or hand held buckets. Watering of all outdoor turf areas is prohibited, excepting golf course greens.

3. Issuance of new swimming pool and spa permits shall be prohibited.

4. No new water service connections will be permitted nor will an increase in the size of an already existing water service connection be permitted, nor will there be any net increase in plumbing fixtures to an already existing water service connection. (Ord. 834, 1991; Ord. 822 § 3 (part), 1991)

13.15.043 Failure to comply—Violation—Penalty.

It is unlawful for any customer to fail to comply with the provisions of this chapter. Further, it is unlawful for any customer to consume water in excess of the base year or as provided in Level C of Sections 13.15.030 (B), (C), (D), (E), (F) and (G). In addition to any other penalties or surcharges provided for in any other section of this chapter, the city reserves the right to install a flow restricting device on the service line at the customer's expense for continued violation of the provisions of this chapter or for excess consumption for two consecutive billing periods. Further, such prohibited uses and restrictions shall not be applicable to the maintenance of active parks as designated by the director of parks and community services and other routinely used athletic fields. However, to the extent possible, such facilities shall be irrigated in accordance with the provisions of this chapter. (Ord. 827 § 1, 1991: Ord. 822 § 3 (part), 1991)

13.15.045 Exceptions.

The prohibited uses and restrictions on water shall not be applicable to that use of water which is necessary for essential governmental services such as police, fire, and other similar emergency services. (Ord. 822 § 3 (part), 1991)

13.15.050 Appeals.

Any customer may appeal the provisions of this chapter on the basis of hardship or billing error. Appeals shall be processed as set forth in this section.

A. All appeals shall be submitted in writing on forms provided by the customer service division to the public works director within ten days after the receipt of the disputed billing and shall include the name and address of the party submitting the appeal as well as a brief explanation on the nature of the appeal. The appeal should also include what remedy the appellant seeks, if any.

B. To avoid additional late penalties or discontinuance of service, water bills shall be paid under protest prior to the due date and pending the conclusion of the appeal procedure.

C. In the event that an appeal is requested for irrigation of trees in residential categories, for any agricultural use or business related use, the city may use the services of a qualified consultant in determining the validity of the request.

D. The appeal officer, as defined in Section 13.15.015 (B), shall review and decide all appeals within fifteen business days. A written decision shall be sent to the appellant.

E. After a review of the appeal by the appeal officer, a site visit may be scheduled to aid in determining the facts of the appeal.

F. The appeal officer shall have the power, upon the filing of an appeal by the aggrieved customer, to take such steps as necessary and reasonable to resolve said appeals. In

reviewing the appeal, the appeal officer shall take into consideration all relevant factors including, but not limited to, the following:

1. Whether any additional reduction will result in unemployment;
2. Increased number of employees in commercial, industrial or governmental offices;
3. Increased production requiring increased process water;
4. Adjustments to water use caused by emergency health and safety hazards;
5. Water use necessary for reasons related to family illness or health;
6. Whether additional members have been added to the household (average per household equals three per multi-family and four per single-family residence);
7. Valid home occupation requiring process water;
8. Irrigation of mature fruit trees;
9. Plantings required for fire protection and slope stability;
10. Hospital and/or health care facility;
11. Customer currently employing maximum water conservation measures.

G. If the appellant is aggrieved of the appeal officer's decision, an appeal may be filed in the same manner as set forth in Section 13.15.040 A.1 to the city manager or his designee whose decision shall be final. The appeals shall be accompanied by a fifty dollar nonrefundable filing fee for residential customer accounts and a one hundred dollar filing fee for all other customer accounts; except that in the event that the appeal or portion of the appeal is granted, a proportional amount of the filing fee shall be refunded.

H. No appeal shall be granted unless the customer can show maximum practical reduction in water consumption other than in the specific areas in which relief is being sought. Further, in no event shall an appeal be granted for the purpose of maintaining turf and similar landscape. The appeal officer may request, and the customer shall provide, reasonable and necessary information for the resolution of the customer's application for appeal. This includes the installation and use of the following water efficient plumbing fixtures and/or irrigation systems:

1. High efficiency toilets (1.6 gallons per flush or less) as approved by the building official;
2. Low flow shower heads (2.5 gallons per minute or less at 40 psi);
3. Drip, mini emitter or low volume sprinkler irrigation systems;
4. Weather based controllers in association with automated irrigation systems;
5. Sink and lavatory faucets which limit the flow of water to a maximum of 2.5 gallons per minute at 40 psi. (Ord. 822 § 3 (part), 1991)

13.15.060 Suspension of surcharge when.

The city council may, by resolution and without repealing the ordinance codified in this chapter, suspend the California Drought Surcharge, as identified in Section 13.15.020, at such time that the city council determines that the threatened water shortage no longer exists or that the threat has been substantially reduced so that the surcharge is no longer necessary to motivate conservation. Similarly, the city council may, by resolution, impose the surcharge upon finding that the threatened water shortage conditions have reappeared. Suspension or imposition of the surcharge shall not affect the requirements of the adopted phase of this conservation plan. (Ord. 822 § 3 (part), 1991)

13.15.070 Effective date.

The ordinance codified in this chapter shall be effective immediately upon adoption. The California Drought Surcharge shall be applicable to all water billing periods on or after March 5, 1991. (Ord. 822 § 3 (part), 1991)

13.15.080 Enforcement.

The city manager and the director of public works, and their appointed designees, shall have the duty and are authorized to enforce the provisions of this chapter and shall have the powers and authority contained in the California Penal Code Section 836.5, including the power to issue written notice to appear. Each law enforcement officer of the city shall, in connection with

those duties empowered by law, diligently enforce the provisions of this chapter. (Ord. 822 § 3 (part), 1991)

13.15.090 Reports and recommendations.

The director of public works shall submit a written report to the city council on compliance with this chapter in light of future water supply conditions and shall also report on the administration of this chapter. The reports shall be bimonthly and commence May 1991. (Ord. 822 § 3 (part), 1991)

13.15.100 Severability.

If any section, subsection, sentence, clause, or phrase of this chapter is for any reason held to be invalid or unconstitutional by the decision of any court of competent jurisdiction, such decision shall not affect the validity of the remaining portions of this chapter. The city council declares that it would have passed the ordinance codified in this chapter and each section, subsection, clause or phrase hereof, irrespective of the fact that any one or more of the sections, subsection, sentences, clauses or phrases hereof be declared invalid or unconstitutional. (Ord. 822 § 3 (part), 1991)

Section 3. The City Council HEREBY FINDS and DETERMINES that adoption of this ordinance is categorically exempt from environmental review under section 15307 of the California Environmental Quality Act and City of La Verne environmental guidelines.

Section 4. The Mayor shall sign and the City Clerk shall certify to the passage and adoption of this Ordinance and shall cause the same to be posted to the provisions of the law in that regard, and this ordinance shall take effect thirty (30) days after its final passage.

APPROVED AND ADOPTED this **6th day of April 2009**

Don Kendrick, Mayor

ATTEST:

Evelyn Clark, City Clerk

The foregoing **Ordinance No. 1009** was introduced at a regular meeting of the City Council of said City duly held on **16th day** of **March 2009** and was thereafter, at a regular meeting of said Council duly held on **6th day** of **April 2009** duly passed and adopted by the said City Council and thereupon duly signed by the Mayor of said City, attested by the City Clerk of said City, and passed and adopted by the following vote:

AYES:	Carder, Johnson, Rodriguez, and Mayor Kendrick.
NOES:	None.
ABSENT:	Nasmyth.
ABSTAIN:	None.

EVELYN C. CLARK, MMC
CITY CLERK

Appendix J

Three Valleys Municipal Water District
2010 Urban Water Management Plan

Urban Water Management Plan 2010

THREE VALLEYS MUNICIPAL WATER DISTRICT
1021 E. Miramar Avenue
Claremont, California 91711

www.threevalleys.com

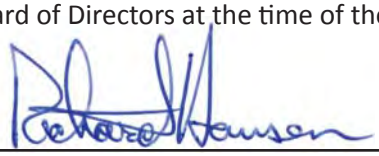
Contact Sheet

Date Plan Submitted to the Department of Water Resources:	**June 16, 2011**
Name of Contact Person:	**Richard Hansen**
Phone Number:	**909-621-5568**
Fax:	**909-625-5470**
E-Mail:	**rhansen@tvmwd.com**
The water supplier is a:	**Municipal Water District**
The water supplier is a:	**Wholesaler**

Notice of Adoption

The Board of Directors of the Three Valleys Municipal Water District ("District") held a public hearing on Wednesday, May 18, 2011, at 8:00 a.m., at the District's Headquarters located at 1021 E. Miramar Avenue in Claremont, California, for the purpose of reviewing and considering possible adoption of the District's 2010 Urban Water Management Plan.

Prior to said public hearing, all persons were invited to review the District's proposed 2010 Urban Water Management Plan, which was available for public inspection at the District's Headquarters at the above location during regular business hours, and to submit written comments thereto to the District. Written and oral comments to the District's proposed 2010 Urban Water Management Plan may be submitted to the District's Board of Directors at the time of the public hearing thereon.



Richard W. Hansen, P.E., General Manager

May 18, 2011

Date

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Abbreviations

Act	Urban Water Management Planning Act
AF or ac-ft	acre-feet
AFY or ac-ft/yr	acre-feet per year
BMPs	best management practices
BSA	Boy Scouts of America
cfs	cubic feet per second
CIC	Covina Irrigating Company
CIMIS	California Irrigation Management Information System
Council	California Urban Water Conservation Council
CPE	comprehensive performance evaluation
CSA	customer service area
CT	concentration time
D/DBP	disinfectant/disinfection by-product
DMM	demand management measure
DOF	(California) Department of Finance
DPH	(California) Department of Public Health
DWR	(California) Department of Water Resources
EC	enhanced coagulation
EPA	(U.S.) Environmental Protection Agency
ERP	emergency response plan
gpm	gallons per minute
GSWC	Golden State Water Company
HAAs	haloacetic acids
IESWTR	Interim Enhanced Surface Water Treatment Rule
IRP	Integrated Resources Plan
JWL	Pomona-Walnut-Rowland Joint Water Line
LACDPW	Los Angeles County Department of Public Works
LACSD	Sanitation Districts of Los Angeles County
MCLs	maximum contaminant levels
MGD	million gallons per day
MMM	multimedia mitigation

Abbreviations

MOU	memorandum of understanding (regarding urban water conservation in California)
MWD	Metropolitan Water District of Southern California
MSAC	Mt. San Antonio College
N/A	not available
NDMA	N-nitrosodimethylamine
NTU	nephelometric turbidity units
O&M	operation and maintenance
OEHHA	(California) Office of Environmental Health Hazard Assessment
PUC	(California) Public Utilities Commission
RO	reverse osmosis
RWD	Rowland Water District
SASG	San Antonio Spreading Grounds
SCAG	Southern California Association of Governments
SDWA	Safe Drinking Water Act
SWP	State Water Project
SWS	Suburban Water Systems
SWTR	Surface Water Treatment Rule
TCR	Total Coliform Rule
TDS	total dissolved solids
TOC	total organic carbon
TTHMs	Total Trihalomethanes
TVMWD	Three Valleys Municipal Water District
ULFT	ultra low-flush toilet
UWMP	Urban Water Management Plan
VHWC	Valencia Heights Water Company
VOCs	volatile organic compounds
WEWAC	Water Education Water Awareness Committee
WSAP	Water Supply Allocation Program
WSDM	Water Surplus and Drought Management
WVWD	Walnut Valley Water District

1 Plan Preparation

Three Valleys Municipal Water District (TVMWD or District) prepared this Urban Water Management Plan (UWMP) in accordance with the California Urban Water Management Planning Act (California Water Code, Sections 10610 through 10656). The passing of the initial Act (Assembly Bill 797) in 1983 and its subsequent amendments require that "Urban Water Suppliers" providing water service to 3,000 or more customers (direct or indirect), or supplying more than 3,000 acre-feet of water annually prepare, adopt, and file an Urban Water Management Plan with the California Department of Water Resources (DWR) every five years. The District's previous filing of the UWMP was in 2005, and this current filing is relevant to information and projections for the 2010 edition.

TVMWD prepared its initial UWMP in 1985 and submitted it to DWR. In 1990, the District drafted an updated UWMP, but the plan was never completed nor adopted. In 1992, TVMWD prepared its Water Shortage Contingency Plan (WSCP) in response to amendment AB11X of the Urban Water Management Planning Act, effective October 1991. The WSCP estimated minimum water supply projections, provided consumption reduction methods, and developed other elements related to drought contingency planning in California. The 1995 UWMP updated both the 1985 UWMP and 1990 draft UWMP, as well as incorporated applicable components of the WSCP. As required, a 2000 Plan was submitted in accordance with all guidelines and requirements at that time.

This 2010 UWMP provides the District's existing and projected water demands as well as sources of current and future water supply, projected water uses, water conservation measures, water rate structure, and drought management programs. The UWMP also highlights regional water management activities that TVMWD currently conducts, or plans to conduct within the next five years, in cooperation with its member agencies. Through its implementation of conservation Best Management Practices, as well as the development of a Local Resources Development Program in cooperation with other local water suppliers, TVMWD continues to be involved with water resource and conservation activities within its service area.

Overview of Three Valleys Municipal Water District

Rapid population expansion and economic development throughout Los Angeles County during the early 1900s heightened the demand on existing water supplies. In the semi-arid environment of southern California, new water sources were sought because local water supply sources were unable to accommodate the increasing demand caused by such influx and development. In 1928, the Metropolitan Water District of Southern California (MWD) was formed by eleven southern California cities to consolidate the diverse water requirements of the region into an agency with regional water resource planning objectives. The seminal project responsible for unifying the interests of these southern California communities was the 1941 completion of the 242-mile long Colorado River Aqueduct, which enabled the MWD to adequately provide imported water to its regional constituency. Subsequently, the California State Water Project was constructed, providing MWD with additional imported water from northern California.

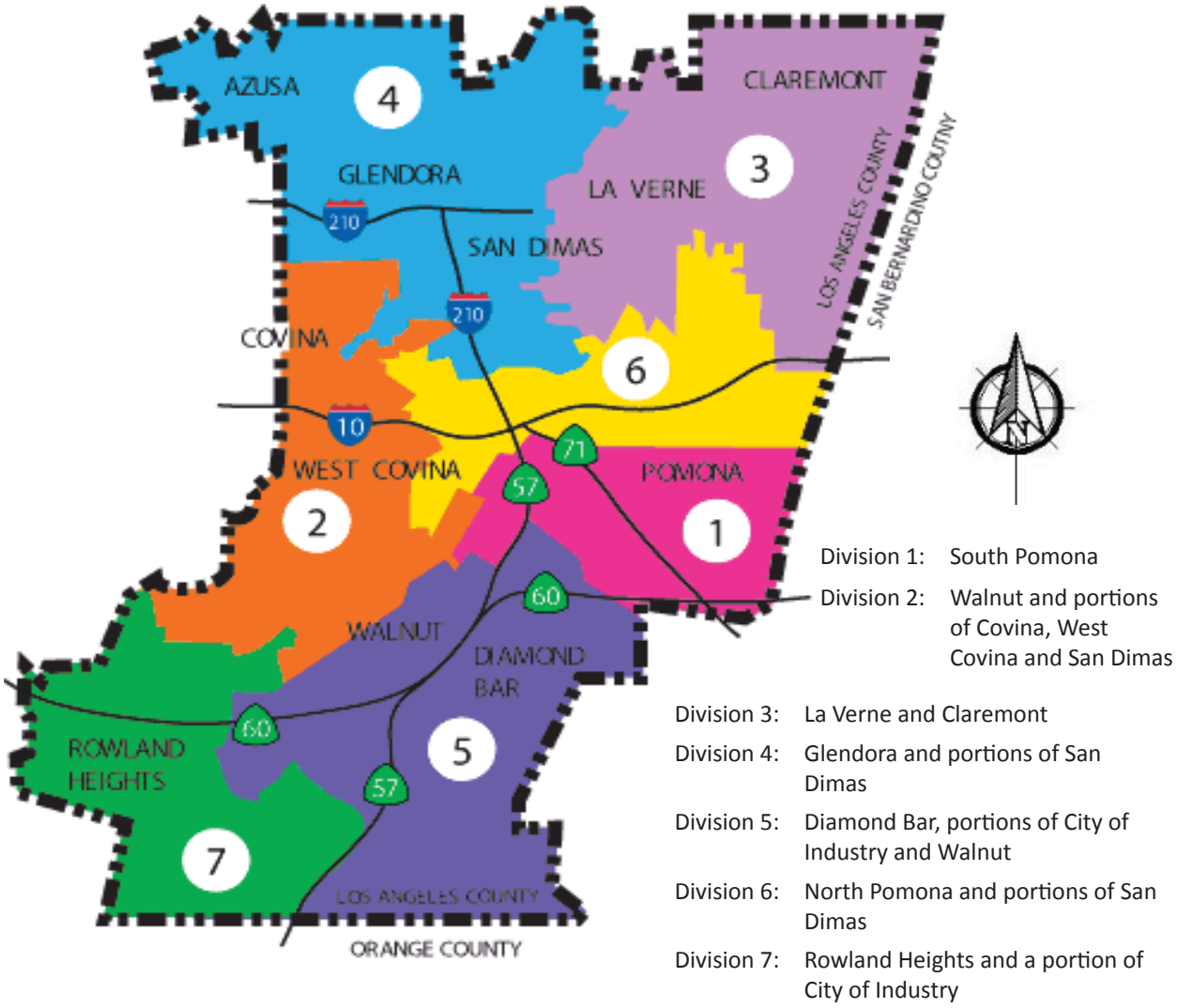
In 1945, the Pomona Area Water Committee was assembled for the purpose of securing annexation into MWD's service area to gain access to

imported water supplies to serve the Pomona Valley, Walnut Valley, as well as the eastern portion of the San Gabriel Valley. Five years later, in January of 1950, the Pomona Valley Municipal Water District was created and effectively incorporated into MWD by November of the same year. Later, as the District developed and annexed additional Los Angeles County areas, its name was modified to Three Valleys Municipal Water District (TVMWD), more aptly describing the service area that the District encompassed.

TVMWD is a local public agency organized under the provisions of the Municipal Water District Law of 1911, California Water Code Sections 71000-73000. As the Act reads, the primary functions of TVMWD are to acquire, control, distribute, store, purify, and conserve water for the beneficial use of its entire service area. TVMWD exclusively supplies water at wholesale to its member agencies, which in turn, either retail the water directly to their customers, or wholesale it to other public agencies and private water companies for resale. Most of TVMWD's retail member agencies draw from local sources of water available, however when water demands exceed these local supplies, the member agencies rely on TVMWD to supply their supplementary needs.

TVMWD is governed by a seven-member Board of Directors. Each director is publicly elected to represent one of seven defined divisional boundaries within the District. General descriptions of the seven divisions are as shown below in Figure 1-A.

Figure 1-A: Division Boundaries within TVMWD



The directors serve staggered, four-year terms with elections taking place in November of even-numbered years. The elected members of the Board are required to reside within the Division that they represent. Public board meetings are generally held the third Wednesday of each month at 8:00 a.m.

As a MWD member agency, Three Valleys is allocated one (1) seat on MWD's governing Board. The TVMWD Board members are responsible for appointing a representative to MWD's 37-member Board of Directors.

The District's mission statement "is to supplement and enhance local water supplies to meet customers' needs for adequate, high quality, reliable water in a cost-effective as well as environmentally sound manner".

To achieve this mission, TVMWD works to diversify the region's water resources while minimizing long-term costs as well as the environmental impacts incurred. In its development of new water resources, TVMWD will assess the technical and economic feasibility of a proposal and seek to develop a concept for implementation, operation and ownership with the goal of achieving consensus among the retail water purveyors, and will only move forward after considering best management practices for the water projects developed.

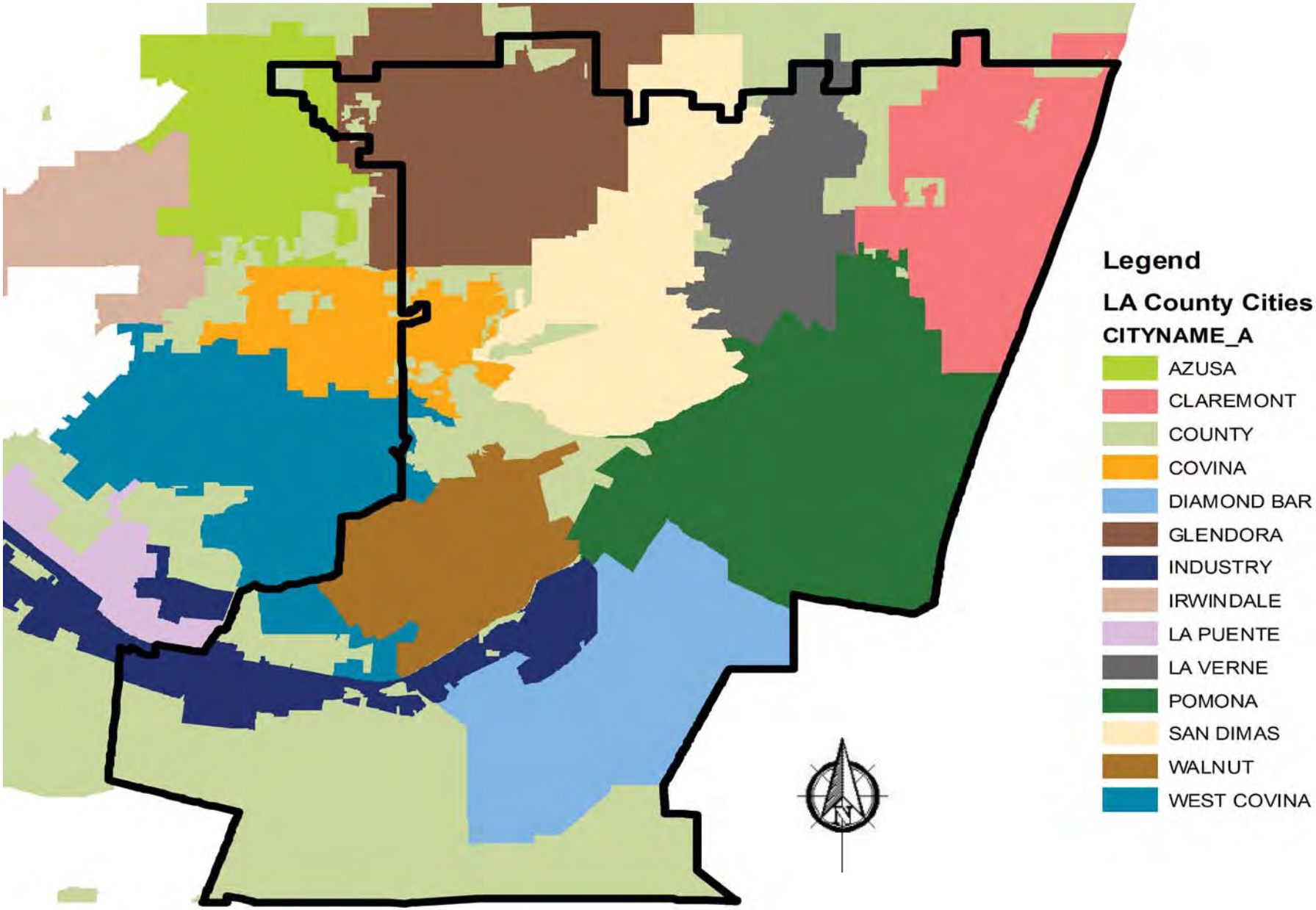
TVMWD's service area encompasses the Pomona Valley, Walnut Valley, and eastern portion of the San Gabriel Valley. The District has contiguous boundaries with five different municipal water districts, four of which are also member agencies of MWD. The District's boundary encompasses approximately 133.3 square miles and a current population estimate of 570,000.

Table 1-1 lists the 14 water purveyors with all or portions of their respective service areas residing within the boundaries of TVMWD. Figure 1-B shows the incorporated cities wholly or partially within TVMWD's service area.

Table 1-1: TVMWD Member Agencies

Name of Agency	General Description of Service Area
Boy Scouts of America (Firestone Reservation)	the property comprising the Firestone Scout Reservation in southeast Diamond Bar
California State Polytechnic University, Pomona	located in Pomona and comprising the campus and property owned and operated by the State of California university system
City of Covina	portions of the City of Covina located mainly east of Grand Avenue
Covina Irrigating Company	wholesale water provider delivering water to the cities of Covina and Glendora, and the service areas of Golden State Water Co. (San Dimas), Suburban Water Systems, and Valencia Heights Water Co.
City of Glendora	city boundaries of Glendora
Golden State Water Co. (Claremont)	city boundaries of Claremont
Golden State Water Co. (San Dimas)	city boundaries of San Dimas and portions of Covina
City of La Verne	city boundaries of La Verne
Mt. San Antonio College	located in Walnut and comprising the campus and property owned and operated by the State of California junior college system
City of Pomona	city boundaries of Pomona
Rowland Water District	unincorporated communities of Rowland Heights and Hacienda Heights and portions of Industry, La Puente, and West Covina
Suburban Water Systems	portions of Covina, Glendora, and West Covina
Valencia Heights Water Co.	portions of Covina and West Covina
Walnut Valley Water District	all or portions of Diamond Bar, Industry, Pomona, Rowland Heights, Walnut, and West Covina

Figure 1-B: Cities within the TVMWD Service Area



Coordination with Local Agencies

In January 2010 through April 2010, TVMWD visited most of its retail member agencies to gather general information regarding each water system's capabilities and future plans and projects envisioned to address potential future growth in demand.

In August 2010, TVMWD sent out notices to each of its member agencies within its service area seeking input for development of the UWMP (see TVMWD letter dated 8/6/10 in Appendix A). Also, TVMWD typically hosts monthly Member Agency Managers' meetings wherein discussion and/or updates regarding the UWMP took place. A draft copy of the UWMP was provided in an electronic format on March 3, 2011 to all TVMWD member agencies. A final DRAFT version was provided March 15, 2011 also via e-mail distribution.

The District also distributed copies of the Draft Plan via e-mail to the Inland Empire Utilities Agency, Upper San Gabriel Valley Municipal Water District, Chino Basin Watermaster, Main San Gabriel Basin Watermaster, and Metropolitan Water District of Southern California. The following table lists the various local agencies and their respective involvement with the preparation of the UWMP.

Table 1-2: Participation by Agencies

Agency	Participation in Development	Commented on the Draft	Attended Public Mtgs	Contacted for Assistance	Received a Copy of DRAFT	Sent Notice of Intent to Adopt
Azusa, City of					X	X
Boy Scouts of America					X	X
Cal Poly Pomona	X		X	X	X	X
Chino Basin Watermaster					X	X
Claremont, City of					X	X
Covina, City of	X		X	X	X	X
Diamond Bar, City of					X	X
Glendora, City of	X		X	X	X	X
Golden State Water Co.			X	X	X	X
Industry, City of					X	X
Inland Empire Utilities Agency					X	X
La Puente, City of					X	X
La Verne, City of	X		X	X	X	X
Los Angeles County					X	X
Main San Gabriel Basin Watermaster					X	X
Metropolitan Water District	X			X	X	X
Mt. San Antonio College	X			X	X	X
Pomona, City of		X	X	X	X	X
Rowland Water District	X		X	X	X	X
Suburban Water Systems	X		X	X	X	X
Upper San Gabriel Valley MWD					X	X
Valencia Heights Water Co.	X		X	X	X	X
Walnut Valley Water District	X		X	X	X	X
Walnut, City of					X	X

Public Notice/Participation and Plan Adoption

Beginning on March 15, 2011, the Draft Plan was distributed and made available for review and comment to the general public. A public hearing was scheduled at the regular meeting of the TVMWD Board of Directors on May 18, 2011 at 8:00 a.m. Written comments were received through May 18, 2011. Where appropriate, this Plan has been modified to incorporate comments received from the public, interested organizations and other agencies.

Notices of the Public Hearing (copy attached in Appendix B), were advertised in the San Gabriel Valley Tribune and the Inland Valley Daily Bulletin on May 11 and May 16, 2011.

TVMWD also sent notifications to all cities and counties in its service area that the UWMP was being updated and that each was invited to provide comments during the update process. This notification took place on March 15, 2011. A copy of the letter mailed to those entities is included in Appendix C.

A copy of the Plan was available for public review at the District's Administrative office and on its website at ***www.threevalleys.com***.

2 Service Area

Three Valleys Municipal Water District's service area is located in the eastern portion of Los Angeles County and includes the cities and communities of Charter Oak, Claremont, Covina, Covina Knolls, Diamond Bar, Glendora, Industry, La Verne, Pomona, Rowland Heights, San Dimas, Walnut, and West Covina. Created in 1950, TVMWD is a municipal water district operating under the provisions of the Municipal Water District Act embodied in Water Code Section 71000 et seq. The District is a wholesale water supplier providing supplementary supply to its retail member agencies. Except for a very small percentage of groundwater supply, TVMWD's primary resource is import water from the Metropolitan Water District of Southern California (MWD).

Metropolitan Water District (MWD)

As a water wholesaler, MWD has no retail customers. It distributes treated and untreated import water from the Colorado River and northern California (SWP) to its member agencies. MWD provides an average of 50% of the municipal, industrial and agricultural water used within its service area. The remaining 50% comes from local wells, local surface water, recycling, and from the City of Los Angeles' aqueduct in the eastern Sierra Nevada.

MWD's primary goal is to provide reliable import water supplies in conjunction with local supplies to meet the water needs of its service area at the lowest possible cost. In the past, the delivery of water to MWD member agencies has been nearly 100% reliable. However, as existing import supplies from the Colorado River and State Water Project face increasing challenges and restrictions, the reliability of deliveries from these sources continues to decline.

To address these challenges, MWD and its member agencies developed an Integrated Water Resources Plan (IRP) in 1996, updated in 2004, and more recently in 2010. The IRP process seeks to assess the mix of available water sources (local and imported), evaluate storage and conservation strategies, and develop an overall plan to provide a sustainable water supply for the future demand of the region.

MWD prepares its own Regional Urban Water Management Plan (RUWMP), and the concepts and strategies generated during the IRP process are used as the basis for developing the RUWMP. TVMWD's UWMP was prepared with the information provided during the development of MWD's RUWMP (November 2010).

Finally, MWD provides financial support for local water projects and water conservation programs implemented by its member agencies. These projects and programs contribute to an increase in the reliable regional water supplies available to its service area.

Figure 2-A: MWD Service Area Map

Three Valleys Municipal Water District

TVMWD is one of 27 member agencies of the Metropolitan Water District. In turn, TVWMD has retail member agencies within its service area to which the District supplies imported water to these retail agencies' individual distribution systems. It is the retail agencies that deliver water directly to the consumer and end users through-

Table 2-1: Description of Member Agency Service Area and Supply Sources

Member Agency	Description / Service Area / Supply Sources
Boy Scouts of America	• *The BSA is one of three institutional users within the TVMWD service area that uses imported water from the District to serve its individual property.* • *The BSA owns and operates the Firestone Reservation, a campground and wilderness facility located in the southern portion of TVMWD's service area.* • *The Firestone Reservation maintains a relatively small demand for water and its sole source is its import supply.*
California State Polytechnic University, Pomona	• *Cal Poly Pomona is a college campus and another of the institutional users within TVMWD that serves only the water needs of the university.* • *Cal Poly is located in the central portion of the District's service area and enjoys a mix of imported water and groundwater for its domestic supply and recycled water purchased from the City of Pomona for its irrigation use.*
City of Covina	• *The city serves incorporated and unincorporated territories of Covina. Its service area straddles the boundary between TVMWD and the neighboring wholesale water agency, Upper San Gabriel Valley Municipal Water District (USGVMWD). Approximately 27% of the City's service area is within TVMWD.* • *Covina receives most of its water supply from another wholesale water agency (see Covina Irrigating Co.), which consists of local surface and groundwater sources. When needed, the City will also draw on imported water through TVMWD.*
Covina Irrigating Company	• *CIC is the lone wholesale water agency among the retail agencies within the TVMWD service area. CIC's shareholders to whom it delivers water include some of the agencies on this list as well as one in the USGVMWD service area.* • *CIC currently draws groundwater from the Main San Gabriel Basin and surface water from the San Gabriel River. A proposed project will soon allow delivery of imported water into CIC's system for subsequent delivery to its retail customers.*
City of Glendora	• *The City serves most of the incorporated and unincorporated territories of Glendora and about 98% of its service area is within the boundaries of TVMWD (the remainder being within USGVMWD's area). The city is located in the northwestern portion of the District's service area.* • *Glendora's primary supply is groundwater pumped from the Main San Gabriel Basin. The City also receives water from CIC and typically uses imported water only when its other sources are not available or during high summer demand periods.*
Golden State Water Company	• *GSWC is a privately-owned water company regulated by the Public Utilities Commission (PUC). It serves two non-contiguous areas within TVMWD's boundaries. The first is the Claremont system and the other is its San Dimas system. As their names infer, these systems cover the cities of Claremont and San Dimas, respectively.* • *GSWC's Claremont system uses a mix of groundwater drawn from the Six Basins and Chino Basin as well as imported water treated at TVMWD's Miramar Water Treatment Plant (WTP).* • *GSWC's San Dimas system draws from a number of sources including CIC (surface and groundwater), its own groundwater from the Main San Gabriel Basin, and imported water from MWD/TVMWD. The San Dimas system also has a small amount of surface water available in its resource mix, but is used only for non-potable irrigation purposes.*
City of La Verne	• *The City is located in the northern portion of TVMWD's service area and serves the incorporated territory of La Verne.* • *It uses a mix of groundwater from the Six Basins and imported water treated at TVMWD's Miramar WTP.*

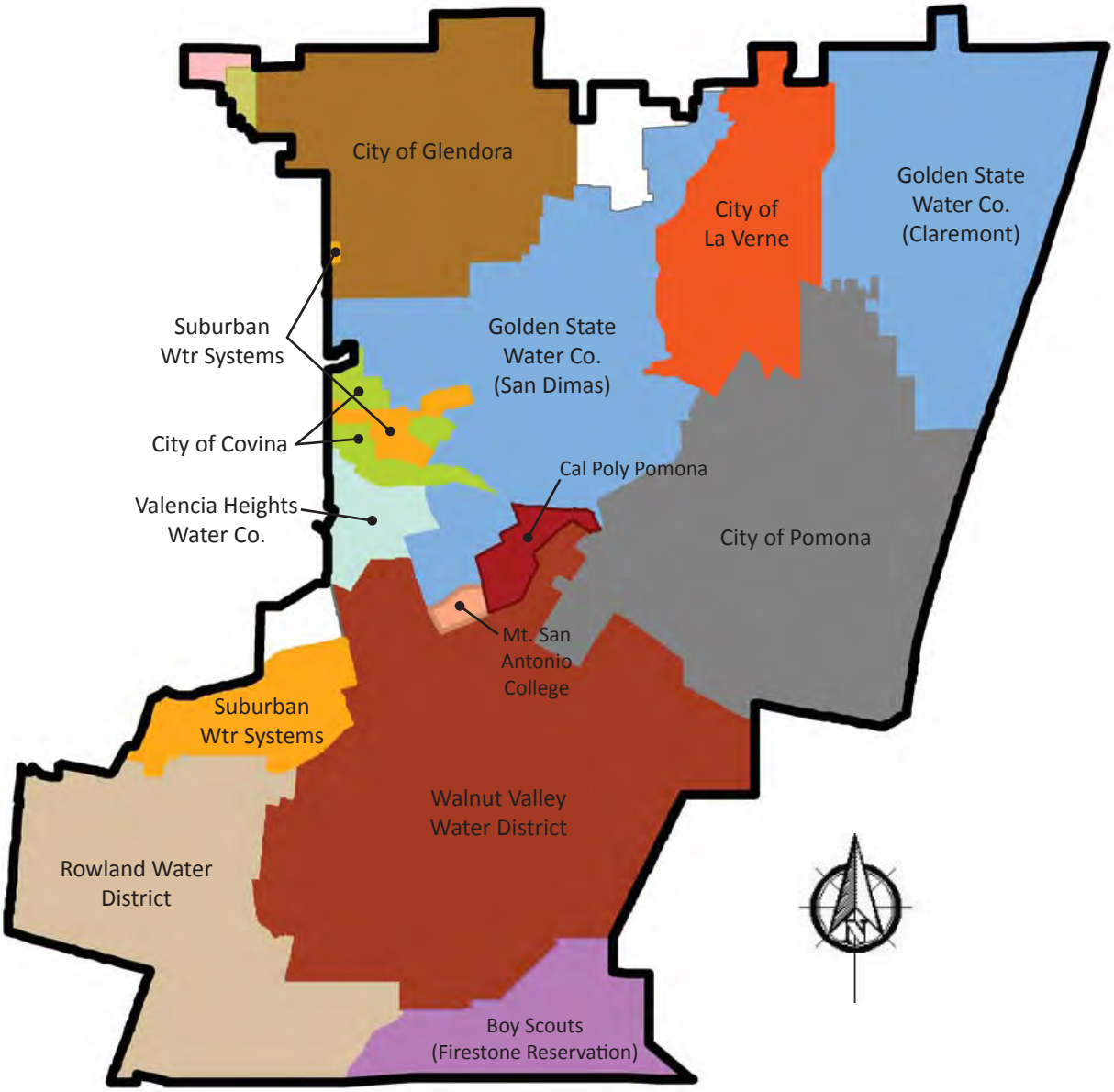
Table 2-1: Description of Member Agency Service Area and Supply Sources (Cont'd)

Member Agency	Description / Service Area / Supply Sources
Mt. San Antonio College	• *MSAC is a community college located in the central portion of the TVMWD service area adjacent to Cal Poly Pomona. Along with the BSA and Cal Poly, it too is an institutional user that serves only the water demands within the campus property.* • *MSAC has a couple of small groundwater wells that are used for non-potable purposes. Otherwise, the college's demand is met wholly with imported water through MWD/TVMWD.*
City of Pomona	• *Pomona is a large, urban city located in the eastern portion of the TVMWD service area. The City serves the entire incorporated boundary.* • *The City has numerous sources of water including local surface water from the San Antonio Canyon, groundwater from Chino, Spadra, and Six Basins, as well as imported water through MWD/TVMWD. Pomona owns and operates a recycled water system to deliver for non-potable demands. Cal Poly, another TVMWD member agency is a direct customer of recycled water from the City.*
Rowland Water District	• *RWD is a public water district with its service area in the far southwestern portion of TVMWD's boundaries. It serves the unincorporated communities of Rowland Heights and Hacienda Heights and portions of the cities of Industry, La Puente, and West Covina.* • *Its only source of potable water is imported water delivered by MWD/TVMWD. RWD continues to expand its recycled water system to feed non-potable demand.*
Suburban Water Systems	• *SWS is a privately-owned water company regulated by the PUC. It has several small, non-contiguous service areas in the Covina, Glendora, and West Covina vicinities, which are generally along the western boundary of TVMWD. SWS refers to its service area in the San Gabriel Valley as its San Jose District. The majority of this district's service area is actually within USGVMWD's boundaries with only about 7% falling within TVMWD.* • *SWS receives water from CIC (groundwater and surface water) and other groundwater drawn from the Main San Gabriel Basin. SWS may also use MWD imported water delivered through TVMWD or USGVMWD. SWS is currently expanding its recycled water infrastructure to deliver this resource for non-potable demand.*
Valencia Heights Water Company	• *VHWC is a mutual water company serving portions of the incorporated and unincorporated areas of Covina and West Covina. It is located in the central portion of the TVMWD service area.* • *VHWC is a shareholder of CIC and therefore receives delivery of this supply (groundwater and surface water). It also has groundwater production capability from the Main San Gabriel Basin. Between those two sources, VHWC can typically meet its overlying demand. During times of emergency or unavailability of the above sources, VHWC can also get MWD imported water through an interconnection with WVWD.*
Walnut Valley Water District	• *WVWD is a public water district located in the southeast portion of TVMWD's service area. WVWD serves all or portions of the communities and cities of Diamond Bar, Industry, Pomona, Rowland Heights, Walnut, and West Covina. It is the largest user of imported water in TVMWD's service area.* • *Similar to RWD, WVWD's only source of potable water is imported water delivered by MWD/TVMWD. For its non-potable demand, WVWD operates a recycled water system. The sources for the recycled water include effluent from the Pomona Water Reclamation Plant and several groundwater production wells extracting from the Puente Basin.*

out the entire service area of TVMWD. Table 2-1 lists the member agencies of the District, the corresponding service areas that each serves, and a general description of the water resources utilized by the individual agencies.

The service areas of the various member agencies above are depicted in Figure 2-B.

Figure 2-B: Member Agency Service Areas



Demographics and Population Projections

Much of the TVMWD service area is filled with urban development thus leaving a relatively small balance of open space for future improvement and population growth. Still, the TVMWD region is expected to experience some increase over the next 20 years.

The Southern California Association of Governments (SCAG) provides the most comprehensive analysis of demographic information for the local region including the TVMWD service area. Among other services, SCAG provides a population projection on a city-by-city level throughout Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura counties. These projections are used as a basis for TVMWD's analysis of growth within its service area.

The California Department of Finance (DOF) also provides current population estimates for cities and growth projections on a county-by-county basis. Information from the DOF is also used in

TVMWD's demographic analysis to determine initial population numbers.

Table 2-2 provides population projections for the incorporated cities and unincorporated territory within TVMWD's service area.

Table 2-2: Population Projections

Cities	% of total within TVMWD	Population in Year:					
		2010	2015	2020	2025	2030	2035
Azusa	2.5%	1,230	1,276	1,310	1,346	1,380	1,412
Claremont	100.0%	37,608	38,152	38,750	39,325	39,876	40,405
Covina	33.3%	16,541	17,444	18,137	18,863	19,555	20,217
Diamond Bar	100.0%	61,019	62,653	64,224	65,747	67,216	68,570
Glendora	98.0%	51,773	53,146	54,447	55,650	56,849	57,959
Industry	55.0%	442	442	443	444	444	445
La Puente	1.0%	434	462	485	509	531	553
La Verne	100.0%	34,051	35,059	36,130	37,518	38,850	40,249
Pomona	100.0%	163,683	172,885	182,263	191,346	200,140	208,558
San Dimas	100.0%	36,946	38,274	41,871	45,686	49,282	52,694
Walnut	100.0%	32,659	33,884	34,733	35,635	36,508	37,339
West Covina	15.0%	16,934	17,783	18,651	19,489	20,300	21,074
Unincorporated	33.3%	120,480	129,203	138,036	146,582	154,864	162,788
TOTAL		573,799	600,663	629,479	658,138	685,795	712,264

CA Dept. of Finance 2010 population data used as basis; SCAG projections for 2010 through 2035 used to estimate future growth.

Accordingly, population projections (in five-year increments) for the entire TVMWD service area for the planning horizon of this UWMP are as follows:

2010	2015	2020	2025	2030	2035
573,800	**600,660**	**629,480**	**658,140**	**685,800**	**712,260**

Population, housing, and employment growth rates in the TVMWD service area were obtained from the California Department of Finance, Southern California Association of Governments (SCAG) regional planning agency, San Gabriel Valley Council of Governments and from in-house estimates.

Other Demographic Information

The San Gabriel Valley (SGV) is a large sub-region in the northeast portion of the Los Angeles County urbanized area and is home to roughly one-fifth of the county's population and workforce. TVMWD is situated in the eastern portion of the SGV. Politically, the SGV is governed by 31 separate municipalities, as well as the County which has jurisdiction over unincorporated "islands" that cover about 13 percent of the area. The SGV is bounded on the east by the San Bernardino county line, on the north by the Angeles National Forest, on the south by State Highway 60, and on the west by the municipal boundaries of the cities of Los Angeles and Glendale. The SGV is home to 18% percent of Los Angeles area residents; its economic base employs 18% of metro area workers; and it is second in size to the City of Los Angeles sub-region where 40% of jobs are located. While the majority of Valley workers live in the valley, a significant portion of workers commute from neighboring areas in San Bernardino County (east), the City of Los Angeles (west), Pasadena area (northwest), and the Gateway Cities sub-region (south). Similarly, SGV residents tend to commute to jobs in these neighboring areas. The commuting patterns confirm that the SGV is economically integrated with the Los Angeles metro area, and secondarily with the Riverside-San Bernardino metro area.

Along with the SGV, the TVMWD service area has experienced slightly slower population growth than the greater Los Angeles County area. Because most of TVMWD's service area consists of developed, established communities, it did not see the explosive growth observed in many regions of southern California through the latter part of the 1990s and early 2000s. Only relatively small pockets of open space remain within TVMWD, which could potentially be developed in the future and impact overall water demand.

Because of the SGV's close relationship with the economy and job market of the general Los Angeles region, economic trends that affect housing demands and job growth in Los Angeles can be correspondingly applied to SGV and the TVMWD service area. With the exception of the recent years of economic hardship for the region, the general trend over the longer period has been one of steady growth in Los Angeles and the greater southern California area. As the recession eases over the country, it is anticipated that the Los Angeles region will resume that growth as will the TVMWD service area. Population growth, however, will be greater in other areas of southern California than within the TVMWD service area. Although it is expected that some increase will still take place within TVMWD. The following table provides a forecast of that growth by housing units and urban employment.

Table 2-3: TVMWD Population Projections and Housing Statistics

	2015	2020	2025	2030	2035
Estimated Population	**600,660**	**629,480**	**658,140**	**685,800**	**712,260**
Occupied Housing Units	**169,410**	**178,950**	**186,430**	**193,610**	**199,440**
Single Family	129,330	136,180	141,370	146,280	150,100
Multi-Family	40,080	42,770	45,060	47,330	49,340
Persons per Household	**3.44**	**3.42**	**3.43**	**3.45**	**3.48**
Urban Employment	**230,730**	**234,080**	**238,060**	**242,320**	**246,360**

Climate

TVMWD's service area is located within the "Mediterranean" climate zone of Southern California. The region receives an average annual rainfall of about 13.1 inches. Monthly average temperatures range from a low of 51.9 degrees in December to a high of 72.7 degrees in July. Table 2-4 shows monthly average rainfall and temperature within TVMWD's service area over the past 10 years (2000-2009).

Table 2-4: Average Monthly Rainfall and Temperature

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Average Rainfall (inches)	2.19	3.96	1.58	0.94	0.30	0.04	0.04	0.01	0.10	1.05	1.00	1.92
Average Temp (ºF)	53.1	53.2	56.4	58.4	64.2	67.9	72.7	72.6	70.3	63.6	57.8	51.9

Data from the California Irrigation Management Information System (CIMIS) at Station 078 (Pomona) were used to generate the values in this table. Average values are calculated based on 2000-2009 data.

3 System Demands

Various sources of water supply are available to TVMWD and its member agencies. The TVMWD service area overlies several groundwater basins, is adjacent to foothill areas that provide local surface supplies, includes water reclamation plants that deliver recycled water, and hosts two water treatment plants (Weymouth and Miramar) that receive and deliver imported water for potable use. The combination of all these sources, along with other potential projects to be discussed later, serves as the basis for determining the reliability of a water supply for the entire TVMWD service area.

Existing Demands

During a normal year, local sources (i.e. groundwater, surface water, and recycled water) have historically met about 49% of the entire water needs of the service area. The remaining balance of 51% is met by imported sources from Metropolitan Water District (MWD). Table 3-1 below illustrates relative use percentages during the last five years of the various water sources available within the TVMWD service area.

Table 3-1: Relative Use of Water Sources Within TVMWD Service Area

Year	Local Supplies			Import
	GW	Surface	Recycled	
2005	37.3%	8.1%	5.0%	49.6%
2006	39.0%	8.4%	5.0%	47.6%
2007	38.2%	6.5%	3.1%	52.2%
2008	37.0%	8.4%	3.0%	51.7%
2009	39.7%	5.3%	3.3%	51.7%
Average	38.3%	7.3%	3.9%	50.5%

Historically, groundwater production within TVMWD has been relatively stable, with average total production ranging from 45,000 to 53,000 AFY. The more prolific basins have the capability to be replenished by local surface runoff as well as import water. It is this capability that allows conjunctive use projects to make sense and a vital groundwater management tool. Accordingly, these basins play a key role during periods of drought and times of emergency when import water is less available.

Table 3-2 and Figure 3-A show total water use over the past five years (2005-2009) for all member agencies within the TVMWD service area over the broad resource categories.

The average percentage of local resources and imported supplies is illustrated in Figure 3-A.

Over the past several years, demand has been relatively stable throughout this region with enhanced levels of conservation taking place during some of the dryer years. In the latter part of 2009 and into 2010, many agencies put forth concerted efforts to eliminate water waste and encourage water conservation. This manifests itself in reduced use in 2009.

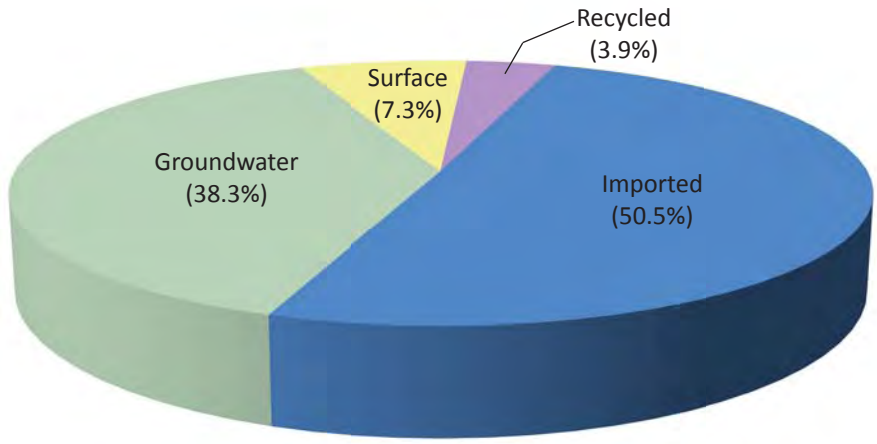
For the most part, existing available supplies have been able to meet existing overlying water demands with relatively little difficulty. Conservation messages and pricing strategies to promote reduced water consumption by end users have certainly helped to temper the pressure on supply availability during recent dry periods, and that strategy will be key in maintaining reliability into the future.

The primary demand for water within TVMWD's service area is by the municipal and industrial sector, and the urban character of the region suggests that that trend will not change through the planning horizon of this UWMP. It is expected that the existing resources available to the TVMWD service area will continue to be available through 2035. Meanwhile, TVMWD and its member agencies continue to search for potential other supplies and develop additional resource management strategies to augment existing resources and improve overall reliability. The following sections provide a forecast of water demands through 2035 and the various strategies that can be used to minimize or mitigate potential shortages.

Table 3-2: Water Use by Source (in AF)

Year	Local Supplies			Imported	TOTAL
	GW	Surface	Recycled		
2005	48,596.6	10,538.8	6,478.6	64,523.9	130,137.9
2006	51,862.8	11,126.8	6,690.8	63,178.9	132,859.3
2007	52,921.0	8,952.7	4,320.5	72,318.5	138,512.7
2008	49,536.8	11,304.2	3,957.9	69,242.9	134,041.7
2009	45,483.5	6,020.5	3,797.8	59,135.3	114,437.0

Figure 3-A: Water Use by Source



Water Demand Projections

The availability of water supplies to TVMWD and its member agencies is affected by numerous factors including demographics, hydrology, and regulatory/environmental restrictions. In developing its Regional Urban Water Management Plan (RUWMP), MWD accounted for these factors in utilizing its MAIN Water Use Forecasting framework to project water demands to 2035. In addition to forecasting its overall water demands, MWD developed similar projections for its member agencies using the MAIN model. For TVMWD, the projected water demands for three hydrologic conditions (average year, single dry year, multiple dry years) are presented in Tables 3-4, 3-5, and 3-6. Each projection is forecast to 2035 in five-year increments.

Each of the three hydrologic analyses has been provided by MWD and is based on corresponding hydrologic periods shown as follows:

Hydrologic Condition	Historical Period Used
Average	1922-2004
Single Dry Year	1977
Multiple Dry Years	1990-1992

MWD has overlain the models for these periods on the demand projections, supply mix, and management strategies that are forecast for 2015 to 2035, and hence, TVMWD passes along these same assumptions and information.

Local resources from the TVMWD service area will be tapped first to provide initial supply to meet overall demand. The balance will be met with imported supplies through MWD. The following tables show the local supplies available for the

Table 3-3: Total Retail Demand Projections (in AF)

	Year					
	2010	2015	2020	2025	2030	2035
Average Year (1922-2004 hydrology)	127,621	137,252	144,690	148,082	151,772	154,144
Single Dry Year (1977 hydrology)	128,128	137,798	145,261	148,667	152,371	154,753
Multiple Dry Year (1990-92 hydrology)		137,362	145,358	149,630	153,317	155,997

three hydrologic conditions mentioned above and the resulting demand for import supplies from MWD.

As further discussed in Chapter 6, water conservation is a key component of TVMWD's long-term water supply and management strategy. The objectives include reductions to both indoor and outdoor use for all customer groups within the service area. Additionally, as a signatory to the MOU on Urban Water Conservation, TVMWD is committed to implementing locally cost-effective water conservation best management practices (BMPs).

As part of MWD's projections, it is estimated that the total long-term savings from District-sponsored conservation measures within TVMWD's service area would range from approximately 19,200 AF in 2010 to 27,300 in 2035. These values are included in the calculations below and serve to reduce overall retail demand.

The forecasts for each of these three hydrologic conditions suggest that sufficient supply will be available to meet the overall demands within the TVMWD service area over the planning period of 2010 through 2035. Much of that is dependent on imported water supplies, which MWD notes in its 2010 Regional Urban Water Management Plan as being reliable through the same planning horizon.

Table 3-4: Water Demand Projection - Average Year
(in Acre-Feet)

	2010	2015	2020	2025	2030	2035
Conservation						
Conservation[1]	19,199	20,381	20,908	23,165	25,306	27,326
Installed Active Device Through 2009	1,941	1,786	865	444	0	0
Code-Based and Price-Effect Savings	17,258	18,594	20,044	22,721	25,306	27,326
Total Demands After Conservation						
Total Demand	127,621	137,252	144,690	148,082	151,772	154,144
Retail Municipal and Industrial[2]	122,367	131,999	138,437	141,829	145,519	147,891
Retail Agricultural	253	253	253	253	253	253
Groundwater Replenishment	5,000	5,000	6,000	6,000	6,000	6,000
Local Supplies						
Total Local Supplies	57,873	59,909	60,826	61,583	62,274	62,947
Groundwater Production	45,000	45,000	45,000	45,000	45,000	45,000
Surface Production	6,500	6,500	6,500	6,500	6,500	6,500
Groundwater Recovery	1,056	1,137	1,141	1,146	1,151	1,155
Recycling	5,317	7,272	8,185	8,937	9,623	10,292
M&I and Agricultural	5,317	7,272	8,185	8,937	9,623	10,292
Groundwater Replenishment	0	0	0	0	0	0
Other Non-Metropolitan Imports	0	0	0	0	0	0
Imported Water Demands						
Total Metropolitan Demands	69,748	77,343	83,864	86,499	89,498	91,197
Full Service (Tier I and Tier II)	64,748	72,343	77,864	80,499	83,498	85,197
Replenishment Water	5,000	5,000	6,000	6,000	6,000	6,000
Interim Agricultural Water Program	0	0	0	0	0	0

1. *Includes code-based, price-effect and existing active savings through CY2009; does not include future active conservation savings. Conservation is 1990 base year.*
2. *Retail M&I projections include conservation.*

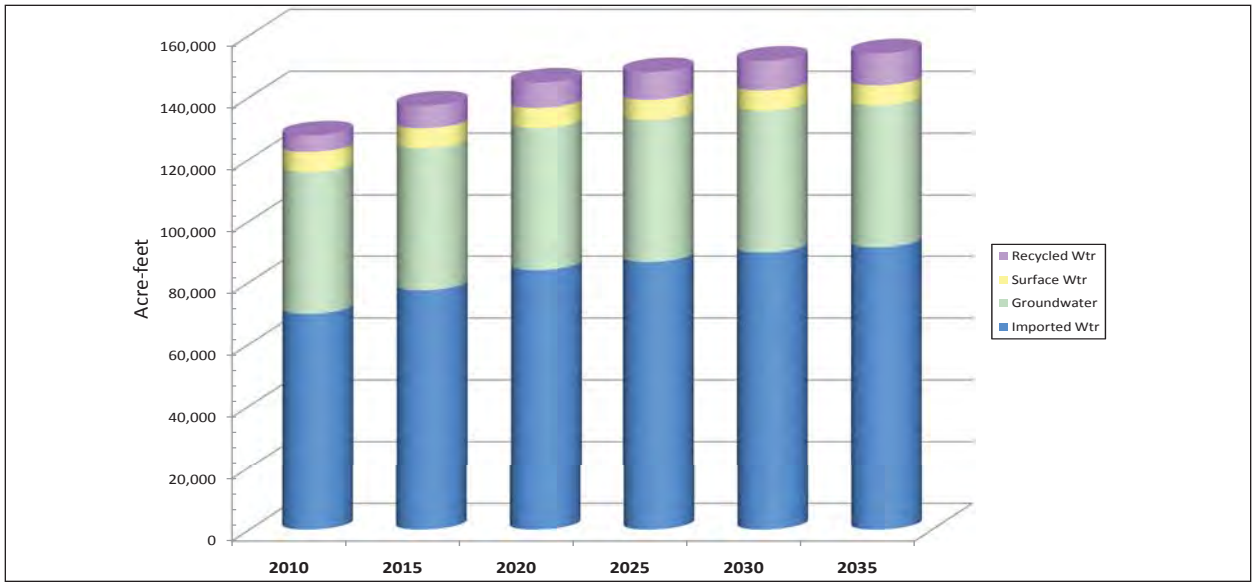


Table 3-5: Water Demand Projection - Single Dry Year
(in Acre-Feet)

	2010	2015	2020	2025	2030	2035
Conservation						
Conservation[1]	19,199	20,381	20,908	23,165	25,306	27,326
Installed Active Device Through 2009	1,941	1,786	865	444	0	0
Code-Based and Price-Effect Savings	17,258	18,594	20,044	22,721	25,306	27,326
Total Demands After Conservation						
Total Demand	128,128	137,798	145,261	148,667	152,371	154,753
Retail Municipal and Industrial[2]	122,856	132,526	138,989	142,395	146,099	148,481
Retail Agricultural	272	272	272	272	272	272
Groundwater Replenishment	5,000	5,000	6,000	6,000	6,000	6,000
Local Supplies						
Total Local Supplies	57,873	59,909	60,826	61,583	62,274	62,947
Groundwater Production	45,000	45,000	45,000	45,000	45,000	45,000
Surface Production	6,500	6,500	6,500	6,500	6,500	6,500
Groundwater Recovery	1,056	1,137	1,141	1,146	1,151	1,155
Recycling	5,317	7,272	8,185	8,937	9,623	10,292
M&I and Agricultural	5,317	7,272	8,185	8,937	9,623	10,292
Groundwater Replenishment	0	0	0	0	0	0
Other Non-Metropolitan Imports	0	0	0	0	0	0
Imported Water Demands						
Total Metropolitan Demands	70,254	77,888	84,435	87,084	90,097	91,806
Full Service (Tier I and Tier II)	65,254	72,888	78,435	81,084	84,097	85,806
Replenishment Water	5,000	5,000	6,000	6,000	6,000	6,000
Interim Agricultural Water Program	0	0	0	0	0	0

1. *Includes code-based, price-effect and existing active savings through CY2009; does not include future active conservation savings. Conservation is 1990 base year.*
2. *Retail M&I projections include conservation.*

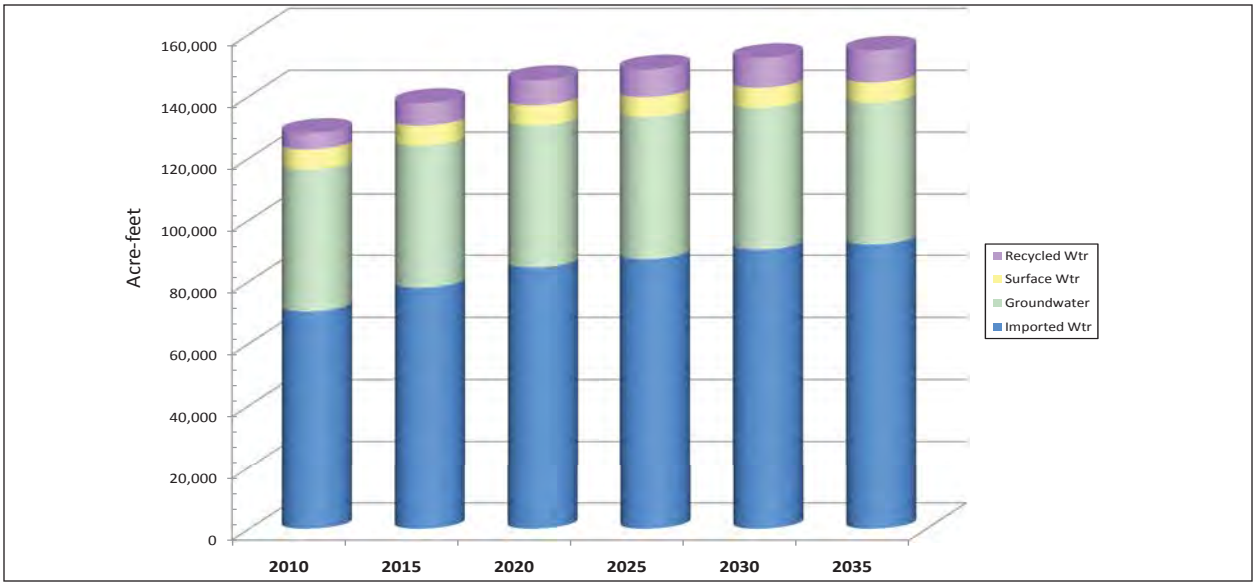
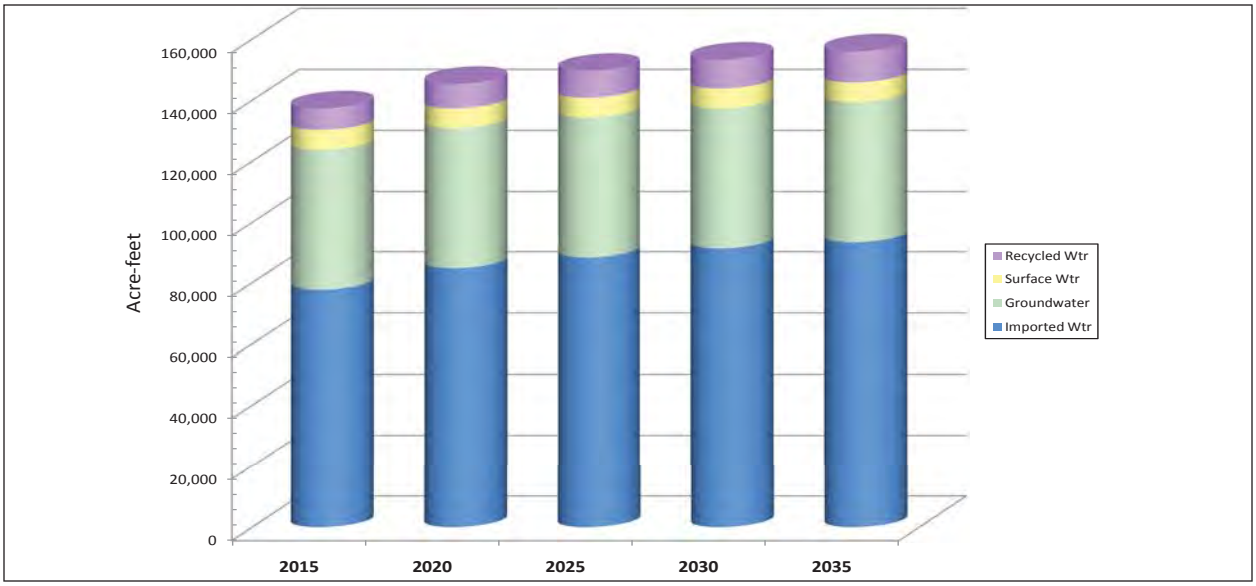


Table 3-6: Water Demand Projection - Multi-Dry Years
(in Acre-Feet)

	2015	2020	2025	2030	2035
Conservation					
Conservation[1]	20,381	20,908	23,165	25,306	27,326
Installed Active Device Through 2009	1,786	865	444	0	0
Code-Based and Price-Effect Savings	18,594	20,044	22,721	25,306	27,326
Total Demands After Conservation					
Total Demand	137,362	145,358	149,630	153,317	155,997
Retail Municipal and Industrial[2]	132,098	139,294	143,366	147,053	149,733
Retail Agricultural	264	264	264	264	264
Groundwater Replenishment	5,000	5,800	6,000	6,000	6,000
Local Supplies					
Total Local Supplies	59,698	60,651	61,442	62,137	62,813
Groundwater Production	45,000	45,000	45,000	45,000	45,000
Surface Production	6,500	6,500	6,500	6,500	6,500
Groundwater Recovery	1,136	1,141	1,145	1,150	1,154
Recycling	7,062	8,010	8,797	9,487	10,159
M&I and Agricultural	7,062	8,010	8,797	9,487	10,159
Groundwater Replenishment	0	0	0	0	0
Other Non-Metropolitan Imports	0	0	0	0	0
Imported Water Demands					
Total Metropolitan Demands	77,664	84,707	88,187	91,179	93,184
Full Service (Tier I and Tier II)	72,664	78,907	82,187	85,179	87,184
Replenishment Water	5,000	5,800	6,000	6,000	6,000
Interim Agricultural Water Program	0	0	0	0	0

1. *Includes code-based, price-effect and existing active savings through CY2009; does not include future active conservation savings. Conservation is 1990 base year.*
2. *Retail M&I projections include conservation.*



4 Sources of Supply

Various sources of water supply are available to TVMWD and its member agencies. The TVMWD service area overlies several groundwater basins, is adjacent to foothill areas that provide local surface supplies, includes water reclamation plants that deliver recycled water, and hosts two water treatment plants (Weymouth and Miramar) that process and deliver imported water for potable use. The combination of all these sources, along with other potential projects to be discussed later, serves as the basis for determining the reliability of water supplies for the entire TVMWD service area.

During a normal year, local sources (i.e. groundwater, surface water, and recycled water) have historically met about 49% of the entire water needs of the service area. The remaining balance of 51% is met by imported supplies from Metropolitan Water District (MWD). The following sections provide a description of these various sources and the characteristics affecting the reliability of each.

Groundwater

Groundwater makes up the majority of local supplies available to the District's service area. There are several groundwater basins that underlie TVMWD, and each is utilized to varying degrees depending on court-ordered limitations and water quality characteristics. Table 4-1 lists the subject basins that are within TVMWD, sub-basins (if any) that are utilized, and the management scheme of each. Figure 4-A depicts the general locations of the basins relative to TVMWD's boundaries.

Chino Basin

The Chino Basin is a large, expansive aquifer that is one of the largest groundwater basins in Southern California. It lies mostly within San Bernardino County outside of TVMWD's political boundary. The basin's western edge, however, juts into TVMWD's service area (Los Angeles County) and its resource is used by two TVMWD member agencies: City of Pomona and Golden State Water Company. The basin was adjudicated in the late 1970s, and the Chino Basin Watermaster became the court-appointed entity overseeing the management and administration of the basin.

Chino Basin operates on an initial safe yield value that is apportioned to three "pools" that produce from the basin (non-agricultural, agricultural, and appropriative pools). The parties in each of these three pools are then apportioned a given percentage of their pool's allocation. TVMWD's agencies that pump from the Chino Basin belong to the Appropriative Pool. A party is not necessarily limited to its individual allotment, but any extractions beyond its annual allocation must be covered with a like amount of transferred rights, stored water, replacement/replenishment water, and/or any other means allowed by the Judgment.

Figure 4-B shows Chino Basin production from TVMWD member agencies over the past five years. The Judgment for Chino Basin is included as Appendix D.

Table 4-1: Groundwater Basins Within TVMWD Service Area

Groundwater Basin	Sub-Basins	Management Scheme
Chino Basin		Adjudicated (1978)
San Gabriel Basin	Main, Lower/Upper SG Canyon, Foothill, Glendora, San Dimas, Way Hill	Adjudicated (1972)
Puente Basin		Adjudicated (1985)
Six Basins	Canyon, Lower Claremont Heights, Upper Claremont Heights, Pomona, Live Oak, Ganesha	Adjudicated (1998)
Spadra Basin		Not adjudicated

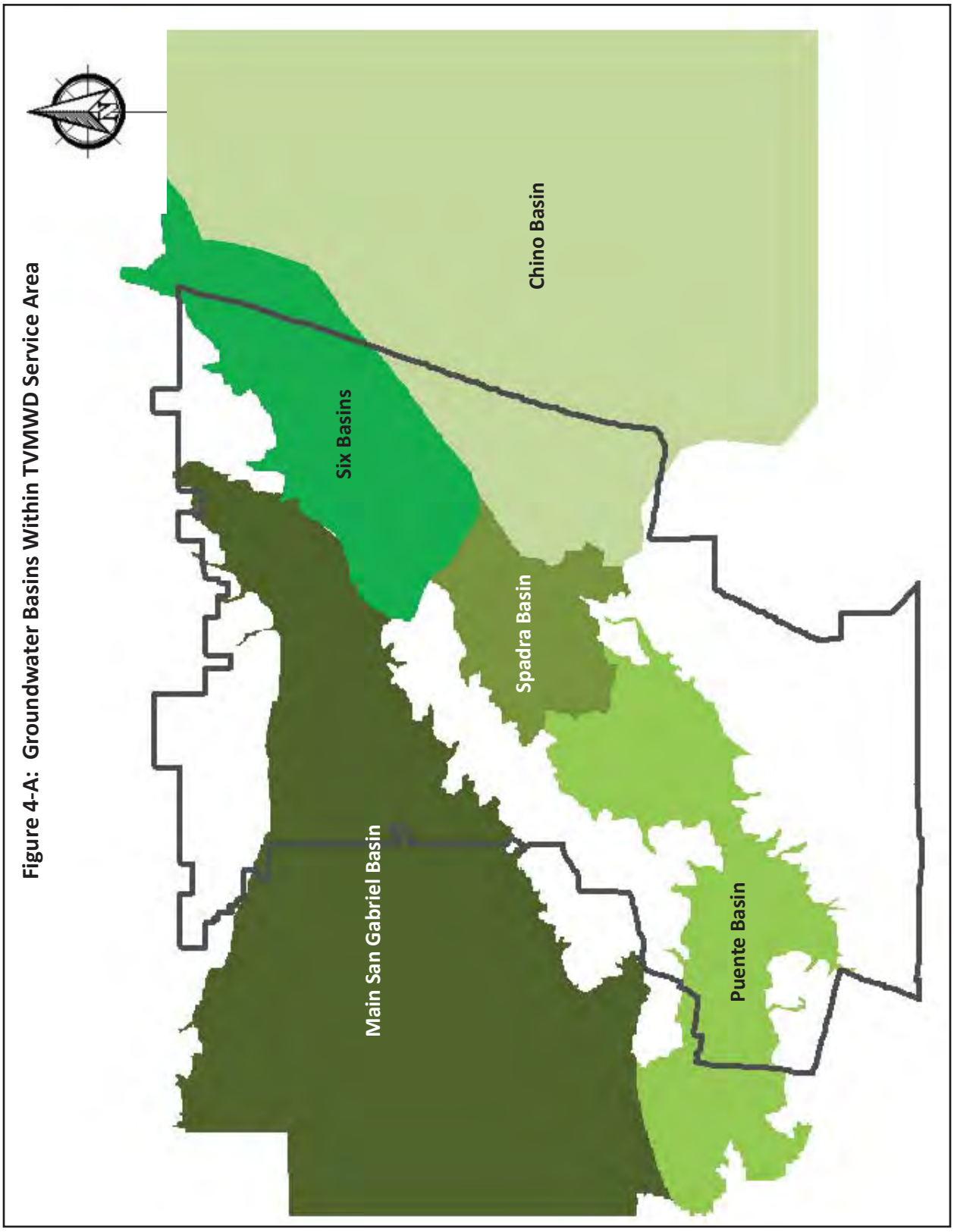
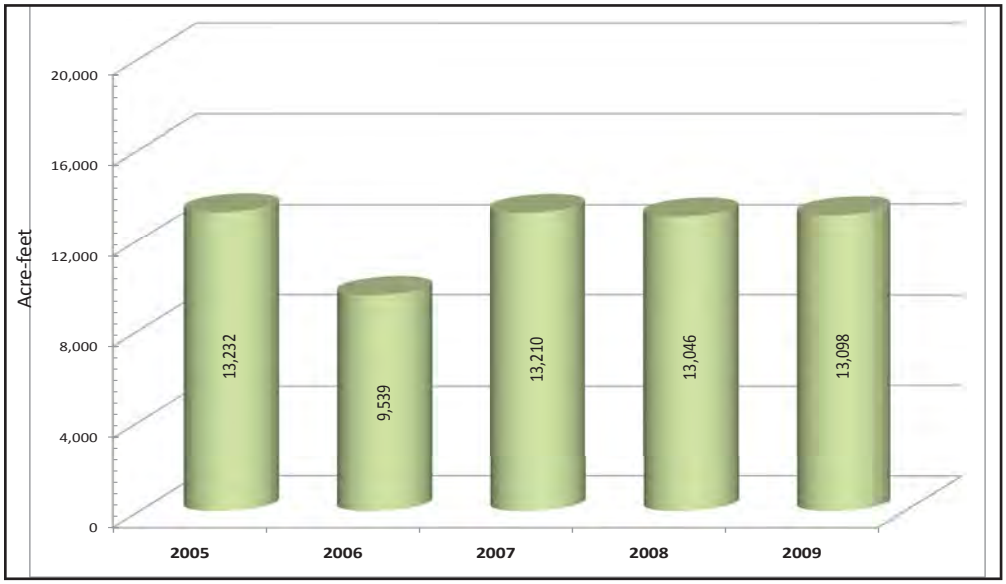


Figure 4-A: Groundwater Basins Within TVMWD Service Area

Figure 4-B: Chino Basin Production by TVMWD Agencies



Because of its long history of agriculture and dairy farming, the basin's primary water quality concern is high nitrate levels. With numerous studies and reports conducted throughout the Chino Basin, groundwater producers are keenly aware of this particular issue as well as other characteristics of the basin. The management of Chino Basin has analyzed and will continue to evaluate all components affecting the future reliability and sustainability of this resource because the long-term goal is to utilize and develop the local groundwater for expected increases in future demand. This means that while water quality challenges exist, they are being addressed through individual and regional projects. Therefore, Chino Basin is expected to be a sound resource through the planning horizon of the UWMP.

San Gabriel Basins

The San Gabriel Basins consist of several sub-basins, the largest of which is the Main San Gabriel Basin (Main Basin). Accordingly, this unit of interconnected sub-basins is more commonly known by the largest basin's name (Main San Gabriel Basin) even when discussed as a whole. The Main Basin is located completely within Los Angeles County and covers much of the San Gabriel Valley and adjacent foothill areas. It is the northeasterly portion of this basin that lies beneath the TVMWD service area, but retail member agencies of TVMWD still draw groundwater from areas outside of the TVMWD boundaries to deliver to customers within the boundaries of TVMWD.

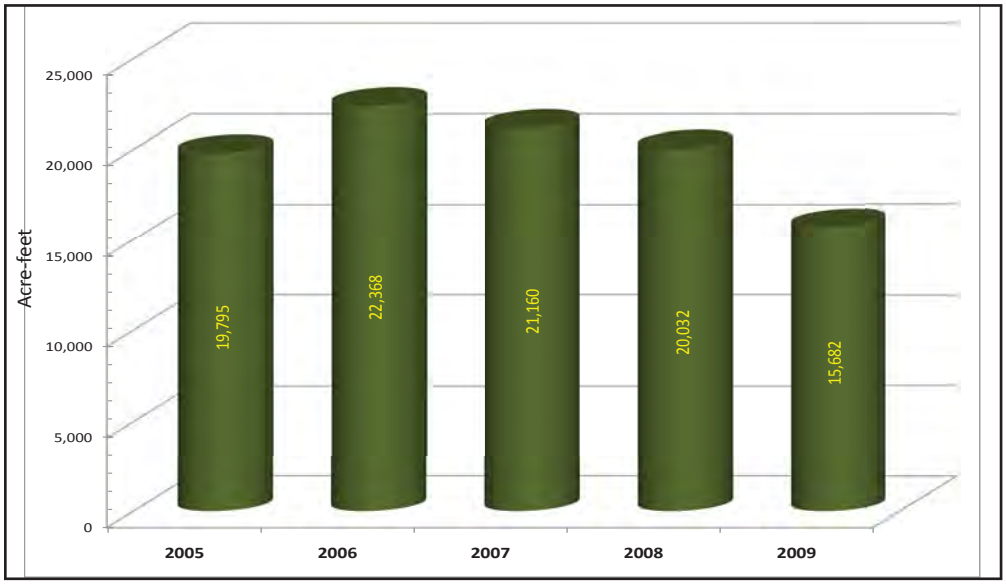
TVMWD member agencies that produce from the Main San Gabriel Basin include Covina Irrigating Company, Golden State Water Company, Suburban Water Systems, Valencia Heights Water Company, and the cities of Covina and Glendora.

The Main Basin is also adjudicated and has a court-appointed watermaster to oversee and administer the provisions of the Judgment. The basin operates on the concept of an operating safe yield that Watermaster establishes annually based on hydrologic conditions, basin production, storage availability and a host of other factors. Each party with production rights enjoys a percentage (established by the Judgment) of the operating safe yield in any given year. Any amount extracted above a party's percentage allocation must be balanced by leasing unused pumping rights from other parties and/or "replacing" the overpumped quantity with deliveries of replenishment water or water from a storage account accessible to that party.

Figure 4-C shows San Gabriel Basin production from TVMWD member agencies over the past five years. The Judgment for the Main San Gabriel Basin is included in Appendix E.

Similar to Chino Basin, the San Gabriel Basin is managed for long-term reliability and sustainability. Water quality issues that arise are addressed from a prevention standpoint, when possible, and/or through individual and regional treatment projects that process impaired groundwater sources. The Judgment that governs basin management accounts for all aspects of basin

Figure 4-C: Main San Gabriel Basin Production by TVMWD Agencies



operation. Again, the philosophy behind the adjudication is to prevent the "mining" of the groundwater resources so that there remains a sustainable supply from year to year. The management of the basin promotes the longevity of this resource for beneficial use and thus, it is expected that the groundwater supplies will remain available through the planning horizon of this plan.

Puente Basin

The Puente Basin is a small, underutilized groundwater resource straddling the southwest boundary of TVMWD. This basin is tributary to the Main San Gabriel Basin but was adjudicated separately. The provisions of the Judgment are managed and administered by another court-ordered watermaster: the Puente Basin Watermaster. This basin is also managed on an annual operating safe yield concept wherein each party is allocated its percentage of the operating safe yield established each year by the Watermaster. Because of the limited quantity of extractions from this basin, it seldom sees overpumping by any of the agencies that produce from it.

TVMWD member agencies that produce from the Puente Basin include Rowland Water District, and Walnut Valley Water District.

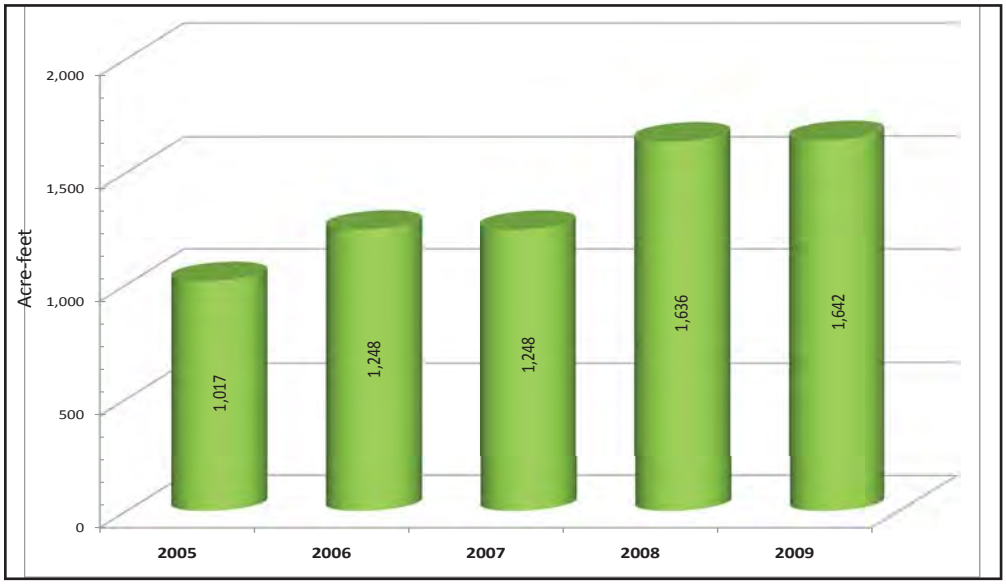
The principal reason that pumping is limited from the Puente Basin is degraded water quality. The geologic and overlying land use characteristics of the basin create a situation wherein natural and/or artificial replenishment is virtually non-existent. Consequently, the aquifer experiences minimal "freshening" and the water quality of the relatively stagnant water within the basin suffers over time. Also, historical contamination by industrial and manufacturing companies in the area have added to water quality degradation.

In the foreseeable future, this basin will continue to provide water for non-potable purposes, most likely to augment recycled water systems of overlying water agencies. This becomes vital in meeting future demands as recycled water utilization can offset increases in total demand.

Figure 4-D shows Puente Basin production from TVMWD member agencies over the past five years. Production shown in the graph was used to augment recycled water systems for non-potable purposes. The Judgment for Puente Basin is included in Appendix F.

There are no current projects that envision treating Puente Basin groundwater for potable use because the economics do not currently warrant it. If the alternative supply of imported water becomes too costly, that could change this situation. However, in the interim, the objective for the agencies that produce from this basin is to develop the extraction capability to augment their recycled water (non-potable) systems. As the recycled water demand grows in the future, groundwater extraction from this basin may likewise see an increase.

Figure 4-D: Puente Basin Production by TVMWD Agencies



generally see higher levels of nitrate and volatile organic compounds (VOCs) due to past agricultural land use and industrial contamination, respectively. Many producers with wells in this area employ wellhead treatment facilities that allow delivery of the groundwater for potable use.

Six Basins

The Six Basins is a group of small groundwater basins located in the northeasterly portion of the TVMWD service area. The grouping includes the Canyon, Upper Claremont Heights, Lower Claremont Heights, Pomona, Live Oak, and Ganesha Basins. A court-appointed watermaster is responsible for the administration of the Judgment and establishes an operating safe yield each year. The producing parties have the right to extract their respective percentages of the operating safe yield. As in the Main San Gabriel Basin, any extractions exceeding a party's annual allowable production must be made up by leasing unused pumping rights from another party and/or delivering "replacement" water to cover the amount that was overpumped.

TVMWD member agencies that produce from the Six Basins include Golden State Water Company and the cities of La Verne and Pomona. TVMWD also recently developed its own production facility within the Upper Claremont Heights Basin and now has the capability to produce a small amount of groundwater to augment import supplies.

Water quality is generally good within the basins with the better quality observed in the more northerly area. That area includes geology and land use that promote natural and artificial replenishment through surface spreading. The southerly and westerly portions of the Six Basins

Figure 4-E shows Six Basin production from TVMWD member agencies over the past five years. The Judgment for Six Basins is included in Appendix G.

Management of the Six Basins also views long-term sustainability as a key goal. Several studies and reports have been performed throughout the basins, and its distinct characteristics are fairly well known. There are definitely challenges in operating the basins to maximize its utility without creating adverse rising groundwater conditions in certain areas. Maximizing the use of the Six Basins is something TVMWD has certainly tried to promote. The District has discussed projects with basin pumpers that would utilize the recharge capability of the upper area to store water and the extraction capability of existing or new wells to quickly extract that water when it becomes available. This concept would help avoid negative impacts such as rising groundwater and could help reduce the overall cost of the water supply.

In the future, Six Basins will remain a reliable source of groundwater. Since TVMWD has now developed a physical means of delivering imported water for groundwater recharge purposes, the basins are not entirely reliant on local rainfall for basin replenishment. The available resources, however, are still highly dependent on local hydrology and good basin management/operation.

Figure 4-E: Six Basins Production by TVMWD Agencies

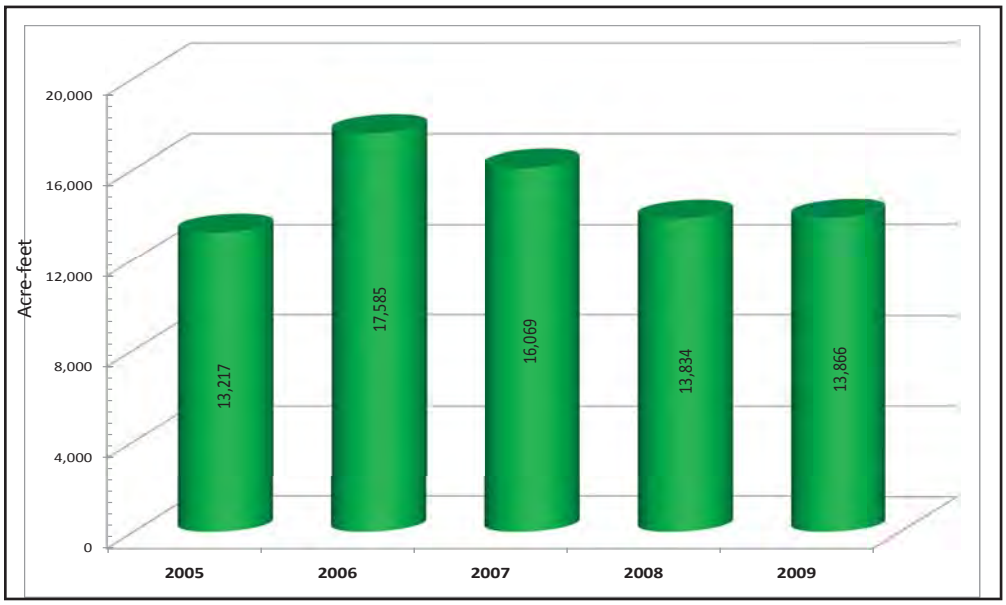
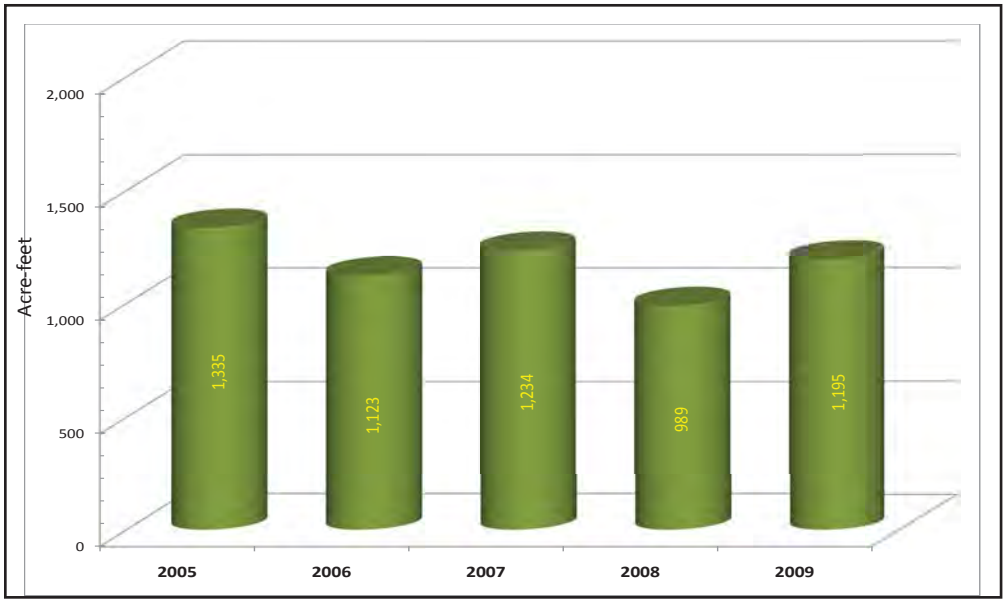


Figure 4-F: Spadra Basin Production by TVMWD Agencies



Spadra Basin

The Spadra Basin is located in the central portion of the TVMWD service area and is the only unadjudicated basin in the region. Production is not currently regulated in this basin, but water quality concerns generally dissuade agencies from placing production capabilities there. Water quality issues include high nitrate concentrations primarily due to historical agricultural use in the area. Producers either provide wellhead treatment or utilize blending practices to allow a higher beneficial use of the groundwater.

TVMWD member agencies that produce from the Spadra Basin include City of Pomona, and Cal Poly State University. Figure 4-F shows Spadra Basin production from TVMWD member agencies over the past five years.

Although the Spadra Basin is not actively managed, the level of production versus the natural replenishment into the basin does not seem to suggest that the basin is in overdraft condition. The groundwater produced from Spadra is sometimes put to potable use after blending with imported water. In other cases, it is used to augment the recycled (non-potable) systems of the producing agencies. The choice to put it into one system rather than the other is based on water quality and the ability to treat or blend the supply to potable standards. Water quality is not expected to change appreciably so the future uses of Spadra groundwater will depend on the economics of treating the water versus the alternative supply of imported water.

Again, as imported supply costs increase or the resource becomes less reliable, it may become more beneficial for the pumpers to draw from

their groundwater resources even with the extra expense of treatment. If groundwater production in the Spadra Basin increases significantly, overall management may be necessary to ensure that the basin is not adversely affected.

Surface Water

The San Gabriel Canyon, San Dimas Canyon, and San Antonio Canyon watersheds are adjacent to the TVMWD service area and provide surface water supplies for the region through Covina Irrigating Company (CIC), Golden State Water Company (GSWC), and City of Pomona, respectively. Typically, surface water supplies satisfy about 5% - 8% of the total water demand within the TVMWD service area. The availability of both these sources is highly dependent on local precipitation and snowmelt from the San Gabriel Mountains.

CIC draws from its San Gabriel Canyon surface water supply in addition to its groundwater production from the Main San Gabriel Basin to deliver water to other TVMWD member agencies including Golden State Water Company, Suburban Water Systems, Valencia Heights Water Company, and the cities of Covina and Glendora. CIC is a member of the San Gabriel River Water Committee, which is a group of water interests that owns surface water rights on the San Gabriel River.

GSWC uses some water from the San Dimas Canyon watershed for irrigation (non-potable) purposes. This amount is relatively small but is able to offset the need to deliver potable supplies to the northerly portion of its service area.

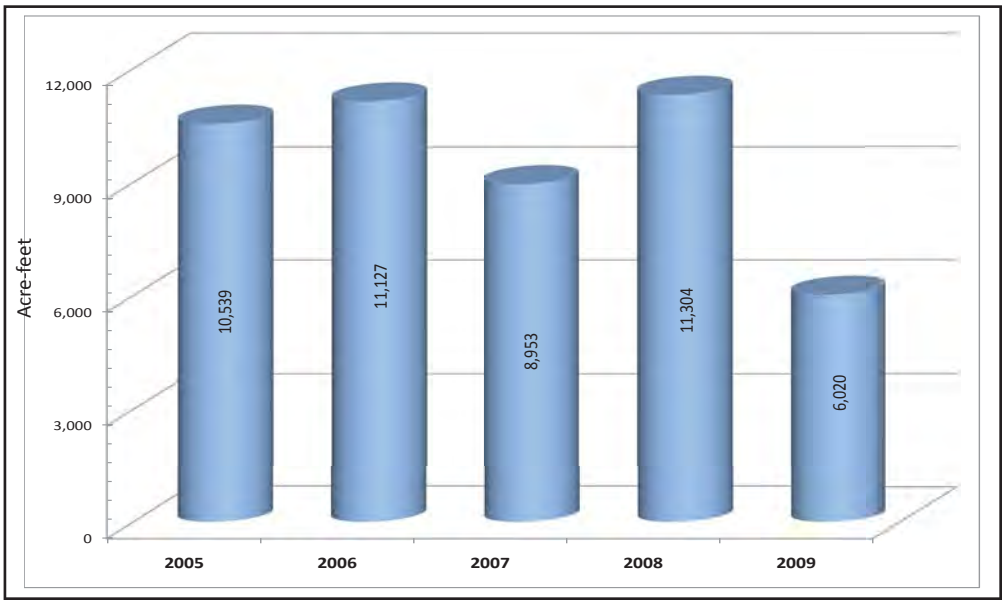
City of Pomona enjoys surface water rights from the San Antonio Creek watershed to feed its Pedley Water Treatment Plant located in the city of Claremont. The Pedley plant delivers treated water into Pomona's service area and becomes one of several sources for the city.

In all the instances of surface water supplies mentioned above, the resource is relatively inexpensive to produce and deliver. Therefore, it is certainly one of the primary sources utilized when it is available. Again, because the source is greatly dependent on local hydrology, it experiences annual fluctuations and is not necessarily a reliable supply during periods of drought. Figure 4-G shows the annual surface water supplies used within the TVMWD service area over the past five years.

The treatment plants that accept and treat the local surface water supplies within the TVMWD service area have been in operation for many years. In fact, CIC's William B. Temple Water Treatment Plant is currently undergoing an upgrade that will utilize alternate disinfection methods and allow greater treatment capacity. It is anticipated that the CIC and Pomona plants will continue to operate through the planning horizon of this UWMP.

Under normal operating conditions, these plants do not generally have a shortage of capacity to

Figure 4-G: Surface Water Use by TVMWD Agencies



treat the local surface water. It is instead, the shortage of this supply that tends to govern the utility and reliability of local surface water as a resource for the TVMWD service area. Accordingly, local surface water use in the future is expected to remain relatively stable and anticipated only to be affected by local precipitation patterns.

Recycled Water

Recycled Water is an important local resource that is gaining in popularity and use to offset imported water supplies. Currently, recycled water is limited to non-potable or indirect potable use within California. Within the TVMWD service area, recycled water is restricted to separate and independent non-potable systems designated by purple-colored pipes and distribution systems. As previously mentioned, groundwater extracted from aquifers with less than desirable water quality may also be delivered into these non-potable systems to augment recycled water supplies.

Recycled water distribution systems are typically found in the southern portion of the TVMWD service area because that is where existing wastewater treatment plants are located. The Pomona Water Reclamation Plant (Pomona WRP) and the San Jose Creek Water Reclamation Plant (SJCWRP), both owned and operated by the Los Angeles County Sanitation Districts (LACSD), are the two sources of recycled water for TVMWD member agencies.

Pomona Water Reclamation Plant (PWRP)

This facility has a capacity of 13 million gallons per day (MGD) or about 14,500 acre-feet per year (AFY). Approximately 9,000 AFY of recycled water is produced by the Pomona WRP and much of it is used for direct non-potable purposes within the TVMWD service area. Such uses include landscape irrigation of parks, schools, golf courses, greenbelts, etc. and process water for local industrial manufacturing.

LACSD uses some of the recycled effluent from the Pomona WRP for dust control at its Spadra Landfill located in Pomona. The balance of the recycled water produced at the WRP is delivered to City of Pomona, Cal Poly Pomona, and Walnut Valley Water District (WVWD). The City of Pomona and WVWD then utilize the water for their respective systems to sell to users with non-potable demands like those mentioned above. Cal Poly, which receives most of its recycled water through the city of Pomona, uses the supply for agricultural and landscape irrigation.

With the exception of the quantity used by LACSD at the Spadra Landfill, the above agencies can use all the water produced by the Pomona plant. Practically speaking, however, there are daily fluctuations in supply and demand that result in unused recycled water being discharged into the adjacent San Jose Creek flood control channel. This unused portion totals an estimated 2,000 AFY and ultimately flows into the San Gabriel River and used for groundwater recharge downstream. When more storage and demand for non-potable supplies are developed within the TVMWD service area, this amount wasted downstream will essentially be eliminated.

Over most of the past 20 years, the Pomona plant was the only source of recycled water for TVMWD member agencies. Recently, however, expansion of the recycled water infrastructure now provides the delivery of recycled water from another LACSD plant.

San Jose Creek Water Reclamation Plant (SJCWRP)

The San Jose Creek WRP is the largest of LACSD's 10 reclamation plants. It has a capacity of 100 MGD or about 112,000 AFY. It is located near the cities of Industry and Whittier outside of TVMWD's service area. Because it is downgradient of the TVWMD service area, water delivered into TVWMD must be pumped back to be delivered. Actually, the majority of the recycled effluent from SJCWRP is utilized downstream of the plant in the lower area of the Main San Gabriel Basin and in the Central Groundwater Basin of the Coastal Plain. City of Industry, however, owns and operates a large diameter pipeline and pumps recycled water from the SJCWRP easterly toward TVMWD's service area. City of Industry has contractual rights to 10,000 AFY of recycled water from the plant. Near the westerly boundary of

the District's service area a large pumping plant was built to divide recycled water flows for City of Industry, Rowland Water District, and Suburban Water Systems.

Currently, Rowland Water District is the only TVMWD member agency utilizing recycled water from the SJCWRP. Projects are currently underway, however, to also allow recycled water use within Suburban Water Systems' service area.

Current Use of Recycled Water

The recycled water produced by both the Pomona WRP and San Jose Creek WRP is disinfected tertiary-treated wastewater in compliance with the applicable sections Title 22 of the Code of Regulations. The uses for the effluent beyond the treatment plants also comply with relevant sections of the Health and Safety Code, the Water Code, and Titles 17 and 22 of the Code of Regulations.

The approved uses of such water include surface irrigation, industrial process/cooling, surface impoundments, and other uses outlined in Section 60307 of the Title 22 regulations. Use of recycled water in the TVMWD service area is still relatively small when compared to other potable demand, but the demand is expected to grow as infrastructure to support storage and delivery of the supply is constructed.

Figure 4-H shows the annual recycled water supplies used within the TVMWD service area over the past five years. Figure 4-I provides a summary of the types of uses for which recycled water currently accounts.

Figure 4-H: Recycled Water Use by TVMWD Agencies

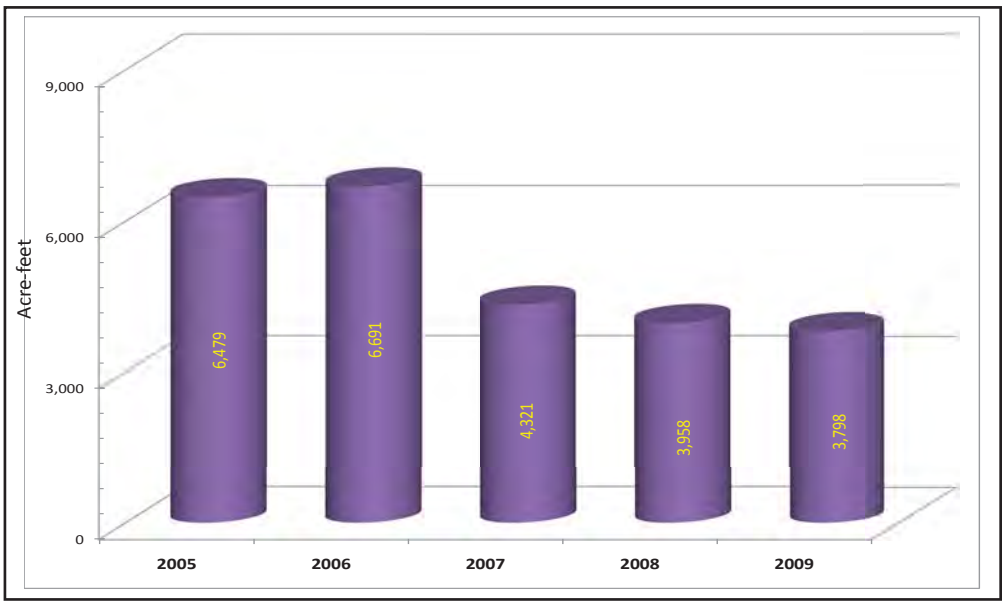
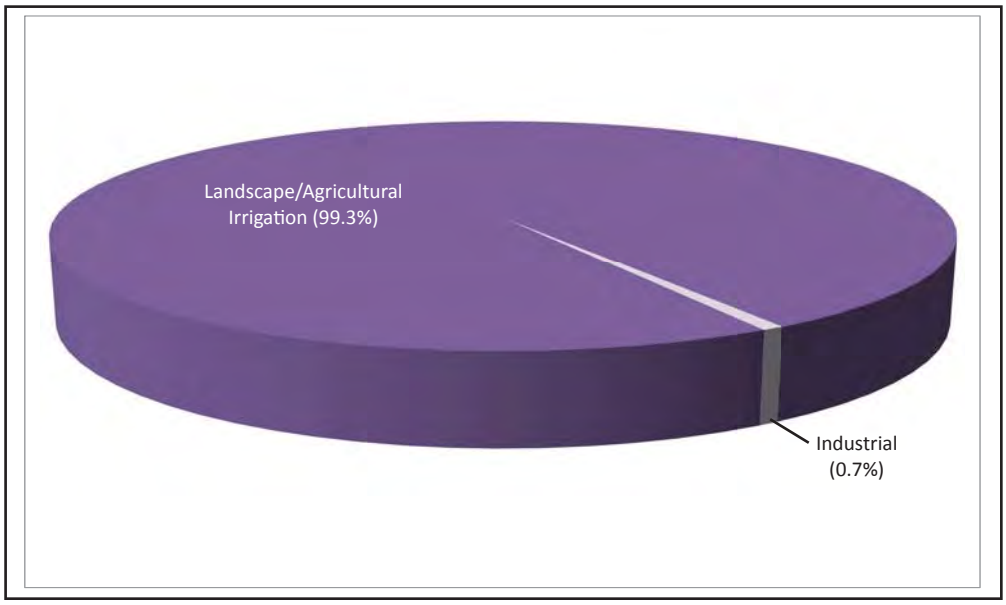


Figure 4-I: Types of Uses for Recycled Water by TVMWD Agencies



Future use of recycled water in the TVMWD service area will expand as infrastructure to deliver the supply reaches areas not currently served. Surface irrigation of landscaped medians/ parkways, schools, parks, and other open areas will form the base for this demand. In addition, a large sports park, a landfill, and an expansive cemetery in the city of West Covina will become large users of recycled water.

Mt. San Antonio College (MtSAC), one of TVMWD's institutional member agencies, has also evaluated its potential use of recycled water in the future. MtSAC, which is located in the city of Walnut, is adjacent to WVWD's service area. A connection to WVWD's recycled system would allow the school to use the recycled water to irrigate large sports fields on campus. This would directly offset MtSAC's current use of potable imported water for this same purpose.

Within 10 to 15 years, it would not be out of the question to see the construction of infrastructure that could deliver recycled water to essentially the southern half of TVMWD's service area. The cost, however, is still difficult to justify when the market for the water is not fully developed. In addition to installing main pipelines to move the recycled water, agencies must convince users to switch to this non-potable supply for portions of their demands, and then the expense of connecting individual users adds another layer to the overall cost. Agencies must grapple with these issues to determine economic feasibility. Outside funding helps to reduce costs directly borne by the agencies, but many times, such funding is difficult to get.

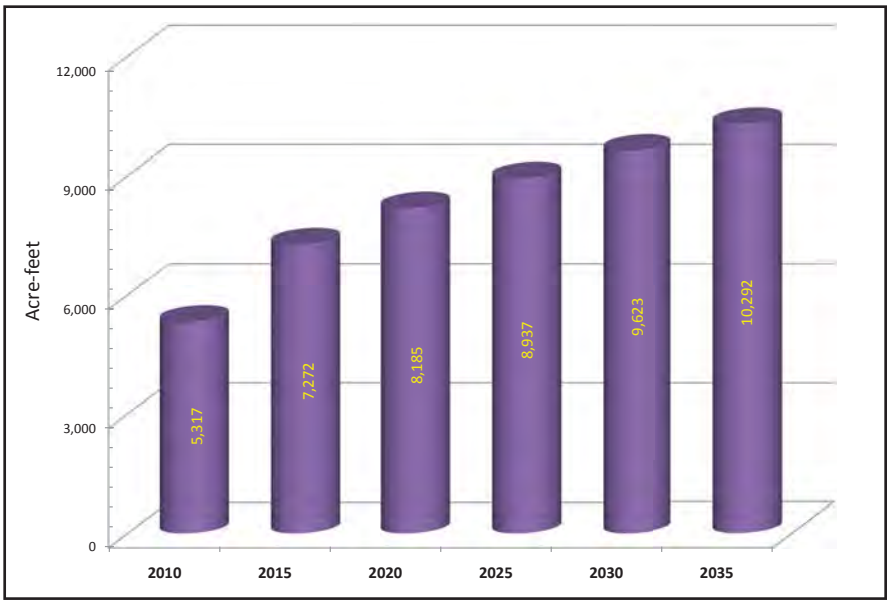
Despite the cost, many agencies are starting to make the decision to move forward with recycled water projects. This is due in large part because of the availability and reliability of the supply and the ever increasing pressure to reduce overall demand on imported water systems.

Over the planning horizon of this UWMP, Figure 4-J shows estimates of the amount of recycled water use projected within the TVMWD service area. The types of use are expected to be much the same as currently seen, namely landscape and agricultural irrigation and industrial/commercial process water.

Imported water

In most years, imported water accounts for a little more than half of the water demand within the TVMWD service area. Typically, this use hovers around 60,000 to 70,000 AFY. All imported water delivered into the TVMWD service area is made through the Metropolitan Water District of

Figure 4-J: Projected Recycled (Non-Potable) Water Use



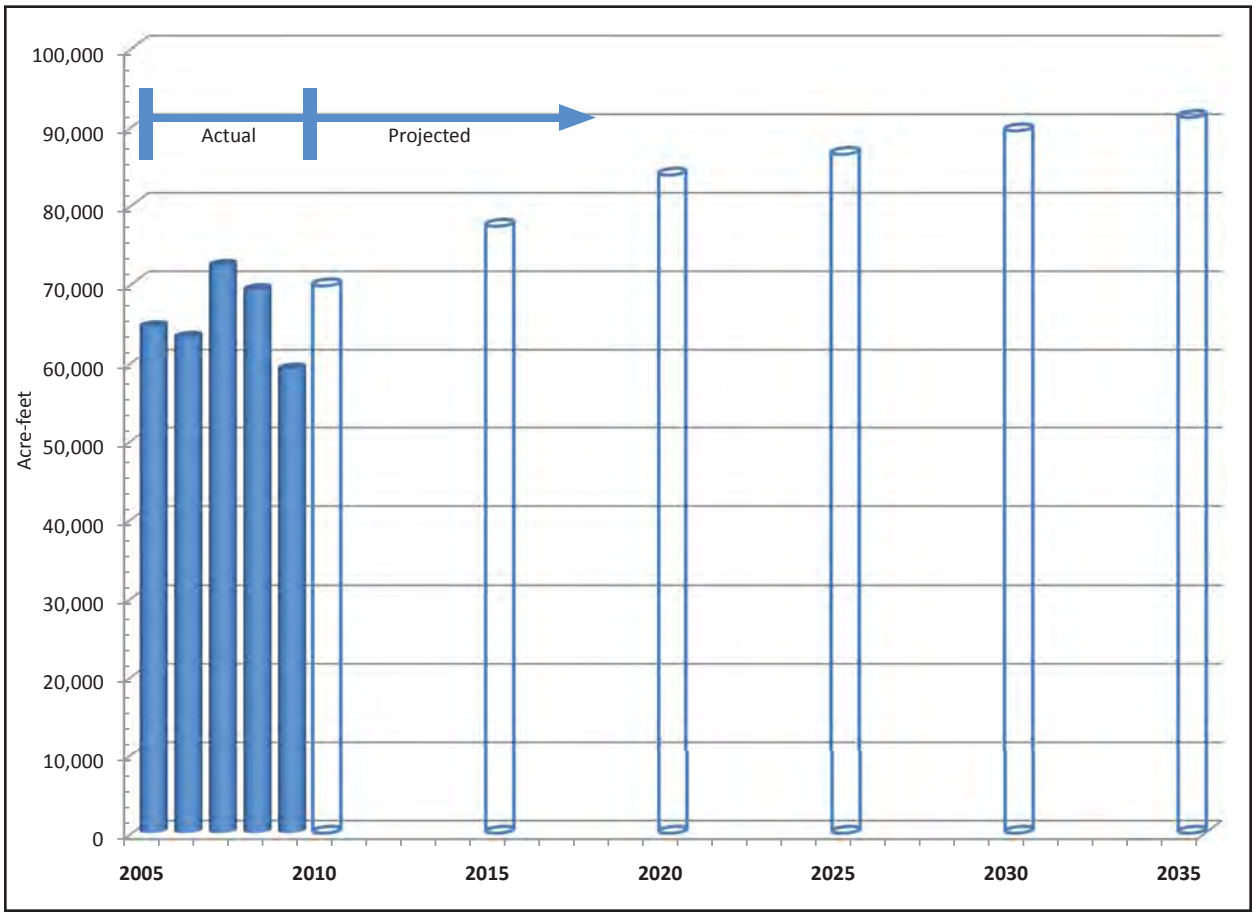
Southern California (MWD). MWD draws from both the State Water Project and Colorado River Aqueduct to serve TVMWD. The Weymouth Water Treatment Plant, one of MWD's larger treatment facilities, is located in the heart of the TVMWD service area.

TVMWD also operates the Miramar Water Treatment Plant (Miramar) located at its headquarters in the city of Claremont. Miramar receives 100% State Project Water from MWD's Foothill Feeder and treats that water for potable use. More recently, a groundwater production well was drilled at the Miramar site and now augments the imported water production of the plant. The well provides about 4% of the total output of the plant. Between the Weymouth and Miramar facilities, the entire potable imported water needs of TVMWD's member agencies are served.

The need for imported water to serve this region is the primary reason that TVMWD was created. Imported water is necessary to augment local supplies to satisfy overall water demand of this urbanized area. It will remain a fixture in the resource mix for the foreseeable future. What is certainly recognized is that this resource is also experiencing a great deal of pressure and suffering limitations in availability on several fronts (environmental, legal, hydrologic). These factors generate questions of long-term reliability and sustainability.

During times of drought or periods of extended dry conditions, imported water is generally the first resource to be restricted in use. MWD has established drought management programs that foster a reduction in imported water use including the Water Supply Allocation Program (WSAP),

Figure 4-K: Actual and Projected Imported Water Use within TVMWD Service Area



which was implemented during the 2009-2010 fiscal year (July 2009-June 2010). In this case, the restriction is driven by water rates and pricing points that discourage use beyond established allocations.

In such times, extraordinary measures in water conservation are encouraged and implemented. Additional local supplies are also called upon to make up for such losses of imported water. Over the past 20 years, MWD has invested in programs to promote these concepts. TVMWD agrees with MWD's resource management strategy and has coordinated with MWD on several projects to implement these concepts. Namely, these efforts include water conservation programs that promote a sustained reduction in overall water demand, conjunctive use programs that store imported water during times of availability for subsequent use in times of drought, and local resource programs that expand the use of local supplies to offset long-term demand on imported resources.

Figure 4-K shows imported water use within the TVMWD service area over the past five years as well as a projection of that use for the planning horizon of this UWMP.

Transfer Opportunities

TVMWD and some of its retail member agencies have explored water transfers, especially those agencies more reliant on imported water. Because of the uncertainties arising over the long-term reliability of imported water, it becomes almost necessary for those with limited local supplies to examine other resource opportunities. Many of these investigations are still in their early stages.

In Six Basins, however, TVMWD can use its involvement to secure short-term water leases available from other basin producers. When these transfers are made with non-TVMWD member agencies, it effectively generates a new resource for the TVMWD service area that was previously outside of its boundaries. In recent years, TVMWD was able to purchase over 1,300 AF of groundwater stored in the basin. This amount directly offsets an equivalent quantity of imported water into the service area. In the future, TVMWD will continue to utilize this transfer opportunity as much as practically possible.

Another investigation that evaluates a potential long-term transfer opportunity is the "Cadiz Project". This proposal involves the utilization of a groundwater basin in the eastern portion of San Bernardino County at the Cadiz and Fenner valleys of the Mojave Desert. The groundwater would be produced from that basin and transported to the urban areas of southern California using new and existing pipelines. The project boasts up to 50,000 AFY and TVMWD has expressed an interest in receiving up to 5,000 AF of that amount. TVMWD has committed to pay a share of the cost of the project's environmental documentation, but it is yet unclear where the final outcome of this project may lead. If found to be economically, environmentally, technically, and institutionally feasible, TVMWD may elect to move forward with this prospect. Once all the various components of the project are evaluated, the total cost of the delivered water will be the key determining factor of its feasibility to TVMWD.

Some retail member agencies have also investigated the potential to transfer water from water rights held north of the Delta. Through this effort, the agencies are trying to secure what they believe is a more reliable imported supply than that provided through MWD. These investigations are also in their early stages and appear promising from a cost perspective. If the completed analysis shows that the cost of delivering this water is comparable to alternative supplies, it could mean an additional 10,000 AFY of additional resources to the area.

In the above two proposals of long-term transfer opportunities, it is envisioned that existing conveyance facilities will be utilized to the extent possible. This component can be the biggest unknown when trying to generate cost estimates for these alternative supplies. The larger agencies such as DWR, MWD, and the other SWP contractors will have to get involved because of the potential impacts to facilities they currently utilize. So, while these opportunities are being investigated, there is still a great deal of uncertainty with respect to overall viability.

Desalinated Water Opportunities

The TVMWD service area is not located close to the ocean, and the underlying groundwater basins are not affected by salt water intrusion. However, groundwater with high levels of total dissolved solids (TDS) exists within the TVMWD service area especially within the Puente and Spadra Basins. Because of the complexity and cost of "desalting" facilities for groundwater (desalters), it has generally not been an attractive option for producers in those areas. For now, wells in these basins not suited for potable supply are piped to the recycled water systems to supplement sources directly from the wastewater reclamation plants.

The use of these wells for this purpose is expected to continue in the foreseeable future because it is the recycled water system that is expected to offset much of the increase in total water use in this southern portion of the TVMWD service area. Invariably, if a greater demand for potable water develops beyond the capability of the agency to satisfy that demand with its other sources, then

it may be possible that the concept of treating these wells by desalting may be revisited. Again, the overall cost of that venture versus the cost of an alternative supply will be the determining factor of whether or not desalters are built.

Future Water Projects

There are several resource "avenues" that TVMWD and its member agencies can take to improve long-term water supply reliability and sustainability. They include conjunctive use/cyclic storage, groundwater recovery/expansion, and additional resource development. The combination of all these strategies will shape the future resource mix within the TVMWD service area.

Conjunctive Use

Conjunctive use is the planned and coordinated utilization of imported water with the local groundwater basins. The basic concept involves the use of imported water to store in the groundwater basin when imported supplies are plentiful and then drawing from that stored local supply in the groundwater basin when imported supplies are not available. Such projects foster sound resource management through the efficient use of imported water. While not necessarily developing a "new" supply, conjunctive use optimizes the interdependence between groundwater storage and imported supplies. Through this practice, regions can become more self sufficient and less dependent on imported water during periods of droughts; in other words, greater supply reliability.

Projects within TVMWD that foster conjunctive use include adding groundwater recharge capability and increasing groundwater production capacity. These two components help to offset the use of treated imported water by overlying users especially during times of drought.

Over the past several years, TVMWD and its member agencies have developed three conjunctive use projects in partnership with MWD: Live Oak Basin Conjunctive Use Project (CUP), Upper Claremont Heights CUP, and Chino Basin CUP. These projects are described briefly below.

Live Oak Basin Conjunctive Use Project

The Live Oak Basin is one of the groundwater basins of the Six Basins adjudication. Until recently, recharge of the Live Oak Basin was only from local runoff from the canyon watershed. This CUP changed that by constructing a facility that can deliver imported water into spreading grounds (percolation ponds) that replenish the basin. The CUP also included the construction of a groundwater treatment facility by City of La Verne, which allows the City to increase production from the basin.

The spreading connection was completed in January 2005 and spreading commenced soon thereafter when imported water was available. This project has a potential to store 3,000 AF of conjunctive use water with a withdrawal of 1,000 AFY. The City of La Verne's treatment facility has the capability to treat an average 2,500 AFY of additional recovered groundwater beyond the amount slated for conjunctive use.

Upper Claremont Heights (a.k.a. San Antonio Spreading Grounds) Conjunctive Use Project

The Upper Claremont Heights Basin is also one of the basins included in the Six Basins adjudication. Because much of this basin includes a large groundwater recharge facility known as the San Antonio Spreading Grounds (SASG), it is ideally suited to accept replenishment water. In 2008, TVMWD completed the construction of pipeline facilities to deliver imported water for spreading into the SASG. Until that time, only local runoff from the San Antonio Creek watershed replenished the basin.

Soon after in 2009, TVMWD also completed the installation of a groundwater production well in the Upper Claremont Heights Basin. The well is located on TVMWD Miramar Plant site and delivers groundwater to augment the treatment plant's production. Because groundwater levels throughout the basin have been relatively low due to several years of little rainfall/replenishment, annual production from this new well has averaged about 800 AF.

It is anticipated that increased groundwater levels through enhanced natural and artificial replenishment will improve groundwater production throughout the region. Although the more recent dry years have resulted in the lack of imported water for groundwater replenishment deliveries, TVMWD intends to make use of the spreading connection whenever imported water is available.

The conjunctive use project for the Upper Claremont Heights includes a storage amount of 3,000 AF with potential withdrawal of 1,000 AFY. In addition to the conjunctive use aspect, TVMWD desires to increase overall production capabilities from this basin. Through the use of existing wells or new production wells downgradient of the spreading facilities, there is a potential to add another 5,000 AFY. Again, this level of production would likely require new facilities, which TVMWD is currently investigating.

From a practical standpoint, the spreading pipeline also serves another purpose. As specified in the Six Basins Judgment, a party that produces more groundwater than its share of the annual operating safe yield must make arrangements to deliver Replacement Water for such overproduction. The pipeline now provides an actual physical means to deliver imported water as replacement water for those agencies that do not have access to any other source. Though this also does not generate "new" water, it does provide an incentive for groundwater producers to build excess groundwater extraction capacity for years when they will need it most.

Chino Basin Conjunctive Use Project

Through the City of Pomona, TVMWD participates in a conjunctive use program in the Chino Basin. The overall program involves the participation of many of the groundwater producers in the Chino Basin. The total storage capacity for the program is 100,000 AF with 33,000 AF of annual extraction capability during dry years.

The Pomona Anion Exchange Nitrate Removal Facility is one component of a very large and complex conjunctive use program within the Chino Bain, most of which is outside of the TVMWD service area. The facility was enhanced to utilize more of Pomona's allocation of groundwater in the Chino Basin. For many years, several of

Pomona's Chino Basin wells have been inactive due to high nitrate concentrations in the groundwater. Upgrades to the plant allow the City to produce an additional annual quantity of 2,000 AF. This water will be made available to help satisfy the conjunctive use program's dry-year extraction requirements as well as replace the use of imported, treated water on a regular basis. Although the Chino Basin and the facilities lie outside the TVMWD service area, the water is used within the City of Pomona, which is squarely within the service area and the Chino Basin water capabilities can significantly offset TVMWD imported demands.

Conjunctive use projects assist with resource availability during times of drought, which are the most critical times with respect to water management and reliability. Conjunctive use potential within the TVMWD service area can provide an estimated 5,000 – 10,000 acre-feet per year of short-term reliability.

Cyclic storage is a variation of conjunctive use that also involves the storing of imported water in the groundwater basin. TVMWD currently practices this program in the Main San Gabriel Basin with the potential to store up to 40,000 AF in that basin. Similar to the conjunctive use projects, extraction of cyclic storage water is slated for dry

years when MWD is unable to deliver imported supplies. The ability to extract is limited primarily by the physical production capacity of the TVMWD member agencies that produce from the Main San Gabriel Basin.

Groundwater Recovery

The recovery or expansion of groundwater production within the TVMWD service area may provide on the order of 20,000-25,000 acre-feet per year of added supplies. The idea behind groundwater recovery is to utilize available local resources that have never been tapped or have been inactive for an extended period due to physical or water quality restrictions.

In many cases, this involves new wellhead treatment facilities that will generate a new potable supply, and in other cases, the groundwater may be extracted without treatment and used to augment a recycled or non-potable water system. Table 4-2 lists several groundwater recovery projects that have recently come on-line or are being planned for the future. The associated yields of each project are also provided.

The projects noted could provide an annual 30,000 AF of additional yield into the TVMWD service area. Most of the individual well projects will be completed within the next five years, while the larger treatment and multiple well projects are on the 15-20 year horizon.

Surface Water

Surface water resources are relatively limited within the TVMWD service area. As previously mentioned, there are but a few surface water rights holders within TVMWD, and the supply is highly dependent on local hydrology. Improvements to the use of this resource in the future will involve enhancing treatment capabilities and providing for other beneficial use of the supply if the timing of the demand does not coincide with the availability of the supply. In other words, using available surface water to replenish the underlying groundwater basin for later extraction and use would be a key strategy for this resource. This may involve improving replenishment capability and/or institutional arrangements that would allow transfers of the stored water.

Although these types of arrangements would improve the efficiency with which surface water is used, it does not necessarily increase available yield of this resource.

Recycled Water

Recycled water will play an important role in the future water resource mix of the region. While this supply is currently used for non-potable and indirect potable purposes, within the TVMWD service area, only non-potable systems have been developed. In the near foreseeable future, this is not expected to change.

Expansion of recycled water infrastructure will be the objective of projects dominating the development of this resource for the next several years. Pipelines, pump stations, storage facilities, cross-connection control, and retrofitting existing connections for recycled water use are being developed to increase delivery capability for non-potable demands. The objective here is to replace current and future potable demand with recycled water supplies where possible. Landscape, irrigation, industrial processes, and other similar uses are being sought out and marketed as the recycled water infrastructure is expanded. In time, offsetting the need to deliver potable water for these uses will improve the overall reliability to the region.

Presently, recycled supplies into the TVMWD service area are sufficient to meet current demands. Even projected non-potable demands are not expected to outgrow recycled water availability to the region for at least the next 10 years. Recycled water development by the retail agencies within the TVMWD service area may offset another 8,000-10,000 acre-feet per year of firm potable water demand.

Table 4-2: Local Groundwater Projects Within TVMWD

PROJECT NAME (AGENCIES)	BASIN (SUB-BASIN)	DESCRIPTION	EST. YIELD (AFY)
Columbia & Highway (Golden State Water Co)	MSGB (Foothill)	New well near site of groundwater treatment facility for perchlorate & nitrate removal	1000 (on-line)
Main San Gabriel Basin Groundwater Recovery (City of Azusa, Covina Irrigating Co, City of Glendora, Rowland Water Dist, Walnut Valley Water Dist)	MSGB	Centralized groundwater treatment facility for nitrate, VOC, perchlorate removal; use of existing wells inactivated due to contamination	19,000 (planned)
Well 14E (City of Glendora)	MSGB (Glendora)	New well to replace Well 2E	1400 (completed)
New Wells (Various)	Six Basin (Upper Clmnt Hghts)	New wells to utilize new replenishment capability within the basin and mitigate high groundwater conditions	5000 (planned)
Beech Street Well (City of La Verne)	Six Basins (Live Oak)	New well to utilize new replenishment capability within the basin	800 (completed)
Montana Well (Golden State Water Co)	Six Basins (Upper Clmt Hghts)	New well to utilize new replenishment capability within the basin	1000 (planned)
Palomares Cienega High Groundwater Project (City of Pomona)	Six Basins (Pomona)	Centralized groundwater treatment facility for nitrate, perchlorate removal; use of existing wells to reduce high groundwater problems	4000 (planned)
Well 20 (City of Pomona)	Six Basins (Lower Clmnt Hghts)	Reactivation of existing well in underutilized basin	800 (on-line)

5 Water Reliability and Shortage Contingency Planning

As a member agency of MWD, TVMWD relies primarily on the availability of MWD supplies to gauge reliability. To a lesser degree, TVMWD has access to local supplies, but it is its member retail agencies that have greater access and demand greater use of those local resources. To that end, TVMWD encourages the development and use of local supplies by the member retail agencies when it is available. TVMWD's overall water resource management scheme focuses on maximizing local resource development recognizing that the availability of imported water can be highly variable and overall import supply may dwindle in the future due to competing statewide interests.

Imported Water Demand Management

Similar to MWD, TVMWD has adopted a tiered rate structure in delivering import water to its retail member agencies. The Tier 1/Tier 2 rates have been in place for the past nine years and serve to discourage excessive use by forcing water purveyors to actively manage their own systems to minimize costs associated with buying import water.

The program allocates to each retail member agency a specific quantity of import water for the calendar year. The individual amounts were initially developed based on average annual import water use during the 10-year period prior to the start of the program. These amounts are shown in Table 5-1 and are referred to as the Tier 1 allocations.

TVMWD tracks closely the monthly import water usage by each retail member agency. If an agency exceeds its allocation of import water during a calendar year, it may be subject to a higher water rate for the quantity delivered above its allocation. For CY 2010, that differential between the initial allocation (Tier 1) and overage (Tier 2) was $110 per acre-foot. TVMWD has found that this differential in price has provided a sufficient disincentive for agencies to simply turn to import water. Instead, it has reinforced the idea to develop other supplies that may be more economically beneficial to the retail agency.

Table 5-1: Tier 1 Allocation to TVMWD Member Agencies

AGENCY	(in AF)
Boy Scouts of America	26
Cal Poly Pomona	269
Covina, City of	685
Glendora, City of	2,275
Golden State Water Co (Claremont)	4,578
Golden State Water Co (San Dimas)	8,588
Joint Water Line (PWR-JWL)	29,954
La Verne, City of	7,029
Mt San Antonio College	699
Rowland Water District	4,482
Suburban Water Systems	1,131
Valencia Heights Water Co	37
Walnut Valley Water District	10,645
TOTAL	**70,398**

PWR-JWL is sub-allocated to City of Pomona (6799), RWD (9508), and WVWD (13,643)

Local Supply Development

Understanding that the availability of future import supplies is tentative and highly dependent on statewide decisions that affect the conveyance systems bringing water into southern California, regional water districts such as TVMWD and local retail water purveyors are trying to find ways to lessen dependence on such resources. For some agencies, that task is more difficult than for others because the geographic location of some service areas do not lend itself to bountiful local supplies. In other instances, local supplies may be available but water quality concerns or historical operations have not maximized the utility of the resource.

TVMWD is working with its member retail agencies to maximize these resources. Chapter 4 describes some of the projects that are being developed with an eye toward lessening dependence on import water supplies.

Management of Water Shortages

TVMWD is a wholesale supplier of water. TVMWD is not a retail water utility. As such, each retail agency is responsible for its own level of water shortages. TMVWD, however, will assist wherever and whenever possible. The potential additional resources available to the area include increased local conservation and water recycling, improvements in the reliability of import supplies, increased regional surplus storage, and increased conjunctive use groundwater programs.

Meanwhile, MWD's import supply reliability is dependent on the State Water Project and the Colorado River Aqueduct. These two primary sources are subject to a whole host of legal, environmental, water quality, and climatic factors that affect available deliveries on almost an annual basis. MWD has developed its Regional Urban Water Management Plan wherein MWD explains the measures it has taken to try and guard against shortages in import supplies coming from the two primary sources. Such measures include groundwater banking/storage agreements within and outside of the MWD service area, surface water storage at its terminal reservoirs (e.g. Diamond Valley Lake, Lake Skinner, Lake Mathews, etc.), and conservation/water resource programs that promote water efficiency.

Likewise, TVMWD has sought similar measures within its own service area to improve overall reliability. TVMWD seeks to maximize available local groundwater storage for conjunctive use purposes, promotes conservation efforts, and coordinates with its member retail agencies in developing local resource projects that will offset the need to import water.

Groundwater Storage/Conjunctive Use

TVMWD's service area overlies five groundwater basins (Chino Basin, Main San Gabriel Basin, Puente Basin, Six Basins, and Spadra Basin). Within three of these basins, TVMWD is involved in four storage/conjunctive use programs.

The Chino Basin Dry-Year Yield Program is a cooperative agreement between MWD and Chino Basin stakeholders, of which TVMWD is one. The program included a potential storage capability of 100,000 AF, withdrawal of which is limited to a third of that amount per year. On a practical basis, TVMWD and its member retail agency can account for about 6,000 AF of that amount or a quantity on the order of 2,000 AFY.

In the Main San Gabriel Basin, TVMWD maintains a cyclic storage account that allows up to 40,000 AF of storage. Import water is typically delivered to storage when it is available and then extracted from the groundwater basin by TVMWD's member retail agencies during periods of shortage or drought. Annual extraction limits are not limited but are capped by the practical pumping capacity of the retail member agencies. This provides another hedge against dwindling import supplies and short-term emergencies.

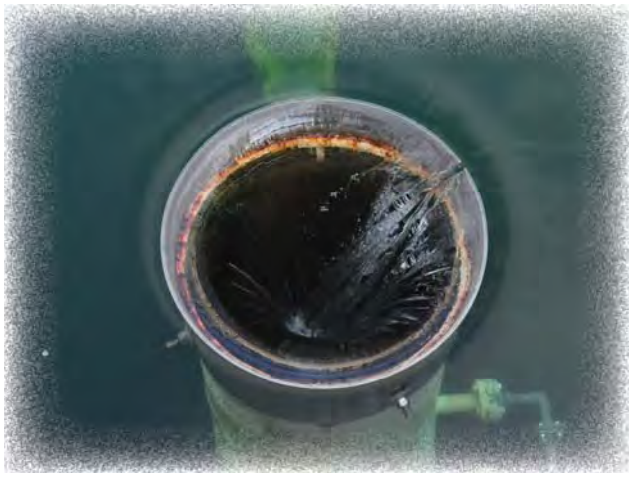
The Live Oak Basin and Upper Claremont Heights Basin conjunctive use projects utilize two of the sub-basins within Six Basins. Combined, the projects allow for a maximum storage amount of

6,000 AF with annual withdrawal limits of 2,000 AF.

Groundwater storage programs/projects help to relieve pressures on the import water systems during periods when those sources are less plentiful. The ability to effectively coordinate the conjunctive use of import supplies and the local groundwater basins remains a challenge but are key to managing the water resources of the region.

Groundwater Recovery

In addition to improving the ability to put water into the local groundwater basins, TVMWD is also working with its retail member agencies to develop or recover the capability to use groundwater with marginal water quality issues. Years ago, many groundwater producers deactivated wells after seeing high concentrations of contaminants such as nitrate, volatile organic compounds (VOCs), perchlorate, and the like. When faced with the added expense of having to treat the groundwater supply before putting it into a potable system, many instead chose the alternative of replacing that supply with import water.



As the future of import water supplies has become more tentative over the past few years, TVMWD and its retail member agencies see the need to reassess those earlier decisions regarding the use of slightly impaired groundwater supplies. With the advent of reliable treatment technology to address water quality problems and experiences gained by those who have installed such facilities, those past analyses that showed groundwater treatment to be too costly may no longer be valid. In fact, the ever-increasing cost of import water begs the question of whether or not it would be more economically beneficial to turn the wells back on even with added treatment costs.

One such project, the Pomona Basin Groundwater Recovery Project, would treat nitrate and VOCs and could potentially produce 5,000 AF per year. This project is in the early stages of feasibility analysis, and the concept includes provisions to deliver groundwater that is produced to areas highly dependent on import supplies.

In the Main San Gabriel Basin, a similar effort is underway to recover groundwater production capability for wells affected by nitrate, VOCs, and perchlorate. As envisioned, this project could potentially add an annual amount of 24,000 AF to the region's resource mix. A feasibility study has been completed for this project with preliminary design recommended. Capital and other project costs, however, are high so project proponents are seeking outside funding to offset local costs and improve the economic benefit to the region.

Other groundwater recovery projects within the TVWMD service area include non-potable production for recycled water and/or irrigation systems. Such projects are equally beneficial because they offset the need to deliver potable supplies to those uses that do not necessarily need it (e.g. landscape, irrigation, industrial, etc.). For those member retail agencies that have access to recycled water, expansion of their systems and replacing potable demands with non-potable water to current customers that do not need a potable supply are the key elements to reducing future import water use and managing resources for growing populations within the service area.

The noteworthy idea behind groundwater recovery is that for every acre-foot of water produced, a like amount of potable supply—typically imported water—can be replaced. The displaced amount then manifests itself as a reduced demand and a potential resource for future

Table 5-2: Primary Sources of Water Within TVMWD Service Area

Source	Description
State Water Project	Imported water from northern California supplied by MWD
Colorado River	Imported water from Colorado River Basin supplied by MWD
Local Surface Water	San Gabriel and San Antonio Canyon sources owned and operated by Retail Member Agencies
Groundwater	Drawn from underlying groundwater basins; rights are primarily owned and utilized by Retail Member Agencies; TVMWD has minor usable amount
Recycled/Reclaimed Water	Supplied by local wastewater treatment plants with separate recycled water distribution systems owned and operated by Retail Member Agencies

growth in the region. Regardless, the idea of developing—or re-developing—projects that have impaired water quality sheds light on the importance of understanding water quality and its effect on resource development.

Water Quality Impacts

In addition to the usual health and safety considerations, water quality has near-term supply quantity implications for TVMWD and its retail member agencies. Certainly in southern California, water resource planners and engineers have become keenly aware of the importance of understanding the effects of water quality in the development of any water supply. It is also appropriate to understand potential trends and their impact on current and future supplies.

The primary sources of water utilized in the TVMWD service area are listed in Table 5-2. Each source has water quality characteristic that are beneficial to the region and/or pose challenges prior to utilization.

As previously discussed, individual cleanup/groundwater recovery projects that put treated water to beneficial use will provide direct local benefit to the overlying user but will also afford broad benefits that impact the regional water supply situation in California. The following factors highlight the influence of water quality on the supplies used within the TVMWD service area:

State Water Project (SWP): SWP water is generally of high quality with total dissolved solids (TDS) concentrations averaging 325 milligrams per liter (mg/L). The quality of SWP water as a drinking water source is affected by a number of factors, most notably seawater intrusion and agricultural drainage in the Bay-Delta system. The water quality parameters of most concern are total organic carbon (TOC), bromide, and salinity. Levels of TOC and bromide increase significantly as water moves through the Bay-Delta. These constituents combine with chemicals used in the water treatment process to form disinfection by-products which are carcinogenic. Water supplies from the SWP have significantly lower TDS levels than the Colorado River, averaging 250 mg/L in water supplied through the East Branch and 325 mg/L on the West Branch. Because of this lower salinity, MWD blends SWP water with high salinity Colorado River water to reduce the overall salinity levels of water delivered on the MWD system.

TVMWD treats 100% state project water at its Miramar Water Treatment Facility so the water quality of the source supply has added importance. In recent years, TVMWD has modified its treatment process at Miramar to address changes in water quality standards promulgated by the U.S. Environmental Protection Agency and California Department of Public Health. These changes addressed the Long-Term 2 Enhanced Surface Water Treatment Rule (LT2ESWTR) and Disinfectant/Disinfection Byproducts Rule (D/DBPs). As future regulatory changes affect requirements for drinking water, it is TVMWD's

intent to address such changes on a case-by-case basis with the objective of maintaining the treatment plant and future output.

Colorado River: Water imported via the Colorado River Aqueduct (CRA) has the highest level of salinity of all of MWD's sources of supply, averaging around 650 mg/L during normal water years. Concern over salinity levels in the Colorado River has existed for many years. To deal with this, the Colorado River Basin Salinity Control Act was approved in 1974.

SWP water is used to blend with CRA water to reduce overall salinity of delivered water from MWD. This practice is likely to continue but the lack of SWP supplies during certain years will seasonally affect the salinity of southern California's drinking water supply.

The appearance of perchlorate and Quagga mussels in Lake Mead and then downstream into the MWD system has become the water quality issues of recent concern. Again, MWD is coordinating with upstream interests to control the sources of this contaminant and invasive species. Where necessary, MWD is addressing the problem within its own system. Because the CRA supply is less variable than the SWP supply to MWD, the Colorado River has become even more important to MWD's overall supply mix. Accordingly, MWD will exert a great deal of energy and time to retain that resource regardless of the water quality issue that may arise.

Local Surface Water: There is a limited supply of local surface water used within the TVMWD service area. The water originates from the San Gabriel Mountain watersheds and is typically collected by local agencies having water rights along the source stream. The water is then treated in small local surface water treatment plants for delivery into the distribution systems. The watersheds for these surface water supplies are less developed and do not pose significant adverse influences on this resource. Hydrology, not water quality, typically has a greater effect on supply.

Because the mountain watersheds for these resources have not seen the past farming practices of the downstream valleys and are not expected to see a great deal of development in the future, no adverse water quality impacts are expected for this supply.

Groundwater: Local groundwater used in the TVMWD service area is extracted from several different basins. Due to past historical agricultural and industrial practices in the region, the constituents of concern for these groundwater basins include Nitrate (NO_3), perchlorate (NH_4ClO_4), and volatile organic compounds (VOCs). When these constituents are discovered at a well site, the owner/operator of that well typically determines whether or not production will continue. If it is deemed that the groundwater requires treatment prior to delivery, the owner must take that cost into account in making that determination.

In the past, it was more economical for groundwater producers to simply abandon a contaminated well when an alternative supply such as import water was readily available. Today, as import water costs increase and its availability becomes less reliable, these same producers are taking a second look at treatment options and associated

costs. In many cases despite the added cost of treatment, the reliability and control over local well water becomes a more attractive alternative.

The constituents mentioned above will remain the primary water quality issues for the TVMWD region within the planning horizon. In the coming years, groundwater producers will evaluate their options to recover lost groundwater production that they may have abandoned in the past and/or develop new production capacity with the knowledge that added treatment facilities may be necessary. In other words, there will likely be a trend that groundwater resources will be more fully utilized even with the water quality challenges that are faced.

Recycled/Reclaimed water: Recycled water sources for the TVMWD service area currently include the Pomona and San Jose Creek Water Reclamation Plants. Both plants are operated by the Los Angeles County Sanitation Districts (LACSD), and the recycled effluent water is delivered to individual retail member agencies through distribution systems independent of the drinking water systems. Accordingly, recycled water

is used only for non-potable demands such as landscape/park irrigation, agricultural watering, industrial processes, etc. For the time being, supply is greater than demand for recycled water. As infrastructure for this resource grows, however, it is expected to replace the demand of various users currently served by potable water.

As long as it remains a non-potable supply, recycled water will not be subject to the same drinking water standards as the sources previously discussed. Consequently, the water quality issues facing recycled water are far less daunting than those sources used for potable purposes. Nitrate, total organic carbon, and NDMA are some of the constituents closely monitored for recycled water, especially if it is being utilized for indirect potable recharge. The LACSD is working with other stakeholders to keep such water quality concerns under control. If in the future, the regulations become more stringent for recycled water use, the cost to address the concern will determine future viability for the resource, but based on the investment in infrastructure that many agencies have already made, it is unlikely that any will turn their backs to this supply. As with past experience in previously turning away from groundwater production due to water quality concerns, recycled water users see the value and reliability of the resource when compared to dwindling import supplies. Accordingly, future water quality issues are not expected to negatively affect the utility of recycled water. Therefore, the region should see an increasing trend in its use.

Drought Planning

Relatively speaking, the dry hydrologic conditions (single- and multi-year dry hydrology) within TVMWD's service area do not necessarily produce extreme water demand conditions when compared to the average year. Water demands generally increase by several hundred acre-feet, which could invariably be covered by a slightly greater demand on the MWD system.

As a member agency of MWD, TVMWD relies primarily on the availability of MWD supplies to determine shortage situations. When MWD declares water shortages or interruptions for its system over a given period, TVMWD typically follows suit with similar declarations and actions to manage its demands and regulate usage to the degree practical.

As MWD develops its own plans and programs to manage available supplies during times of short-

age or drought, TVMWD will evaluate the suitability of such strategies for its own member retail agencies. At its own discretion, TVMWD may use a similar approach as MWD or develop its own strategies. In either case, TVMWD will coordinate with its member agencies to adopt a plan that is best suited to the needs of its service area.

As detailed in its Regional UWMP, MWD follows its Water Supply and Drought Management (WSDM) Plan to determine actions it takes based on the availability of import water. The WSDM Plan outlines action in surplus supply stages as well as shortage stages. Shortage stages are further divided into mild, severe, and extreme conditions with actions to be taken by MWD corresponding to the severity of the declared shortage.

Similarly, TVMWD has developed its own in-house Shortage Contingency Stages to react to MWD's actions. The five stages of TVMWD actions are intended to be consistent with action stages defined by MWD. As surplus or shortage conditions progress, these actions are additive. Accordingly, TVMWD will monitor consumption and assess penalties for excessive use based on allocations established with the member retail agencies. The following discussion provides a description of the various stages and Table 5-3 presents a summary of actions associated with the progressive steps that may be utilized during shortage conditions. However, the MWD and TVMWD systems are inherently complex and the ultimate actions taken will depend on the unique situation of each particular condition.

<u>Regional Shortage Stage 1 (5% to 10% shortage)</u>
TVMWD will work with retail member agencies to determine short-, medium- and long-term supply capabilities. TVMWD will initiate a public information campaign to

- *Explain the drought situation to the public and governmental bodies.*
- *Explain other stages and forecast future actions.*
- *Request voluntary water conservation.*
- *Suggest the preparation and dissemination of educational brochures, bill inserts, etc.*
- *Notify media.*

<u>Regional Shortage Stage 2 (10% to 20% shortage)</u>
TVMWD will continue Shortage Stage 1 actions and will

- *Accelerate public information program.*
- *Disseminate technical information.*
- *Institute rate program to support conservation.*
- *Request from retail member agencies water use reductions at prescribed levels.*
- *Lobby for passage of drought ordinances in service area.*
- *Encourage use of ET rate for landscape watering.*

<u>Regional Shortage Stage 3 (20% to 35% shortage)</u>
TVMWD will continue Stage 2 actions and may curtail or temporarily suspend deliveries for groundwater replenishment in accordance with their discounted rates. Additionally, TVMWD will
Coordinate with MWD to possibly draw from conjunctive use groundwater storage programs.

- *Adopt Base Retail allocation for each Member Agency.*
- *Advise area planning staffs of possible short-term inability to supply new developments/ annexations due to shortages to existing customers.*
- *Continue public information program at accelerated pace.*

<u>Regional Shortage Stage 4 (35% to 50% shortage)</u>
TVMWD's Board of Directors may call for extraordinary conservation through a coordinated outreach effort and monitor the effectiveness of

ongoing conservation programs. Additional action include

- *Intensifying all prior steps.*
- *Reassess allocation plan for possible per capita residential allowance.*

Regional Shortage Stage 5 (50% or higher)

TVMWD will continue Shortage Stage 4 actions and in conjunction with MWD may exercise any and all water supply option contracts and/or buy water on the open market either for consumptive use or for delivery to regional storage facilities for use during the shortage. Any allocation plan developed by the TVMWD Board of Directors will be implemented based on board-adopted principles.

Shortage Contingency Stages

During water shortage emergencies, TVMWD will assist each of its retail member agencies to help resolve any situation related to allocation of imported water supplies and/or local conservation efforts. TVMWD will "equitably allocate imported water on the basis of agencies' needs." Regardless, the following factors will be taken into account if and when allocation discussions arise:

Table 5-3: Summary of Shortage Stages

Action	Shortage Stages				
	Shortage		Severe Shortage		Extreme Shortage
	1	**2**	**3**	**4**	**5**
	5% - 10%	10% - 20%	20% - 35%	35% - 50%	> 50%
Conduct Public Outreach					
Conservation					
Determine supply capabilities w/ Retail Member Agencies					
Curtail replenishment deliveries					
Extraordinary Conservation					
Coordinate w/ MWD to call or exercise various water options					
Implement Water Supply Allocation Plan (WSAP)					
Natural Disasters: • Earthquake • Fire • Flood	Implementation depending on severity and duration as per TVMWD's Emergency Response and Vulnerability Assessment Response Plans				
Power Outage					
Terrorist / Criminal Acts					
System Failures: • State Water Project • Colorado River Aqueduct • Miramar WTP					

1. Supply Availability and Forecasts
    - Total supply availability, including both ground and surface water supply sources
    - Groundwater rights status for that particular year.
    - Available groundwater supply
    - Operational condition of Member Agencies' wells, reservoirs and other facilities
    - Current aquifer levels.
    - The rate of decline in aquifer levels, compared with the normal operating levels.
    - Surface water conditions in proximity to Member Agencies' wells.
    - Surface water conditions for water supplies provided through the state water project and the Colorado River Aqueduct
    - Amount of time required to implement a supply enhancement measure.
    - Weather conditions as derived from short- and long-term weather forecasts and modeling by the national weather service.

2. Water demand factors
    - Current trends and seasonal forecasts for the system's daily water demands.
    - The estimated margin of safety provided by the demand reduction compared with the level of risk assumed if no action is taken.
    - Amount of time required to implement a water use reduction measure.
    - Media availability.
    - Customer response.
    - Magnitude of expected savings provided by a water use reduction measure.

3. Other Factors
    - Consider actions taken by MWD.
    - The value of lost water sales revenue compared with the increased margin of reliability.
    - Consultation with MWD, Member Agencies, elected officials, state resource agencies and interest groups
    - The length of time between stage changes and required time and resources necessary for the implementation of actions by the Administration.
    - The length of time a shortage stage would be in place.
    - Required time lags to shift administrative gears and institute measures
    - Potential costs to Member Agencies
    - Equity in demand reduction amongst Member Agencies.
    - Contractual obligations for water supply and water use (re: the Miramar Treatment Plant).
    - Surface water quality impacts
    - Earthquakes
    - Power outages
    - Terrorist/criminal acts

All retail member agencies have been encouraged to further develop local groundwater and recycled water supplies and to participate in TVMWD's sponsored conservation programs. Furthermore, the retail agencies have been exploring alternative water exchange possibilities with neighboring groundwater suppliers as well as potential water sources that are more distant.

Conservation

Past resolutions adopted by TVMWD have encouraged its retail member agencies to adopt ordinances encouraging conservation practices during times of drought. In 2009, the District adopted its own updated ordinance to govern mandatory conservation activities during times of drought and other water shortages and emergencies. A copy of that ordinance is included as Appendix H. Although TVMWD is not equipped to enforce specific residential water use ordinances at the retail level during times of extreme drought, it will work with its member agencies to increase awareness and implement public information campaigns stressing the importance of active drought conservation.

As a wholesale water supplier, TVMWD has meters with which to determine water use by its retail member agencies. Water use is determined through actual monthly billing and subsequent report reconciliation. Water use by each retail agency can be determined through individual metered connections. Per agreements and operating plans in place with participating retail agencies, cut backs in supply when necessary must be accountable to TVMWD and MWD in relation to specific agreements and projects.

Water Shortage Allocation Plan

TVMWD originally adopted a Water Shortage Contingency Plan on February 11, 1992 in response to emergency legislation in 1992. More recently in May 2009, TVMWD adopted an updated program to deal with then current water shortage conditions. TVMWD's Water Supply Allocation Plan (WSAP) was actually implemented during fiscal year 2009-10 (July 2009 through June 2010) to coincide with MWD's declaration of its own WSAP during an extreme shortage stage.

A copy of TVMWD's WSAP is included in Appendix I and was adopted as a method of controlling demand through water rate penalties for excessive use. The WSAP document in Appendix I clearly explains the need and development of the plan. The root principles of the plan were borrowed from MWD's own WSAP, but the final outcome for the allocations to each retail water purveyor was fully vetted among TVMWD and its retail member agencies.

The TVMWD WSAP creates a structure that allows the declaration of a water shortage situation for TVMWD's service area. There are 10 defined shortage level stages that correspond to an annual allocation of water to each of the retail member agencies.

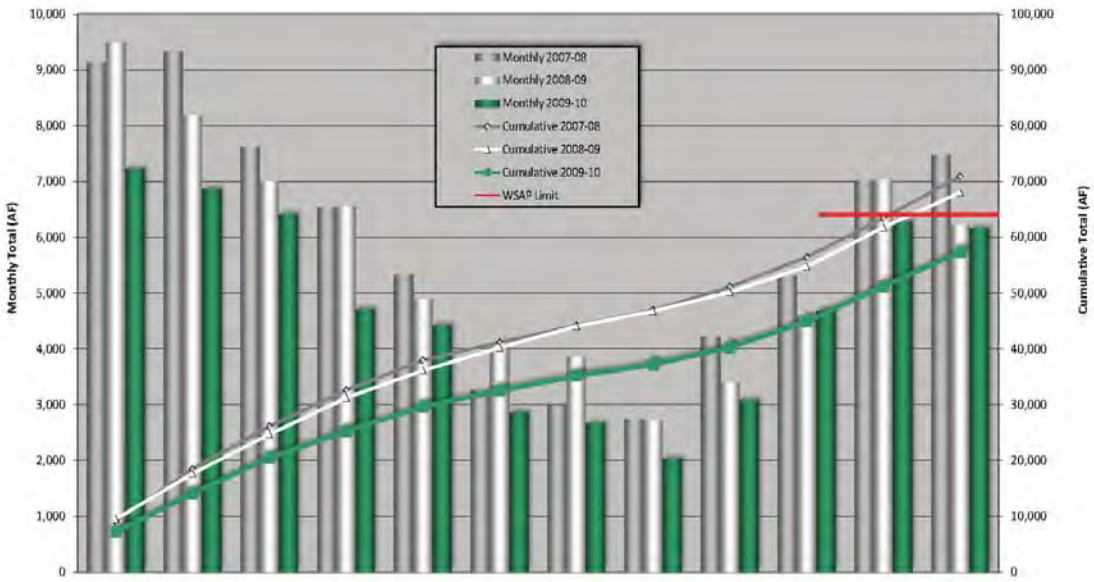
The above allocation was developed through a consensus effort among TVMWD and its retail member agencies. Historical import water use was taken into account as well as other factors involving retail dependence on import water and past conservation efforts.

During Fiscal Year 2009-10 (7/1/09-6/30/10), MWD and TVMWD declared Shortage Level 2 for its respective member agencies. This translated to about a 14% reduction in TVMWD's supply

Table 5-4: WSAP Allocation Table for FY 2009-10 (Shortage Level 2)

AGENCY	(in AF)
Boy Scouts of America	23
Cal Poly Pomona	176
Covina, City of	438
Glendora, City of	2,124
Golden State Water Co (Claremont)	5,895
Golden State Water Co (San Dimas)	8,563
La Verne, City of	6,299
Mt San Antonio College	561
Pomona, City of	5,803
Rowland Water District	12,091
Suburban Water Systems	969
Valencia Heights Water Co	0
Walnut Valley Water District	21,088
TOTAL	**64,030**

Figure 5-A: Comparison of Water Use During FY 2009-10 vs. Two Prior Years



	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	
Δ 2007-08 Monthly	-20.9%	-26.3%	-15.8%	-27.9%	-17.0%	-12.2%	-11.1%	-25.8%	-26.9%	-11.8%	-10.5%	-17.6%	Δ 2007-08 Monthly
Δ 2007-08 Cumulative	-20.9%	-23.6%	-21.4%	-22.7%	-21.9%	-21.1%	-20.4%	-20.7%	-21.2%	-20.4%	-19.3%	-19.1%	Δ 2007-08 Cumulative
Δ 2008-09 Monthly	-23.8%	-16.0%	-8.4%	-28.2%	-9.6%	-30.1%	-31.0%	-25.0%	-9.1%	1.7%	-10.7%	-0.8%	Δ 2008-09 Monthly
Δ 2008-09 Cumulative	-23.8%	-20.2%	-16.8%	-19.2%	-17.9%	-19.2%	-20.2%	-20.5%	-19.7%	-17.9%	-17.1%	-15.6%	Δ 2008-09 Cumulative

when compared to its average use over the three-year period of 2004-2006. The total amount allocated to TVMWD was then apportioned to each of its retail member agencies based on the percentages in Table 5-4.

During the period of the Shortage Level 2 declaration of FY 2009-10, import water use (not including groundwater replenishment) decreased by an average of 20% when compared to the two prior years (see Figure 5-A). Needless to say, the retail agencies were able to stay within their respective allocations as was TVMWD with respect to its overall allocation from MWD.

Reduction in growth due to a depressed economy played a part in the decreased water use seen during FY 2009-10, but conservation was the key factor in generating the degree to which those demands fell.

Impacts on Revenues/Expenditures

TVMWD's Board of Directors has previously established an "Operating Reserve" for short-term cash needs of $1,000,000 to cover partial water payments and payroll for an approximate 60-day period. Other reserve funds (e.g. "rate stabilization") are designed to minimize the impacts of any short-term demand reduction on rates. The reserve structure is based on the assumption that two out of every ten years could be expected to require demand reduction efforts due to drought. Also, these funds will cover contingencies if the Miramar Treatment Plant is inoperable or only partially operable for an extended period of time. When fully funded, it would be able to maintain the District in a revenue-neutral position through two successive years of 25 percent reductions below normal demand levels. These various reserve funds will assist in reducing impacts on rates during multiple dry years that occur as a result of reduced revenue due to reduced water sales, and additional costs of securing supplies during shortages.

6 Water Demand Management Measures

TVMWD views demand management as a key concept in achieving long-term reliability and sustainability for the region. With opportunities relatively limited to develop large scale water supply projects in the area, the need to "control" demand becomes an ever-growing component in the overall equation.

TVMWD fully endorses conservation as a primary means to encourage wise water use. To that end, TVMWD enlists a multi-faceted conservation program that includes education and public information, water audits/surveys, landscape programs, plumbing retrofits, and other related activities.

TVMWD is committed to conservation and water resource management and recognizes the need for efficient water use not only in times of drought but as an integral part of everyday life. The population within the TVMWD service area is not expected to grow at the higher rates experienced in other parts of southern California. Accordingly, consistent conservation will play a big role in ensuring TVMWD's water sustainability.

For meeting the state's goal of reducing per capita water use 20% by Year 2020, conservation is the key. Such established measures must make sense and be simple to implement to achieve widespread acceptance among the general public. Conservation measures must lead to an understanding of the efficient use of the resource and long-term behavioral changes that directly affect water usage. In other words, public perception of responsible water use must be fostered and a sustained change in the mindset of the public needs to take place in order for conservation to take hold and be truly effective for the long-term.

As a wholesale water agency, TVMWD is committed to promoting and facilitating water conservation projects by the retail agencies within its service area. These undertakings focus on commercial and industrial equipment and processes, residential plumbing retrofits, landscape irrigation, and education. One of TVMWD's most important long-term conservation measures is educating the public on the source of water to the southern California area and the need for water conservation for the region to enhance long-term reliability and growth.

TVMWD's primary focus with regard to conservation has been public education and awareness as a necessary means to inform the general population of efficient water use. In recent years, while maintaining its emphasis on education and public information, TVMWD has also expanded its conservation activities in the areas of conservation research and increased coordination of funding for retail-agency sponsored projects. Water supply reliability is dependent on both the further enhancement of local and supplemental imported water sources. In addition, the retail member agencies have developed a blueprint for water supply reliability through the development of diversified resources and economic soundness. In order to achieve and maintain a high level of water use efficiency within its service area, TVMWD's primary conservation objectives are as follows:

Assist member agencies with funding and implementing conservation projects

Table 6-1: Conservation Objectives

Outreach Goals	Outreach Activities (some items are listed in multiple categories)
Customer Education Goal To educate the customers, taxpayers and decision makers about the future of conserving water and protecting our water resources and guiding their actions for years to come.	• Three Valleys Facility Tours • MWD-sponsored tours • Conservation-themed ads in local newspapers • Water resource related articles in local newspapers • Information provided via the District's Website • HET (toilet) distribution events • High-efficiency clothes washer rebates • Protector del agua courses • Leadership Breakfasts • Annual Budget and Water Quality Reports
Local Education (in-school) Goal To reach a large number of students on an in-depth and effective level utilizing the skills and enthusiasm of local teachers.	• Solar Cup • Three Valleys Facility Tours • WEWAC Events: Video Contest, LA County Fair Participation, 'Edu-Grant' Program, and Project WET Workshop • MWD Poster Contest • Teacher Education
Local Business Education Goal To work with local businesses/industry to promote water conservation.	• Facility Tours • Continue to offer and promote the Commercial and Industrial rebates (CII Program) for businesses and institutions. • Website information via the internet • Subsidized purchases of water brooms
Alliances and Partnership Goal To form and cultivate alliances with our Member Agencies, Metropolitan local cities and other municipal, state, federal and private institutions for joint projects and sources of funding.	• Coordination with MWD and our member agencies on a variety of conservation related state and federal legislative initiatives • Grant Coordination [DWR, Prop 50, MWD] and assistance (where appropriate) with our Member Agencies • Quarterly conservation meetings
Media and Public Information Goal To utilize all forms of media to disseminate our water conservation message.	• Conservation-themed ads in local newspapers • Water resource related articles in local newspapers • Participation at community events • Continued distribution of MWD's video production, "Straight from the Tap" to public access cable TV in our service area. • TVMWD's Website
Best Management Practices/Irrigation Goal To promote efficiencies that reduces the demand on imported water and aid in conserving our water resources. To increase the area's native plantings and reduce the potable water irrigation demand.	• Promote the use of California native and California 'friendly' plants through managed 'Turf Removal' programs • Utilize local expertise at Cal Poly Pomona and the Rancho Santa Ana Botanic Gardens • Set-up California Friendly Landscape Training (CFLT) classes • Use of California-friendly plants at Three Valleys' headquarters as a demonstration and an on-site water use reduction tool

Fund conservation research and disseminate conservation information
Coordinate conservation activities on behalf of retail agencies served by TVMWD
Develop and implement pilot conservation projects which will complement other programs being conducted in Southern California
Work with Metropolitan Water District of Southern California to coordinate and improve their outreach efforts in the area of conservation
Administer and coordinate any conservation programs which are more effective at the regional or wholesale level versus the individual member agencies' level.
Seek outside funding sources which will complement and expand conservation programs, education and outreach.

A summary of the BMP requirements, and TVMWD's progress in meeting its commitments to the MOU, is also provided in Table 6-2. In general, the District is on track in meeting both its demand management recommendations and BMP implementation commitments.

The benefits of conservation include:

- *Ratepayers save money on their water utility bills;*
- *Reduced wastewater flow;*
- *Reduced urban runoff;*
- *Avoidance of purchasing expensive imported water; and*
- *Environmental benefits, locally and for the Bay-Delta area.*

Implementation of Best Management Practices

Three Valleys is one of the charter signatories to the 1992 Memorandum of Understanding Regarding Urban Water Conservation Best Management Practices (MOU), a document which established the California Urban Water Conservation Council (CUWCC)—a self-regulating body composed of signatories to the MOU. That process also resulted in the initial list of conservation Best Management Practices (BMPs). Since that time, TVMWD encouraged its retail member agencies to sign the MOU to expedite implementation of reasonable urban conservation measures. A number of the TVMWD member agencies are signatories to the CUWCC, including; Cities of Covina, Glendora, La Verne, and Pomona, Covina Irrigating Company, Rowland Water District, Golden State Water Company, and Walnut Valley Water District.

In its role as a wholesale water agency, TVMWD does not have the responsibility for direct implementation of some BMPs. Rather, BMP-10 ("Wholesale agency assistance programs") requires wholesale agencies to provide financial and technical support, and when mutually agreeable and beneficial, direct management of conservation projects on behalf of a retail supplier. Nevertheless, wholesalers like TVMWD have a direct responsibility to help implement all of the BMPs. TVMWD has taken steps to meet the requirements of these BMPs, as described in the following paragraphs.

For the wholesale agency, implementation of BMP-10 consists of the following measures:

- Provide financial incentives (or equivalent resources) to retail water agency customers on all cost-effective BMPs;
- Offer workshops for retail agency personnel on CUWCC procedures and reporting requirements, and the technical, programmatic, strategic or other pertinent issues in water conservation; and
- Have the necessary staff or other resources available to respond to retail agencies' needs for assistance.

Three Valleys meets the first requirement by passing through financial incentives offered by the MWD through its Conservation Credits Program. TVMWD does offer an additional incentives directly to the member agencies by covering program implementation costs and outreach costs for many programs, including: recycling costs for HET distribution events (old toilets MUST be recycled); outreach costs for the targeted outdoor/retrofit/survey program; application costs for the regional rebate provider to run the Turf Removal program; and substitute teacher costs for Project WET workshops. These costs assist the member agency while preserving the distinction between retail water agency/customer relations. The district provides some in-kind services such as managing contracts for all of its retail member agencies participating in HET distribution events. In this way, a single vendor may be selected for several agencies' projects. Thus, a better per unit price may be negotiated due to economies of scale. In addition, by managing the contracts centrally it is hoped that the transaction costs to the retail agencies are minimized. It also provides administrative oversight and assistance to the member agencies that have limited staff for conservation activities.

Three Valleys participates by running programs and serving as the financial administrator for the Water Education/Water Awareness Committee (WEWAC). WEWAC is a consortium of water agencies begun back in the early 1980s and today still exists with 14 water agencies covering both Three Valleys' and Inland Empire Utilities Agency's service areas. The mission of WEWAC is to promote the efficient use of water and to increase public awareness of the importance of water in Southern California.

To take advantage of location, increase efficiency and increase public outreach and awareness, Three Valleys has also partnered with neighboring agencies to benefit a larger population, but also to assist our member agencies in keeping costs down and helping them achieve larger outreach goals. In recent years numerous programs, classes and events have been held in partnership with the Inland Empire Utilities Agency (IEUA) the wholesale water agency directly east of our boundaries and the Chino Basin Water Conservation District, a groundwater protection and education agency that serves the area to east of our boundaries. California Friendly Landscape Training classes (CFLT) have been held at and in conjunction with the Rancho Santa Ana Botanic Garden to take advantage of their expertise and reputation for being the local authorities on California native plants.

Three Valleys also periodically hosts a water conservation meeting with staff from the retail member agencies it serves. These meetings serve as a forum to discuss general developments in the water conservation field, or more specific programs/news from the California Urban Water Conservation Council or MWD.

The following table indicates TVMWD's activities and involvement in all the BMPs. TVMWD believes that it serves an important function assisting its retail member agencies to achieve 100% implementation of the CUWCC's goals. Accordingly, TVMWD assists at all levels where member agencies request such assistance.

Table 6-2: Best Management Practices (BMP) Implementation by TVMWD

CUWCC BMP	Assistance Offered by TVMWD?	Type of Assistance Provided Details/Information	Number Implemented to Date
BMP 1 Water survey programs for single-family residential and multi-family residential customers. [Not required]	YES	TVMWD has encouraged the implementation of Residential Surveys through administrative activities, such as contacting consultants on behalf of member agencies, seeking RFPs and coordinating multiple agencies located in close proximity to one another to create a better value. To date, City of La Verne and City of Pomona are considering implementing Residential Surveys in the upcoming fiscal year.	3,571
BMP 2 Residential Plumbing Retrofits [Not required]	YES	TVMWD has provided low-flow showerheads to its member agencies to distribute at outreach events, and during ULFT distribution events. TVMWD has also distributed these showerheads at events and activities. TVMWD also participated in the Learning to Live Waterwise program for 4th grade students. The program was offered at no cost to its member agencies. The program provided residential retrofit kits (showerheads, faucet aerators, toilet tummies, rain/sprinkler gauges) to students in the 4th grade and required the completion of a pre- and post-survey to be completed by the student for their household. Over 2,400 households throughout the TVMWD service area participated in this program.	60,088 Low-flow showerheads 2,400 kits
BMP 3 System Water Audits, Leak Detection Required	YES	TVMWD does monthly evaluations by examining water sales, water purchased (from MWD) and unaccounted for water losses. TVMWD has averaged less than 1.3% unaccounted for water losses on an annual basis.	Monthly as a regular part of reporting to the Board of Directors
BMP 4 Metering with Commodity Rates for All New Connections and Retrofit of Exiting Connections [Not required]	NO Not applicable	Relevant to retail water suppliers only.	Not applicable

CUWCC BMP	Assistance Offered by TVMWD?	Type of Assistance Provided Details/Information	Number Implemented to Date
BMP 5 Large Landscape Audits [Not required]	YES	TVMWD has encouraged its member agencies to complete and/or offer these types of audits by contacting possible consultants for group pricing and implementation. TVMWD has paid for large landscape audits in cases where the need is extreme and the member agency has proven uninterested. The information is passed directly on to the customer for implementation of the water-saving corrections/activities.	7
BMP 6 High Efficiency Washing Machines [Not required]	YES	TVMWD has administered and run the high efficiency clothes washer rebate program for its member agencies for the last three years. TVMWD passes the BMP credit on to the member agencies for inclusion in their CUWCC reports. However, all rebates, correspondence and the subsequent MWD/DWR credit are done in-house by TVMWD. TVMWD has also helped member agencies inform the public about this program by printing ads for local newspapers, providing billing inserts specific to each member agency and providing the information on its website.	5,620 rebates
BMP 7 Public Information Required	YES	TVMWD does an extensive amount of public information through local advertisements, supplement sections (i.e. "Think Environment", "Living Here"), articles and attending local fairs, to promote water conservation. TVMWD also assists MWD by sending out their "Straight From The Tap" public information series directly to the local cable outlets in the TVMWD service area. TVMWD also hosts a quarterly Leadership Breakfast for all interested parties in the community to provide an opportunity to network and listen to speakers on items of interest on the local and national level. Some of the speakers to date, include: Dr. William Patzert, Research Oceanographer, California Institute of Technology, Jet Propulsion Laboratory; Dr. Timothy Quinn, Exec. Directory Association of California Water Agencies; Sheriff Lee Baca, Los Angeles County; Authors Steven P. Erie and Steve Solomon to name a few. The average attendance at these breakfasts is approximately 75 guests.	Numerous activities/ programs

CUWCC BMP	Assistance Offered by TVMWD?	Type of Assistance Provided Details/Information	Number Implemented to Date
BMP 8 School Education Required	YES	TVMWD staff has visited classrooms and given presentations whenever invited by either the school or the member agency. TVMWD provides school tours for grades kindergarten through college on an annual basis. TVMWD has participated in staffing school tours for middle school (reaching approximately 1,500 students in the TVMWD service area). TVMWD will provide materials to teachers when requested for their school library or for in-classroom use. TVMWD has participated in a number of the Project WET Workshops either as a co-hoster or as sole host specifically for TVMWD teachers. TVMWD is also a supporter of the MWD Solar Cup program. Hosting numerous teams to participate in this educational program for high school students. TVMWD encourages its member agencies to directly host Solar Cup teams, but in cases where this is not available and a school is interested, TVMWD will provide the sponsorship and guidance for the team(s). TVMWD has also promoted the excellent curricula developed by MWD and provides teachers the ability to receive the materials, but also promotes it by scheduling workshops for teachers interested in learning more about the materials.	Numerous programs
BMP 9 Commercial, Industrial, Institutional [Not required]	YES	TVMWD has promoted the MWD CII program to its member agencies and has participated directly by providing waterbrooms to the member agencies, ULFTs and urinals to CII locations. TVMWD has signed the MWD CII Conservation Agreement to help promote the program further. To date a number of CII devices have been installed in the TVMWD service area during 2004-06, approximately 865 items – primarily pre-rinse spray nozzles and commercial high efficiency clothes washers. TVMWD also co-hosted a CII workshop with the Inland Empire Utilities Agency (IEUA) our neighbor wholesaler to the east.	Approx. 3,600 devices
BMP 10 Whole Sale Agency Assistance Required	YES	TVMWD actively supports the conservation activities of its member agencies through financial, administrative, outreach and staff support. (see above)	Not enumerated

CUWCC BMP	Assistance Offered by TVMWD?	Type of Assistance Provided Details/Information	Number Implemented to Date
BMP 11 Conservation Pricing Required	YES	TVMWD has implemented rates reflecting Tier 1 and Tier 2 pricing. Member agencies are given a water sales allocation based on historical purchases. If they exceed that allocation, they will be charged the Tier 2 rate for water. This method directly reflects the new MWD pricing methodologies.	Not enumerated
BMP 12 Conservation Coordination Required	YES	TVMWD has a position which assists the member agencies with all the BMPs, conservation activities, outreach activities and fund raising. Additional TVMWD staff is provided when necessary to assist with large programs and outreach events.	1.0 FTE
BMP 13 Water Waste Prohibition [Not required]	NO	TVMWD has no provision to enact ordinances for its member agencies. Therefore, enforcement of such an activity would fall solely to the member agencies. TVMWD has emergency drought management resolutions on file for encouragement and support to its member agencies.	Not applicable
BMP 14 Residential ULFT Replacements [Not Required]	YES	TVMWD has supported ULFT replacement programs for numerous years. Through the negotiation of a consultant contract to help the member agencies receive a better per-unit price and standardize reporting and programs. TVMWD has also provided direct ULFT replacements in cases where the need was identified but the member agency was unable to assist. These types of programs have generated large conservation figures by replacing older toilets. TVMWD passes the MWD credit directly through to its member agencies after reviewing reports and coordinating the outreach efforts whenever necessary.	Approx. 30,000

20x2020 Water Reduction Target

In November 2009, Governor Arnold Schwarzenegger signed the Water Conservation Act of 2009 (SBx7-7) into law as part of a comprehensive water package designed to address the State's growing water challenges. One of the provisions of the Act seeks to address the concern to reduce the state's per capita water use 20 percent by the year 2020 (referred to as "20x2020").

The 20x2020 legislation requires urban retail water suppliers to develop urban water use targets to help meet the 20 percent reduction by 2020 with interim targets for 2015. The legislation allows various avenues to establish and meet these targets. Such reductions can be achieved through a combination of conservation, improved water use efficiencies, increased recycled water use, or any other quantifiable means that would effectively reduce potable water demand.

On a regional basis, the baseline water demand is estimated to be 193 gallons per capita per day (GPCD). A 20 percent reduction would lessen this to 154 GPCD.

Based on population projections for 2020, this reduction translates to approximately 27,500 AF of projects and programs to lessen local dependence on potable supplies. Achieving this will require additional local and regional investments in both conservation and recycled water. TVMWD will work with its retail member agencies to develop policies and programs to address individual water reduction targets.

Appendix K

AB 1881, Water Conservation in Landscaping Act

Assembly Bill No. 1881

CHAPTER 559

An act to add Section 1353.8 to the Civil Code, to repeal and add Article 10.8 (commencing with Section 65591) of Chapter 3 of Division 1 of Title 7 of the Government Code, to add Section 25401.9 to the Public Resources Code, and to add Article 4.5 (commencing with Section 535) to Chapter 8 of Division 1 of the Water Code, relating to water conservation.

[Approved by Governor September 28, 2006. Filed with Secretary of State September 28, 2006.]

LEGISLATIVE COUNSEL'S DIGEST

AB 1881, Laird. Water conservation.

(1) Existing law, the Davis-Sterling Common Interest Development Act, defines and regulates common interest developments, which include community apartment projects, condominium projects, planned developments, and stock cooperatives.

This bill would provide that the architectural guidelines of a common interest development shall not prohibit or include conditions that have the effect of prohibiting the use of low water-using plants as a group.

(2) The Water Conservation in Landscaping Act requires the Department of Water Resources to appoint an advisory task force to work with the department to draft a model local water efficient landscape ordinance that local agencies may adopt, requires the task force to submit the ordinance to the department on or before May 1, 1991, and requires the task force to cease to exist on the date the department adopts the model ordinance or January 1, 1992, whichever occurs first. The act requires the department, not later than January 1, 1992, to adopt a model local water efficient landscape ordinance which each local agency may adopt. The act makes the model local water efficient landscape ordinance adopted by the department applicable within the jurisdiction of a local agency if that local agency, by January 1, 1993, has not adopted a water efficient landscape ordinance or has not adopted certain findings that the adoption of the ordinance is unnecessary.

This bill would specify that the provision making the model ordinance applicable to a local agency on and after January 1, 1993, does not apply to chartered cities. The bill would require the department, to the extent funds are appropriated, not later than January 1, 2009, by regulation, to update the model ordinance in accordance with specified requirements. The bill would require the department to prepare and submit to the Legislature a prescribed report before the adoption of the updated model ordinance. The bill would require a local agency, not later than January 1, 2010, to adopt the updated model ordinance or other water efficient

landscape ordinance that is at least as effective in conserving water as the updated model ordinance. The bill would make the updated model ordinance applicable within the jurisdiction of a local agency, including a chartered city, if, by January 1, 2010, the local agency has not adopted its own water efficient landscape ordinance or the updated model ordinance. The bill would require each local agency, not later than January 31, 2010, to notify the department as to whether the local agency is subject to the department's updated model ordinance and, if not, to submit to the department a copy of the water efficient landscape ordinance adopted by the local agency, among other documents. The bill would require the department, to the extent funds are appropriated, not later than January 31, 2011, to prepare and submit a report to the Legislature relating to the status of water efficient landscape ordinances adopted by local agencies.

By imposing requirements on local agencies in connection with the adoption of water efficient landscape ordinances, the bill would impose a state-mandated local program.

(3) Existing law requires the State Energy Resources Conservation and Development Commission (Energy Commission), after one or more public hearings, to take specified action to reduce the wasteful, uneconomic, inefficient, or unnecessary consumption of energy. Existing law requires the Energy Commission, by January 1, 2004, to amend specified regulations to require that residential clothes washers manufactured on or after January 1, 2007, be at least as water efficient as commercial clothes washers, and to take certain other related action.

This bill would require the Energy Commission, in consultation with the department, to adopt, to the extent funds are available, by regulation performance standards and labeling requirements for landscape irrigation equipment, including irrigation controllers, moisture sensors, emission devices, and valves to reduce the wasteful, uneconomic, inefficient, or unnecessary consumption of energy or water. The bill would require the Energy Commission to adopt those requirements for landscape irrigation controllers and moisture sensors by January 1, 2010, and, on and after January 1, 2012, would prohibit the sale or installation of an irrigation controller or moisture sensor for landscape use unless the controller or sensor meets those adopted requirements. The bill would require the Energy Commission, on or before January 1, 2010, to prepare and submit to the Legislature a report that sets forth a proposed schedule for adopting performance standards and labeling requirements for emission devices and valves.

(4) Existing law generally requires an urban water supplier to install water meters on all municipal and industrial service connections located within its service area on or before January 1, 2025.

This bill would require a water purveyor as defined, to require as a condition of new retail water service on and after January 1, 2008, the installation of separate water meters to measure the volume of water used exclusively for landscape purposes. The bill would make this requirement applicable to specified service connections.

(5) The California Constitution requires the state to reimburse local agencies and school districts for certain costs mandated by the state. Statutory provisions establish procedures for making that reimbursement.

This bill would provide that, if the Commission on State Mandates determines that the bill contains costs mandated by the state, reimbursement for those costs shall be made pursuant to these statutory provisions.

The people of the State of California do enact as follows:

SECTION 1. Section 1353.8 is added to the Civil Code, to read:

1353.8. The architectural guidelines of a common interest development shall not prohibit or include conditions that have the effect of prohibiting the use of low water-using plants as a group.

SEC. 2. Article 10.8 (commencing with Section 65591) of Chapter 3 of Division 1 of Title 7 of the Government Code is repealed.

SEC. 3. Article 10.8 (commencing with Section 65591) is added to Chapter 3 of Division 1 of Title 7 of the Government Code, to read:

Article 10.8. Water Conservation in Landscaping

65591. This article shall be known and may be cited as the Water Conservation in Landscaping Act.

65592. Unless the context requires otherwise, the following definitions govern the construction of this article:

(a) "Department" means the Department of Water Resources.

(b) "Local agency" means any city, county, or city and county, including a charter city or charter county.

(c) "Water efficient landscape ordinance" means an ordinance or resolution adopted by a local agency, or prepared by the department, to address the efficient use of water in landscaping.

65593. The Legislature finds and declares all of the following:

(a) The waters of the state are of limited supply and are subject to ever increasing demands.

(b) The continuation of California's economic prosperity is dependent on adequate supplies of water being available for future uses.

(c) It is the policy of the state to promote the conservation and efficient use of water and to prevent the waste of this valuable resource.

(d) Landscapes are essential to the quality of life in California by providing areas for active and passive recreation and as an enhancement to the environment by cleaning air and water, preventing erosion, offering fire protection, and replacing ecosystems lost to development.

(e) Landscape design, installation, maintenance, and management can and should be water efficient.

(f) Section 2 of Article X of the California Constitution specifies that the right to use water is limited to the amount reasonably required for the

beneficial use to be served and the right does not and shall not extend to waste or unreasonable use or unreasonable method of use.

(g) (1) The Legislature, pursuant to Chapter 682 of the Statutes of 2004, requested the California Urban Water Conservation Council to convene a stakeholders work group to develop recommendations for improving the efficiency of water use in urban irrigated landscapes.

(2) The work group report includes a recommendation to update the model water efficient landscape ordinance adopted by the department pursuant to Chapter 1145 of the Statutes of 1990.

(3) It is the intent of the Legislature that the department promote the use of this updated model ordinance.

(h) Notwithstanding Article 13 (commencing with Section 65700), this article addresses a matter that is of statewide concern and is not a municipal affair as that term is used in Section 5 of Article XI of the California Constitution. Accordingly, it is the intent of the Legislature that this article, except as provided in Section 65594, apply to all cities and counties, including charter cities and charter counties.

65594. (a) Except as provided in Section 65595, if by January 1, 1993, a local agency did not adopt a water efficient landscape ordinance and did not adopt findings based on climatic, geological, or topographical conditions, or water availability that state that a water efficient landscape ordinance is unnecessary, the model water efficient landscape ordinance adopted by the department pursuant to Chapter 1145 of the Statutes of 1990 shall apply within the jurisdiction of the local agency as of that date, shall be enforced by the local agency, and shall have the same force and effect as if adopted by the local agency.

(b) Notwithstanding subdivision (b) of Section 65592, subdivision (a) does not apply to chartered cities.

(c) This section shall apply only until the department updates the model ordinance.

65595. (a) (1) To the extent funds are appropriated, not later than January 1, 2009, by regulation, the department shall update the model water efficient landscape ordinance adopted pursuant to Chapter 1145 of the Statutes of 1990, after holding one or more public hearings. The updated model ordinance shall be based on the recommendations set forth in the report prepared pursuant to Chapter 682 of the Statutes of 2004 and shall meet the requirements of Section 65596.

(2) Before the adoption of the updated model ordinance pursuant to paragraph (1), the department shall prepare and submit to the Legislature a report relating to both of the following:

(A) The extent to which local agencies have complied with the model water efficient landscape ordinance adopted pursuant to Chapter 1145 of the Statutes of 1990.

(B) The department's recommendations regarding the landscape water budget component of the updated model ordinance described in subdivision (b) of Section 65596.

(b) Not later than January 31, 2009, the department shall distribute the updated model ordinance adopted pursuant to subdivision (a) to all local agencies and other interested parties.

(c) On or before January 1, 2010, a local agency shall adopt one of the following:

(1) A water efficient landscape ordinance that is, based on evidence in the record, at least as effective in conserving water as the updated model ordinance adopted by the department pursuant to subdivision (a).

(2) The updated model ordinance described in paragraph (1).

(d) If the local agency has not adopted, on or before January 1, 2010, a water efficient landscape ordinance pursuant to subdivision (c), the updated model ordinance adopted by the department pursuant to subdivision (a) shall apply within the jurisdiction of the local agency as of that date, shall be enforced by the local agency, and shall have the same force and effect as if adopted by the local agency.

(e) Nothing in this article shall be construed to require the local agency's water efficient landscape ordinance to duplicate, or to conflict with, a water efficiency program or measure implemented by a public water system, as defined in Section 116275 of the Health and Safety Code, within the jurisdictional boundaries of the local agency.

65596. The updated model ordinance adopted pursuant to Section 65595 shall do all the following in order to reduce water use:

(a) Include provisions for water conservation and the appropriate use and groupings of plants that are well-adapted to particular sites and to particular climatic, soil, or topographic conditions. The model ordinance shall not prohibit or require specific plant species, but it may include conditions for the use of plant species or encourage water conserving plants. However, the model ordinance shall not include conditions that have the effect of prohibiting or requiring specific plant species.

(b) Include a landscape water budget component that establishes the maximum amount of water to be applied through the irrigation system, based on climate, landscape size, irrigation efficiency, and plant needs.

(c) Promote the benefits of consistent local ordinances in neighboring areas.

(d) Encourage the capture and retention of stormwater onsite to improve water use efficiency or water quality.

(e) Include provisions for the use of automatic irrigation systems and irrigation schedules based on climatic conditions, specific terrains and soil types, and other environmental conditions. The model ordinance shall include references to local, state, and federal laws and regulations regarding standards for water-conserving irrigation equipment. The model ordinance may include climate information for irrigation scheduling based on the California Irrigation Management Information System.

(f) Include provisions for onsite soil assessment and soil management plans that include grading and drainage to promote healthy plant growth and to prevent excessive erosion and runoff, and the use of mulches in shrub areas, garden beds, and landscaped areas where appropriate.

(g) Promote the use of recycled water consistent with Article 4 (commencing with Section 13520) of Chapter 7 of Division 7 of the Water Code.

(h) Seek to educate water users on the efficient use of water and the benefits of doing so.

(i) Address regional differences, including fire prevention needs.

(j) Exempt landscaping that is part of a registered historical site.

(k) Encourage the use of economic incentives to promote the efficient use of water.

(*l*) Include provisions for landscape maintenance practices that foster long-term landscape water conservation. Landscape maintenance practices may include, but are not limited to, performing routine irrigation system repair and adjustments, conducting water audits, and prescribing the amount of water applied per landscaped acre.

(m) Include provisions to minimize landscape irrigation overspray and runoff.

65597. Not later than January 31, 2010, each local agency shall notify the department as to whether the local agency is subject to the department's updated model ordinance adopted pursuant to Section 65595, and if not, shall submit to the department a copy of the water efficient landscape ordinance adopted by the local agency, and a copy of the local agency's findings and evidence in the record that its water efficient landscape ordinance is at least as effective in conserving water as the department's updated model ordinance. Not later than January 31, 2011, the department shall, to the extent funds are appropriated, prepare and submit a report to the Legislature summarizing the status of water efficient landscape ordinances adopted by local agencies.

65598. Any model ordinance adopted pursuant to this article shall exempt cemeteries from all provisions of the ordinance except those set forth in subdivisions (h), (k), and (*l*) of Section 65596. In adopting language specific to cemeteries, the department shall recognize the special landscape management needs of cemeteries.

65599. Any actions or proceedings to attach, review, set aside, void, or annul the act, decision, or findings of a local agency on the ground of noncompliance with this article shall be brought pursuant to Section 1085 of the Code of Civil Procedure.

SEC. 4. Section 25401.9 is added to the Public Resources Code, to read:

25401.9. (a) To the extent that funds are available, the commission, in consultation with the Department of Water Resources, shall adopt by regulation, after holding one or more public hearings, performance standards and labeling requirements for landscape irrigation equipment, including, but not limited to, irrigation controllers, moisture sensors, emission devices, and valves, for the purpose of reducing the wasteful, uneconomic, inefficient, or unnecessary consumption of energy or water.

(b) For the purposes of complying with subdivision (a), the commission shall do all of the following:

(1) Adopt performance standards and labeling requirements for landscape irrigation controllers and moisture sensors on or before January 1, 2010.

(2) Consider the Irrigation Association's Smart Water Application Technology Program testing protocols when adopting performance standards for landscape irrigation equipment, including, but not limited to, irrigation controllers, moisture sensors, emission devices, and valves.

(3) Prepare and submit a report to the Legislature, on or before January 1, 2010, that sets forth on a proposed schedule for adopting performance standards and labeling requirements for emission devices and valves.

(c) On and after January 1, 2012, an irrigation controller or moisture sensor for landscape irrigation uses may not be sold or installed in the state unless the controller or sensor meets the performance standards and labeling requirements established pursuant to this section.

SEC. 5. Article 4.5 (commencing with Section 535) is added to Chapter 8 of Division 1 of the Water Code, to read:

Article 4.5. Irrigated Landscape

535. (a) A water purveyor shall require as a condition of new retail water service on and after January 1, 2008, the installation of separate water meters to measure the volume of water used exclusively for landscape purposes.

(b) Subdivision (a) does not apply to either of the following:

(1) Single-family residential connections.

(2) Connections used to supply water for the commercial production of agricultural crops or livestock.

(c) Subdivision (a) applies only to a service connection for which both of the following apply:

(1) The connection serves property with more than 5,000 square feet of irrigated landscape.

(2) The connection is supplied by a water purveyor that serves 15 or more service connections.

(d) For the purposes of this section, "new retail water service" means the installation of a new water meter where water service has not been previously provided, and does not include applications for new water service submitted before January 1, 2007.

SEC. 6. If the Commission on State Mandates determines that this act contains costs mandated by the state, reimbursement to local agencies and school districts for those costs shall be made pursuant to Part 7 (commencing with Section 17500) of Division 4 of Title 2 of the Government Code.

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