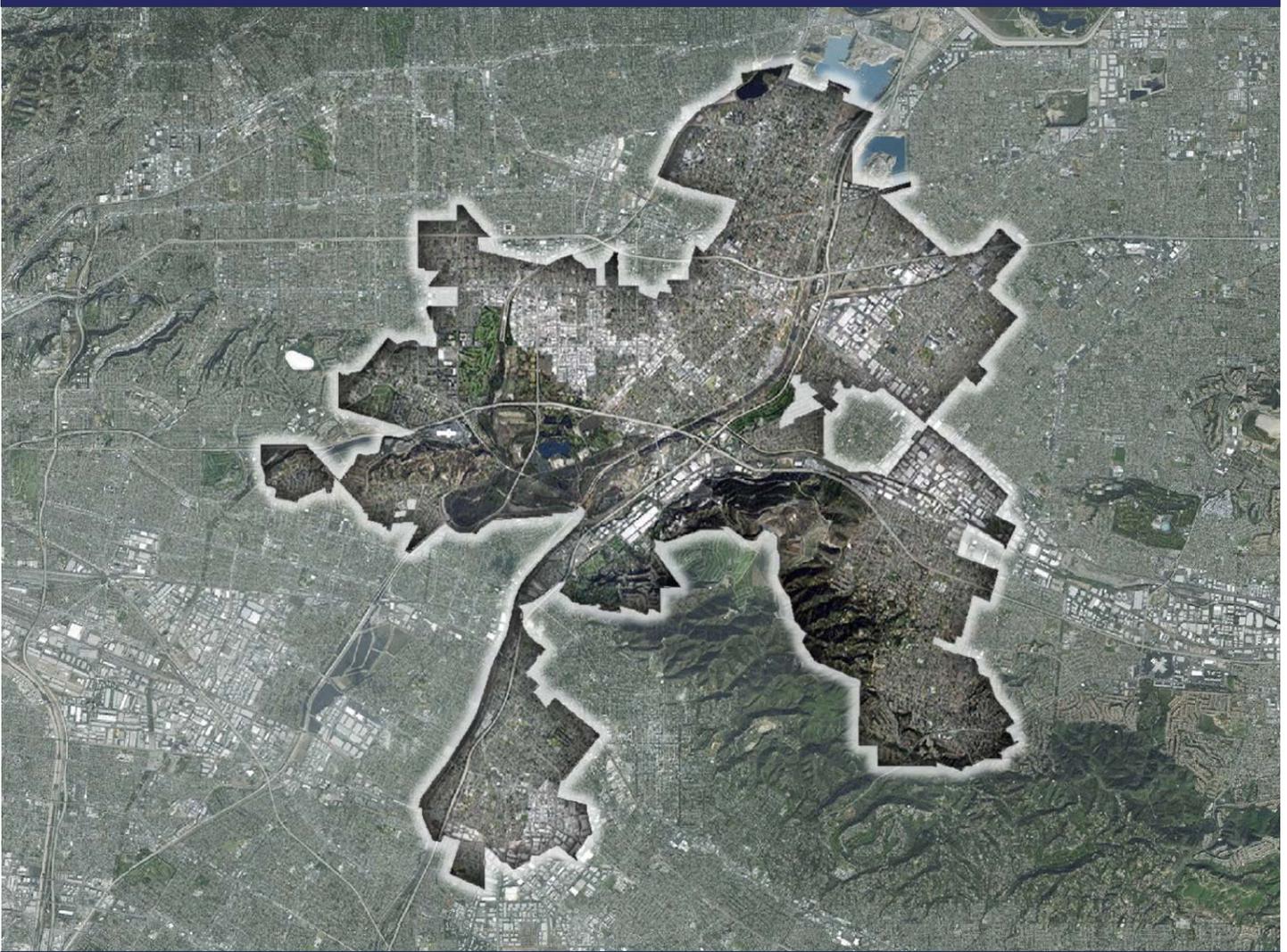


San Gabriel Valley Water Company

Los Angeles County Division

2015 Urban Water Management Plan

July 2016

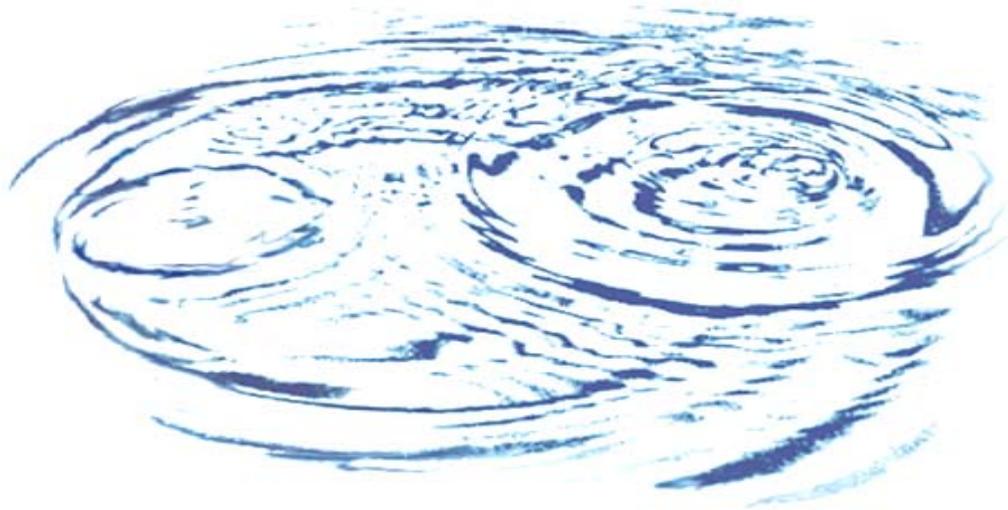


861 Village Oaks Drive, Suite 100 ▪ Covina, California 91724
Phone: (626) 967-6202 ▪ FAX: (626) 331-7065 ▪ www.stetsonengineers.com

Northern California ▪ Southern California ▪ Arizona ▪ Colorado

San Gabriel Valley Water Company Los Angeles County Division

2015 Urban Water Management Plan



JULY 2016



861 Village Oaks Drive, Suite 100 • Covina, California 91724
Phone: (626) 967-6202 • FAX: (626) 331-7065 • Web site: www.stetsonengineers.com

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CHAPTER 1

PLAN PREPARATION

1.1 BACKGROUND AND PURPOSE

San Gabriel Valley Water Company's Los Angeles County Division (San Gabriel) is a water supplier and is required to prepare an Urban Water Management Plan (Plan) in accordance with the California Urban Water Management Planning Act (UWMP Act) which was established in 1983. The UWMP Act requires every "urban water supplier" to prepare and adopt a Plan, periodically review its Plan at least once every five years and make any amendments or changes which are indicated by the review. Pursuant to California Water Code Section 10617, an "Urban Water Supplier" is defined as 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. The primary objective of the UWMP Act is to direct urban water suppliers to evaluate their existing water conservation efforts and, to the extent practicable, review and implement alternative and supplemental water conservation measures. The UWMP Act is directed primarily at retail water purveyors where programs can be immediately applied to the customers. The UWMP Act, originally known as Assembly Bill (AB) 797, is included in Appendix A.

Section 10621(a) of the California Water Code states, "Each water supplier shall update its plan at least once every five years on or before December 31, in years ending in five and zero." However, due to recent changes in UWMP Act requirements, California State law has extended the deadline for the 2015 Plans to July 1, 2016. San Gabriel's 2015 Plan is an update to San Gabriel's 2010 Plan.

1.2 URBAN WATER MANAGEMENT PLANNING AND THE CALIFORNIA WATER CODE

1.2.1 URBAN WATER MANAGEMENT PLANNING ACT OF 1983

San Gabriel is a water supplier and is required to prepare a Plan in accordance with the UWMP Act enacted by the State Legislation in 1983. The UWMP Act is included in the California Water Code (CWC) under Sections 10610 through 10656. A copy of the UWMP Act is provided in Appendix A. The UWMP Act requires water agencies develop Plans to provide a framework for long-term water planning as well as information regarding long-term resource planning to ensure sufficient water supplies are available to meet existing and future demands. Urban water suppliers are required to report, describe, and evaluate water deliveries and uses, water supply sources, efficient water uses, demand management measures, and water shortage contingency planning.

1.2.2 APPLICABLE CHANGES TO THE WATER CODE SINCE 2010

In compliance with the UWMP Act, San Gabriel last updated its Urban Water Management Plan in 2010. There have been new amendments added and some reorganization of the CWC sections since San Gabriel's last update. The following tabulation is a summary of the new requirements which were incorporated in San Gabriel's 2015 Plan, as applicable:

Change Number	Topic	CWC Section	Legislative Bill	Summary	Guidebook Section
1	Demand Management Measures	10631 (f)(1) and (2)	AB 2067, 2014	Requires water suppliers to provide narratives describing their water demand management measures, as provided. Requires retail water suppliers to address the nature and extent of each water demand management measure implemented over the past 5 years and describe the water demand management measures that the supplier plans to implement to achieve its water use targets.	Chapter 9
2	Submittal Date	10621 (d)	AB 2067, 2014	Requires each urban water supplier to submit its 2015 plan to the Department of Water Resources by July 1, 2016.	Chapter 10
3	Electronic Submittal	10644 (a) (2)	SB 1420, 2014	Requires the plan, or amendments to the plan, to be submitted electronically to the department.	Chapter 10
4	Standardized Forms	10644 (a) (2)	SB 1420, 2014	Requires the plan, or amendments to the plan, to include any standardized forms, tables, or displays specified by the department.	CH 1, Section 1.4
5	Water Loss	10631 (e) (1) (J) and (e) (3) (A) and (B)	SB 1420, 2014	Requires a plan to quantify and report on distribution system water loss.	Appendix L
6	Estimating Future Water Savings	10631 (e) (4)	SB 1420, 2014	Provides for water use projections to display and account for the water savings estimated to result from adopted codes, standards, ordinances, or transportation and land use plans, when that information is available and applicable to an urban water supplier.	Appendix K
7	Voluntary Reporting of Energy Intensity	10631.2 (a) and (b)	SB 1036, 2014	Provides for an urban water supplier to include certain energy-related information, including, but not limited to, an estimate of the amount of energy used to extract or divert water supplies.	Appendix O
8	Defining Water Features	10632	AB 2409, 2010	Requires urban water suppliers to analyze and define water features that are artificially supplied with water, including ponds, lakes, waterfalls, and fountains, separately from swimming pools and spas.	CH 8, Section 8.2.4

Source: Department of Water Resources' March 2016 Final "Guidebook for Urban Water Suppliers", Appendix C

1.2.3 WATER CONSERVATION ACT OF 2009 (SB X7-7)

The Water Conservation Act of 2009 (SB X7-7) required retail urban water suppliers to report the following conservation goals in their 2010 Plans:

- Base Daily per Capita Water Use;
- 2015 Interim Urban Water Use Target;
- 2020 Urban Water Use Target; and
- Compliance Daily per Capita Water Use

A discussion addressing the requirements of SB X7-7 is found in Chapter 5 of San Gabriel's 2015 Plan.

1.3 URBAN WATER MANAGEMENT PLANNING IN RELATION TO OTHER PLANNING EFFORTS

San Gabriel is a public water utility regulated by the California Public Utilities Commission (CPUC). San Gabriel is also a sub-agency of Upper San Gabriel Valley Municipal Water District (Upper District), a wholesale water agency. Upper District prepared a 2015 Plan which is incorporated in San Gabriel's 2015 Plan by reference. In addition, San Gabriel provided its 2015 Plan to Upper District which includes water use projections in five-year increments for normal, single dry, and multiple dry year conditions over the next 20 years.

San Gabriel is also a sub-agency of Central Basin Municipal Water District (Central District), a wholesale water agency. Central District prepared a 2015 Plan which is incorporated in San Gabriel's 2015 Plan by reference. In addition, San Gabriel provided its 2015 Plan to Central District which includes water use projections in five-year increments for normal, single dry, and multiple dry year conditions over the next 20 years.

1.4 UWMP ORGANIZATION

San Gabriel's 2015 Plan was prepared consistent with the recommended organization provided in the Department of Water Resources' (DWR) Final "Guidebook for Urban Water Suppliers", dated March 2016. San Gabriel's 2015 Plan consists of the following Chapters:

- Chapter 1 - Introduction and Overview
- Chapter 2 - Plan Preparation
- Chapter 3 - System Description
- Chapter 4 - System Water Use
- Chapter 5 - Baselines and Targets
- Chapter 6 - System Supplies
- Chapter 7 - Water Supply Reliability
- Chapter 8 - Water Shortage Contingency Planning
- Chapter 9 - Demand Management Measures
- Chapter 10 - Plan Adoption, Submittal, and Implementation

Pursuant to CWC requirements, San Gabriel's 2015 Plan incorporates DWR's standardized tables for the reporting and submittal of Plan data. The standardized tables are provided within the body of the 2015 Plan text as well as in Appendix B. San Gabriel also submitted the Plan data (standardized tables) electronically through DWR's Online Submittal Tool.

San Gabriel's 2015 Plan also provides supporting documents (appendices) including notification letters of the Plan update, public notice of the Plan hearing, and San Gabriel's Water Shortage Contingency Plan. Further discussions regarding these supporting documents are provided within the individual Chapters of San Gabriel's 2015 Plan.

1.5 UWMP AND GRANT OR LOAN ELIGIBILITY

Pursuant to DWR's Final "Guidebook for Urban Water Suppliers", *"In order for an urban water supplier to be eligible for any water management grant or loan administered by DWR, the agency must have a current UWMP on file that has been determined by DWR to address the requirements of the CWC. A current UWMP must also be maintained*

by the water supplier throughout the term of any grant or loan administered by DWR... An UWMP may also be required in order to be eligible for other State funding, depending on the conditions that are specified in the funding guidelines.” San Gabriel’s 2015 Plan has been prepared in order to meet eligibility requirements for grants and loans administered by the State and / or DWR.

1.6 TIPS FOR UWMP PREPARERS

San Gabriel’s 2015 Plan is considered an update to San Gabriel’s 2010 Plan. However, the 2015 Plan is considered a stand-alone document. As discussed in Section 1.4, San Gabriel’s 2015 Plan was prepared consistent with the recommended organization provided in DWR’s Final “Guidebook for Urban Water Suppliers”, dated March 2016. A checklist of specific Plan requirements is included in Appendix C. The checklist includes the page number where the required elements are addressed to assist in DWR’s review of the submitted Plan.

CHAPTER 2

PLAN PREPARATION

2.1 BASIS FOR PREPARING A PLAN

CWC 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.

CWC 10620.

(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.

CWC 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, except as provided in subdivision (d).

(d) Each urban water supplier shall update and submit its 2015 plan to the department by July 1, 2016.

This Urban Water Management Plan was prepared in accordance with the UWMP Act which was enacted by the State Legislature in 1983. The UWMP Act requires every "urban water supplier" to prepare and adopt a Plan, to periodically review its Plan at least once every five years and make any amendments or changes which are indicated by the review. An "Urban Water Supplier" is defined as 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 (AF) of water annually. The primary objective of the UWMP Act is to direct urban water suppliers to prepare a Plan

that describes and evaluates sources of supply, reasonable and practical efficient uses, reclamation, and demand management activities. **The UWMP Act is directed primarily at retail water purveyors where programs can be immediately applied to the customers.** Sections 10610 through 10656 of the CWC, Urban Water Management Planning Act, were enacted in 1983. The UWMP Act, originally known as Assembly Bill (AB) 797, is included in Appendix A.

Section 10621(a) of the CWC states, “Each water supplier shall update its plan at least once every five years on or before December 31, in years ending in five and zero.” However, because of recent changes in UWMP Act requirements, California State law has extended the deadline for the 2015 Plans to July 1, 2016.

San Gabriel is an “urban water supplier” pursuant to Section 10617 of the CWC and directly serves potable water to more than 3,000 customers and supplies more than 3,000 acre-feet per year (AFY) at retail for municipal purposes. San Gabriel does not provide water at wholesale for municipal purposes. This 2015 Plan is an update to San Gabriel’s 2010 Plan.

2.1.1 PUBLIC WATER SYSTEMS

CWC 10644.

(a)(2) The plan, or amendments to the plan, submitted to the department ... shall include any standardized forms, tables, or displays specified by the department.

CWC 10608.52.

(a) The department, in consultation with the board, the California Bay-Delta Authority or its successor agency, the State Department of Public Health, and the Public Utilities Commission, shall develop a single standardized water use reporting form to meet the water use information needs of each agency, including the needs of urban water suppliers that elect to determine and report progress toward achieving targets on a regional basis as provided in subdivision (a) of Section 10608.28. (b) At a minimum, the form shall be developed to accommodate information sufficient to assess an urban water supplier's compliance with conservation targets pursuant to Section 10608.24... The form shall accommodate reporting by urban water suppliers on an individual or regional basis as provided in subdivision (a) of Section 10608.28.

California Health and Safety Code 116275.

(h) "Public water system" means a system for the provision of water for human consumption through pipes or other constructed conveyances that has 15 or more service connections or regularly serves at least 25 individuals daily at least 60 days out of the year.

Pursuant to CWC requirements, San Gabriel's 2015 Plan incorporates DWR's standardized tables for the reporting and submittal of Plan data. The standardized tables are provided within the body of the 2015 Plan text as well as in Appendix B. San Gabriel also submitted the Plan data (standardized tables) electronically through DWR's Online Submittal Tool. In addition, San Gabriel is a Public Water System regulated by the State Water Resources Control Board - Division of Drinking Water (SWRCB-DDW). The SWRCB-DDW requires water agencies to provide the number of connections, water usage, and other information annually. The information provided to SWRCB-DDW indicates San Gabriel serves potable water to more than 3,000 customers and supplies more than 3,000 AFY.

2.1.2 AGENCIES SERVING MULTIPLE SERVICE AREAS / PUBLIC WATER SYSTEMS

This Plan addresses San Gabriel’s Los Angeles County Division Public Water System. Table 2-1 provides San Gabriel’s Public Water System name and number.

A separate 2015 Plan was prepared for San Gabriel Valley Water Company’s Fontana Water Company Division.

Table 2-1 Retail Only: Public Water Systems			
Public Water System Number	Public Water System Name	Number of Municipal Connections 2015	Volume of Water Supplied 2015
1910039	San Gabriel Valley Water Company - El Monte	45,516	32,189
1910189	San Gabriel Valley Water Company - Montebello	1,581	657
TOTAL		47,097	32,846
NOTES: Approximately 98% of the total water supplied was to the El Monte system and 2% was supplied to the Montebello system. Volume of water supplied includes 1,635 AF of recycled water.			

Table 2-1 Public Water Systems

2.2 REGIONAL PLANNING

San Gabriel has developed its 2015 Plan reporting solely on its service area to address all requirements of the CWC and has coordinated the preparation of this Plan

with other appropriate agencies in the area. San Gabriel's 2015 Plan was not developed as a Regional Plan.

2.3 INDIVIDUAL OR REGIONAL PLANNING AND COMPLIANCE

As shown in Table 2-2, San Gabriel's 2015 Plan is an "Individual UWMP". San Gabriel has developed its 2015 Plan reporting solely on its service area to address all requirements of the CWC. San Gabriel notified and coordinated with appropriate regional agencies and constituents (See Section 2.5).

2.3.1 REGIONAL UWMP

CWC 10620.

(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.

As indicated in Table 2-2, San Gabriel's 2015 Plan was developed as an "Individual UWMP" and not part of a Regional Plan.

2.3.2 REGIONAL ALLIANCE

CWC 10608.20.

(a)(1) ...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...

CWC 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.

As indicated in Table 2-2, San Gabriel’s 2015 Plan was developed as an “Individual UWMP” and not part of a Regional Alliance.

Table 2-2: Plan Identification		
Select Only One	Type of Plan	Name of RUWMP or Regional Alliance <i>if applicable drop down list</i>
<input checked="" type="checkbox"/>	Individual UWMP	
<input type="checkbox"/>	<input type="checkbox"/> Water Supplier is also a member of a RUWMP	
<input type="checkbox"/>	<input type="checkbox"/> Water Supplier is also a member of a Regional Alliance	
<input type="checkbox"/>	Regional Urban Water Management Plan (RUWMP)	
NOTES:		

Table 2-2 Plan Identification

2.4 FISCAL OR CALENDAR YEAR AND UNITS OF MEASURE

CWC 10608.20.

(a)(1) Urban retail water suppliers...may determine the targets on a fiscal year or calendar year basis.

2.4.1 FISCAL OR CALENDAR YEAR

The data provided in San Gabriel's 2015 Plan is reported on a calendar year basis, unless noted otherwise, as shown in Table 2-3.

Table 2-3: Agency Identification	
Type of Agency (select one or both)	
<input type="checkbox"/>	Agency is a wholesaler
<input checked="" type="checkbox"/>	Agency is a retailer
Fiscal or Calendar Year (select one)	
<input checked="" type="checkbox"/>	UWMP Tables Are in Calendar Years
<input type="checkbox"/>	UWMP Tables Are in Fiscal Years
If Using Fiscal Years Provide Month and Date that the Fiscal Year Begins (mm/dd)	
Units of Measure Used in UWMP (select from Drop down)	
Unit	AF
NOTES:	

Table 2-3 Agency Identification

2.4.2 REPORTING COMPLETE 2015 DATA

The data provided in San Gabriel's 2015 Plan is provided on a calendar year basis through December 31, 2015.

2.4.3 UNITS OF MEASURE

As shown in Table 2-3, the data provided in San Gabriel's 2015 Plan is reported in units of acre-feet (AF), unless noted otherwise.

2.5 COORDINATION AND OUTREACH

CWC 10631.

(j) An urban water supplier that relies 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).

2.5.1 WHOLESALE AND RETAIL COORDINATION

San Gabriel is a sub-agency of two wholesale water agencies, Upper District and Central District. As indicated in Table 2-4, San Gabriel has provided its 2015 Plan to both Upper District and Central District which includes water use projections in five-year increments for normal, single dry, and multiple dry year conditions over the next 20 years.

Table 2-4 Retail: Water Supplier Information Exchange
The retail supplier has informed the following wholesale supplier(s) of projected water use in accordance with CWC 10631.
Wholesale Water Supplier Name <i>(Add additional rows as needed)</i>
Upper San Gabriel Valley Municipal Water District (Upper District)
Central Basin Municipal Water District (Central District)
NOTES:

Table 2-4 Retail Water Supplier Information Exchange

2.5.2 COORDINATION WITH OTHER AGENCIES AND THE COMMUNITY

CWC 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.

CWC 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.

San Gabriel is a retail water supplier that serves all or portions of the Cities of Arcadia, Baldwin Park, El Monte, Industry, Irwindale, La Puente, Montebello, Monterey Park, Pico Rivera, Rosemead, San Gabriel, Santa Fe Springs, South El Monte, West Covina, Whittier, and unincorporated areas of Los Angeles County including Hacienda Heights and South San Gabriel. San Gabriel is required to coordinate the preparation of the Plan with appropriate agencies in the area, including appropriate water suppliers that share a common source. Therefore, San Gabriel coordinated the preparation of the Plan

with Amarillo Mutual Water Company, Central District, the County of Los Angeles, Del Rio Mutual Water Company, Hemlock Mutual Water Company, La Puente Valley County Water District, Rurban Homes Mutual Water Company, Upper District, Valley County Water District, and the Cities of Arcadia, Baldwin Park, El Monte, Industry, Irwindale, La Puente, Montebello, Monterey Park, Pico Rivera, Rosemead, San Gabriel, Santa Fe Springs, South El Monte, West Covina, and Whittier. As discussed in Section 10.2, San Gabriel notified these agencies, as well as the cities and county within which San Gabriel provides water supplies, at least sixty (60) days prior to the public hearing of the preparation of the 2015 Plan and invited them to participate in the development of the Plan. A copy of the notification letters sent to these agencies is provided in Appendix D.

2.5.3 NOTICE TO CITIES AND COUNTIES

CWC 10621.

(b) Every urban water supplier required to prepare a plan pursuant to this part shall, at least 60 days before 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.

As discussed in Section 10.2, notification was provided to the cities and county within which San Gabriel provides water to and that San Gabriel was reviewing and considering amendments (updates) to the 2010 Plan and, as a result, preparing the 2015 Plan Update. Notification was provided at least 60 days prior to the public hearing (see Appendix D).

CHAPTER 3

SYSTEM DESCRIPTION

3.1 GENERAL DESCRIPTION

CWC 10631.

(a) Describe the service area of the supplier.

San Gabriel is an investor owned public utility water company subject to the regulatory jurisdiction of the CPUC. San Gabriel provides public utility water service within its service area which includes all or portions of the Cities of Arcadia, Baldwin Park, El Monte, Industry, Irwindale, La Puente, Montebello, Monterey Park, Pico Rivera, Rosemead, San Gabriel, Santa Fe Springs, South El Monte, West Covina, Whittier, and unincorporated areas of Los Angeles County including Hacienda Heights and South San Gabriel. San Gabriel's CPUC-approved service area, which encompasses approximately 45 square miles, is shown on Figure 1. San Gabriel currently derives its groundwater supplies from groundwater wells that produce water from two groundwater basins, the Main San Gabriel Basin (Main Basin) and the Central Basin, with the Main Basin as San Gabriel's primary groundwater source. The locations of San Gabriel's service area in relation to the Main Basin and the Central Basin are shown on Figure 2. San Gabriel's water supply sources also include recycled water and a connection with the Metropolitan Water District of Southern California (MWD) for delivery of treated imported water.

San Gabriel is a sub-agency of two wholesale water agencies, Upper District and Central District. Upper District and Central District have prepared 2015 Plans which are incorporated by reference. The locations of San Gabriel's service area, Upper District, and Central District are shown on Figure 3.

3.2 SERVICE AREA BOUNDARY MAP

As discussed in Section 3.1, San Gabriel's current service area covers approximately 45 square miles including all or portions of the Cities of Arcadia, Baldwin Park, El Monte, Industry, Irwindale, La Puente, Montebello, Monterey Park, Pico Rivera, Rosemead, San Gabriel, Santa Fe Springs, South El Monte, West Covina, Whittier, and unincorporated areas of Los Angeles County including Hacienda Heights and South San Gabriel. The location of San Gabriel's service area is provided in Figure 1.

3.2.1 MAP FORMAT RECOMMENDATIONS

San Gabriel's service area map was submitted online through DWR's Population Tool in a Google Earth format (also referred to as a "Keyhole Markup Language" or "KML" file). The service area map was originally created in Geographical Information Systems (GIS). Properties (including map projection, contact information, start and end dates for which the map is valid, constraints, attribute table definitions, and digitizing base) were included to the extent information was available.

3.3 SERVICE AREA CLIMATE

CWC 10631.

(a) Describe the service area of the supplier, including... climate...

The monthly historical average temperatures (including minimum and maximum), monthly historical average rainfall, and monthly evapotranspiration (ET_o) in the vicinity of San Gabriel's service area is summarized in the tabulation below. Historical climate information was obtained from the Western Regional Climate Center (WRCC), Los

Angeles County Department of Public Works (DPW), and from DWR’s California Irrigation Management Information System (CIMIS).

Service Area Climate Information

Month	Average Temperature (F)	Average Min. Temperature (F)	Average Max. Temperature (F)	Average Total Precipitation (Inches)	ETo (Inches)
January	55.6	41.9	69.1	3.62	2.2
February	57.0	43.7	70.2	3.61	2.41
March	58.9	45.9	71.7	2.68	3.71
April	62.1	49.1	75.2	1.12	4.36
May	65.7	53.5	77.7	0.35	5.29
June	69.9	57.2	82.5	0.08	5.78
July	74.9	61.1	88.7	0.01	6.55
August	75.6	61.6	89.7	0.07	6.02
September	73.9	59.5	88.1	0.29	4.87
October	68.2	53.8	82.2	0.56	3.4
November	61.0	46.4	75.3	1.56	2.38
December	55.9	41.9	69.8	2.40	1.9
Annual	64.7	51.3	78.4	16.35	48.87

Source:

Historical average monthly precipitation was obtained by the County of Los Angeles Department of Public Works Water Resources Division and is based on data collected from Station 108D (El Monte Fire Station) from water year 1951 through water year 2015. Historical average monthly temperature information was obtained from the Western Regional Climate Center (<http://www.wrcc.dri.edu/>) and is based on data collected from Station 047785 (San Gabriel Fire Department) from 1939 through 2015. Historical monthly average ETo information was obtained from the California Irrigation Management Information Systems (<http://www.cimis.water.ca.gov>) and is based on data collected from Station 159 (Monrovia).

The historical average rainfall in the vicinity of San Gabriel’s service area is 16.35 inches. Historical precipitation within the vicinity of San Gabriel’s service area is discussed further in Section 7.2 and is provided in Appendix E. San Gabriel’s service area within the San Gabriel Valley has a dry climate and summers can reach average maximum daily temperatures in the high 80s. Although changes in climatic conditions will

have an impact, the projected water supply demands will be based on average year, single dry year and multiple-dry years, based on historical data and projected demands.

3.3.1 CLIMATE CHANGE

The CWC does not require San Gabriel to address climate change. However, a discussion on single-dry year and multiple dry years is provided in Section 7.2 and a discussion on potential impacts to basin management practices is provided in Section 6.2. A discussion regarding the regional impacts of climate change on demand and supply are provided in MWD's 2015 Plan, which is incorporated by reference.

3.4 SERVICE AREA POPULATION AND DEMOGRAPHICS

CWC 10631.

(a) Describe the service area of the supplier, including 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 and shall be in five-year increments to 20 years or as far as data is available.

San Gabriel provides water service to an area with a current population of about 256,756. Table 3-1 presents the current and projected population of the area encompassed by San Gabriel from 2015 to 2040. San Gabriel is projected to have a population of approximately 289,400 by 2040. Projected populations in San Gabriel's service area were based on projections obtained from the Southern California Association of Governments (SCAG). The SCAG data incorporates demographic trends, existing land use, general plan land use policies, and input and projections from the Department of

Finance (DOF) and the US Census Bureau. The population estimate for 2015 in Table 3-1 is consistent with DWR requirements discussed in Section 5.4.1.

Table 3-1 Retail: Population - Current and Projected						
Population Served	2015	2020	2025	2030	2035	2040(opt)
	256,756	263,470	269,946	276,423	282,899	289,375
NOTES: Based on current (2015) population using projected populations from the Southern California Association of Governments for San Gabriel's service area.						

Table 3-1 Retail: Population – Current and Projected

3.4.1 OTHER DEMOGRAPHIC FACTORS

CWC 10631.

(a) Describe the service area of the supplier, including... other demographic factors affecting the supplier's water management planning.

No other demographic factors affect San Gabriel’s water management planning. However, increased population may have an impact on water demand.

CHAPTER 4

SYSTEM WATER USE

4.1 RECYCLED VERSUS POTABLE AND RAW WATER DEMAND

Chapter 4 addresses San Gabriel's potable water demands. Recycled water demands are addressed separately in Section 6.5; however, a summary is provided in Table 4-3 (see Section 4.2.1). Raw untreated water is not served by San Gabriel and is not applicable.

4.2 WATER USES BY SECTOR

CWC 10631(e).

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

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

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

San Gabriel's current and projected water demands are provided in five-year increments through 2040 in Tables 4-1, 4-2, and 4-3. Water demand sectors are also

identified (see Section 4.2.1). San Gabriel's total water demand projections are based on the SB X7-7 calculations prepared in Section 5.7. The water demands for each individual water demand sector were projected based on the average percentage breakdown of water demands from each individual water demands sector between 2010 and 2014 (the percentages were then applied to the projected total water demands).

4.2.1 DEMAND SECTORS LISTED IN WATER CODE

As shown in Table 4-1, San Gabriel's service area includes the following water demand sectors listed in the CWC:

- Single-family residential
(A single-family dwelling unit is a lot with a free-standing building containing one dwelling unit that may include a detached secondary dwelling. Single-family residential water demands are included in retail demands.)
- Multi-family
(Multiple dwelling units are contained within one building or several buildings within one complex. Multi-family residential water demands are included in retail demands.)
- Commercial
(Commercial users are defined as water users that provide or distribute a product or service. San Gabriel's definition of a "commercial user" includes the multi-family demand sector; however, for the purposes of this UWMP, multi-family demands are included in retail demands.)
- Industrial

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

- Institutional (and governmental)
(Institutional users are defined as water user dedicated to public service. Institutional users include, among other users, higher education institutions, schools, courts, churches, hospitals, government facilities, and nonprofit research institutions. Institutional water demands are included in commercial demands.)
- Distribution system losses
(Distribution system losses are discussed in Section 4.3 and Appendix F.)

4.2.2 DEMAND SECTORS IN ADDITION TO THOSE LISTED IN THE WATER CODE

San Gabriel's service area does not include other water demand sectors which are not listed in the CWC (including exchanges, surface water augmentation, transfers, and wetlands or wildlife habitat).

Table 4-1 Retail: Demands for Potable and Raw Water - Actual			
Use Type <i>(Add additional rows as needed)</i>	2015 Actual		
<i>Drop down list</i> <i>May select each use multiple times</i> <i>These are the only Use Types that will be recognized by the WUEdata online submittal tool</i>	Additional Description <i>(as needed)</i>	Level of Treatment When Delivered <i>Drop down list</i>	Volume
Single Family		Drinking Water	12,784
Multi-Family		Drinking Water	5,286
Commercial		Drinking Water	8,477
Industrial		Drinking Water	1,907
Losses		Drinking Water	2,759
TOTAL			31,211
NOTES:			

Table 4-1 Retail: Demands for Potable and Raw Water - Actual

Table 4-2 Retail: Demands for Potable and Raw Water - Projected						
Use Type <i>(Add additional rows as needed)</i>	Additional Description <i>(as needed)</i>	Projected Water Use <i>Report To the Extent that Records are Available</i>				
<i>Drop down list</i> <i>May select each use multiple times</i> <i>These are the only Use Types that will be recognized by the WUEdata online submittal tool</i>		2020	2025	2030	2035	2040-opt
Single Family		14,386	17,438	17,831	18,224	18,617
Multi-Family		5,948	7,210	7,372	7,535	7,697
Commercial		9,539	11,563	11,823	12,084	12,344
Industrial		2,172	2,632	2,692	2,751	2,810
Losses		3,078	3,731	3,816	3,900	3,984
TOTAL		35,122	42,574	43,534	44,493	45,452
NOTES: Projected water demands are based on a 120 gpcd water use factor which represents San Gabriel's average water use from 2014 through 2015. Future water use projections are based on San Gabriel's calculated SB X7-7 water use target of 142 gpcd. Future potable demands are projected to be offset by increased recycled water use. San Gabriel's current base additional demand from recycled water use is approximately 2,000 AFY. Approximately 50 percent of any future recycled water demand exceeding 2,000 AFY has been estimated to result from new recycled water customers and usage. The remaining 50 percent of recycled water demands has been estimated to offset potable water supplies, as reflected in this table. See Table 6-4 for projected recycled water supplies. Units are in acre-feet.						

Table 4-2 Retail: Demands for Potable and Raw Water – Projected

Table 4-3 Retail: Total Water Demands						
	2015	2020	2025	2030	2035	2040 (opt)
Potable and Raw Water <i>From Tables 4-1 and 4-2</i>	31,211	35,122	42,574	43,534	44,493	45,452
Recycled Water Demand* <i>From Table 6-4</i>	1,635	2,586	2,728	2,869	3,011	3,152
TOTAL WATER DEMAND	32,846	37,708	45,302	46,403	47,503	48,604
<i>*Recycled water demand fields will be blank until Table 6-4 is complete.</i>						
NOTES: Units are in acre-feet.						

Table 4-3 Retail: Total Water Demands

4.3 DISTRIBUTION SYSTEM WATER LOSSES

CWC 10631(e)(1).

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

(J) Distribution system water loss

CWC 10631(e)(3).

(A) For the 2015 urban water management plan update, the distribution system water loss shall be quantified for the most recent 12-month period available. For all subsequent updates, the distribution system water loss shall be quantified for each of the five years preceding the plan update.

(B) The distribution system water loss quantification shall be reported in accordance with a worksheet approved or developed by the department through a public process. The water loss quantification worksheet shall be based on the water system balance methodology developed by the American Water Works Association.

San Gabriel has reviewed its distribution system water losses by using the American Water Works Association’s (AWWA) water audit software which is a spreadsheet-based water audit tool. San Gabriel has submitted the reporting worksheet from the AWWA water audit in an Excel format through DWR’s Online Submittal Tool. In addition, a copy of the reporting worksheet from the AWWA Water Audit is provided in Appendix F.

San Gabriel’s distribution system water losses during calendar year 2015 are provided in Table 4-1. San Gabriel’s projected distribution system water losses are provided in Table 4-2. In addition, San Gabriel’s distribution system water losses over the most recent 12-month period available, from January 2015 to December 2015, are provided in Table 4-4.

Table 4-4 Retail: 12 Month Water Loss Audit Reporting	
Reporting Period Start Date (mm/yyyy)	Volume of Water Loss*
01/2015	2,759
<i>* Taken from the field "Water Losses" (a combination of apparent losses and real losses) from the AWWA worksheet.</i>	
NOTES: Units are in acre-feet.	

Table 4-4 Retail: Water Loss Summary Most Recent 12 Month Period Available

4.4 ESTIMATED FUTURE WATER SAVINGS

CWC 10631(e)(4).

(A) If available and applicable to an urban water supplier, water use projections may display and account for the water savings estimated to result from adopted codes, standards, ordinances, or transportation and land use plans identified by the urban water supplier, as applicable to the service area.

(B) To the extent that an urban water supplier reports the information described in subparagraph (A), an urban water supplier shall do both of the following: (i) Provide citations of the various codes, standards, ordinances, or transportation and land use plans utilized in making the projections. (ii) Indicate the extent that the water use projections consider savings from codes, standards, ordinances, or transportation and land use plans. Water use projections that do not account for these water savings shall be noted of that fact.

San Gabriel's water demand projections are provided in Chapter 7 and are based on the water use targets identified in Section 5.7 pursuant to SB X7-7. The water demand projections incorporate water savings, or "passive savings", which are the result of implementation of new plumbing codes along with consumer awareness of the need to conserve water. San Gabriel's Water Shortage Contingency Plan (discussed in Section 8.1), includes methods for current and ongoing reduction in water use and water waste. Prior to adoption of the Water Shortage Contingency Plan in 2008, San Gabriel's water use rate averaged about 157 gallons per capita day (from 1995 through 2007). As identified in Section 5.8, San Gabriel's actual water use rate during 2015 was 109 gallons per capita day which is a decrease of about 48 gallons per capita day from the recent historical average and primarily includes passive savings. San Gabriel's projected water use targets identified in Section 5.7, including a water use target of 142 gallons per capita day in 2020, incorporate ongoing water passive savings and reduced water use. As indicated in Table 4-5, estimated future water savings have been considered as part of San Gabriel's water use projections.

4.5 WATER USE FOR LOWER INCOME HOUSEHOLDS

CWC 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.

California Health and Safety Code 50079.5.

(a) "Lower income households" means persons and families whose income does not exceed the qualifying limits for lower income families... In the event the federal standards are discontinued, the department shall, by regulation, establish income limits for lower income households for all geographic areas of the state at 80 percent of area median income, adjusted for family size and revised annually.

San Gabriel's water use projections (See Section 7.3) through 2040 includes projected water demands for lower income single-family and multi-family households. The total number of lower income households within San Gabriel's service area was estimated based on billing records provided by San Gabriel, a review of median household income statistics provided by the US Census Bureau's American FactFinder, and a review of GIS maps of Disadvantaged Communities¹ (DACs), including block groups, tracts, and places, provided by DWR. The estimated number of lower income households located within San Gabriel's service area is approximately 55 percent of the total number of households. Based on 55 percent of total residential water demands, the projected water demand for lower income households is about 14,500 AFY by the year 2040. The projected water demands for lower income households were included in San Gabriel's total projected water demands, as indicated in Table 4-5.

¹ GIS information for DACs is based on data from the US Census showing census block groups, tracts, and places identified as disadvantaged communities (less than 80 percent of the State's median household income) or severely disadvantaged communities (less than 60 percent of the State's median household income)

Table 4-5 Retail Only: Inclusion in Water Use Projections	
Are Future Water Savings Included in Projections? (Refer to Appendix K of UWMP Guidebook) <i>Drop down list (y/n)</i>	Yes
If "Yes" to above, state the section or page number, in the cell to the right, where citations of the codes, ordinances, etc... utilized in demand projections are found.	Section 4.2
Are Lower Income Residential Demands Included In Projections? <i>Drop down list (y/n)</i>	Yes
NOTES:	

Table 4-5 Retail Only: Inclusion in Water Use Projection

4.6 CLIMATE CHANGE

DWR had deemed Section 4.6 as optional. San Gabriel is not required by DWR to complete this section. However, a discussion on single-dry year and multiple dry years is provided in Section 7.2 and a discussion on potential impacts to basin management practices is provided in Section 6.2. A discussion regarding the regional impacts of climate change on demand and supply are provided in MWD’s 2015 Plan, which is incorporated by reference.

CHAPTER 5

SB X7-7 BASELINE AND TARGETS

SB X7-7 required retail urban water suppliers to determine target water use for the years 2015 and 2020 in order to help the state achieve a 20 percent reduction in urban water use by the year 2020. Methodologies for calculating baseline and compliance daily urban per capita water use for the consistent implementation of SB X7-7 were previously published by DWR's "Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use", dated October 1, 2010. DWR provided updated methodologies in its final draft "Methodologies for Calculating Baseline and Compliance Urban per Capita Water Use", dated March 2016. DWR's guidance documents were used by San Gabriel to determine the required water use parameters which are discussed below. San Gabriel developed the baselines and targets individually and not regionally. A copy of SB X7-7 is provided in Appendix G.

5.1 GUIDANCE FOR WHOLESALE AGENCIES

CWC 10608.12(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.

CWC 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.

San Gabriel is not a wholesale agency and is not required by DWR to complete Section 5.1.

5.2 UPDATING CALCULATIONS FROM 2010 UWMP

CWC 10608.20.

(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).

Methodologies DWR 2010, Methodology 2 Service Area Population.

Page 27 - Water suppliers may revise population estimates for baseline years between 2000 and 2010 when 2010 census information becomes available. DWR will examine discrepancy between the actual population estimate and DOF's projections for 2010; if significant discrepancies are discovered, DWR may require some or all suppliers to update their baseline population estimates.

5.2.1 TARGET METHOD

The methodology selected in San Gabriel's 2010 Plan to determine San Gabriel's 2015 and 2020 urban water use targets was:

- "Method 3" and was based on ninety-five percent of the applicable state hydrologic region target as stated in the State's April 30, 2009, draft 20x2020 Water Conservation Plan.

Because 2010 U.S. Census data was not available during the preparation of San Gabriel's 2010 Plan, San Gabriel is required to recalculate its "baseline population" (See Section 5.2.2) as well as its target water use for the 2015 Plan (See Section 5.7.1).

However, “Target Method 3” (as discussed in Section 5.7.1) is incorporated in this 2015 Plan.

5.2.2 REQUIRED USE OF 2010 U.S. CENSUS DATA

San Gabriel has incorporated 2010 U.S. Census data into baseline population calculations in this 2015 Plan (See Section 5.4). As a result, San Gabriel updated its baseline population as well as its water use targets (See Section 5.7).

5.2.3 SB X7-7 VERIFICATION FORM

San Gabriel has updated its baseline and water use target calculations from 2010 (See Section 5.7). The required SB X7-7 Verification Form is provided in Appendix H.

5.3 BASELINE PERIODS

CWC 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...along with the bases for determining those estimates, including references to supporting data.

(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).

The Baseline Daily Per Capita Water Use is defined as the average water use, expressed in gallons per capita per day (GPCD), for a continuous, multi-year baseline

period. There were two different baseline periods (including a 10-year baseline period² and a 5-year baseline period³) for calculating Baseline Daily Per Capita Water Use in San Gabriel's 2010 Plan. The baseline periods applicable for San Gabriel's 2015 Plan have been reviewed and are presented below.

5.3.1 DETERMINATION OF THE 10-15 YEAR BASELINE PERIOD (BASELINE GPCD)

CWC 10608.12.

(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.

The CWC allows an urban water supplier to calculate up to a 15-year baseline period if at least 10 percent of its 2008 retail water demands were met through recycled water deliveries within its service area, otherwise calculation of a 10-year baseline period is required. San Gabriel's recycled water use during 2008 was 1,666 acre-feet, which is less than 10 percent of its 2008 retail water deliveries (43,903 acre-feet). Consequently, a 10-year baseline period water use of 161 GPCD for San Gabriel was determined and

² Pursuant to CWC 10608.12(b)(1), the 10-year baseline period is based on "a continuous 10-year period ending no earlier than December 31, 2004, and no later than December 31, 2010"

³ Pursuant to CWC 10608.12(b)(3), the 5-year baseline period is based on "a continuous five-year period ending no earlier than December 31, 2007, and no later than December 31, 2010"

incorporated into this 2015 Plan and is based on a continuous 10-year period between calendar year 1995 through calendar year 2004 (See SB X7-7 Table 1, Appendix H). A further discussion of determining water use targets based on the 10-year baseline period water use is discussed further in Section 5.7.

5.3.2 DETERMINATION OF THE 5-YEAR BASELINE PERIOD (TARGET CONFIRMATION)

CWC 10608.12.

(b)(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.

According to Section 10608.22 of the CWC, if an urban retail water supplier's 5-year baseline period water use is greater than 100 GPCD, the calculated 2020 water use target (See Section 5.7) may need to be reduced (see Section 5.7.2). A 5-year baseline period water use of 152 GPCD for San Gabriel was determined and incorporated into this 2015 Plan and is based on a continuous 5-year period between calendar year 2003 through calendar year 2007 (See SB X7-7 Table 1, Appendix H). A further discussion of the 2020 water use target confirmation based on the 5-year baseline period water use is discussed further in Section 5.7.2.

5.4 SERVICE AREA POPULATION

CWC 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...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.

CWC 10644.

(a)(2) The plan... shall include any standardized forms, tables, or displays specified by the department.

For the purposes of projecting water use targets (See Section 5.7), agencies must determine the population that they served for each baseline year in both of the baseline periods (identified in Section 5.3) and for the 2015 compliance year. San Gabriel has incorporated U.S. Census data through 2010 into baseline population calculations in this 2015 Plan (See Section 5.4.1). According to DWR, the full 2010 U.S. Census data was not available until 2012. As a result, San Gabriel updated its baseline population as well as its water use targets (See Section 5.7), previously calculated in its 2010 Plan.

5.4.1 POPULATION METHODOLOGY

The annual populations within San Gabriel's service area for each year during the baseline periods (identified in Section 5.3) and for the 2015 compliance year were estimated by DWR's online Population Tool (See SB X7-7 Table 2, Appendix H). As discussed in Section 3.2.1, San Gabriel's service area boundary was submitted to the Population Tool in a "KML" file format (i.e. Google Earth format). The submitted KML file represents San Gabriel's service area boundary from 1990 to present (2015). The Population Tool utilized U.S. Census data from 1990, 2000, and 2010, along with San Gabriel's service area boundary, to estimate the population served by San Gabriel in calendar years 1990, 2000, and 2010. The annual amounts of residential service

connections⁴ within San Gabriel's service area for each year from 1990 through 2015 were also entered into the Population Tool. Based on the actual population data (1990, 2000, and 2010) as well as the annual residential service connections (from 1990 through 2015), DWR's Population Tool estimated the annual population within San Gabriel's service area for each year from 1990 to 2015. San Gabriel's estimated populations during the baseline periods are provided in SB X7-7 Table 3, Appendix H.

5.5 GROSS WATER USE

CWC 10608.12.

(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.

California Code of Regulations Title 23 Division 2 Chapter 5.1 Article 1, Section 596.

(a) An urban retail water supplier that has a substantial percentage of industrial water use in its service area is eligible to exclude the process water use of existing industrial water customers from the calculation of its gross water use to avoid a disproportionate burden on another customer sector.

Annual gross water use amounts within San Gabriel for each year of the 10-year baseline year (1995 to 2004) identified in Section 5.3.1, for each year of the 5-year

⁴ The annual number of residential service connections was based on information provided by San Gabriel. The number of residential service connections is a total of single family and multi-family connections.

baseline year (2003 to 2007) identified in Section 5.3.2, and for 2015, are provided in SB X7-7 Table 4 (Appendix H) and are based on the total amount of water entering San Gabriel's distribution system from its water supply source (groundwater production wells).

5.5.1 GROSS WATER TABLES

Annual gross water use amounts within San Gabriel for each year of the 10-year baseline year (1995 to 2004), identified in Section 5.3, and for calendar year 2015, are provided in SB X7-7 Table 4 (Appendix H).

For the purposes of calculating San Gabriel's annual gross water use for each year of the 10-year baseline, it was assumed San Gabriel did not use indirect recycled water within its service area. San Gabriel is not required by DWR to complete SB X7-7 Table 4-B.

Industrial process water is not subtracted from San Gabriel's gross water use provided in SB X7-7 Table 4 (Appendix H). San Gabriel is not required by DWR to complete SB X7-7 Table 4-C.1, SB X7-7 Table 4-C.2, SB X7-7 Table 4-C.3, SB X7-7 Table 4-C.4, and SB X7-7 Table 4-D.

5.6 BASELINE DAILY PER CAPITAL WATER USE

The "daily per capita water use" is based on the water used per person per day (expressed in GPCD) within San Gabriel's service area. The daily per capita water use is estimated by dividing gross water use (See Section 5.5 and Appendix H, SB X7-7 Table 4) by the service area population (See Section 5.4 and Appendix H, SBX 7-7 Table 3). San Gabriel's baseline daily per capita water uses were determined for each baseline year (1995 to 2004) and for 2015. San Gabriel's baseline daily per capita water uses are provided in SB X7-7 Table 5 (Appendix H).

5.7 2015 AND 2020 TARGET

CWC 10608.20.

(e) An urban retail water supplier shall include in its urban water management plan due in 2010... urban water use target, interim urban water use target,... along with the bases for determining those estimates, including references to supporting data.

(g) An urban retail water supplier may update its 2020 urban water use target in its 2015 urban water management plan....

As discussed in Section 5.2.1, “Target Method 3” has been incorporated in San Gabriel’s 2015 Plan to determine San Gabriel’s 2015 and 2020 urban water use targets. A further discussion regarding the selected target method is provided below.

5.7.1 SELECT AND APPLY A TARGET METHOD

Calculation of the 2020 Urban Water Use Target includes adoption of one of four available methods (pursuant to CWC Section 10608.20(b)). San Gabriel reviewed the following available methods.

Target Method 1: *Eighty percent of the urban retail water supplier’s Baseline Per Capita Daily Water Use.*

Using this target method, the Urban Water Use Target for San Gabriel was calculated as **129 GPCD**, based on 80 percent of San Gabriel’s Baseline Per Capita Daily Water Use of 161 GPCD (See SB X7-7 Table 7-A, Appendix H).

Target Method 2: *Estimate using the sum of the specified three performance standards specified in California Water Code Section 10608.20(b)(2).*

Due to insufficient data, this target method was not considered.

Target Method 3: *Ninety-five percent of the applicable state hydrologic region target, as set forth in the state's 20x2020 Water Conservation Plan.⁵*

San Gabriel's service area lies entirely within the "South Coast" Hydrologic Region. According to SB X7-7 Table 7-E (Appendix H), the 2020 regional water use target for the South Coast Hydrologic Region is 149 GPCD. The Target Method 3 regional use target for the South Coast Hydrologic Region (or 95 percent of the 2020 regional water use target) is **142 GPCD**.

Target Method 4: *Water Savings (DWR Provisional Method 4)*

Due to insufficient data, this target method was not considered.

San Gabriel's Urban Water Use Target was initially determined to be **142 GPCD** for 2020 and is based on Target Method 3 above, as indicated in SBX7-7 Table 7 (Appendix H).

5.7.2 5-YEAR BASELINE – 2020 TARGET CONFIRMATION

⁵ California Department of Water Resources, State Water Resources Control Board, California Bay-Delta Authority, California Energy Commission, California Department of Public Health, California Public Utilities Commission, and California Air Resources Board. *20x2020 Water Conservation Plan*. February 2010.

CWC 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.

As discussed in Section 5.3.2, if an urban retail water supplier's 5-year baseline period water use is greater than 100 GPCD, the calculated 2020 Urban Water Use Target (See Section 5.7.1) must be reduced to 95 percent of the 5-year baseline period water use (unless it is already below 95 percent of the 5-year baseline period water use). San Gabriel's calculated 5-year baseline period water use was 152 GPCD (See Section 5.3.2). The value calculated for 95 percent of the 5-year baseline period water use is **145 GPCD**. San Gabriel's 2020 Urban Water Use Target was initially determined using Target Method 3 above to be 142 GPCD, which is less than the value calculated in this step (145 GPCD). Therefore, no adjustment is needed to San Gabriel's 2020 Urban Water Use Target of **142 GPCD** (See SB X7-7 Table 7-F, Appendix H).

5.7.3 CALCULATE THE 2015 INTERIM URBAN WATER USE TARGET

San Gabriel's 2015 Interim Target is based on the value mid-point between the 10-year baseline period water (161 GPCD, See Section 5.3.1 and SB X7-7 Table 5, Appendix H,) and the confirmed 2020 Urban Water Use Target (142 GPCD, See Section 5.7.2 and SB X7-7 Table 7, Appendix H). San Gabriel's 2015 Interim Target is **151 GPCD** as indicated in SB X7-7 Table 8 (Appendix H).

5.7.4 BASELINE AND TARGETS SUMMARY

A summary of San Gabriel's baseline water use and targets is provided in Table 5-1.

Table 5-1 Baselines and Targets Summary					
<i>Retail Agency or Regional Alliance Only</i>					
Baseline Period	Start Year	End Year	Average Baseline GPCD*	2015 Interim Target *	Confirmed 2020 Target*
10-15 year	1995	2004	161	151	142
5 Year	2003	2007	152		
*All values are in Gallons per Capita per Day (GPCD)					
NOTES: 2020 Projected water demands are based on a 120 gpcd water use factor which represents San Gabriel's average water use from 2014 through 2015. Future water use projections (2025 through 2040) are based on San Gabriel's calculated SB X7-7 water use target of 142 gpcd.					

Table 5-1 Baselines and Target Summary

5.8 2015 COMPLIANCE DAILY PER CAPITA WATER USE (GPCD)

CWC 10608.12.

(e) "Compliance daily per capita water use" means the gross water use during the final year of the reporting period...

CWC 10608.24.

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

CWC 10608.20.

(e) An urban retail water supplier shall include in its urban water management plan due in 2010 ... compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data.

5.8.1 MEETING THE 2015 TARGET

As discussed in Section 5.7.3, San Gabriel's 2015 Interim Target is **151 GPCD**. San Gabriel's actual water use during FY 2015 was **109 GPCD**. San Gabriel's 2015 water use of 109 GPCD is in compliance with the 2015 Interim Target (151 GPCD), as shown in SB X7-7 Table 9 (Appendix H).

5.8.2 2015 ADJUSTMENTS TO 2015 GROSS WATER USE

CWC 10608.24(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.

Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use, Methodology 4.

This section discusses adjustments to compliance-year GPCD because of changes in distribution area caused by mergers, annexation, and other scenarios that occur between the baseline and compliance years.

As discussed in Section 5.8.1, San Gabriel is currently in compliance with its 2015 Interim Target. As a result, adjustments to San Gabriel's 2015 gross water use were not incorporated into San Gabriel's 2015 Plan (See Table 5-2).

Table 5-2: 2015 Compliance								
Retail Agency or Regional Alliance Only								
Actual 2015 GPCD*	2015 Interim Target GPCD*	Optional Adjustments to 2015 GPCD From Methodology 8					2015 GPCD* (Adjusted if applicable)	Did Supplier Achieve Targeted Reduction for 2015? Y/N
		Extraordinary Events*	Economic Adjustment*	Weather Normalization*	TOTAL Adjustments*	Adjusted 2015 GPCD*		
109	151	0	0	0	0	109	109	Yes
<i>*All values are in Gallons per Capita per Day (GPCD)</i>								
NOTES:								

Table 5-2 2015 Compliance

5.9 REGIONAL ALLIANCE

As discussed in Section 2.3.2, San Gabriel’s 2015 Plan was not developed as part of a Regional Alliance. Information from San Gabriel’s 2015 Plan is not required to be reported in a Regional Alliance report.

CHAPTER 6 SYSTEM SUPPLIES

San Gabriel's water supply sources include groundwater pumped from the Main Basin and the Central Basin, imported surface water purchased from Central District, and recycled water. San Gabriel's main source of water supply is groundwater pumped from both the Main Basin and the Central Basin. A tabulation of San Gabriel's historical water supplies is provided below.

Calendar Year	Supply Sources				Total Production (AF)
	Main Basin Groundwater (AF)	Central Basin Groundwater (AF)	Imported Water (AF)	Recycled Water (AF)	
1994	38,599	4,590	880	24	44,093
1995	38,212	4,268	835	87	43,402
1996	40,288	4,303	927	131	45,650
1997	41,275	4,576	945	156	46,952
1998	36,472	4,201	844	125	41,642
1999	39,151	4,758	933	163	45,005
2000	40,195	4,960	928	174	46,257
2001	39,534	2,483	881	158	43,056
2002	42,364	2,484	931	157	45,937
2003	42,883	2,080	857	172	45,992
2004	44,021	2,241	934	171	47,367
2005	41,448	1,236	861	133	43,678
2006	40,458	2,199	922	706	44,285
2007	41,202	2,938	3	2,024	46,167
2008	41,144	1,094	0	1,666	43,903
2009	36,667	2,673	0	1,199	40,540
2010	32,998	2,400	0	2,015	37,413
2011	33,679	997	0	1,949	36,625
2012	35,258	36	0	2,390	37,684
2013	39,646	22	0	2,482	42,150
2014	38,552	19	0	2,547	41,118
2015	29,567	1,644	0	1,635	32,846

Source: San Gabriel Valley Water Company

6.1 PURCHASED OR IMPORTED WATER

San Gabriel can purchase imported water supplies from MWD through Central District. San Gabriel owns one (1) 15 cubic feet per second connection which can supply up to 6,735 gallons per minute (gpm) from MWD's Middle Feeder. San Gabriel has not purchased treated imported water supplies since 2007, as shown in the tabulation above. San Gabriel plans to use treated imported water only as an emergency water supply source. San Gabriel's current and projected volumes of purchased water are provided in Table 6-8 and 6-9 (see Section 6.9).

6.2 GROUNDWATER

San Gabriel pumps groundwater from the Main Basin from 30 active wells, including Wells 1B, 1C, 1D, 1E, 2D, 2E, 2F, 8B, 8C, 8D, 8E, 8F, 11A, 11B, 11C, B5B, B5D, B5E, B6C, B6D, B7E, B9B, B11B, B24A, B24B, B25A, B25B, B26A, B26B, and G4A. These wells are located within the Main Basin and have a combined capacity of about 57,300 gpm. San Gabriel has the legal right to pump groundwater from the Main Basin. Although there is no limit on the quantity of water that may be extracted by Parties to the Main Basin Adjudication, including San Gabriel, groundwater production in excess of a Party's water right, or its proportional share (pumper's share) of the Operating Safe Yield,⁶ requires purchase of replenishment water to recharge the Main Basin. San Gabriel has a combined prescriptive pumping right and diversion right of about 20,384.90 acre-feet per year (AFY) and a pumper's share of 10.31274 percent of the Operating Safe Yield as of fiscal year 2014-15. If San Gabriel pumps more than its share of the Operating Safe Yield, San Gabriel must pay assessments levied by the Man San Gabriel Watermaster to purchase Replacement Water to recharge the Main Basin, lease another

⁶ Operating Safe Yield is set by Watermaster to allocate to each Party its portion of groundwater that can be produced from the Main Basin free of a Replacement Water Assessment.

pumper's share of the Operating Safe Yield, or San Gabriel may choose to pre-purchase supplemental MWD water from Upper District for its individual Producer Cyclic Storage Account and apply all or part of the balance in its Cyclic Storage Account to meet its Replacement Water obligation.

San Gabriel pumps groundwater from the Central Basin from three active wells, including Wells W1C, W6C, and W6D. These wells are located within the Central Basin and have a combined capacity of about 6,700 gpm. The Court adjudication of the Central Basin in 1965 provides groundwater management that allows the use of basin storage to meet overlying water demands. According to the Central Basin Adjudication, San Gabriel has an "Allowed Pumping Allocation" (or adjudicated pumping right) of 2,565.35 AFY from the Central Basin as of fiscal year 2014-15. The Central Basin Adjudication allows a Party to the Judgment to pump up to 20 percent more than their annual entitlement or 20 AF (whichever is greater) plus any carry-over. The Water Replenishment District of Southern California (WRD) is responsible for recharging the Central Basin.

6.2.1 BASIN DESCRIPTION

CWC 10631.

(b) If groundwater is identified as an existing or planned source of water available to the supplier, all of the following information shall be included in the plan:

(2) A description of any groundwater basin or basins from which the urban water supplier pumps groundwater.

6.2.1.1 MAIN BASIN DESCRIPTION

The Main San Gabriel Basin (Main Basin) is located within the San Gabriel Valley, which is located in southeastern Los Angeles County and is bounded on the north by the

San Gabriel Mountains; on the west by the San Rafael and Merced Hills, on the south by the Puente Hills and the San Jose Hills, and on the east by a low divide between the San Gabriel River system and the Upper Santa Ana River system, as shown on Figure 2.

The San Gabriel River and its distributary, the Rio Hondo, drain an area of about 490 square miles upstream of Whittier Narrows. Whittier Narrows is a low gap between the Merced and Puente Hills, just northwest of the City of Whittier, through which the San Gabriel River and the Rio Hondo flow to the coastal plain of Los Angeles County. Whittier Narrows is a natural topographic divide and a subsurface restriction to the movement of groundwater between the Main Basin and the Coastal Plain. The approximately 490 square miles of drainage area upstream of Whittier Narrows consists of about 167 square miles of valley lands and about 323 square miles of mountains and foothills.

The Main Basin includes essentially the entire valley floor of the San Gabriel Valley with the exception of the Raymond Basin and Puente Basin. The boundaries of the Main Basin are the Raymond Basin on the northwest, the base of the San Gabriel Mountains on the north, the groundwater divide between San Dimas and La Verne and the lower boundary of the Puente Basin on the east, and the common boundaries between Upper District and Central District through Whittier Narrows on the southwest. The common water supply of the Main Basin does not include the Raymond Basin, the area northerly of Raymond Hill Fault, which was adjudicated in the Pasadena v. Alhambra case (Superior Court of the County of Los Angeles, 1944). The Puente Basin, although tributary to the Main Basin, is not included in the Main Basin administered by the Main Basin Watermaster.

The Main Basin (administered by the Main Basin Watermaster) is a large groundwater basin replenished by stream runoff from the adjacent mountains and hills, by rainfall directly on the surface of the valley floor, subsurface inflow from Raymond Basin and Puente Basin, and by return flow from water applied for overlying uses. Additionally, the Main Basin is replenished with imported water. The Main Basin serves

as a natural storage reservoir, transmission system and filtering medium for wells constructed therein.

There are three municipal wholesale water districts overlying and/or partially overlying the Main Basin. The three districts are Upper District, San Gabriel Valley Municipal Water District (San Gabriel District), and Three Valleys Municipal Water District (Three Valleys District).

Urbanization of the San Gabriel Valley began in the early part of the twentieth century, but until the 1940s, agricultural land use occupied more area than residential and commercial land use. After World War II, agricultural areas reduced rapidly and are now less than two thousand acres. The agricultural areas tend to be located in the easterly portion of the Main Basin and along power transmission rights of way adjacent to the San Gabriel River. Agricultural plots are discontinuous and relatively small. There are several major industrial areas adjacent to the San Gabriel River and within other portions of the valley. The greatest area of land use in the valley is for residential and commercial purposes. DWR Bulletin 118 does not identify the Main Basin as being in overdraft.

Geology

The Main Basin consists of a roughly bowl-shaped depression of bedrock, filled over millions of years with alluvial deposits. This bowl-shaped depression is relatively deep; the elevation at the base of the groundwater reservoir declines from about 800 feet above mean sea level (MSL) in the vicinity of San Dimas, at the northeast corner of the Main Basin, to about 2,200 feet below MSL in the vicinity of South El Monte (DWR, 1966, Plate II).

Most of the alluvium deposited within this depression is debris from the San Gabriel Mountains, washed and blown down from the side of the mountains over time. This process has also resulted in the materials of the Main Basin varying in size from relatively

coarse gravel nearer the mountains to fine and medium-grained sand containing silt and clay as the distance from the mountains increases. The principal water-bearing formations of the Main Basin are unconsolidated and semi-consolidated sediments, which vary in size from coarse gravel to fine-grained sands. The interstices between these alluvial particles throughout the Main Basin fill with water and transmit water readily to wells. The thickness of the water-bearing materials in the Main Basin ranges from 200 to 300 feet in the northeastern portion of the Main Basin near the mountains (DPW, 1934, page 141) to nearly 4,000 feet in the South El Monte area (DWR, 1966, page 31).

The soils overlying the Main Basin average about six feet in depth. Soil depths are generally greater at the perimeter of the valley and decrease toward the center along the San Gabriel River. These soils are residual, formed in place through chemical, mechanical and plant weathering processes. The infiltration rates of these soils are greater along the natural channels and their adjacent flood plains. Lower infiltration rates are found in the perimeter areas of the valley. Since the valley is mostly urbanized, a significant portion of the area has been paved and many miles of stream channel have been lined for flood control purposes, thus decreasing infiltration of water through streambeds. Detailed basin geology is discussed in the report entitled "Planned Utilization of Ground Water Basins, San Gabriel Valley, Appendix A: Geo-hydrology" (DWR, 1966).

Hydrology

The total fresh water storage capacity of the Main Basin is estimated to be about 8.7 million acre-feet. Of that, about 1,000,000 acre-feet have been used historically in Main Basin operations. The change in groundwater elevation at the Key Well is representative of changes in groundwater in the Main Basin. One foot of elevation change at the Key Well is roughly the equivalent of about 8,000 acre-feet of water storage. The location of the Key Well is shown on Figure 4 and the hydrograph of the Key Well is shown on Figure 5. The high groundwater elevation was recorded at over 325 feet in July 1944,

at which time Main Basin storage was estimated to be about 8,700,000 acre-feet. The historical low was recorded in November 2015 at 174.0 feet, at which time Main Basin storage was estimated to be about 7,400,000 acre-feet. The Key Well hydrograph shown on Figure 5 illustrates the cyclic nature of basin recharge and depletion. The hydrograph also illustrates the dramatic recharge capability of the Main Basin during wet periods.

Generally, water movement in the Main Basin is from the San Gabriel Mountains on the north to Whittier Narrows to the southwest, as shown on Figure 6. Groundwater movement in the northern and northeastern regions of the Main Basin is affected by faulting. For example, the Raymond Fault located in the northwesterly portion of the Main Basin separates the Raymond Basin from the Main Basin.

The Main Basin is an unconfined aquifer. Although clay deposits appear mixed with the soils in several locations in the Main Basin and there are various clay lenses throughout the Main Basin, they do not coalesce to form a single impermeable barrier for the movement of subsurface water. The Main Basin therefore operates as a single, unconfined aquifer. As previously mentioned, a thorough discussion of basin hydrogeology is contained in the report "Planned Utilization of Ground Water Basins, San Gabriel Valley, Appendix A: Geo-hydrology" (DWR, 1966).

Within the Main Basin there are a number of identified sub-basins. These include the Upper San Gabriel Canyon Basin, Lower San Gabriel Canyon Basin, Glendora Basin, Foothill Basin, Way Hill Basin and San Dimas Basin. In addition, the Puente Basin is tributary to the Main Basin from the southeast, between the San Jose and Puente Hills, but is not included in the Main Basin adjudication. Figure 4 shows the location of the sub-basins within the Main Basin.

Groundwater Replenishment

The major sources of recharge to the Main Basin are direct penetration of rainfall on the valley floor, percolation of runoff from the mountains, percolation of imported water and return flow from applied water. Rainfall occurs predominantly in the winter months and is more intense at higher elevations and closer to the San Gabriel Mountains. Historical annual rainfall is highly variable from year to year within the San Gabriel Valley. For example, in water year 2006-07 the total rainfall (four station average) was less than five inches, while in 2004-05 the total rainfall (four station average) was about 45 inches.

The magnitude of annual recharge from direct penetration of local rainfall and return flow from applied water is not easily quantifiable. Percolation of runoff from the mountains and valley floor along with percolation of imported water has only been estimated. The DPW maintains records on the amount of local and imported water conserved in water spreading facilities and stream channels.

The San Gabriel River bisects the Main Basin. The San Gabriel River originates at the confluence of its west and east forks in the San Gabriel Mountains. It flows through the San Gabriel Canyon and enters the Main Basin at the mouth of the canyon north of the City of Azusa. The San Gabriel River flows southwesterly across the valley to Whittier Narrows, a distance of about 15 miles. It exits San Gabriel Valley at Whittier Narrows, and transverses the Coastal Plain in a southerly direction to reach the Pacific Ocean at Alamitos Bay near the City of Long Beach.

The San Gabriel River is joined and fed by tributary creeks and washes. In the Main Basin these include: Big Dalton Wash, which originates in the San Gabriel Mountains; Walnut Creek, which originates at the northeast end of the San Jose Hills; and San Jose Creek, which originates in the San Gabriel Mountains, but which travels around the southerly side of the San Jose Hills through the Puente Narrows before joining the San Gabriel River just above Whittier Narrows.

The channel of the San Gabriel River bifurcates in the upper middle portion of the Main Basin, forming a channel to the west of and parallel to the San Gabriel River, known as the Rio Hondo. Tributaries draining the westerly portion of the Main Basin, including Sawpit Wash, Santa Anita Wash, Eaton Canyon Wash, Rubio Wash and Alhambra Wash, all of which originate in the San Gabriel Mountains or the foothills, feed the Rio Hondo. The Santa Anita Wash, Eaton Canyon Wash, Rubio Wash and Alhambra Wash all cross the Raymond Basin area before entering the Main Basin. The channel of the Rio Hondo passes through Whittier Narrows westerly of the San Gabriel River, and then flows southwesterly to join the Los Angeles River on the Coastal Plain.

To protect residents of the San Gabriel Valley from flooding that can result during periods of intensive rainfall, the DPW and the U.S. Army Corps of Engineers (Corps of Engineers) have constructed an extensive system of dams, debris basins, reservoirs and flood control channels, which are shown on Figure 4. The dams and reservoirs also operate as water conservation facilities. The dams and reservoirs that control the flow of the San Gabriel River and the Rio Hondo include: Cogswell Reservoir on the west fork of the San Gabriel River, San Gabriel Reservoir at the confluence of the west and east forks of the San Gabriel River, Morris Reservoir near the mouth of the San Gabriel Canyon, Santa Fe Reservoir in the northerly portion of the Main Basin and Whittier Narrows Reservoir at the southwestern end of the San Gabriel Valley.

Many of the stream channels tributary to the San Gabriel River have been improved with concrete banks (walls) and concrete-lined bottoms. These stream channel improvements have significantly reduced the area of previous stream channels and reduce Main Basin recharge. A number of off-stream groundwater replenishment facilities have been established along these stream channels to offset such reductions in recharge. The locations of these water spreading facilities are shown on Figure 4. Some of these facilities are accessible to imported water supplies, while some facilities receive only local runoff.

The paths of the surface streams are mirrored in the soils and in the direction of groundwater movement in the Main Basin. The tributary creeks and washes, carrying smaller amounts of water, generally flow toward the center of the San Gabriel Valley, while the direction of flow of the major streams, the San Gabriel River and the Rio Hondo, is from the mountains in the north to Whittier Narrows in the southwest. In similar fashion, the primary direction of groundwater movement in the Main Basin is from the north to the southwest, with contributing movement generally from the east and west toward the center of the Main Basin as shown on Figure 6. The greatest infiltration and transmissivity rates of soils in the Main Basin are from north to south, with the maximum rates found in the center of the valley along the stream channels. Generally, the Main Basin directs groundwater to the southwest through Whittier Narrows.

As previously discussed, the Main San Gabriel Basin has a fresh water storage capacity of about 8.7 million acre-feet when the Key Well groundwater elevation is at 329.1 feet, of which about 125 feet of elevation change, or about 1,000,000 acre-feet, has been used for historical Basin operations. Local runoff is stored in a series of reservoirs operated by DPW and diverted into spreading grounds to replenish the groundwater supply. Figure 5 indicates that groundwater recharge occurs every year and is exhibited as increasing water levels. High rainfall years can be identified on Figure 5 as increases in the groundwater level of 30 feet or more in one year.

In addition to groundwater replenishment with local storm runoff, the Watermaster maintains records of each producer's water rights and annual production. Although there is no limit on the quantity of water that may be produced, production in excess of a water right is subject to a Replacement Water assessment. Watermaster uses funds collected from producers' overproduction to purchase imported water from municipal water districts. Upper District and Three Valleys District obtain their water from MWD. San Gabriel District has its own contract for SWP water. Watermaster coordinates purchase and delivery of imported water to replenish the ground water basin, thus offsetting the producers' overproduction and making the Basin whole.

6.2.1.2 CENTRAL BASIN DESCRIPTION

Central Basin is located in Los Angeles County approximately 20 miles southeasterly of downtown Los Angeles. On its north, Central Basin is bounded by the Hollywood Basin, and that boundary runs through the City of Los Angeles. The remainder of the northern boundary of Central Basin extends along the Merced Hills, across Whittier Narrows, and then along Puente Hills. The northern Basin boundary terminates at the Orange County line, which forms the eastern boundary of the Central Basin. This boundary is a political and not a geologic one, and the aquifers in this area reach into the East Coastal Plan area of Orange County. The south-southwest boundary of the Central Basin is known as the Newport-Inglewood Uplift (NIU), separating Central and West Basin from Long Beach up to the Baldwin Hills just north of the City of Inglewood. DWR Bulletin 118 does not identify Central Basin as currently being in overdraft.

Geology

Central Basin is one of two groundwater basins in the Coastal Plain of Los Angeles County. It is comprised of Quaternary-age sediments (less than 1.8 million years old) of gravel, sand, silt, and clay that were deposited from the erosion of nearby hills and mountains, and from historical beaches and shallow ocean floors that covered the area in the past. Underlying these Quaternary sediments are basement rocks such as the Pliocene Pico Formation that generally do not provide sufficient quantities of groundwater for pumping. Separating the Central Basin from the West Coast Basin is the NIU, a series of discontinuous faults and folds that form a prominent line of northwest trending hills including the Baldwin Hills, Dominguez Hills, and Signal Hill.

Central Basin covers approximately 270 square miles and is bounded on the north by the Hollywood Basin and the Elysian, Repetto, Merced, and Puente Hills, to the east by the Los Angeles County/Orange County line, and to the south and west by the NIU.

DWR divided the Central Basin into four sections; the Los Angeles Forebay, the Montebello Forebay, the Whittier Area, and the Pressure Area.

The two forebays represent areas of unconfined aquifers that allow percolation of surface water down into the deeper aquifers to replenish the basins. The Whittier Area and Pressure Area are confined aquifer systems that receive relatively minimal recharge from surface water. They are replenished from the up-gradient forebay areas and adjacent groundwater basins.

Hydrogeology

The aquifers of Central Basin received their water supply primarily from the surface and subsurface inflow of water from the San Gabriel Valley. The water originates as rainfall in the San Gabriel Mountains, the runoff from which is conveyed to the Los Angeles River, the Rio Hondo, and the San Gabriel River. The Los Angeles River enters Central Basin through the Los Angeles Narrows, crosses the Los Angeles Forebay Area, and proceeds south across Central Basin, exiting Central Basin through the Dominguez Gap in West Basin. The Rio Hondo, enters Central Basin at Whittier Narrows parallel to the San Gabriel River, proceeds southwesterly across the Montebello Forebay Area and joins the Los Angeles River midway across the Basin. The San Gabriel River also enters Central Basin through the Whittier Narrows, crosses the Montebello Forebay, and runs south to the Pacific Ocean near Long Beach at the Orange County line.

As the Rio Hondo and San Gabriel Rivers flow through the Upper San Gabriel Valley toward Whittier Narrows, much of their flow percolates into the Main Basin. This water crosses the Whittier Narrows and enters Central Basin as subsurface flow into the aquifers of Central Basin. At the same time, the surface flows of the Rio Hondo and the San Gabriel River percolate downward into the aquifers of Central Basin in the Montebello Forebay. In the Montebello Forebay, the underground aquifers merge and are

unconfined, and thus are capable of receiving large quantities of water from percolation through the sand and gravel surface of the forebay area.

The Los Angeles Forebay area is also favorably situated for percolation from the flows of the Los Angeles River, but the Los Angeles Forebay has been largely eliminated as a source of fresh water replenishment to Central Basin, due to lining of the Los Angeles River channel and the paving over of the forebay area. In the Montebello Forebay area, by contrast, flood flows have been largely controlled through the construction of the Whittier Narrows Dam, and the river channels have not been lined in the area, so percolation can still occur.

Groundwater in the Central Basin provides a substantial portion of the water supply needed by residents and industries in the overlying area. Groundwater occurs in the pore spaces of the sediments in the basin. The major aquifers identified in Central Basin include the following, from shallowest to deepest: a) the Gaspar and semi-perched aquifers of the Holocene Alluvium Formation; b) the Exposition, Artesia, Gage, and Gardena aquifers of the Upper Pleistocene Lakewood Formation; c) the Hollydale, Jefferson, Lynwood, and Silverado aquifers of the Lower Pleistocene Upper San Pedro Formation; and d) the Sunnyside Aquifer of the Lower Pleistocene Lower San Pedro Formation. Water levels have exhibited a general recovery since the Basin was adjudicated in the early 1960s, as shown on Figure 7. Aquifer depths can reach more than 2,000 feet in Central Basin although production wells generally do not need to be drilled this deep to tap sufficient water.

6.2.2 GROUNDWATER MANAGEMENT

CWC 10631(b).

(b) If groundwater is identified as an existing or planned source of water available to the supplier, all of the following information shall be included in the plan:

(1) A copy of any groundwater management plan adopted by the urban water supplier ... or any other specific authorization for groundwater management.

(2) ...For basins that 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.

6.2.2.1 MAIN BASIN GROUNDWATER MANAGEMENT

The Main Basin has been adjudicated and management of the local water resources within the Main Basin is based on that adjudication. Management of the water resources in the Main Basin is based upon Watermaster services under two Court Judgments: San Gabriel River Watermaster (River Watermaster)⁷ and Main San Gabriel Basin Watermaster (Main Basin Watermaster)⁸. San Gabriel is a party to both Judgments and as such participates in these cases. San Gabriel also participates in the Main Basin management described in the Main Basin Watermaster document entitled “Five-Year Water Quality and Supply Plan.” San Gabriel is a party in the Long Beach Judgment and as such participations in that case.

The following sections provide a description of the two Judgments and the Five Year Water Quality and Supply Plan that make up the groundwater management plan for the Main Basin. In addition, this section describes Upper District’s and San Gabriel Basin Water Quality Authority’s (WQA) policies to promote groundwater basin clean-up.

⁷ Board of Water Commissioners of the City of Long Beach, et al., v. San Gabriel Valley Water Company, et al., Los Angeles County Case No. 722647, Judgment entered September 24, 1965.

⁸ Upper San Gabriel Valley Municipal Water District v. City of Alhambra, et al., Los Angeles County Case No. 924128, Judgment entered January 4, 1973.

Long Beach Judgment

On May 12, 1959, the Board of Water Commissioners of the City of Long Beach, the Central Basin Municipal Water District (Central District), and the City of Compton, as plaintiffs, filed an action against San Gabriel and 24 other producers of groundwater from the San Gabriel Valley as defendants. This action sought a determination of the rights of the defendants in and to the waters of the San Gabriel River system and to restrain the defendants from an alleged interference with the rights of plaintiffs and persons represented by the Central District in such waters. After six years of study and negotiation a Stipulation for Judgment was filed on February 10, 1965, and the Judgment (Long Beach Judgment) was entered on September 24, 1965. Under the terms of the Long Beach Judgment, the water supply of the San Gabriel River system was divided at Whittier Narrows between San Gabriel Valley upstream and the coastal plain of Los Angeles County downstream. A copy of the Long Beach Judgment can be found in Appendix I.

Under the terms of the Long Beach Judgment, the area downstream from Whittier Narrows (Lower Area), the plaintiffs and those they represent, are to receive a quantity of usable water annually from the San Gabriel River system comprised of usable surface flow, subsurface flow at Whittier Narrows and water exported to the Lower Area. This annual entitlement is guaranteed by the area upstream of Whittier Narrows (Upper Area), the defendants, and provision is made for the supply of Make-up Water by the Upper Area for years in which the guaranteed entitlement is not received by the Lower Area.

Make-up Water is imported water purchased by the Main Basin Watermaster and delivered to agencies in Central District to satisfy obligations under the Long Beach Judgment. The entitlement of the Lower Area varies annually, dependent upon the 10-year average annual rainfall in the San Gabriel Valley for the 10 years ending with the year for which entitlement is calculated.

The detailed operations described in the Long Beach Judgment are complex and requires continuous compilation of data so that annual determinations can be made to assure compliance with the Long Beach Judgment. In order to do this, a three-member Watermaster was appointed by the Court, one representing the Upper Area parties nominated by and through Upper District, one representing the Lower Area parties nominated by and through the Central District, and one jointly nominated by Upper District and Central District. This three-member board is known as the River Watermaster.

The River Watermaster meets periodically during the year to adopt a budget, to review activities affecting water supply in the San Gabriel River system area, to compile and review data, to make determinations of usable water received by the Lower Area, and to prepare its annual report to the Court. The River Watermaster has rendered annual reports for the water years 1963-64 through 2014-15 and operations of the river system under that Court Judgment and through the administration by the River Watermaster have been satisfactory since its inception.

One major result of the Long Beach Judgment was to leave the Main Basin free to manage its water resources so long as it meets its downstream obligation to the Lower Area under the terms of the Long Beach Judgment. Upper District intervened in the Long Beach case as a defendant to enforce the provisions of a Reimbursement Contract, which was incorporated into the Long Beach Judgment to assure that any Make-up Water obligations under the terms of the Long Beach Judgment would be satisfied.

Main Basin Judgment

The Upper Area then turned to the task of developing a water resources management plan to optimize the conservation of the natural water supplies of the area. Studies were made of various methods of management of the Main Basin as an adjudicated area and a report thereon was prepared for the Upper San Gabriel Valley Water Association, an association of water producers in the Main Basin. After due

consideration by the Association, Upper District was requested to file as plaintiff, and did file, an action on January 2, 1968, seeking an adjudication of the water rights of the Main Basin and its Relevant Watershed. After several years of study (including verification of annual water production) and negotiations, a stipulation for entry of Judgment was approved by a majority of the parties, by both the number of parties and the quantity of rights to be adjudicated. Trial was held in late 1972 and the Judgment (Main Basin Judgment) was entered on January 4, 1973. The Main Basin Judgment was most recently amended on June 21, 2012. A copy of the Main Basin Judgment can be found in Appendix J.

Under the terms of the Main Basin Judgment, all rights to the diversion of surface water and production of groundwater within the Main Basin and its Relevant Watershed were adjudicated. The Main Basin Judgment provides for the administration of the provisions of the Main Basin Judgment by a nine-member Main Basin Watermaster. Six of those members are nominated by water producers (producer members) and three members (public members) are nominated by the Upper District and the San Gabriel District, which overlie most of the Basin. The nine-member board employs a staff, an attorney and a consulting engineer. The Main Basin Watermaster holds public meetings on a regular monthly basis throughout the year. A copy of the Main Basin Watermaster's Rules and Regulations, updated as of June 2012, is located in Appendix K.

The Main Basin Judgment does not restrict the quantity of water, which parties may extract from the Main Basin. Rather, it provides a means for replacing all annual extractions in excess of a Party's annual right to extract water with Supplemental Water. The Main Basin Watermaster annually establishes an Operating Safe Yield for the Main Basin which is then used to allocate to each Party its portion of the Operating Safe Yield which can be produced free of a Replacement Water Assessment. If a producer extracts water in excess of its right under the annual Operating Safe Yield, it must pay the Main Basin Watermaster a Replacement Water Assessment, which is sufficient to purchase one acre-foot of Supplemental Water to be spread in the Main Basin for each acre-foot of

excess production, it may lease another pumper's share of the Operating Safe Yield, or it may utilize its Cyclic Storage Account pre-purchases to off-set its Replacement Water obligations. All water production is metered and is reported quarterly to the Main Basin Watermaster.

In addition to Replacement Water Assessments, the Main Basin Watermaster levies an Administration Assessment to fund the administration of the Basin management program under the Court Judgment and a Make-up Obligation Assessment in order to fulfill the requirements for any make-up Obligation under the Long Beach Judgment and to supply fifty percent of the administration costs of the River Watermaster service. The Main Basin Watermaster levies an In-lieu Assessment and may levy special Administration Assessments for authorized purposes, including purchases of additional Supplemental Water supplies for storage in the Main Basin.

Water rights under the Main Basin Judgment are transferable by lease or purchase so long as such transfers meet the requirements of the Judgment. There is also provision for Cyclic Storage Agreements by which Parties and non-parties may store imported supplemental water in the Main Basin under such agreements with the Main Basin Watermaster pursuant to uniform rules and conditions and Court approval.

The Main Basin Judgment provides that the Main Basin Watermaster will, insofar as practicable, spread imported water in the Main Basin to maintain the groundwater elevation at the Baldwin Park Key Well⁹ (Key Well) above 200 feet. Under the terms of the Long Beach Judgment, any excess surface flows that pass through the Main Basin at Whittier Narrows to the Lower Area (which is then conserved in the Lower Area through percolation to groundwater storage) are credited to the Upper Area as Usable Surface Flow.

⁹ The Baldwin Key Well is a water-level monitoring well located in the City of Baldwin Park used to determine when imported water may or may not be spread in the Basin.

Operations of the Groundwater Basin

Through the Long Beach Judgment and the Main Basin Judgment, operations of the Main Basin are optimized to conserve local water to meet the needs of the parties of the Main Basin Judgment.

Typically, water producers within Upper District rely upon groundwater from Main Basin for their water supply. The City of Alhambra has agreed to receive treated, imported water as part of the Cooperative Water Exchange Agreement (CWEA) to reduce the groundwater extractions from the western portion of the Main Basin and the associated drawdown concerns. To fund the CWEA, the Main Basin Watermaster collects an annual In-Lieu Assessment on groundwater production from producers within the Main Basin.

Imported water for groundwater replenishment is delivered through the flood control channels and diverted and spread at spreading grounds through Main Basin Watermaster's agreement with DPW. Groundwater replenishment utilizes imported water and is considered Replacement Water under the terms of the Main Basin Judgment. In addition, it can be stored in the Main Basin through Cyclic Storage agreements, authorized by terms of the Main Basin Judgment, but such stored water may be used only to supply Supplemental Water to the Main Basin Watermaster. As of the end of FY 2014-15, San Gabriel has a Cyclic Storage Account balance of 13,859 acre-feet.

The Main Basin Watermaster also has entered into a Cyclic Storage Agreement with each of the three municipal water districts. One is with MWD and Upper District, which permits MWD to deliver and store imported water in the Main Basin in an amount not to exceed 100,000 acre-feet for future Replacement Water use. The second Cyclic Storage Agreement is with Three Valleys District and permits Three Valleys District to deliver and store up to 40,000 acre-feet for future Replacement Water use. The third is with San Gabriel District and permits San Gabriel District to deliver and store up to 50,000 acre-feet for future Replacement Water use.

Imported Make-up Water has been delivered to lined stream channels and conveyed to the Lower Area. Make-up Water is required to be delivered to the Lower Area by the Upper Area when the Lower Area entitlement under the Long Beach Judgment exceeds the usable water received by the Lower Area. Imported water is used to fulfill the Make-up Water Obligation when the amount of Make-up Water cannot be fulfilled by reimbursing the Lower Area interests for their purchase of recycled water. The amount of recycled water for which reimbursement may be made as a delivery of Make-up Water is limited by the terms of the Long Beach Judgment to the annual deficiency in Lower Area Entitlement water or to 14,735 acre-feet, whichever is the lesser quantity.

Five-Year Water Quality and Supply Plan

The Main Basin Watermaster was created in 1973 to administer the provisions of the Main Basin Judgment which resolved water issues that had arisen among water users in the San Gabriel Valley. Main Basin Watermaster's mission was to generally manage the water supply of the Main Basin. During the late 1970s and early 1980s, significant groundwater contamination was discovered in the Main Basin. The contamination was caused in part by past practices of local industries that had carelessly disposed of industrial solvents referred to as Volatile Organic Compounds (VOCs) as well as by agricultural operations that infiltrated nitrates into the groundwater. Cleanup efforts were undertaken at the local, state, and federal level.

Local water agencies adopted a joint resolution in 1989 regarding water quality issues that stated Main Basin Watermaster should coordinate local activities aimed at preserving and restoring the quality of groundwater in the Main Basin. The joint resolution also called for a cleanup plan. In 1991, the Court granted Main Basin Watermaster the authority to control pumping for water quality purposes. Accordingly, Main Basin Watermaster added Section 28 to its Rules and Regulations regarding water quality management. The new responsibilities included development of a Five-Year Water Quality and Supply Plan, updating it annually, submitting it to the California Regional

Water Quality Control Board, Los Angeles Region, and making it available for public review by November 1 of each year. A copy of the most recent Five-Year Water Quality and Supply Plan (excluding its appendices) is located in Appendix L.

Main Basin Watermaster prepares and annually updates the Five-Year Water Quality and Supply Plan in accordance with the requirements of Section 28 of its Rules and Regulations. The objective is to coordinate groundwater-related activities so that both water supply and water quality in the Main Basin are protected and improved. Many important issues are detailed in the Five-Year Plan, including how Main Basin Watermaster plans to:

1. Monitor groundwater supply and quality;
2. Develop projections of future groundwater supply and quality;
3. Review and cooperate on cleanup projects, and provide technical assistance to other agencies;
4. Assure that pumping does not lead to further degradation of water quality in the Main Basin;
5. Address Perchlorate, N-nitrosodimethylamine (NDMA), and other emerging contaminants in the Main Basin;
6. Develop a cleanup and water supply program consistent with the U.S. Environmental Protection Agency (USEPA) plans for its San Gabriel Basin Superfund sites; and
7. Coordinate and manage the design, permitting, construction, and performance evaluation of the Baldwin Park Operable Unit (BPOU) cleanup and water supply plan.

The Main Basin Watermaster, in coordination with Upper District, has worked with state and federal regulators, along with local water companies to clean up water supplies. Section 28 of the Main Basin Watermaster's Rules and Regulations require all producers (including San Gabriel) to submit an application to 1) construct a new well, 2) modify an

existing well, 3) destroy a well, or 4) construct a treatment facility. The Main Basin Watermaster prepares a report on the implications of the proposed activity. As a party to the Main Basin Judgment, San Gabriel reviews a copy of these reports and is provided the opportunity to submit comments on the proposed activity before the Main Basin Watermaster Board takes final action.

Water Quality Authority 406 Plan

The WQA was established by the State Legislature on February 11, 1993 to develop, finance and implement groundwater treatment programs in the Main Basin. Section 406 of the WQA Act requires the WQA “to develop and adopt a basinwide groundwater quality management and remediation plan” that is required to be consistent with the EPA’s National Contingency Plan (NCP) and Records of Decision (ROD) and all requirement of the Los Angeles Regional Water Quality Control Board (LARWQCB). According to the WQA Act, the Section 406 Plan, which is incorporated in this Plan by reference, must include:

- 1) Characterization of Basin contamination;
- 2) A comprehensive cleanup plan;
- 3) Strategies for financing the design, construction, operation and maintenance of groundwater cleanup facilities;
- 4) Provision for a public information program; and
- 5) Coordination of activities with federal, state, and local entities.

WQA reviews and adopts the Section 406 Plan on an annual basis and as necessary, makes revisions according to changing regulatory, political and/or funding environments.

In support of the Section 406 Plan, WQA also adopts an annual fiscal year budget (July 1 through June 30) which includes all projects (actual or planned) WQA is facilitating

through its participation during that time period. The budget identifies the various funding sources, and combinations thereof, to ensure full funding for each project (capital and/or O&M) can be achieved.

6.2.2.2 CENTRAL BASIN GROUNDWATER MANAGEMENT

Groundwater production in Central Basin is restricted to adjudicated rights (Allowed Pumping Allocation) fixed by the Central Basin Judgment and managed by a court-appointed Watermaster. San Gabriel was a defendant in Central Basin Judgment¹⁰ and as such had participation. The following section provides a historical overview based on the Central Basin Watermaster Annual Report.

Central Basin Judgment

On January 2, 1962, the Central and West Basin Water Replenishment District (now WRD) filed Case No. 786,656 in the Superior Court, County of Los Angeles, naming more than 700 parties as defendants. It sought to adjudicate water rights of groundwater and regulate pumping from the Central Basin. By September 1962, a proposed agreement had been approved by a sufficient number of water producers (producers owning over 75 percent of the Assumed Relative Rights within Central Basin) to guarantee control over groundwater pumping in Central Basin. On September 28, 1962, the Court signed the “Order Pursuant to Stipulation and Interim Agreement and Petition for Order” and appointed DWR as Watermaster.

Subsequently, a stipulated judgment was drafted. Approval was received by public utility water companies and other producers representing well over 200,000 acre-feet, or 75 percent, of the total rights within Central Basin. This was a prerequisite to filing the

¹⁰ Central and West Basin Water Replenishment District, etc, vs. Charles E. Adams etc, Los Angeles County Case No. 786,656, Judgment entered in 1965.

stipulated judgment with the Court. On May 17, 1965, the case went to trial before Judge Edmund M. Moor. Following testimony on engineering, geology, hydrology, and safe yield of Central Basin and arguments on water right entitlement, the case was continued to August 25, 1965. Shortly thereafter, Judge Moor appointed DWR as Watermaster. The final Judgment was signed on October 11, 1965 and became effective on October 1, 1966.¹¹ A copy of the Central Basin Judgment is located in Appendix M.

The Judgment was amended on March 21, 1980, to provide for a transition in the administrative year from a water year (October 1 to September 30) to a fiscal year (July 1 to June 30). Under the Judgment, this transition in turn contained a “short” administrative year of nine months – October 1, 1980 to June 30, 1981. The administrative year starting July 1, 1981 was on a fiscal year basis.

The Judgment was again amended on July 19, 1985, modifying the annual budget (\$20 minimum assessment) and exchange pool provisions. The second amended Judgment of May 6, 1991 modified the carryover and overproduction provisions (to 20 percent of Allowed Pumping Allocation or 20 acre-feet, whichever is greater, from 10 percent of Allowed Pumping Allocation or 10 acre-feet), and defined drought carryover, and provided for exemptions for extractors of contaminated groundwater.

On January 12, 2001, by order of the Central Basin Watermaster, WRD issued Non-Consumptive Use Permit No. 2000-01 to the Southeast Water Coalition for the “Central Basin Early Remediation Project” to remedy or ameliorate groundwater contamination that originated in the San Gabriel Valley and that has moved into the northeast portion of the Central Basin.

¹¹ Central and West Basin Water Replenishment District, etc. v. Charles E. Adams, et al, Los Angeles County Case No. 786,656.

In December 2013, the Court approved amendments to the Central Basin Judgment which implement a water storage program. A copy of the Amended Judgment is provided in Appendix M. The amendment replaced the Department of Water Resources with a new Watermaster, which consists of the “Administrative Body,” the “Water Rights Panel” and the “Storage Panel,” each with different functions. The Court appointed WRD to be the Administrative Body to administer the Watermaster accounting and reporting. The Water Rights Panel, which enforces issues related to pumping rights within the adjudication, is made up of seven water rights holders who are selected through election. The Storage Panel, which comprises the Water Rights Panel and WRD, approves certain groundwater storage efforts.

The Amended Judgment states, “...a party may store up to 200 percent of the party’s Allowed Pumping Allocation, if space is available.” In addition, the amendments allow parties to convert unused Allowed Pumping Allocation to stored water and revised the amount of carryover to be equal to 100 percent of the party’s Allowed Pumping Allocation minus the amount of carryover water set aside for storage, as noted above. The purpose of the storage program creates an added reliability in water supply from the Central Basin. In addition, the amendments allow for transfer of water between Central Basin and West Basin by permitting parties with water rights in Central Basin to increase production in Central Basin, while another party decreases production in West Basin by the corresponding amount.

Under the Amended Judgment, water rights are fixed and do not vary year to year. Water producers cannot exceed their water rights by more than 20 percent or 20 acre-feet, whichever is greater, in any year and an adjustment is made the following year. In addition, water producers cannot carry over more than 20 percent or 20 acre-feet, whichever is greater, of their water rights for use in the following year.

2014 Sustainable Groundwater Management Act

The 2014 Sustainable Groundwater Management Act (SGMA) directed DWR to establish initial groundwater basin priorities for the basins identified and defined in DWR's Bulletin 118. DWR finalized the basin prioritization in June 2014 through the California Statewide Groundwater Elevation Monitoring (CASGEM)¹² program. The CASGEM basin prioritization program is being used by DWR to focus resources towards implementing legislation to require all groundwater basins be monitored for seasonal and long-term groundwater elevation trends. DWR plans to evaluate the status of groundwater level monitoring in "High" or "Medium" priority groundwater basins. If DWR determines that groundwater levels in all or part of a High or Medium Priority basin are not being monitored, DWR will work cooperatively with local entities to establish a monitoring program. Compliance with DWR requirements allows the basin monitoring entities to be eligible to receive State water grants or loans. The Main Basin (Basin 4-13) and Central Basin (Basin 4-11.04) have been identified through CASGEM as "high" priority basins and will be required to comply with specific SGMA regulations when they are finalized by DWR.

6.2.3 OVERDRAFT CONDITIONS

CWC 10631(b).

(2) 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.

San Gabriel produces groundwater from the Main Basin and Central Basin, which are adjudicated basins, as discussed in Section 6.2.2. San Gabriel is not required by DWR to complete Section 6.2.3.

¹² http://www.water.ca.gov/groundwater/casgem/basin_prioritization.cfm

6.2.4 HISTORICAL GROUNDWATER PUMPING

CWC 10631(b).

(b) If groundwater is identified as an existing or planned source of water available to the supplier, all of the following information shall be included in the plan:

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

6.2.4.1 MAIN BASIN HISTORICAL PUMPING

As discussed in Section 6.2, San Gabriel produces groundwater through 30 active wells in the Main Basin. San Gabriel's historical groundwater production in the Main Basin over the past five years is shown on Table 6-1. The groundwater supply from the Main Basin is pumped to San Gabriel's storage reservoirs and then delivered to San Gabriel's customers. San Gabriel's groundwater production from the Main Basin from 2011 to 2015 has averaged approximately 35,340 AFY.

As noted in Section 6.2.2, the Main Basin is managed by the Main Basin Watermaster. Amendments to the Main Basin Judgment were made in June 2012. Figure 5 shows the historical fluctuation of the Key Well elevation and illustrates that since the Main Basin was adjudicated in 1973, it generally operated between an elevation 250 feet and 200 feet above MSL. Furthermore, at elevation 174 feet above MSL at the Key Well, which represents the historical low, the Main Basin has about 7,400,000 acre-feet of available storage. During the period of management under the Judgment, significant drought events have occurred from 1969 to 1977, 1983 to 1991, 1998 to 2004, 2006 to 2009, and 2011 to 2015 (see Appendix E). In each drought cycle the Main Basin has

been managed to maintain water levels. A supply and demand assessment of San Gabriel's Main Basin supplies is provided in Section 7.3.

6.2.4.2 CENTRAL BASIN HISTORICAL PUMPING

San Gabriel also produces groundwater through three active wells in the Central Basin, as discussed in Section 6.2. San Gabriel's historical groundwater production in Central Basin over the past five years is shown on Table 6-1. San Gabriel's groundwater production from the Central Basin from 2011 to 2015 has averaged approximately 540 AFY.

According to the Central Basin Adjudication, San Gabriel has an Allowed Pumping Allocation of 2,565.35 AFY. The Central Basin Adjudication allows Parties to the Judgment to pump up to 20 percent more of its annual allowed pumping allocation plus any carry-over. In December 2013, the Court approved amendments to the Judgment which implement a water storage program. The amendment states, "...a party may store up to 200 percent of the party's Allowed Pumping Allocation, if space is available." In addition, the amendments allow parties to convert unused Allowed Pumping Allocation to stored water and revised the amount of carryover to be equal to 100 percent of the party's Allowed Pumping Allocation minus the amount of carryover water set aside for storage. The purpose of the storage program creates an added reliability in water supply from the Central Basin. Based on the amendments, San Gabriel may store up to 200 percent of its Allowed Pumping Allocation of 2,565.35 AF, which equates to about 5,131 (200 percent x 2,565.35) AF. This stored water may be used as an additional source of supply within the Central Basin. WRD is responsible for recharging Central Basin.

As discussed in Section 6.2.2, Central Basin has been adjudicated and is well managed. The successful management of the reduction in groundwater withdrawals by the Central Basin Judgment, combined with the spreading program and the guaranteed

minimum inflow from the Main Basin (see Section 6.2.2), resulted in recovery of water levels in wells throughout the Central Basin. As shown on Figure 7, water levels have remained steady since then despite several drought periods. A supply and demand assessment of San Gabriel's Central Basin supplies is provided in Section 7.3.

Table 6-1 Retail: Groundwater Volume Pumped						
<input type="checkbox"/>	Supplier does not pump groundwater. The supplier will not complete the table below.					
Groundwater Type <i>Drop Down List</i> <i>May use each category multiple times</i>	Location or Basin Name	2011	2012	2013	2014	2015
<i>Add additional rows as needed</i>						
Alluvial Basin	Main San Gabriel Basin	33,679	35,258	39,646	38,552	29,567
Alluvial Basin	Central Basin	997	36	22	19	1,644
TOTAL		34,676	35,294	39,668	38,571	31,211
NOTES:						

Table 6-1 Retail: Groundwater Volume Pumped

6.3 SURFACE WATER

San Gabriel does not use self-supplied surface water to meet its water demands.

6.4 STORMWATER

San Gabriel does not use stormwater to meet its water demands; however, producers within the Main Basin, including San Gabriel, indirectly benefit from stormwater used to replenish the Main Basin. The San Gabriel Valley Protective Agency (SGVPA) appropriated flood flows of the San Gabriel River system in the amount of 320,000 acre-feet, which were converted to licenses. These licenses provide for the capture and replenishment of flood waters along the San Gabriel River system. SGVPA entered into

an agreement with the Los Angeles County Flood Control District (LACFCD) under which LACFCD agreed to operate spreading grounds to capture and replenish stormwater in the Main Basin. The locations of the spreading ground facilities are shown on Figure 4.

6.5 WASTEWATER AND RECYCLED WATER

Achieving maximum use of all available recycled water is one of San Gabriel's water management goals. Recycled water could be used for groundwater recharge and storage as well as direct use by customers who are equipped and able to use recycled water. San Gabriel strongly supports the use of recycled water and provides recycled water to customers in its service area who are able to use it, when it is made available. San Gabriel serves recycled water to numerous customers in the Main Basin and Central Basin, both located in Los Angeles County. San Gabriel's recycled water deliveries from 2011 to 2015 have averaged approximately 2,200 AFY.

6.5.1 RECYCLED WATER COORDINATION

CWC 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...

San Gabriel has supplied recycled water to customers for non-potable irrigation uses since the mid-1990s. San Gabriel's recycled water supply is produced by the Sanitation Districts of Los Angeles County's (LACSD) San Jose Creek Water Reclamation Plant (SJCWRP) and Whittier Narrows Water Reclamation Plant (WNWRP). San Gabriel purchases these recycled water supplies from Central District, LACSD, and

Upper District. San Gabriel has coordinated the preparation of its 2015 Plan with Central District, LACSD, and Upper District.

6.5.2 WASTEWATER COLLECTION, TREATMENT, AND DISPOSAL

CWC 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.

CWC 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.

Wastewater generated within San Gabriel's service area is treated by LACSD. Wastewater is collected within the sewer collection systems of Cities located within San Gabriel's service area. The local sewers tie into LACSD's regional trunk sewers. The regional trunk sewer lines deliver wastewater to one or more water reclamation plants owned by LACSD for treatment. The water reclamation plants serving San Gabriel's service area include the SJCWRP, the WNWRP, and the Joint Water Pollution Control Plant (JWPCP). The SJCWRP and WNWRP are located within San Gabriel's service area; however, the water reclamation plants are wholly owned and operated by LACSD. The percentage breakdown between the three LACSD plants in treating the wastewater from San Gabriel's customers is unknown. LACSD estimates approximately 80 gallons per person per day of wastewater is generated within LACSD's service area. Based on a 2015 population of approximately 256,750 within San Gabriel's service area, the estimated amount of wastewater collected within San Gabriel's service area is approximately 21 million gallons per day (MGD), or about 23,000 AFY, as shown in Table 6-2. As indicated previously and in Table 6-3, the SJCWRP and the WNWRP are located

within San Gabriel's service area; however, both water reclamation plants are wholly owned and operated by LACSD. The JWPCP is located outside of San Gabriel's service area.

LACSD's JWPCP, which began operation in 1928, currently has a treatment capacity of about 300 MGD. The treatment level is primary and secondary treatment with disinfection. The JWPCP plant serves a population of approximately 3.5 million people. Solids collected in primary and secondary treatment are processed in anaerobic digestion tanks where bacteria break down organic material and produce methane gas. Treated wastewater is ultimately disinfected prior to being discharged to the Pacific Ocean. Though highly treated, effluent from the JWPCP does not meet recycled water standards and is therefore not re-used for such purposes. However, all water discharged to the ocean is monitored to ensure compliance with applicable local, state, and federal standards for discharge water.

The WNWRP began operations in 1962 and has a treatment capacity of about 15 MGD. The WNWRP provides coagulated, filtered and disinfected tertiary effluent. All wastewater treated at the WNWRP meets recycled water standards. During FY 2013-14, approximately 99 percent of treated water at the WNWRP was reused in a recycled water project. The WNWRP serves a population of approximately 150,000 people. The method of disposal when treated recycled water is not used (non-recycled) is discharge to the San Gabriel River/Rio Hondo and eventually flows to the ocean.

The SJCWRP, which began operations in 1971, has a treatment capacity of about 100 MGD and provides coagulated, filtered and disinfected tertiary effluent. During fiscal year 2013-14, approximately 76 percent of treated water at the SJCWRP was reused in a recycled water project. The SJCWRP plant serves a largely residential population of approximately one million people. The method of disposal when treated recycled water is not used (non-recycled) is discharge to the San Gabriel River/Rio Hondo and eventually flows to the ocean.

Table 6-2 Retail: Wastewater Collected Within Service Area in 2015						
<input type="checkbox"/> There is no wastewater collection system. The supplier will not complete the table below.						
Percentage of 2015 service area covered by wastewater collection system (optional)						
Percentage of 2015 service area population covered by wastewater collection system (optional)						
Wastewater Collection			Recipient of Collected Wastewater			
Name of Wastewater Collection Agency	Wastewater Volume Metered or Estimated? <i>Drop Down List</i>	Volume of Wastewater Collected from UWMP Service Area 2015	Name of Wastewater Treatment Agency Receiving Collected Wastewater	Treatment Plant Name	Is WWTP Located Within UWMP Area? <i>Drop Down List</i>	Is WWTP Operation Contracted to a Third Party? (optional) <i>Drop Down List</i>
<i>Add additional rows as needed</i>						
LACSD	Estimated	483	LACSD	WNWRP	Yes	
LACSD	Estimated	4,600	LACSD	SJCWRP	Yes	
LACSD	Estimated	17,917	LACSD	JWPCP	No	
Total Wastewater Collected from Service Area in 2015:		23,000				
NOTES:						

Table 6-2 Retail: Wastewater Collected Within Service Area in 2015

Table 6-3 Retail: Wastewater Treatment and Discharge Within Service Area in 2015										
<input type="checkbox"/> No wastewater is treated or disposed of within the UWMP service area. The supplier will not complete the table below.										
Wastewater Treatment Plant Name	Discharge Location Name or Identifier	Discharge Location Description	Wastewater Discharge ID Number (optional)	Method of Disposal <i>Drop down list</i>	Does This Plant Treat Wastewater Generated Outside the Service Area?	Treatment Level <i>Drop down list</i>	2015 volumes			
							Wastewater Treated	Discharged Treated Wastewater	Recycled Within Service Area	Recycled Outside of Service Area
<i>Add additional rows as needed</i>										
WNWRP	San Gabriel River	San Gabriel River		River or creek outfall	Yes	Tertiary	7,752	78	1,128	6,546
SJCWRP	San Gabriel River	San Gabriel River		River or creek outfall	Yes	Tertiary	74,297	24,518	507	49,272
Total							82,049	24,596	1,635	55,818
NOTES: The SJCWRP and the WNWRP are located within San Gabriel’s service area; however; both water reclamation plants are wholly owned and operated by LACSD. Recycled water volumes are for fiscal year 2014-15.										

Table 6-2 Retail: Wastewater Treatment and Discharge Within Service Area 2015

6.5.3 RECYCLED WATER SYSTEM

Section 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

San Gabriel has supplied recycled water to customers for non-potable irrigation uses since the mid-1990s. Recycled water users within San Gabriel's service area include schools, landscape nurseries, Southern California Edison, Walmart, Grant Rea Park in the City of Montebello, the Whittier Narrows Recreation Area, Whittier Narrows Golf Course, Los Angeles County's Sorenson Park and Public Library, and portions of the Rio Hondo Community College and Rose Hills Memorial Park. Recycled water supply is produced by LACSD's SJCWRP and WNWRP. San Gabriel purchases these recycled water supplies from Central District, LACSD, and Upper District. Use of recycled water allows San Gabriel to reduce the amount of groundwater production required from the Main San Gabriel and Central Basins and from imported water purchases. The amount of recycled water supplied by San Gabriel is provided in Table 6-4.

Upper District is implementing a phased recycled water program which will ultimately supply approximately 5,000 AFY of recycled water to customers within Upper District's service area. San Gabriel, which is located within Upper District's service area, could potentially receive additional recycled water supplies from the project. Phase I of Upper District's recycled water program currently provides recycled water service to San Gabriel's customers in the City of Whittier, and unincorporated areas of Los Angeles County. Phase IIA of Upper District's recycled water program currently provides recycled water service to San Gabriel's customers in the South El Monte and Whittier Narrows area. An extension to the existing Phase IIA system was completed in 2011 and provides recycled water service to San Gabriel's customers in the City of Rosemead.

Based on a June 13, 2006 "Agreement between Upper District, San Gabriel, and the County of Los Angeles Department of Parks and Recreation (LADPR)", San Gabriel

can purchase up to 4,675 AFY of recycled water from LACSD, through Upper District. In addition, LADPR is allowed to purchase up to 2,900 AFY of this recycled water from San Gabriel. Purchase of recycled water by LADPR would be used for irrigation in the Whittier Narrows Recreation Area, which is located within San Gabriel's service area.

6.5.4 RECYCLED WATER BENEFICIAL USES

Section 10633

(d) *A description and quantification of the potential uses of recycled water, including, but not limited to, agricultural irrigation, landscape irrigation, wildlife habitat enhancement, wetlands, industrial reuse, groundwater recharge, 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*

Section 10633

(e) *(Provide) a description of the actual use of recycled water in comparison to uses previously projected pursuant to this subdivision.*

San Gabriel has supplied recycled water to customers for non-potable irrigation uses since the mid-1990s. Recycled water users within San Gabriel's service area include schools, landscape nurseries, Southern California Edison, Walmart, Grant Rea Park in the City of Montebello, the Whittier Narrows Recreation Area, Whittier Narrows Golf Course, Los Angeles County's Sorenson Park and Public Library, and portions of the Rio Hondo Community College and Rose Hills Memorial Park. Recycled water supply is produced by LACSD's SJCWRP and WNWWRP. San Gabriel purchases these recycled water supplies from Central District, LACSD, and Upper District. Use of recycled water

allows San Gabriel to reduce the amount of groundwater production required from the Main and Central Basins and from imported water purchases.

Upper District

San Gabriel is actively working with Upper District to expand the use of recycled water within its service area by completing the South El Monte Recycled Water Project, scheduled to begin construction in 2016. As indicated in Table 6-6, the South El Monte Recycled Water Expansion Project will provide up to 660 AFY of recycled water service to customers within the Cities of South El Monte, El Monte, Industry, and Pico Rivera for landscape irrigation. San Gabriel filed Advice Letter No. 469 on September 16, 2015 requesting authorization from the CPUC to begin construction on Phase I of the South El Monte Recycled Water Project and to incorporate construction costs into rates. San Gabriel demonstrated that the proposed recycled water project met the CPUC's eligibility criteria and the prudence of Phase I was demonstrated via a cost-benefit analysis. Consequently, with Resolution W-5079, the CPUC authorized San Gabriel to begin construction on Phase I of the South El Monte Recycled Water Project. The South El Monte Recycled Water Project is divided into five phases; Phase I is expected to be completed prior in 2016 and will deliver approximately 95 AFY.

There have been preliminary discussions about Upper District delivering recycled water from LACSD's Whittier Narrows Water Reclamation Plant through an extension of Upper District's Phase IIA system to the City of Arcadia's service area. A pipeline delivering the proposed recycled water supply to the City of Arcadia would likely be routed through San Gabriel's service area. San Gabriel could potentially receive additional recycled water supplies from the proposed pipeline. There have also been preliminary discussions about Upper District delivering recycled water to Pico Rivera Sports Arena and Bicentennial Park. The project may be completed by 2020 and would deliver approximately 50 AFY.

Upper District is also developing its Indirect Reuse Replenishment Project (IRRP) for indirect potable reuse. The IRRP will provide up to 10,000 AFY of tertiary treated recycled water from the San Jose Creek Water Reclamation Plant for groundwater replenishment at the Santa Fe Spreading Grounds, which will augment imported water supplies currently used for groundwater replenishment in the Main Basin. Construction of the IRRP is anticipated to be completed by the year 2020.

MWD is developing a Regional Recycled Water Supply Program which would include a water treatment plant and transmission pipelines to deliver recycled water for groundwater recharge from the Sanitation Districts' Joint Water Pollution Control Plant in Carson to groundwater basins, potentially including the Main Basin. San Gabriel wrote a letter of support for the Regional Recycled Water Supply Program (Project) and requested prioritization of transmission pipelines to the Main Basin during Phase One of the Project.

Central District

Central District anticipates increased recycled water sales within its service area, which includes a portion of San Gabriel's service area, for landscape irrigation (i.e. landscapes, nurseries, cemeteries, parks, medians, and schools) and industrial purposes (i.e. cooling towers, concrete mixing, and textiles). Central District has constructed the Southeast Water Reliability Project (SWRP) which includes a recycled water pipeline in the northern portion of Central District's service area. The SWRP enhances recycled water deliveries and reliability within Central District's service area. The SWRP includes the Cities of Montebello and Pico Rivera, which are located within or near San Gabriel's service area. San Gabriel and Central District are also working in concert to construct joint recycled water facilities (pipelines, reservoirs, and booster pumps) to serve recycled water for landscape irrigation to the Montebello Hills Specific Plan, Resurrection Cemetery, Potrero Heights Elementary School and Park, and Don Bosco Technical High School in Rosemead. The proposed Central District recycled water projects will provide up to 441 AFY of recycled water service for landscape irrigation. In addition, additional

recycled water supplies are available in the future based on Central District’s Plan. A summary of the proposed recycled water projects is included in Table 6-6.

The amount of recycled water supplied by San Gabriel in 2015, along with projected recycled water demands through 2040, are provided in Table 6-4. The total projected 2015 recycled water demand in San Gabriel’s service area was estimated in San Gabriel’s 2010 Plan to be approximately 3,000 AFY. The projection was based on planning documents prepared by Upper District and Central District. The actual recycled water demand in 2015 was 1,635 AF. A comparison of the actual and projected recycled water use for 2015 is shown in Table 6-5.

Table 6-4 Retail: Current and Projected Recycled Water Direct Beneficial Uses Within Service Area								
<input type="checkbox"/> Recycled water is not used and is not planned for use within the service area of the supplier. The supplier will not complete the table below.								
Name of Agency Producing (Treating) the Recycled Water:		LACSD						
Name of Agency Operating the Recycled Water Distribution System:		San Gabriel Valley Water Company						
Supplemental Water Added in 2015		0						
Source of 2015 Supplemental Water		NA						
Beneficial Use Type	General Description of 2015 Uses	Level of Treatment <i>Drop down list</i>	2015	2020	2025	2030	2035	2040 (opt)
Agricultural irrigation	Nursery	Tertiary	16	28	30	32	33	35
Landscape irrigation (excludes golf courses)	Schools, parks and city landscape	Tertiary	1,259	2,158	2,298	2,437	2,577	2,717
Golf course irrigation	Whittier Narrows Golf Course	Tertiary	360	400	400	400	400	400
Commercial use								
Industrial use								
Geothermal and other energy production								
Seawater intrusion barrier								
Recreational impoundment								
Wetlands or wildlife habitat								
Groundwater recharge (IPR)*								
Surface water augmentation (IPR)*								
Direct potable reuse								
Other (Provide General Description)								
Total:			1,635	2,586	2,728	2,869	3,011	3,152
*IPR - Indirect Potable Reuse								
NOTES: Projected breakdown of recycled water for direct beneficial use is based on the breakdown from 2014 (1% agricultural irrigation, 99% landscape irrigation and 400 acre-feet per year for golf course irrigation). San Gabriel operates the recycled water system within its service area. San Gabriel’s current base additional demand from recycled water use is approximately 2,000 AFY. Approximately 50 percent of any future recycled water demand exceeding 2,000 AFY has been estimated to result from new recycled water customers and usage. The remaining 50 percent of recycled water demands has been estimated to offset potable water supplies, as reflected in Table 4-2. Units are in acre-feet.								

Table 6-4 Retail: Current and Projected Recycled Water Direct Beneficial Uses Within Service Area

Table 6-5 Retail: 2010 UWMP Recycled Water Use Projection Compared to 2015 Actual		
<input type="checkbox"/>	Recycled water was not used in 2010 nor projected for use in 2015. The supplier will not complete the table below.	
Use Type	2010 Projection for 2015	2015 Actual Use
Agricultural irrigation	30	16
Landscape irrigation (excludes golf courses)	2,310	1,259
Golf course irrigation	660	360
Commercial use		
Industrial use		
Geothermal and other energy production		
Seawater intrusion barrier		
Recreational impoundment		
Wetlands or wildlife habitat		
Groundwater recharge (IPR)		
Surface water augmentation (IPR)		
Direct potable reuse		
Other	<i>Type of Use</i>	
Total	3,000	1,635
NOTES:		

Table 6-5 Retail: 2010 UWMP Recycled Water Use Projection Compared to 2015 Actual

6.5.5 ACTIONS TO ENCOURAGE AND OPTIMIZE FUTURE RECYCLED WATER USE

Section 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.*
- (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.*

As discussed in Section 6.5.4, San Gabriel is actively working with Upper District to expand the use of recycled water within its service area by completing the South El Monte Recycled Water Project, scheduled to begin construction in 2016. As indicated in Table 6-6, the proposed South El Monte Recycled Water Expansion Project will provide up to 661 AFY of recycled water service to customers within the Cities of South El Monte, El Monte, Industry, and Pico Rivera for landscape irrigation. The South El Monte Recycled Water Project is divided into five packages; the first package is expected to be completed prior to 2020 and will deliver approximately 95 AFY.

Central District provides financial assistance for plumbing retrofit necessary to receive recycled water. Central District advances funds for plumbing retrofit expenses. The funds are reimbursed on a monthly basis through direct billings from Central District. The retrofit costs are amortized over a period of time of up to ten years at Central District's cost of funds. In addition, Central District offers recycled water at a rate lower than potable water and this rate structure is passed on to San Gabriel's customers. Central District also promotes the use of recycled water within its system as a more reliable water source than imported water.

As a sub-agency of Central District and Upper District, San Gabriel benefits from the results of Central District's and Upper District's recycled water projects. In the future, San Gabriel expects to increase the number of recycled water users within its service area.

Table 6-6 Retail: Methods to Expand Future Recycled Water Use			
<input type="checkbox"/>	Supplier does not plan to expand recycled water use in the future. Supplier will not complete the table below but will provide narrative explanation.		
6-40	Provide page location of narrative in UWMP		
Name of Action	Description	Planned Implementation Year	Expected Increase in Recycled Water Use
<i>Add additional rows as needed</i>			
South El Monte Recycled Water Project	Upper District Recycled Water Project	2020	95
Planned Future Phases of the South El Monte Recycled Water Project	Upper District Recycled Water Project	2025-2040	566
Pico Rivera Bicentennial Park	Upper District Recycled Water Project	2020	50
Montebello Hills Specific Plan	Central District Recycled Water Project	2020	181
Resurrection Catholic Cemetary	Central District Recycled Water Project	2020	215
Don Bosco Technical High School	Central District Recycled Water Project	2020	25
Potrero Heights Elementary School	Central District Recycled Water Project	2020	7
Potrero Heights Park	Central District Recycled Water Project	2020	13
Total			1,152
NOTES: Units are in acre-feet.			

Table 6-6 Retail: Methods to Expand Future Recycled Water Use

6.6 DESALINATED WATER OPPORTUNITIES

Section 10631(h)

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

6.6.1 MAIN BASIN

Groundwater produced from the Main Basin is low in total dissolved solids (TDS) and does not require desalination. Based on recent water quality data, the average TDS value for San Gabriel's wells is about 335 milligrams per liter (mg/L). The SWRCB-DDW recommended level is 500 mg/L and water can be provided for long-term domestic use with TDS concentrations of up to 1,000 mg/L. Due to the high quality (low TDS concentration) of the groundwater, San Gabriel has not needed to investigate the use of desalination to develop or reestablish a new long-term supply. However, there may be opportunities for use of desalinated ocean water as a potential water supply source in the future, if needed, through coordination with other agencies that have ocean desalination programs.

6.6.2 CENTRAL BASIN

The average TDS concentrations for the Central Basin groundwater is less than the secondary MCL, based on the 2015 Salt and Nutrient Management Plan for the Central Basin. Based on recent water quality data, the average TDS value for San Gabriel's wells is about 335 mg/L. The SWRCB-DDW recommended level is 500 mg/L and water can be provided for long-term domestic use with TDS concentrations of up to 1,000 mg/L. Due to the high quality (low TDS concentration) of the groundwater, San Gabriel has not needed to investigate the use of desalination to develop or reestablish a new long-term supply. However, there may be opportunities for use of desalinated ocean water as a potential water supply source in the future, if needed, through coordination with other agencies that have ocean desalination programs.

6.7 TRANSFER OPPORTUNITIES

Section 10631(d)

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

6.7.1 EXCHANGES

San Gabriel is under agreement as part of the BPOU Project Agreement to implement the USEPA's cleanup remedy, which involves the treatment of groundwater produced from the City of Industry's (COI) Well No. 5. An equal amount of treated water is sent through San Gabriel's distribution system to supply COI. During calendar year 2015, San Gabriel treated approximately 1,110 AF of water for COI. The amount of water treated by San Gabriel for COI is accounted for under COI's Main Basin water rights. San Gabriel can use any additional water produced by COI's Well No. 5 which is not required by COI.

6.7.2 TRANSFERS

As a Party to the Main Basin Judgment, San Gabriel can pump from the Main Basin. The Main Basin Judgment does not restrict the quantity of groundwater that can be produced, but provides for a Replacement Water Assessment for production in excess of water rights. In addition, San Gabriel has entered into a Cyclic Storage agreement, described in Chapter 6.2.2, with the Main Basin Watermaster to store imported water in the Main Basin for a period of up to five years to be used to offset a future Replacement Water obligation. As of the end of fiscal year 2014-15, San Gabriel has a cyclic storage

account of 30,000 acre-feet with an ending balance of approximately 13,859 acre-feet within cyclic storage.

Upper District and Central District describe transfer opportunities within their respective 2015 Plans, which are incorporated by reference. As a sub-agency of both Upper District and Central District, San Gabriel may benefit from these water transfer opportunities.

6.7.3 EMERGENCY INTERTIES

San Gabriel has emergency interconnections with other water agencies that serve as short-term emergency exchange opportunities. Emergency interties (or interconnections) are distribution system interconnections between water agencies for use during critical situations where one system or the other is temporarily unable to provide sufficient potable water to meet its water demands and/or fire protection needs. An emergency interconnection will allow a water system to continue serving water during critical situations such as local water supply shortages as a result of earthquakes, fires, prolonged power outages, and droughts. San Gabriel has the ability to receive water from interconnections with the following water agencies:

- City of Arcadia (two way)
- City of Montebello (two way)
- City of Pico Rivera (two way) (two connections)
- City of Santa Fe Springs (one way to San Gabriel)
- Suburban Water Systems (two way) (three connections)
- Suburban Water Systems (one way to San Gabriel)
- Valley County Water District (two way)
- City of Whittier (two way)

6.8 FUTURE WATER PROJECTS

Section 10631

(g) ...The urban water supplier shall include a detailed description of expected future projects and programs... 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.

San Gabriel obtains potable water from local groundwater production and imported surface water supplies. San Gabriel also obtains recycled water from Central District, LACSD, and Upper District. These water supply sources will allow San Gabriel to provide sufficient water service currently, and in the future. Furthermore, San Gabriel plans to construct new groundwater production wells to replace existing wells as necessary. In addition, San Gabriel plans to investigate opportunities to expand use of recycled water within its service area. San Gabriel has plans to construct Well 11D with a planned capacity of 3,000 gpm. Future recycled water projects were discussed in Section 6.5.

Table 6-7 Retail: Expected Future Water Supply Projects or Programs						
<input checked="" type="checkbox"/>	No expected future water supply projects or programs that provide a quantifiable increase to the agency's water supply. Supplier will not complete the table below.					
<input type="checkbox"/>	Some or all of the supplier's future water supply projects or programs are not compatible with this table and are described in a narrative format.					
6-45	Provide page location of narrative in the UWMP					
Name of Future Projects or Programs	Joint Project with other agencies?		Description (if needed)	Planned Implementation Year	Planned for Use in Year Type <i>Drop Down List</i>	Expected Increase in Water Supply to Agency <i>This may be a range</i>
	<i>Drop Down List (y/n)</i>	<i>If Yes, Agency Name</i>				
<i>Add additional rows as needed</i>						
NOTES:						

Table 6-7 Retail: Expected Future Water Supply Projects or Programs

6.9 SUMMARY OF EXISTING AND PLANNED SOURCES OF WATER

Section 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 10631(a).*
- (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.*
-

As discussed in Chapter 6, San Gabriel's water supply sources include local groundwater, recycled water, and imported surface water supplies. The actual quantities of the water supply sources available to San Gabriel during calendar year 2015 are summarized in Table 6-8. The reliable quantities of projected water supply sources available to San Gabriel in five-year increments through 2040 during average years are summarized in Table 6-9.

Table 6-8 Retail: Water Supplies — Actual				
Water Supply	Additional Detail on Water Supply	2015		
<i>Drop down list</i> <i>May use each category multiple times.</i> <i>These are the only water supply categories that will be recognized by the WUEdata online submittal tool</i>		Actual Volume	Water Quality <i>Drop Down List</i>	Total Right or Safe Yield <i>(optional)</i>
<i>Add additional rows as needed</i>				
Groundwater	Main Basin	29,567	Drinking Water	
Groundwater	Central Basin	1,644	Drinking Water	
Purchased or Imported Water	Central District	0	Drinking Water	
Recycled Water		1,635	Recycled Water	
Total		32,846		0
NOTES:				

Table 6-8 Retail: Water Supplies – Actual

Table 6-9 Retail: Water Supplies — Projected											
Water Supply	Additional Detail on Water Supply	Projected Water Supply <i>Report To the Extent Practicable</i>									
		2020		2025		2030		2035		2040 (opt)	
		Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)
<i>Add additional rows as needed</i>											
Groundwater	Main Basin	33,366		40,446		41,357		42,268		43,179	
Groundwater	Central Basin	1,756		2,129		2,177		2,225		2,273	
Purchased or Imported Water	Central District	0		0		0		0		0	
Recycled Water		2,586		2,728		2,869		3,011		3,152	
Total		37,708	0	45,302	0	46,403	0	47,503	0	48,604	0
NOTES: Projection breakdown of potable water supplies is based on the breakdown during 2015 (95% Main Basin groundwater and 5% Central Basin groundwater). San Gabriel's current base additional demand from recycled water use is approximately 2,000 AFY. Approximately 50 percent of any future recycled water demand exceeding 2,000 AFY has been estimated to result from new recycled water customers and usage. The remaining 50 percent of recycled water demands has been estimated to offset potable water supplies, as reflected in Table 4-2. Units are in acre-feet.											

Table 6-9 Retail: Water Supplies - Projected

6.10 CLIMATE CHANGE IMPACTS TO SUPPLY

The CWC does not require San Gabriel to address climate change. However, a discussion on single-dry year and multiple dry years is provided in Section 7.2 and a discussion on potential impacts to basin management practices is provided in Section 6.2. A discussion regarding the regional impacts of climate change on demand and supply are provided in MWD's 2015 Plan, which is incorporated by reference.

CHAPTER 7

WATER SUPPLY RELIABILITY ASSESSMENT

7.1 CONSTRAINTS ON WATER SOURCES

Section 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.*

Section 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.

San Gabriel has not experienced water supply constraints or deficiencies. Management of San Gabriel's primary groundwater supplies are based on adjudications, which are described in Section 6.2.2.

San Gabriel supplies groundwater to its customers from 30 active wells in the Main Basin as described in Section 6.2, including Wells 1B, 1C, 1D, 1E, 2D, 2E, 2F, 8B, 8C, 8D, 8E, 8F, 11A, 11B, 11C, B5B, B5D, B5E, B6C, B6D, B7E, B9B, B11B, B24A, B24B, B25A, B25B, B26A, B26B, and G4A. San Gabriel monitors required constituents in the groundwater from San Gabriel's wells to meet all SWRCB-DDW standards for drinking water and provides Annual Water Quality Reports to its customers. San Gabriel's 2014 Annual Water Quality Report is provided in Appendix N. Untreated groundwater from San Gabriel's wells has been impacted by perchlorate, trichloroethylene (TCE),

tetrachloroethylene (PCE), carbon tetrachloride (CTC), cis-1,2-dichloroethylene (cis-1,2-DCE), 1,1-dichloroethylene (1,1-DCE), 1,2-dichloroethane (1,2-DCA), and/or nitrate. San Gabriel operates SWRCB-DDW approved treatment and blending systems to remove regulated constituents from its groundwater wells. As a result of San Gabriel's SWRCB-DDW approved treatment and blending activities, San Gabriel's wells will provide a reliable water source from the Main Basin to San Gabriel's customers over the next 20 years

San Gabriel supplies groundwater to its customers from three active wells in the Central Basin as described in Section 6.2, including Wells W1C, W6C, and W6D. San Gabriel monitors required constituents in the groundwater from San Gabriel's wells to meet all SWRCB-DDW standards for drinking water. Groundwater quality from Wells W1C, W6C, and W6D currently meets all SWRCB-DDW standards for drinking water. San Gabriel's wells will provide a reliable water source from the Central Basin to San Gabriel's customers over the next 20 years.

San Gabriel can also receive direct delivery of treated imported water from its connection (CENB-40) with MWD water supplies. Water quality from MWD relating to supply reliability is addressed in MWD's 2015 Plan.

7.2 RELIABILITY BY TYPE OF YEAR

Section 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.*
-

Information regarding the reliability of San Gabriel’s groundwater supplies from the Main Basin and Central Basin is based on historical precipitation data in the San Gabriel Valley and past data on the availability of water supply to meet demands during seasonal or climatic shortage. Historical annual precipitation in the San Gabriel Valley is provided in Appendix E and is based on data collected from DWR Station 108D (El Monte, California) from water year 1951-52 through water year 2014-15. According to historical rainfall data for the San Gabriel Valley, the annual average rainfall is approximately 16.4 inches. Therefore, water year 2005-06 (or calendar year 2006) represents an average water year for San Gabriel in which the total amount of rainfall was about 16.0 inches. A single dry year for San Gabriel was represented in water year 2006-07 (or calendar year 2007) in which the total amount of rainfall was about 3.5 inches. A multiple dry year sequence for San Gabriel is represented from water year 2006-07 to water year 2008-09 (or from calendar years 2007 to 2009), where the total amount of rainfall was about 3.5 inches, 15.4 inches, and 11.0 inches, respectively. Table 7-1 summarizes these “base years” for average, single dry, and multiple dry years and provides the total amount of water supplies available to San Gabriel during those base years. San Gabriel’s historical water supply tabulation provided in Chapter 6 shows that during these base years (for average year, single dry year and multiple dry years), groundwater production remained stable. A single dry year or a multiple dry year period will not compromise San Gabriel’s ability to provide a reliable supply of water to its customers.

Table 7-1 Retail: Basis of Water Year Data			
Year Type	Base Year <i>If not using a calendar year, type in the last year of the fiscal, water year, or range of years, for example, water year 1999-2000, use 2000</i>	Available Supplies if Year Type Repeats	
		<input type="checkbox"/>	Quantification of available supplies is not compatible with this table and is provided elsewhere in the UWMP. Location _____
		<input checked="" type="checkbox"/>	Quantification of available supplies is provided in this table as either volume only, percent only, or both.
		Volume Available	% of Average Supply
Average Year	2006		100%
Single-Dry Year	2007		101%
Multiple-Dry Years 1st Year	2007		99%
Multiple-Dry Years 2nd Year	2008		99%
Multiple-Dry Years 3rd Year	2009		95%
Multiple-Dry Years 4th Year <i>Optional</i>			
Multiple-Dry Years 5th Year <i>Optional</i>			
Multiple-Dry Years 6th Year <i>Optional</i>			
Agency may use multiple versions of Table 7-1 if different water sources have different base years and the supplier chooses to report the base years for each water source separately. If an agency uses multiple versions of Table 7-1, in the "Note" section of each table, state that multiple versions of Table 7-1 are being used and identify the particular water source that is being reported in each table.			
NOTES: Volume available includes recycled water supplies.			

Table 7-1 Retail: Bases of Water Year Data

7.2.1 TYPES OF YEARS

San Gabriel's base years for average, single dry, and multiple dry years are provided in Section 7.2 and are summarized in Table 7-1. As indicated in Section 7.2, San Gabriel's groundwater supplies were sufficient in meeting San Gabriel's historical water demands during normal, single, and multiple dry years. A normal or average year was based on a year during the past 20 years with a total precipitation similar to the historical average precipitation in the vicinity of San Gabriel's service area. Because a single dry year or a multiple dry year period will not compromise San Gabriel's ability to provide a reliable supply of water to its customers, a single dry year in this Plan was

selected based on the first year of a multiple dry year period during the past 20 years. The multiple dry year period was based on a period of three consecutive dry years during the past 20 years.

7.2.2 AGENCIES WITH MULTIPLE WATER SOURCES

San Gabriel primarily obtains its water supply from groundwater wells located in the Main Basin and Central Basin. As discussed in Section 7.3 and shown in Table 7-2, Table 7-3, and Table 7-4, a single dry year or a multiple dry year period will not compromise San Gabriel's ability to provide a reliable supply of water to its customers.

7.3 SUPPLY AND DEMAND ASSESSMENT

Section 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.

As previously discussed, San Gabriel's projected normal year water demands over the next 20 years in five-year increments were based on San Gabriel's 2020 Urban Water Use Target of 142 GPCD. The ratio of water supplies utilized by San Gabriel during a historical normal water year in 2010 (or 37,413 AF) and during a historical single dry year in 2012 (or 37,684 AF) was used to estimate San Gabriel's projected water demands

during single dry years. The ratio of water supplies available to San Gabriel during a historical normal water year in 2010 (or 37,413 AF) and a historical multiple dry year period from 2012 to 2014 (or 37,684 AF, 42,150 AF, and 41,118 AF, respectively) was used to estimate San Gabriel’s projected water demands during a multiple dry year period. San Gabriel’s projected dry year water supplies over the next 20 years were based on the minimum supplies needed by San Gabriel to meet projected single dry year demands. Table 7-2, Table 7-3, and Table 7-4 summarize San Gabriel’s projected water demands and supplies over the next 20 years in five-year increments, including during normal, single, and multiple dry years. These tables indicate San Gabriel can meet water demands during normal, single dry, and multiple dry years over the next 20 years.

Table 7-2 Retail: Normal Year Supply and Demand Comparison					
	2020	2025	2030	2035	2040 (Opt)
Supply totals (autofill from Table 6-9)	37,708	45,302	46,403	47,503	48,604
Demand totals (autofill from Table 4-3)	37,708	45,302	46,403	47,503	48,604
Difference	0	0	0	0	0

NOTES: Units are in acre-feet.

Table 7-2 Retail: Normal Year Supply and Demand Comparison

Table 7-3 Retail: Single Dry Year Supply and Demand Comparison					
	2020	2025	2030	2035	2040 (Opt)
Supply totals	38,085	45,755	46,867	47,978	49,090
Demand totals	38,085	45,755	46,867	47,978	49,090
Difference	0	0	0	0	0

NOTES: 101% of projected demands (Table 6-9). Units are in acre-feet.

Table 7-3 Retail: Single Dry Year Supply and Demand Comparison

Table 7-4 Retail: Multiple Dry Years Supply and Demand Comparison						
		2020	2025	2030	2035	2040 (Opt)
First year	Supply totals	38,085	45,755	46,867	47,978	49,090
	Demand totals	38,085	45,755	46,867	47,978	49,090
	Difference	0	0	0	0	0
Second year	Supply totals	37,331	44,849	45,938	47,028	48,118
	Demand totals	37,331	44,849	45,938	47,028	48,118
	Difference	0	0	0	0	0
Third year	Supply totals	35,823	43,037	44,082	45,128	46,174
	Demand totals	35,823	43,037	44,082	45,128	46,174
	Difference	0	0	0	0	0
Fourth year <i>(optional)</i>	Supply totals					
	Demand totals					
	Difference	0	0	0	0	0
Fifth year <i>(optional)</i>	Supply totals					
	Demand totals					
	Difference	0	0	0	0	0
Sixth year <i>(optional)</i>	Supply totals					
	Demand totals					
	Difference	0	0	0	0	0
<p>NOTES: Recent drought measures implemented by San Gabriel aim to reduce water usage during multiple dry years. First Year: 101% of average year demand, Second Year: 99% of average year demand and Third Year: 95% of average year demand. Units are in acre-feet.</p>						

Table 7-4 Retail: Multiple Dry Years Supply and Demand Comparison

7.4 REGIONAL SUPPLY RELIABILITY

Section 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.

As noted in Section 6.2.2, the Main Basin is managed by the Main Basin Watermaster. During the period of management under the Main Basin Judgment, significant drought events have occurred. In each drought cycle the Main Basin has been managed to maintain water levels. Therefore, based on historical and on-going management practices, San Gabriel will be able to rely on the Main Basin for adequate supply over the next 20 years under single year and multiple year droughts.

As discussed in Section 6.2.2, Central Basin has been adjudicated and is well managed. The successful management through the Central Basin Judgment, combined with the spreading program and the guaranteed minimum inflow from the Main Basin (see Section 4.2.1.1), resulted in recovery of water levels in wells throughout the Central Basin. In each drought cycle the Central Basin has been managed to maintain water levels. Therefore, based on historical and on-going management practices, San Gabriel will be able to rely on the Central Basin for adequate supply over the next 20 years under single year and multiple year droughts.

Chapter 6 provides a description of the management of groundwater resources in the Main Basin and Central Basin, as well as information on basin management. Chapter 6 also demonstrates the management structure of the Main Basin and Central Basin provides a reliable source of groundwater supply for San Gabriel during average, single

dry and multiple dry water years. Historical data indicates the Main Basin and Central Basin have been well managed for the full period of the adjudications, resulting in a stable and reliable water supply. There are no contemplated basin management changes, other than increasing direct use of recycled water (see Section 6.5) and the planned use of recycled water for groundwater replenishment in the Main Basin to reduce the need to import water from other regions. Therefore, the groundwater supplies in the Main Basin and Central Basin are deemed reliable.

CHAPTER 8

WATER SHORTAGE CONTINGENCY PLAN

Section 10632

(a) The plan shall provide an urban water shortage contingency analysis that includes each of the following elements that are within the authority of the urban water supplier.

8.1 STAGES OF ACTION

Section 10632(a)

(1) 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.

San Gabriel has prepared and adopted a “Water Shortage Contingency Plan”, or CPUC Rule No. 14.1 (see Appendix O) pursuant to the requirements of Assembly Bill No. 11X which became effective as of October 13, 1991. Information from the Contingency Plan has been incorporated into this 2015 Plan.

San Gabriel is a public utility water company regulated by the CPUC. In the event a water shortage is declared, San Gabriel would request CPUC authorization to implement the Water Shortage Contingency Plan as set forth in CPUC Rule No. 14.1 (see Appendix O). During June 2015, San Gabriel received authorization to activate the Stage 2 Water Shortage of Rule No. 14.1 in response to the Governor’s Executive Order B-29-

15, which calls for a 25 percent statewide reduction of water use. As a result, the SWRCB has required San Gabriel to reduce water use by 16 percent compared to 2013 and 14 percent as of April 2016.

In the event of a declared water shortage, San Gabriel would, to the extent necessary and appropriate, coordinate the implementation of this Water Shortage Contingency Plan with the agencies, cities, and counties within its service area, MWD, the County of Los Angeles, Upper District, Central District, Main Basin Watermaster, WRD, the San Gabriel Valley Water Association, and the Central Basin Water Association.

San Gabriel has a legal responsibility to provide water utility services, including water for residential, commercial, industrial, public authority, and for public fire hydrants and private fire services. In order to minimize the adverse impacts of water shortages, San Gabriel will manage water supplies prudently. San Gabriel's Contingency Plan is designed to provide a minimum of 50 percent of normal supply during a severe or extended water shortage. Contingency Plan trigger levels have been established to ensure that this policy is implemented.

Table 8-1 provides a description of the stages of action which may be triggered by a shortage in one or more of San Gabriel's water supply sources, depending on the severity of the shortage and its anticipated duration.

Table 8-1 Retail Stages of Water Shortage Contingency Plan		
Stage	Complete Both	
	Percent Supply Reduction ¹ <i>Numerical value as a percent</i>	Water Supply Condition <i>(Narrative description)</i>
<i>Add additional rows as needed</i>		
1	--	A Stage 1 Water Alert occurs when the Commission, the utility or authorized government agency determines that measures are needed to reduce water consumption. The following non-essential and prohibited water use restrictions are in effect at all times until deactivation is authorized by the Commission.
2	--	A Stage 2 Water Shortage condition exists when the Commission, the utility or authorized government agency determines that due to drought or other water supply conditions, a water supply shortage or threatened shortage exists and a further reduction is necessary to provide utility service to customers.
3	--	A Stage 3 Water Shortage condition exists when the Commission, the utility or authorized government agency determines that due to drought or other water supply emergency condition, a water supply shortage or threatened shortage exists and further demand reductions are necessary to respond to existing available water supply conditions.

4	--	A Stage 4 Water Shortage condition, also referred to as an "Emergency" Condition, exists when the Commission, the utility or authorized government agency determines that due to drought or other water supply emergency condition, a critical water shortage emergency exists and measures in Stage 1 through 3 are not sufficient to comply with demand reductions ordered by the Commission or authorized government agency.
¹ One stage in the Water Shortage Contingency Plan must address a water shortage of 50%.		
NOTES: San Gabriel is regulated by the CPUC, refer to CPUC approved Rule 14.1 (Appendix O) for water shortage contingency plan details.		

Table 8-1 Retail: Stages of WSCP

8.2 PROHIBITIONS ON END USES

Section 10632(a)

- (4) *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*
- (5) *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.*

CPUC RULE NO. 14.1

The CPUC has set forth specific guidelines regarding Mandatory Water Conservation and Rationing in its Rule No. 14.1 which San Gabriel has adopted (see

Appendix O). In the event water supplies are projected to be insufficient to meet customer demand, San Gabriel may invoke Rule No. 14.1 after notifying the CPUC of San Gabriel’s plans to implement mandatory conservation and water shortage reductions. Before water shortage reductions are authorized by the CPUC, San Gabriel will hold public meetings and take all other applicable steps required by Sections 350 through 359 of the CWC. San Gabriel’s Contingency Plan would be implemented pursuant to that rule. Major elements of the CPUC Rule No. 14.1 are summarized in Table 8-2, and are discussed below. (The CPUC approved San Gabriel’s Advice Letter No. 464 filed on May 29, 2015, approving the activation of a Stage 2 Water Shortage of Schedule 14.1 which authorized San Gabriel to implement surcharges and penalties to encourage reduced water usage.)

Table 8-2 Retail Only: Restrictions and Prohibitions on End Uses			
Stage	Restrictions and Prohibitions on End Users <i>Drop down list</i> <i>These are the only categories that will be accepted by the WUEdata online submittal tool</i>	Additional Explanation or Reference <i>(optional)</i>	Penalty, Charge, or Other Enforcement? <i>Drop Down List</i>
<i>Add additional rows as needed</i>			
General through 4	Landscape - Restrict or prohibit runoff from landscape irrigation		Yes
1 through 4	Landscape - Limit landscape irrigation to specific times		Yes
1 through 4	Landscape - Limit landscape irrigation to specific days	more restrictive as stages progress	Yes
2 through 4	Landscape - Prohibit certain types of landscape irrigation	minimal irrigation for new construction	Yes
4	Landscape - Prohibit all landscape irrigation		Yes
1 through 4	CII - Restaurants may only serve water upon request		Yes
1 through 4	CII - Lodging establishment must offer opt out of linen service		Yes
General through 4	CII - Other CII restriction or prohibition	Commercial car washes must recycled water	Yes
General through 4	Water Features - Restrict water use for decorative water features, such as fountains		Yes

3 through 4	Other water feature or swimming pool restriction	prohibit filling or refilling ornamental lakes or ponds	Yes
General through 4	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner		Yes
3 through 4	Other - Prohibit use of potable water for construction and dust control		Yes
General through 4	Other - Prohibit vehicle washing except at facilities using recycled or recirculating water		Yes
NOTES:			

Table 8-2 Retail Only: Restrictions and Prohibitions on End Uses

8.2.1 LANDSCAPE IRRIGATION

Major elements of the CPUC Rule No. 14.1, pertaining to Landscape Irrigation include:

General

1. Watering or irrigating of any lawn, landscape or other vegetated area in a manner that causes or allows excessive water flow or runoff such that water flows onto adjacent property, non-irrigated areas, private and public walkways, roadways, parking lots, or structures is prohibited.

Stage 1 Water Alert

1. All general prohibitions in addition to the following.
2. Watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to three (3) days per week.
3. Watering or irrigating of lawn, landscape, or other vegetated areas with potable water is prohibited between the hours of 9:00 a.m. and 5:00 p.m. on any day.

4. Watering or irrigating of any lawn, landscape, or other vegetated area with potable water during and for 48 hours following measureable precipitation is prohibited.

Stage 2 Water Shortage

1. All general and Stage 1 prohibitions in addition to the following.
2. Use of water for more than minimal landscaping in connection with any new construction.
3. Irrigation with potable water of ornamental turf on public medians is prohibited.
4. Watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to two (2) days per week.

Stage 3 Water Shortage

1. All general, Stage 1 and 2 prohibitions in addition to the following.
2. Watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to one (1) day per week.

Stage 4 Water Shortage

1. All general, Stage 1, 2, and 3 prohibitions in addition to the following.
2. Watering or irrigating of lawn, landscape or other vegetated area with potable water is prohibited.
3. New potable water service is prohibited.

8.2.2 COMMERCIAL, INDUSTRIAL, AND INSTITUTIONAL (CII)

Major elements of the CPUC Rule No. 14.1, pertaining to CII include:

General

1. Operation of commercial car washes that do not recycle the potable water used as required is prohibited.

Stage 1 Water Alert

1. All general prohibitions.
2. Commercial businesses, including restaurants and other food service providers, can only serve drinking water to customers on request.
3. Hotel and motel operators must provide guests with the option of choosing not to have towels and linens laundered daily. Information about this option must be prominently displayed.

Stages 2 through 4 Water Shortage

1. All general and Stage 1 prohibitions.

8.2.3 WATER FEATURES AND SWIMMING POOLS

Major elements of the CPUC Rule No. 14.1, pertaining to Water Features and Swimming Pools include:

General through Stage 2 Water Shortage

There are not prohibitions pertaining to swimming pools included in Stages 1 through 2.

Stage 3 Water Shortage

1. Filling or re-filling ornamental lakes or ponds is prohibited, except to the extent needed to sustain aquatic life.

Stage 4 Water Shortage

1. All Stage 3 prohibitions.

8.2.4 DEFINING WATER FEATURES

Section 10632

(b) Commencing with the urban water management plan update due July 1, 2016, for purposes of developing the water shortage contingency analysis pursuant to subdivision (a), the urban water supplier shall analyze and define water features that are artificially supplied with water, including ponds, lakes, waterfalls, and fountains, separately from swimming pools and spas, as defined in subdivision (a) of Section 115921 of the Health and Safety Code.

Health and Safety Code Section 115921

As used in this article the following terms have the following meanings: (a) "Swimming pool" or "pool" means any structure intended for swimming or recreational bathing that contains water over 18 inches deep. "Swimming pool" includes in-ground and aboveground structures and includes, but is not limited to, hot tubs, spas, portable spas, and non-portable wading pools.

General

1. The use of potable water in a fountain or other decorative water feature except where the water is part of a recirculation system is prohibited.

Stages 1 through 4 Water Shortage

1. All general prohibitions.

8.2.5 OTHER

Major elements of the CPUC Rule No. 14.1, pertaining to other water uses include:

General

1. Use of water through any connection when the utility has notified the customer in writing to repair broken or defective plumbing, sprinklers, or watering or

- irrigation system and the customer has failed to make such repairs within 5 days after receipt of such notice is prohibited.
2. Use of water for washing aircraft, cars, buses, boats, trailers or other vehicles is prohibited.

Stage 1 Water Alert

1. All general prohibitions
2. Use of potable water for dust control or earth compaction cannot be unreasonable or excessive.

Stage 2 Water Shortage

1. All general and Stage 1 prohibitions.
2. All leaks, breaks, or other malfunctions in the water user's plumbing or distribution system must be repaired within seventy-two (72) hours of notification from utility.

Stage 3 Water Shortage

1. All general, Stage 1, and Stage 2 prohibitions.
2. All leaks, breaks, or other malfunctions in the water user's plumbing or distribution system must be repaired within twenty-four (24) hours of notification from utility.
3. Use of potable water for dust control is prohibited

Stage 4 Water Shortage

1. All general, Stage 1, Stage 2, and Stage 3 prohibitions.
2. All leaks, breaks, or other malfunctions in the water user's plumbing or distribution system must be repaired immediately upon notification from utility.

8.3 PENALTIES, CHARGES, OTHER ENFORCEMENT OF PROHIBITIONS

Section 10632(a)

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

San Gabriel's methods for enforcing the prohibitions identified in Section 8.2 include the following:

1. The water use restrictions of the Staged Water Shortage Surcharges and Penalties (CPUC Schedule 14.1) become mandatory when the rationing program goes into effect. These restrictions are applicable whether or not the customer exceeds the monthly water allocation.
2. Upon inception of the Staged Water Shortage Surcharges and Penalties (CPUC Schedule 14.1), San Gabriel may, after one verbal and two written warnings, install a flow-restricting device on the service line of any premises where San Gabriel personnel observe water being used for any nonessential or unauthorized use.
3. A flow restrictor shall not restrict water delivery by greater than 50 percent of normal flow and shall provide the premises with a minimum of 600 cubic feet per month. The restrictor may be removed only by San Gabriel, after a three-day period has elapsed, and upon payment of the appropriate removal charge as set forth in Tariff Schedule No. 14.1.

The CPUC approved San Gabriel's Advice Letter No. 464 filed on May 29, 2015, regarding the activation of a Stage 2 Water Shortage of Schedule 14.1 which authorized San Gabriel to implement surcharges and penalties to encourage reduced water usage.

8.4 CONSUMPTION REDUCTION METHODS

Section 10632(a)

(5) 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.

Consumption reduction methods utilized by San Gabriel include an educational outreach program, a rebate program for water efficient washing machines, dishwashers, high-efficiency toilets, irrigation controllers, pool covers, and landscaping design. San Gabriel's consumption reduction methods are summarized in Table 8-3.

San Gabriel must provide the minimum Health and Safety water needs (Chapter 7.1.2) to its customers at all times. San Gabriel's water shortage response is designed to provide a minimum of 50 percent of the "normal" water supply during a severe or extended water shortage. The stages of action are designed to ensure this goal is met and are shown in Table 8-1. The consumption reduction methods are shown in Table 8-3.

8.4.1 CATEGORIES OF CONSUMPTION REDUCTION METHODS

San Gabriel's consumption reduction methods are provided in Table 8-3.

Table 8-3 Retail Only: Stages of Water Shortage Contingency Plan - Consumption Reduction Methods		
Stage	Consumption Reduction Methods by Water Supplier <i>Drop down list</i> <i>These are the only categories that will be accepted by the WUEdata online submittal tool</i>	Additional Explanation or Reference <i>(optional)</i>
<i>Add additional rows as needed</i>		
All	Expand Public Information Campaign	
All	Offer Water Use Surveys	
All	Provide Rebates on Plumbing Fixtures and Devices	
All	Provide Rebates for Landscape Irrigation Efficiency	
All	Provide Rebates for Turf Replacement	
2 through 4	Implement or Modify Drought Rate Structure or Surcharge	
NOTES:		

Table 8-3 Retail Only: Stages of WSCP – Consumption Reduction Methods

8.5 DETERMINING WATER SHORTAGE REDUCTIONS

Section 10632(a)

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

San Gabriel measures and determines reductions in water use by using SWRCB’s Drought Response Tool pursuant to the Governor’s Executive Order B-29-15 discussed in Section 8.1. Beginning October 2014, urban water suppliers were required to estimate and report the number of gallons of water per person per day used by residential

customers it serves using the tool for submitting monthly water production data. The Drought Response Tool allows the City to calculate residential GPCD on a monthly basis for comparison with San Gabriel's baseline year 2013, which is set by the SWRCB.

8.6 REVENUE AND EXPENDITURE REPORTS

Section 10632(a)

(7) An analysis of the impacts of each of the actions and conditions described in paragraphs (1) to (6), 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.

San Gabriel records, in CPUC-authorized balancing accounts, variances between water supply costs reflected in San Gabriel's water rates and the water supply costs actually incurred by San Gabriel. Any recorded variances are eligible for later rate recovery by the San Gabriel. At least 50 percent of San Gabriel's fixed costs must be recovered through its water consumption charges.

8.6.1 DROUGHT RATE STRUCTURE AND SURCHARGES

A two-tiered rate structure has been implemented for residential customers to meet service costs and discourage high water use (see Appendix P). The CPUC has adopted rules and procedures for public water utilities to implement drought response plans (Rule No. 14.1 and Schedule No. 14.1) which prescribe the process to establish both voluntary and mandatory reductions in customer usage, and other necessary measures required in respond to emergency drought conditions. Drought procedures to track revenue and expenditure impacts and recovery of surcharge revenues are described in CPUC Resolution W-4976.

8.6.2 USES OF FINANCIAL RESERVES

San Gabriel is regulated by the CPUC, which does not allow for the use of financial reserves. CPUC drought procedures to track revenue and expenditure impacts and recovery of surcharge revenues are described in CPUC Resolution W-4976.

8.6.3 OTHER MEASURES

San Gabriel may utilize certain measures to overcome impacts to revenues and expenditures such as through general rate applications, balancing and memorandum accounts, and other measures which must be approved in accordance with CPUC rules, practices, and procedures.

8.7 RESOLUTION OR ORDINANCE

Section 10632(a)

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

San Gabriel has adopted a Water Shortage Contingency Resolution, known as CPUC Rule No. 14.1, which is provided in Appendix O.

8.8 CATASTROPHIC SUPPLY INTERRUPTION

Section 10632(a)

(3) 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.

San Gabriel prepared an update to their Emergency Response Plan (ERP) in September 2003, which describes the actions San Gabriel will take during a catastrophic interruption of water supplies including, natural disasters (such as a fire, earthquake, flood, storm, or other natural disasters), major accidents (such as industrial, transportation, or other major accidents), and terrorism/vandalism (including a physical attack or a cyber-attack).

During an acute and severe water shortage caused by a disaster (including, but not limited to, a regional power outage, an earthquake, or other disaster), San Gabriel production figures will be reported to San Gabriel's General Superintendent hourly or as the General Superintendent directs, and to San Gabriel's Senior Vice President-Operations, and President daily. Reports will also be provided to the respective County Office of Emergency Service, if requested.

8.9 MINIMUM SUPPLY NEXT THREE YEARS

Section 10632(a)

(2) 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.

8.9.1 THREE YEAR MINIMUM WATER SUPPLY

Over the past 20 years, the driest three-year sequence (multiple dry years) in San Gabriel's service area occurred from water year 2011-12 (or 2012) to water year 2013-14 (or 2014), as shown in Table 7-1. Although additional water supplies were available to San Gabriel during the driest three-year sequence, Table 8-4 shows the minimum supplies needed by San Gabriel to meet actual demands during these years. The ratio between the normal water year in 2009-10 (or 2010) and multiple dry years (2012 to 2014) was estimated for San Gabriel's supply, as shown in Table 7-1. This ratio from Table 7-1 was used to estimate the minimum water supply available during each of the next three years (from 2016 to 2018) based on the driest three-year historical sequence for San Gabriel's water supply (see Table 8-4).

Table 8-4 Retail: Minimum Supply Next Three Years			
	2016	2017	2018
Available Water Supply	32,470	31,307	32,080
NOTES: Normal year water supplies were projected and multiplied by multiple dry year factors as follows: First Year: 101% of average year demand, Second year: 99% of average year demand and Third Year: 95% of average year demand. Projected water demands are based on a 120 gpcd water use factor which represents San Gabriel's average water use from 2014 through 2015. Units are in acre-feet.			

Table 8-4 Retail: Minimum Supply Next Three Years

CHAPTER 9

DEMAND MANAGEMENT MEASURES

San Gabriel is a member of the California Urban Water Conservation Council (CUWCC). As a member of the CUWCC, San Gabriel signed a Memorandum of Understanding (MOU) pledging to implement “Best Management Measures”, which are cost-effective conservation programs.

San Gabriel is an investor owned public water utility regulated by the CPUC. Under its regulatory authority, the CPUC has established a conservation goal for San Gabriel and all other Class A Water Companies to reduce annual consumption by one (1) percent to two (2) percent. The CPUC’s goal, as outlined in its Water Action Plan adopted in 2005 and subsequently updated in October 2010 requires public water utilities to strengthen their water conservation programs to a level comparable to energy utilities. The CPUC’s conservation goal compliments the statewide mandate that requires water utilities to reduce per capita consumption by 20 percent by 2020. In response to these mandates and with CPUC approval, San Gabriel has implemented a number of conservation programs including conservation pricing (tiered rates), cost effective Best Management Practices (BMP) programs including programs for public information and education and annual reporting requirements.

In addition, San Gabriel is a sub-agency of both Upper District and Central District, which are both members of CUWCC. As members of CUWCC, Upper District and Central District have implemented BMPs in their respective service areas. Upper District and Central District have completed their 2015 Plans providing a description of the implemented BMPs. Conservation measures from the Upper District and Central District 2015 Plans are included within this Plan and are incorporated by reference.

For the purposes of this Plan, the BMPs are equivalent to Demand Management Measures (DMM). The following sections describe San Gabriel's implementation of the DMMs required in the UWMP Act.

9.1 DEMAND MANAGEMENT MEASURES FOR WHOLESALE AGENCIES

Section 10632(a)

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

(1)(B) The narrative pursuant to this paragraph shall include descriptions of the following water demand management measures:

(ii) Metering.

(iv) Public education and outreach.

(vi) Water conservation program coordination and staffing support.

(vii) Other demand management measures that have a significant impact on water use as measured in gallons per capita per day, including innovative measures, if implemented.

(2) For an urban wholesale water supplier, as defined in Section 10608.12, (provide) a narrative description of the items in clauses (ii), (iv), (vi), and (vii) of subparagraph (B) of paragraph (1), and a narrative description of its distribution system asset management and wholesale supplier assistance programs.

San Gabriel is not a wholesale agency and is not required by DWR to complete Section 9.1

9.2 DEMAND MANAGEMENT MEASURES FOR RETAIL AGENCIES

Section 10631(f)

- (A) *The narrative shall describe the water demand management measure that the supplier plans to implement to achieve its water use targets pursuant to Section 10608.20.*
- (B) *The narrative pursuant to this paragraph shall include descriptions of the following water demand management measures:*
- (i) Water waste prevention ordinances.*
 - (ii) Metering.*
 - (iii) Conservation pricing.*
 - (iv) Public education and outreach.*
 - (v) Programs to assess and manage distribution system real loss.*
 - (vi) Water conservation program coordination and staffing support.*
 - (vii) Other demand management measures that have a significant impact on water use as measured in gallons per capita per day, including innovative measures, if implemented.*
-

9.2.1 WATER WASTE PREVENTION ORDINANCES

[SECTION 10631 (f)(1)(b)(i)]

San Gabriel is governed by the laws and rulings of the CPUC. In compliance with the CPUC's request, San Gabriel adopted Rule No. 14.1 "Water Shortage Contingency Plan" (see Appendix O). Although San Gabriel does not have the legal authority to enact an "Ordinance" as does a municipality, if water supplies warrant the need to implement mandatory water conservation, Rule 14.1 would suffice (San Gabriel would be able to encourage its customers to conserve by enforcing the rules listed therein). In addition, San Gabriel will continue to support local legislation and regulations that prohibit water waste.

Upper District passed Resolution 6-90-266 in 1990 to reduce water demands within Upper District's service area. In addition, On October 21, 2014, Upper District's Board passed, approved, and adopted Resolution No. 10-14-543 to declare a water emergency in concurrence with Governor Brown's declared state of an emergency due to the current severe drought. The resolution, in part, resolved that Upper District would

adopt water conservation actions as mandated by the SWRCB and work with local water retailers to help them implement water conservation actions.

Central District created a Water Use Efficiency Ordinance Task Force, comprised of members from surrounding cities and retail agencies, to reach out to the District's cities and unincorporated communities. In addition, each water retailer was provided with a Water-Use Efficiency Ordinance Tool Kit, compliments of Central District.

9.2.2 METERING

[SECTION 10631 (f)(1)(b)(ii)]

CWC 526

- (a) *Notwithstanding any other provisions of law, an urban water supplier that, on or after January 1, 2004, receives water from the federal Central Valley Project under a water service contract or subcontract... shall do both of the following:*
- (1) *On or before January 1, 2013, install water meters on all service connections to residential and nonagricultural commercial buildings... located within its service area.*

CWC 527

- (a) *An urban water supplier that is not subject to Section 526 shall do both the following:*
- (1) *Install water meters on all municipal and industrial service connections located within its service area on or before January 1, 2025.*
-

San Gabriel meters all customer connections, including separate metering for single-family residential, commercial, industrial, large landscape and institutional/governmental facilities. Furthermore, if there is new development within San Gabriel's service area, each facility is individually metered. Service charges for San Gabriel are based on the customers' connection size. Further information regarding San Gabriel's service fees and conservation pricing are provided in Section 9.2.3.

9.2.3 CONSERVATION PRICING

[SECTION 10631 (f)(1)(b)(iii)]

As previously discussed, San Gabriel is a public utility water company regulated by the CPUC. In the event a water shortage is declared, San Gabriel would request CPUC authorization to implement its Water Shortage Contingency Plan as set forth in CPUC Rule No. 14.1 (see Appendix O). In addition, San Gabriel would request CPUC authorization to implement its Staged Water Shortage Surcharges and Penalties, as set forth in Schedule 14.1, which includes surcharges and penalties to encourage water conservation. During a declared Stage 2 Water Shortage, the surcharge on residential customers is set at 100 percent of the highest tier Quantity Rate and is applicable to all usage greater than 20 hundred cubic feet (ccf) per month. During a declared Stage 3 Water Shortage, the surcharge on residential customers is set at 200 percent of the highest tier Quantity Rate and is applicable to all usage greater than 20 ccf per month. During a declared Stage 4 Water Shortage, the surcharge on residential customers is set at 300 percent of the highest tier Quantity Rate and is applicable to all usage greater than 20 ccf per month. A water rate sheet showing current rates is provided in Appendix P.

9.2.4 PUBLIC EDUCATION AND OUTREACH

[SECTION 10631 (f)(1)(b)(iv)]

San Gabriel promotes water conservation through numerous local public events by providing water conservation materials and information to the general public. During these events San Gabriel distributes conservation materials such as sponges, pens, pencils, erasers, rulers, recycle bags, hoses nozzles, conservation kits, and brochures for adults and children. These conservation materials and devices are distributed to customers to encourage the efficient use of water.

San Gabriel representatives are available to speak to local schools, civic organizations, and groups of concerned citizens wanting information on topics of water conservation and water quality. Water conservation and water quality literature, videotapes on wiser water use and water savings tips, posters, and displays are utilized in various presentations. San Gabriel also promotes water conservation paid advertising, and residential customer bill inserts.

San Gabriel's customers receive educational tools regarding water conservation through Upper District's school educational programs. Upper District partners with the Discovery Science Center and THINK Together to provide a free water conservation and sustainable watershed curriculum program for fourth through sixth graders at schools within Upper District.

Upper District directly offers school education programs in an effort to raise awareness of water issues. Upper District started its school education programs in September 1992 and the materials and presentations meet state education framework requirements. The following is a list of Upper District's school educational programs:

- "Water is Life" Art Contest
- Solar Cup Competition
- Water Educational Posters
- Water Resource Library

Central District public information efforts consist of a variety of programs and practices that are used to educate the public about water conservation. Conservation literature is provided to the public at various one-day programs and at community events. Central District also provides the community with a Speakers Bureau to promote conservation. Additionally, Central District provides education through the "Shut Your

Tap!" outreach campaign which includes information on Central District's website and various publication materials.

In 2013, MWD created the Bewaterwise.com website to assist in educating the public, focusing on the drought, and providing information on rebate and incentive programs. The rebate and incentive programs are summarized in Section 9.2.7. San Gabriel's customers may participate in educational school programs through MWD, which has extensive educational programs that includes schools within San Gabriel's service area. MWD's educational programs meet state education framework requirements. A list of MWD's school education programs and water conservation savings is included in MWD's 2015 Plan, which is incorporated by reference.

9.2.5 PROGRAMS TO ASSESS AND MANAGE DISTRIBUTION SYSTEM REAL LOSS

[SECTION 10631 (f)(1)(b)(v)]

San Gabriel implements a system water audit, leak detection and repair program within its service area. San Gabriel's water system is completely metered and San Gabriel staff routinely conducts water audits, leak detection through a systematic leak detection program utilizing acoustic monitoring equipment, and repair on its distribution system. San Gabriel conducts monitoring and repair of system leaks as an integral part of maintenance activities. San Gabriel receives reports of leaks in its distribution system from customers, field crews, and other agencies. Upon receipt of such a report, San Gabriel's Central Control Operator generates a work order and dispatches a field crew to investigate and make repairs. San Gabriel promptly repairs distribution mains, services and other appurtenances.

San Gabriel offers free residential water surveys to residential customers to provide assistance in reducing water use. The San Gabriel water survey consists of

identification of potential leaks, recommendation of water conserving devices, assessment of irrigation efficiency, and determination of landscape watering schedule. Also, San Gabriel conducts residential audits to high water use customers. Information on water conservation savings, cost-benefit analysis, and water costs is being continuously collected and will be reported once every two years to the CUWCC.

Upper District and Central District are sub-agencies of MWD which conduct various system audits and leak detection program for its entire system. Additional information regarding system water audits, leak detection, repair, and water conservation savings can be found in MWD's 2015 Plan, which is incorporated by reference.

9.2.6 WATER CONSERVATION PROGRAM COORDINATION AND STAFFING SUPPORT

[SECTION 10631 (f)(1)(b)(vi)]

San Gabriel employs a conservation coordinator and a conservation specialist to promote water conservation and work with customers within San Gabriel's service area on improving water conservation efforts. San Gabriel's Water Conservation Coordinator and Water Conservation Specialist conduct surveys to customers to identify potential leaks, recommend water conserving devices, assess irrigation efficiency, and determine proper landscape watering schedule. San Gabriel's Water Conservation Coordinator and Water Conservation Specialist also conduct audits to high water use customers. Information on water conservation savings, cost-benefit analysis, and water costs is being continuously collected and is reported once every two years to the CUWCC.

The Water Conservation Coordinator employed by Upper District promotes water conservation issues and programs. The position was created in 1992 as a full-time position. The Water Conservation Coordinator does research on water management practices and advises the Upper District Board Members and its sub-agencies, including

San Gabriel, on water conservation matters. More information about Upper District's conservation coordinator can be found in its 2015 Plan, which is incorporated by reference.

Central District employs one full-time Conservation Coordinator who works throughout the District's service area to promote water conservation. The coordinator also works with cities and water agencies to promote and implement various conservation programs.

9.2.7 OTHER DEMAND MANAGEMENT MEASURES

[SECTION 10631 (f)(1)(b)(vii)]

Residential Water Audits

San Gabriel conducts water survey programs for residential customers to assist customers looking for help to reduce indoor and outdoor water use. San Gabriel sends survey request forms to customers through bill inserts. San Gabriel also schedules appointments for surveys with customers by phone. San Gabriel's water survey is designed to identify potential leaks, recommend water conserving devices, assess irrigation efficiency, and determine proper landscape watering schedule to San Gabriel's customers. San Gabriel also offers to conduct residential survey in response to high water use inquires. Information on water conservation savings, cost-benefit analysis, and water costs is being continuously collected and is reported once every two years to the CUWCC.

Upper District encourages its sub-agencies, including San Gabriel, to implement water survey programs. Upper District supports its sub-agencies' efforts by offering workshops to train staff on how to conduct residential water surveys.

Residential Plumbing Retrofit

San Gabriel implements a residential plumbing retrofit program through its basic water conservation kit to San Gabriel's customers. The water conservation kit consists of a 1.5 gpm massage showerhead, a 1.5 gpm flow dual spray kitchen aerator, and a 1 gpm aerator. San Gabriel offers water conservation kits for free after San Gabriel has verified customers' water bills during conservation events or after a residential audit has been conducted at the customers' home. In addition, as a sub-agency of Central District, San Gabriel's customers may participate in Central District's residential rebate programs which include weather based irrigation controllers, high-efficiency toilets, rain barrels, rotating nozzles for pop-up spray heads, and soil moisture sensors. Additional information about Central District's residential plumbing retrofit is included in Central District's 2015 Plan, which is incorporated by reference.

Large Landscape Conservation Programs and Incentives

San Gabriel implements a Large Landscape audit program to commercial and industrial institutional (CII) customers with landscapes of one acre or larger. The Large Landscape audit program provides San Gabriel's CII customers with system reviews and identifies necessary irrigation system repairs. San Gabriel's CII customers under the Large Landscape audit program can track repairs through follow-up reviews and surveys. San Gabriel can provide incentives such as rebates and facilitating the installation of wireless irrigation management systems to assist large landscape customers with monitoring water usage and reducing their irrigation demands. Information on water conservation savings, cost-benefit analysis, and water costs is being continuously collected and is reported once every two years to the CUWCC.

San Gabriel, in conjunction with the Upper District and MWD, participated in a turf removal program, which provided residential and commercial customers with financial incentives to replace turf lawns with California Friendly® landscapes. The program was launched in January 2014, and closed in November 2015.

Central District's large landscape conservation program includes:

- A District-wide large landscape managed Irrigation program incorporating maintenance, monitoring and tracking of individual property water savings
- A city partnership program to install Smart Irrigation Controllers in parks and street medians
- A Commercial Landscape research grant to Improve water use efficiency at schools, parks and open public spaces

High-Efficiency Washing Machine Rebate Program

Upper District and Central District, in partnership with MWD, implement region-wide rebate programs through MWDs SoCal Water\$mart, which includes a residential high-efficiency clothes washer rebate program. Residential dwellings (single-family homes, condominiums, townhouses, apartments or mobile homes) that are located within Upper District's and Central District's service area can install a high-efficiency washing machine in place of standard-efficiency washing machine for a rebate. The program began in fiscal year 2002-03. MWD states that this program saves about 10,000 gallons per year per washer over a conventional top loading washer. Additional information on the high-efficiency washing machine rebate program can be found in Upper District's 2015 Plan and Central District's 2015 Plan, incorporated by reference.

9.3 IMPLEMENTATION OVER THE PAST FIVE YEARS

CWC 10631

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

(1)(A)... a narrative description that addresses the nature and extent of each water demand management measure implemented over the past five years.

San Gabriel is committed to implementing water conservation programs and works collaboratively with Upper District and Central District to provide water conservation programs for its residents. As a sub-agency of Upper District and Central District, San Gabriel's residents have the benefit of participating in Upper District and Central District's conservation efforts. The highlights of DMM implementation over the past five years are described below.

9.3.1 WATER WASTE PREVENTION ORDINANCES

As discussed in Section 9.2.1, in compliance with the CPUC's request, San Gabriel adopted Rule No. 14.1 "Water Shortage Contingency Plan" (see Appendix O). Although San Gabriel does not have the legal authority to enact an "Ordinance" as does a municipality, if water supplies warrant the need to implement mandatory water conservation, Rule No. 14.1 would be implemented (San Gabriel would be able to encourage its customers to conserve by enforcing the rules listed therein). In addition San Gabriel will continue to support local legislation and regulations that prohibit water waste. During June 2015, San Gabriel received CPUC authorization to activate the Stage 2 Water Shortage of the Mandatory Water Conservation and Rationing Plan as set forth in CPUC Rule No. 14.1 (see Appendix O).

9.3.2 METERING

As discussed in Section 9.2.2, San Gabriel metered all customer connections, including separate metering for single-family residential, commercial, industrial, large landscape and institutional/governmental facilities during the past five years. Furthermore, if there was new development within San Gabriel's service area, each facility was individually metered.

9.3.3 CONSERVATION PRICING

As discussed in Section 9.2.3, San Gabriel is a public utility water company regulated by the CPUC. During May 2015, San Gabriel received CPUC authorization to activate the Stage 2 Water Shortage of the Mandatory Water Conservation and Rationing Plan as set forth in CPUC Rule No. 14.1 and Schedule 14.1, Staged Water Shortage Surcharges and Penalties (see Appendix O). During a declared Stage 2 Water Shortage, the surcharge on residential customers is set at 100 percent of the highest tier Quantity Rate and is applicable to all usage greater than 20 hundred cubic feet (ccf) per month. A water rate sheet showing current rates is provided in Appendix P.

9.3.4 PUBLIC EDUCATION AND OUTREACH

From 2011 through 2015 San Gabriel promoted water conservation through numerous local public events which provided water conservation materials and information to the general public. During these events San Gabriel distributed conservation materials such as sponges, pens, pencils, erasers, rulers, recycle bags, hoses nozzles, conservation kits, and brochures for adults and children. These conservation materials and devices were distributed to customers to encourage the efficient use of water.

San Gabriel's customers also received educational tools regarding water conservation through Upper District's school educational programs. Upper District partnered with the Discovery Science Center and THINK Together to provide a free water conservation and sustainable watershed curriculum program for fourth through sixth graders at schools within Upper District.

Upper District directly offered school education programs in an effort to raise awareness of water issues. Upper District started its school education programs in

September 1992 and the materials and presentations meet state education framework requirements. The following is a list of Upper District's school educational programs:

- "Water is Life" Art Contest
- Solar Cup Competition
- Water Educational Posters
- Water Resource Library

Central District public information efforts consisted of a variety of programs and practices that are used to educate the public about water conservation. Conservation literature was provided to the public at various one-day programs and at community events. Central District also provided the community with a Speakers Bureau to promote conservation. Additionally, Central District provided education through the "Shut Your Tap!" outreach campaign which included information on Central District's website and various publication materials.

In 2013, MWD created the Bewaterwise.com website to assist in educating the public, focusing on the drought, and providing information on rebate and incentive programs. The rebate and incentive programs are summarized in Section 9.2.7. A list of MWD's school education programs and water conservation savings is included in MWD's draft 2015 Plan, which is incorporated by reference.

9.3.5 PROGRAMS TO ASSESS AND MANAGE DISTRIBUTION SYSTEM REAL LOSS

As discussed in Section 9.2.5, San Gabriel implemented a system water audit, leak detection and repair program within its service area from 2011 through 2015. San Gabriel's water system is completely metered and San Gabriel staff conducted regular water audits, leak detection through a systematic leak detection program utilizing acoustic

monitoring equipment, and repair on its distribution system. San Gabriel promptly repaired distribution mains, services and other appurtenances.

San Gabriel also offered free residential water surveys to residential customers to provide assistance in reducing water use. Also, San Gabriel conducted residential audits for high water use customers. Information on water conservation savings, cost-benefit analysis, and water costs is continuously collected and is reported once every two years to the CUWCC.

Upper District and Central District are sub-agencies of MWD which also conduct various system audits and leak detection program for its entire system. Additional information regarding system water audits, leak detection, repair, and water conservation savings can be found in MWD's draft 2015 Plan, which is incorporated by reference.

9.3.6 WATER CONSERVATION PROGRAM COORDINATION AND STAFFING SUPPORT

As described in Section 9.2.6, San Gabriel employed a Water Conservation Coordinator and a Water Conservation Specialist to oversee all water conservation activities from 2011 through 2015. The Water Conservation Coordinator and the Water Conservation Specialist are responsible for all matters pertaining to San Gabriel's water conservation program including implementation of DMMs. San Gabriel plans to continue to provide water conservation program coordination and staffing support.

9.3.7 OTHER DEMAND MANAGEMENT MEASURES

Other DMMs employed by San Gabriel are discussed in Section 9.2.7. Highlights of other DMM implementation over the past five years are described below.

- Low-Flow Plumbing Fixture Rebates – San Gabriel offered its residential customers a rebate on high efficiency clothes washers, landscape rotating nozzles and weather-based irrigation controllers. San Gabriel offered its commercial, industrial, and institutional (“CII”) customers a rebate on large rotary nozzles, high efficiency toilet, zero water urinals, pH-cooling tower conductivity controllers, dry vacuum pumps, connectionless food steamers, and ice-making machines.
- Large Landscape Irrigation Efficiency – San Gabriel facilitated installation of wireless irrigation management systems to assist large landscape customers with monitoring water usage and reducing their irrigation demands.
- San Gabriel, in conjunction with the Upper District and MWD, participated in a turf removal program, which provided residential and commercial customers with financial incentives to replace turf lawns with California Friendly® landscapes. The program was launched in January 2014, and closed in November 2015.
- CII Water Use Audit – San Gabriel offered its CII customers a water audit to identify inefficient indoor water fixtures and outdoor irrigation systems that need to be retrofitted or replaced. Each customer received a report that described the needed improvements and resulting estimated water savings.
- CII Retrofit – San Gabriel provided financial assistance to CII customers to help offset the cost of implementing the improvements recommended in the CII Audit Reports.

- HET Distribution – San Gabriel hired EcoTech Services, Inc. to deliver High Efficiency Toilets (“HET”) to residential customers.

- Water Conservation Kits – Water conservation kits included a 1.5 gallons per minute (“GPM”) showerhead, a 1.5 GPM flow dual spray kitchen aerator, and a 1 GPM aerator. The kits were distributed to residential and CII customers at San Gabriel’s commercial offices, during conservation events and after completion of a residential water audit conducted at the customer’s home.

- Single-Family Residential Audits – San Gabriel offered free water conservation surveys to assist residential customers who were interested in reducing their indoor and outdoor water usage.

- School Conservation Education – San Gabriel contracted with the National Theatre for Children (“NTC”) to provide educational presentations in schools within its Los Angeles County division service area. NTC provided all required instructional assistance, educational materials and classroom presentations. A total of 10 presentations were completed during the 2015 school year.

- Education/Public Outreach – San Gabriel participated in numerous local public events by providing water conservation materials and helping customers become more water efficient. These events included, but are not limited to, the following:

<u>Date</u>	<u>Name of Event</u>
March 26, 2015	A Taste & Sound of El Monte/South El Monte
April 18, 2015	Sanitation Districts’ Earth Day

June 8, 2015	Drought Implementation Public Hearing
August 13, 2015	Montebello Chamber of Commerce Business Expo
July 22nd & August 5, 2015	City of El Monte Rockin' Wednesdays
August 13, 2015	City of South El Monte Concerts in the Park
November 13, 2015	Montebello Chamber of Commerce Taste of the Town

9.4 PLANNED IMPLEMENTATION TO ACHIEVE WATER USE TARGETS

CWC 10631

- (f) Provide a description of the supplier’s water demand management measures. This description shall include all of the following:
 - (1)(A) ...The narrative shall describe the water demand management measures that the supplier plans to implement to achieve its water use targets pursuant to Section 10608.20.

San Gabriel will continue to implement water conservation programs and work collaboratively with Upper District and Central District to provide water conservation programs for its residents. Implementation of the DMMs will assist San Gabriel to continue to meet the 2020 water use targets projected in Section 5.7.

Upon availability of funding, MWD will consider reinstating the turf removal rebate program. MWD, through its Innovative Conservation Program, also researches the water savings and reliability of new water-saving devices, technologies, and strategies.

9.5 MEMBERS OF THE CALIFORNIA URBAN WATER CONSERVATION COUNCIL

CWC 10631

- (i) *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 subdivision (f) 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.*
-

CUWCC members are allowed to submit their 2014 CUWCC BMP report in-lieu of, or in addition to, describing the DMMs in the Plan. Although a CUWCC member, San Gabriel has provided the required DMM information in Section 9.2. San Gabriel's 2014 BMP Report is not submitted in this Plan.

CHAPTER 10

PLAN ADOPTION, SUBMITTAL, AND IMPLEMENTATION

10.1 INCLUSION OF ALL 2015 DATA

The data provided in San Gabriel's 2015 Plan is provided on a calendar year basis through December 31, 2015 (as discussed in Section 2.4.2).

10.2 NOTICE OF PUBLIC HEARING

10.2.1 NOTICE TO CITIES AND COUNTIES

CWC 10621.

(b) Every urban water supplier required to prepare a plan shall... at least 60 days prior to the public hearing on the plan ... notify any city or county within which the supplier provides waters supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan.

CWC 10642.

...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...

As discussed in Section 2.5.2. San Gabriel coordinated the preparation of the Urban Water Management Plan with Amarillo Mutual Water Company, Central District, the County of Los Angeles, Del Rio Mutual Water Company, Hemlock Mutual Water Company, La Puente Valley County Water District, Rurban Homes Mutual Water Company, Upper District, Valley County Water District, and the Cities of Arcadia, Baldwin

Park, El Monte, Industry, Irwindale, La Puente, Montebello, Monterey Park, Pico Rivera, Rosemead, San Gabriel, Santa Fe Springs, South El Monte, West Covina, and Whittier. San Gabriel notified these agencies, County, and Cities at least sixty (60) days prior to the public hearing of the preparation of the 2015 Plan and invited them to participate in the development of the Plan. A copy of the notification letters sent to these agencies, County, and Cities is provided in Appendix D.

Additionally, a notice of public hearing was sent to Amarillo Mutual Water Company, Central District, the County of Los Angeles, Del Rio Mutual Water Company, Hemlock Mutual Water Company, La Puente Valley County Water District, Rurban Homes Mutual Water Company, Upper District, Valley County Water District, and the Cities of Arcadia, Baldwin Park, El Monte, Industry, Irwindale, La Puente, Montebello, Monterey Park, Pico Rivera, Rosemead, San Gabriel, Santa Fe Springs, South El Monte, West Covina, and Whittier. Copies of the notice of the public hearing are provided in Appendix D.

Table 10-1 summarizes the agencies which were provided notifications by San Gabriel.

Table 10-1 Retail: Notification to Cities and Counties		
City Name	60 Day Notice	Notice of Public Hearing
<i>Add additional rows as needed</i>		
Arcadia	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Baldwin Park	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
El Monte	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Industry	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Irwindale	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
La Puente	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Montebello	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Monterey Park	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Pico Rivera	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Rosemead	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
San Gabriel	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Santa Fe Springs	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
South El Monte	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
West Covina	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Whittier	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
County Name <i>Drop Down List</i>	60 Day Notice	Notice of Public Hearing
<i>Add additional rows as needed</i>		
Los Angeles County	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>

Table 10-1 Retail: Notification to Cities and Counties

10.2.2 NOTICE TO THE PUBLIC

CWC 10642.

...Prior to adopting a plan, the urban water supplier shall make the plan available for public inspection...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...

Government Code 6066.

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

San Gabriel encouraged the active involvement of the population within its service area prior to and during the preparation of the Plan. Pursuant to Section 6066 of the Government Code, San Gabriel published a notice of public hearing (see Appendix D) in the newspaper during the weeks of May 23, 2016 and May 30, 2016. A notice of public hearing was also provided on San Gabriel's website. A copy of the published notice is provided in Appendix D. To ensure that the plan was available for review, San Gabriel placed copies of the 2015 draft Plan at each of its office locations and made a copy available for review on its website.

10.3 PUBLIC HEARING AND ADOPTION

CWC 10642.

...Prior to adopting a plan, the urban water supplier shall hold a public hearing thereon.

CWC 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.*
-

Prior to adopting the 2015 Plan, San Gabriel held a public hearing on June 7, 2016 which included input from the community regarding San Gabriel's draft 2015 Plan. As part of the public hearing, San Gabriel provided information on determination of its water use targets through selection of Target Method 3 (see Section 5.7.1). In addition, San Gabriel provided information regarding the economic impacts of meeting these water use targets, including measures described in Section 8.6.

San Gabriel is committed to the implementation of the 2015 Plan in accordance with Section 10643 of the Act, including the water demand management measures (DMMs) (see Chapter 9) and water conservation requirements of SB X7-7 (see Chapter 5). San Gabriel continues to be committed to the concept of good water management practice and intends to expand its water conservation program as budgets and staffing allow. San Gabriel's water conservation program will periodically be re-evaluated and modified to institute additional methods or techniques as the need arises. San Gabriel reviewed implementation of its 2010 Plan and incorporated changes to create the 2015 Plan.

10.3.1 ADOPTION

CWC 10642.

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

Following the public hearing, San Gabriel adopted the draft Plan as its 2015 Plan. A copy of the resolution adopting the 2015 Plan is provided in Appendix Q.

10.4 PLAN SUBMITTAL

CWC 10621.

(d) An urban water supplier shall update and submit its 2015 plan to the department by July 1, 2016.

CWC 10644.

(a)(1) 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.

CWC 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.

10.4.1 SUBMITTING A UWMP TO DWR

Within 30 days of adoption of the 2015 Plan by San Gabriel's governing board and by July 1, 2016, San Gabriel will submit the adopted 2015 Plan to DWR. The 2015 Plan will be submitted through DWR's "Water Use Efficiency (WUE) Data Online Submittal Tool" website.

DWR previously provided a checklist to determine if an Urban Water Management Plan has addressed the requirements of the CWC. San Gabriel has completed the DWR checklist by indicating where the required CWC elements can be found within San Gabriel's 2015 Plan (See Appendix C).

10.4.2 ELECTRONIC DATA SUBMITTAL

Within 30 days of adoption of the 2015 Plan, San Gabriel will also submit all data tables associated with the 2015 Plan through DWR's "Water Use Efficiency (WUE) Data Online Submittal Tool" website.

10.4.3 SUBMITTING A UWMP TO THE CALIFORNIA STATE LIBRARY

Within 30 days of adoption of the 2015 Plan by San Gabriel's governing board, a copy (CD or hardcopy) of the 2015 Plan will be submitted to the State of California Library. A copy of the letter to the State Library will be maintained in San Gabriel's file. The 2015 Plan will be mailed to the following address if sent by regular mail:

California State Library
Government Publications Section

P.O. Box 942837
Sacramento, CA 94237-0001
Attention: Coordinator, Urban Water Management Plans

The 2015 Plan will be mailed to the following address if sent by courier or overnight carrier:

California State Library
Government Publications Section
914 Capitol Mall
Sacramento, CA 95814

10.4.4 SUBMITTING A UWMP TO CITIES AND COUNTIES

Within 30 days of adoption of the 2015 Plan by San Gabriel's governing board, a copy of the 2015 Plan will be submitted to the Cities of Arcadia, Baldwin Park, El Monte, Industry, Irwindale, La Puente, Montebello, Monterey Park, Pico Rivera, Rosemead, San Gabriel, Santa Fe Springs, South El Monte, West Covina, and Whittier; and the County of Los Angeles Registrar / Records office.

10.5 PUBLIC AVAILABILITY

CWC 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.

Within 30 days after submittal of the 2015 Plan to DWR, San Gabriel will make the 2015 Plan available at each of its office locations during normal business hours and on San Gabriel's website.

10.6 AMENDING AN ADOPTED UWMP

CWC 10621.

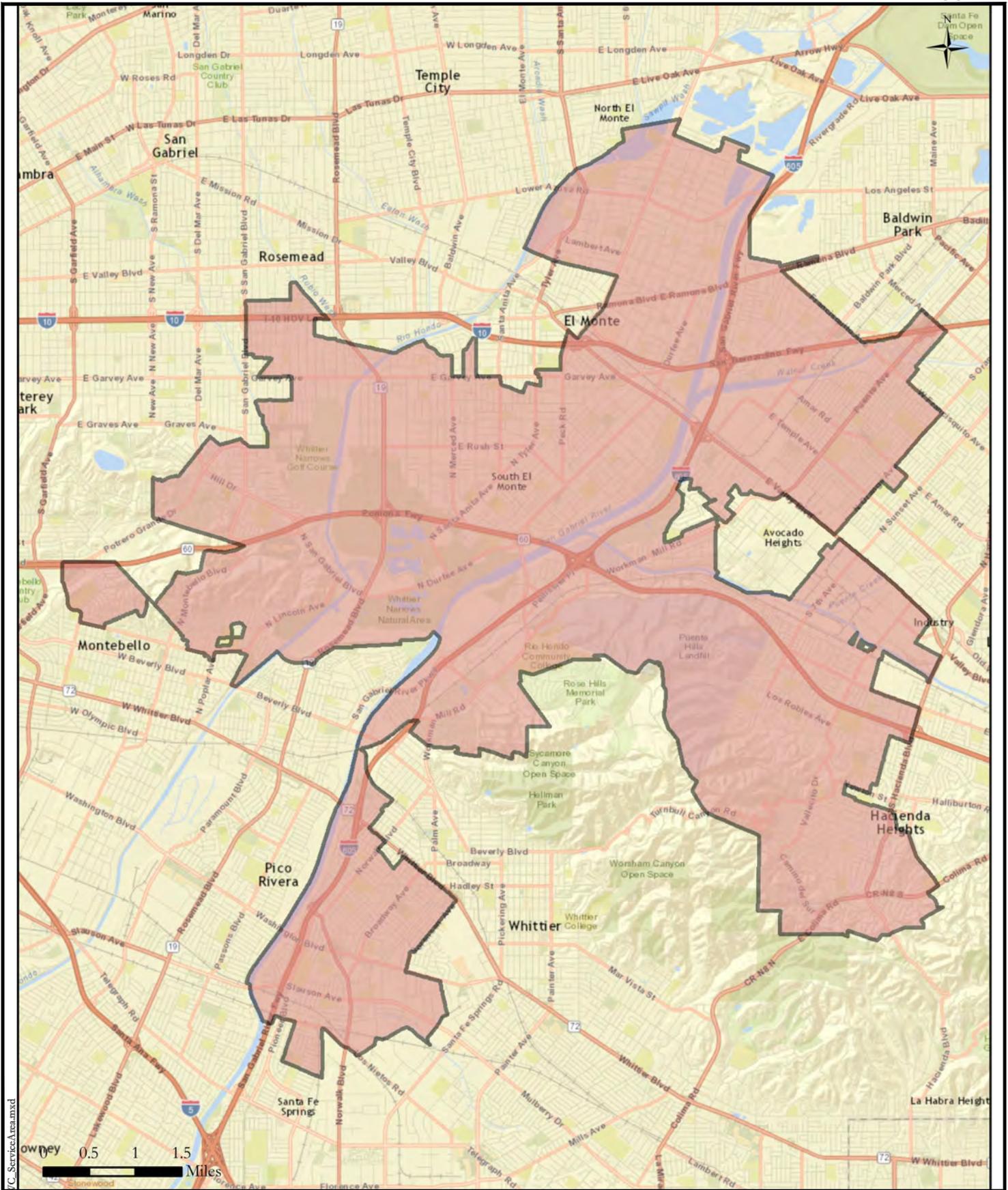
(c) The amendments to, or changes in, the plan shall be adopted and filed in the manner set forth in Article 3 (commencing with Section 10640).

CWC 10644.

(a)(1) 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.

If San Gabriel amends the adopted 2015 Plan, the amended Plan will undergo adoption by San Gabriel's Executive Committee. Within 30 days of adoption, the amended Plan will then be submitted to DWR, the State of California Library, the Cities of Arcadia, Baldwin Park, El Monte, Industry, Irwindale, La Puente, Montebello, Monterey Park, Pico Rivera, Rosemead, San Gabriel, Santa Fe Springs, South El Monte, West Covina, and Whittier; and the County of Los Angeles Registrar / Records office.

FIGURES



861 VILLAGE OAKS DRIVE, SUITE 100
 COVINA, CALIFORNIA 91724
 TEL: (626) 967-6202
 FAX: (626) 331-7065

2171 E Francisco Blvd., Suite K
 San Rafael California 94901

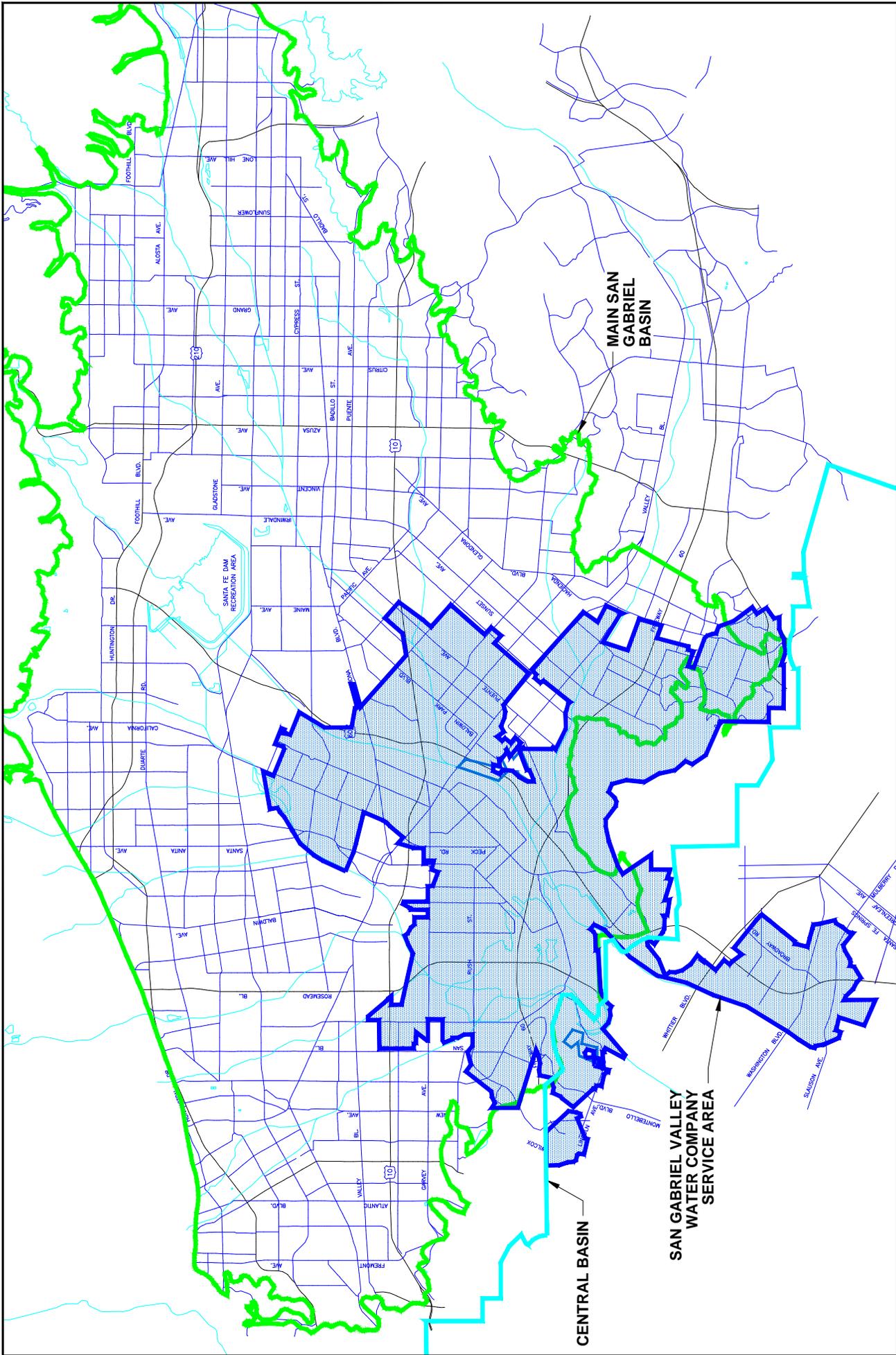
2651 W Guadalupe Rd., Suite A209
 Mesa Arizona 85202

STETSON ENGINEERS INC.



SAN GABRIEL VALLEY WATER COMPANY

WATER SERVICE AREA BOUNDARY



SAN GABRIEL VALLEY WATER COMPANY

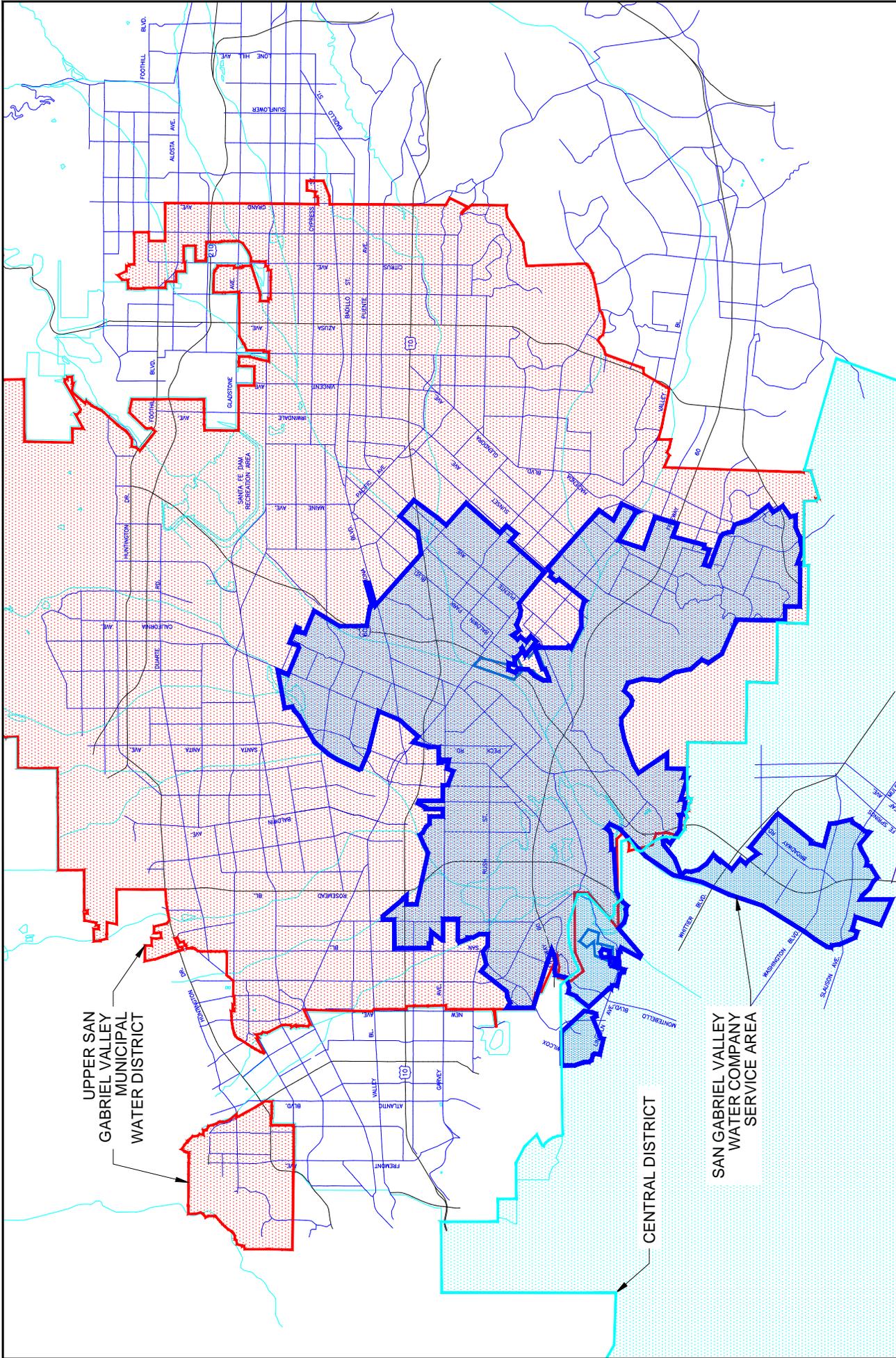
SERVICE AREA WITHIN MAIN SAN GABRIEL BASIN AND CENTRAL BASIN

861 VILLAGE OAKS DRIVE, SUITE 100
 TWINING PARK, CALIFORNIA 91724
 TEL: (626) 987-6200
 FAX: (626) 331-7065

2171 E Francisco Blvd., Suite K
 San Rafael California 94901
 2651 W Guadalupe Rd., Suite A209
 Mesa Arizona 85202



STETSON
 ENGINEERS INC.



SAN GABRIEL VALLEY WATER COMPANY

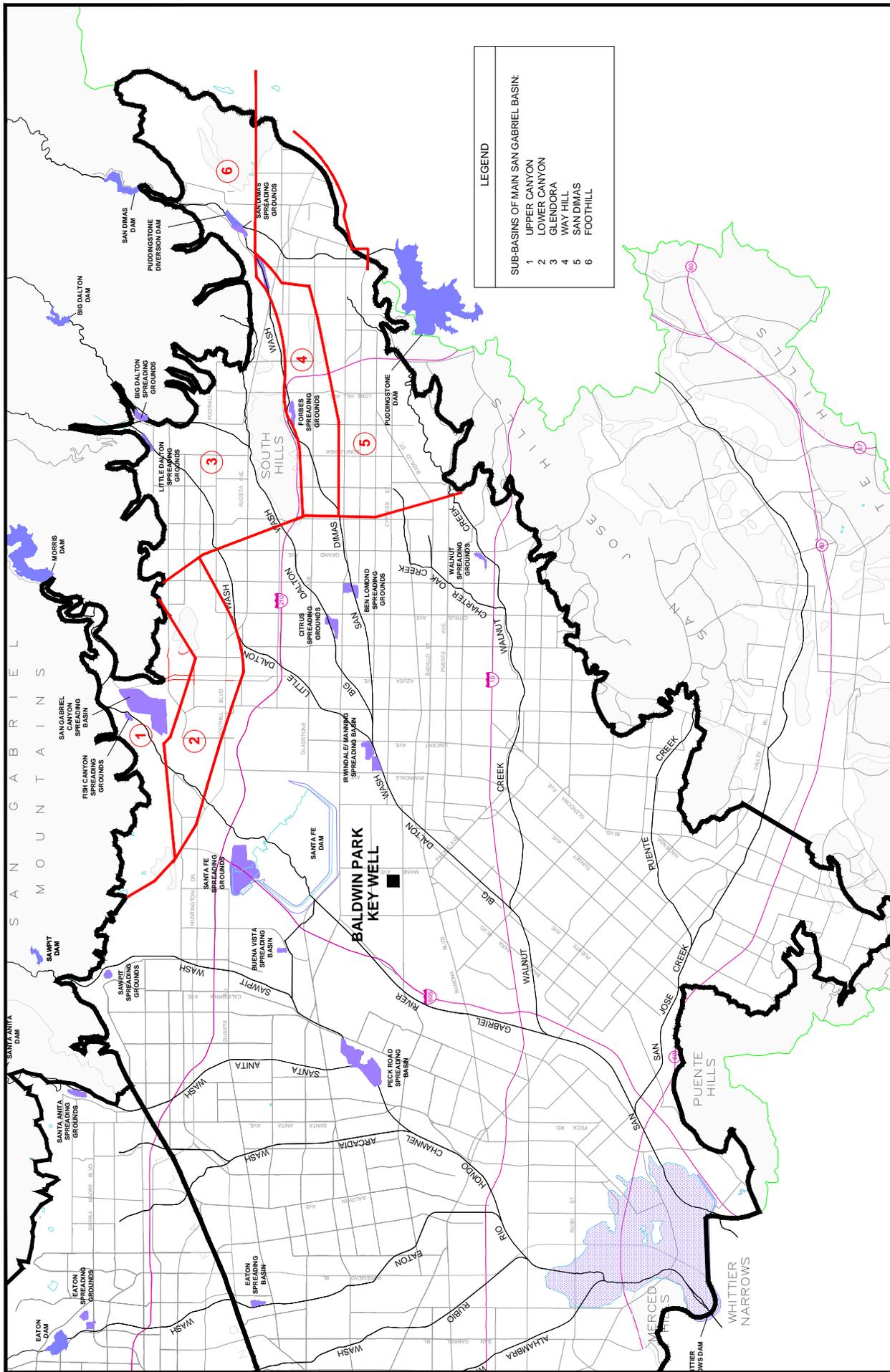
MUNICIPAL WATER DISTRICT BOUNDARIES

861 VILLAGE OAKS DRIVE, SUITE 100
 TEMECULA, CALIFORNIA 91724
 TEL: (951) 687-6200
 FAX: (951) 687-7085

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 San Rafael California 94901
 2851 W. Candelaria Rd., Suite A209
 Mesa Arizona 85202



APPROXIMATE SCALE
 0 6,000'



LEGEND

SUB-BASINS OF MAIN SAN GABRIEL BASIN:

- 1 UPPER CANYON
- 2 LOWER CANYON
- 3 GLENDORA
- 4 WAY HILL
- 5 SAN DIMAS
- 6 FOOTHILL

SAN GABRIEL VALLEY WATER COMPANY

**LOCATION OF KEY WELL, SPREADING GROUNDS AND WATER CHANNELS
MAIN SAN GABRIEL BASIN**



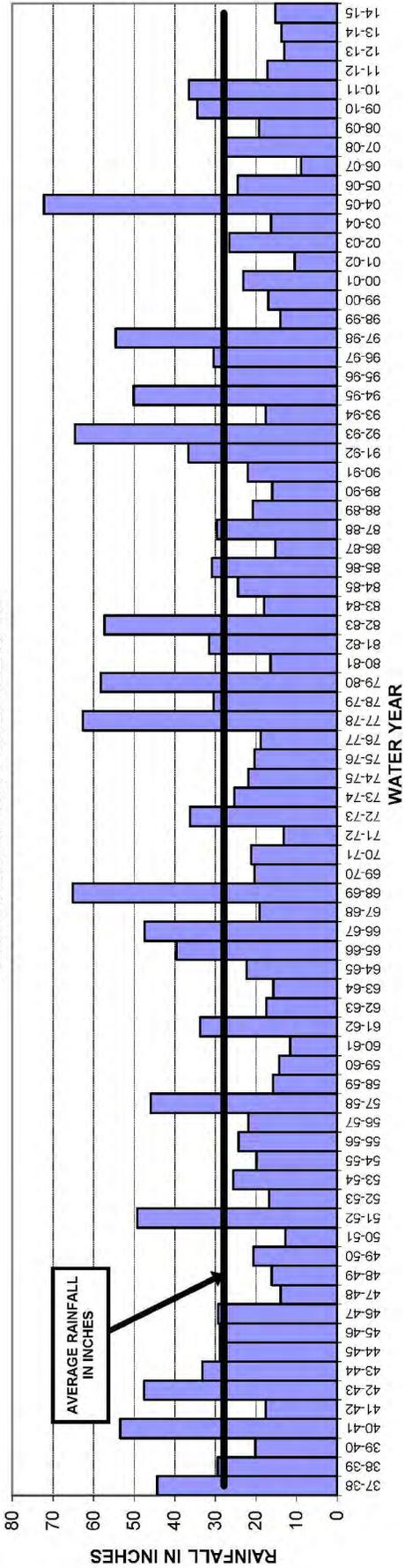
N.T.S.

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COVINA, CALIFORNIA 91724
TEL: (626) 967-6202
FAX: (626) 331-7065

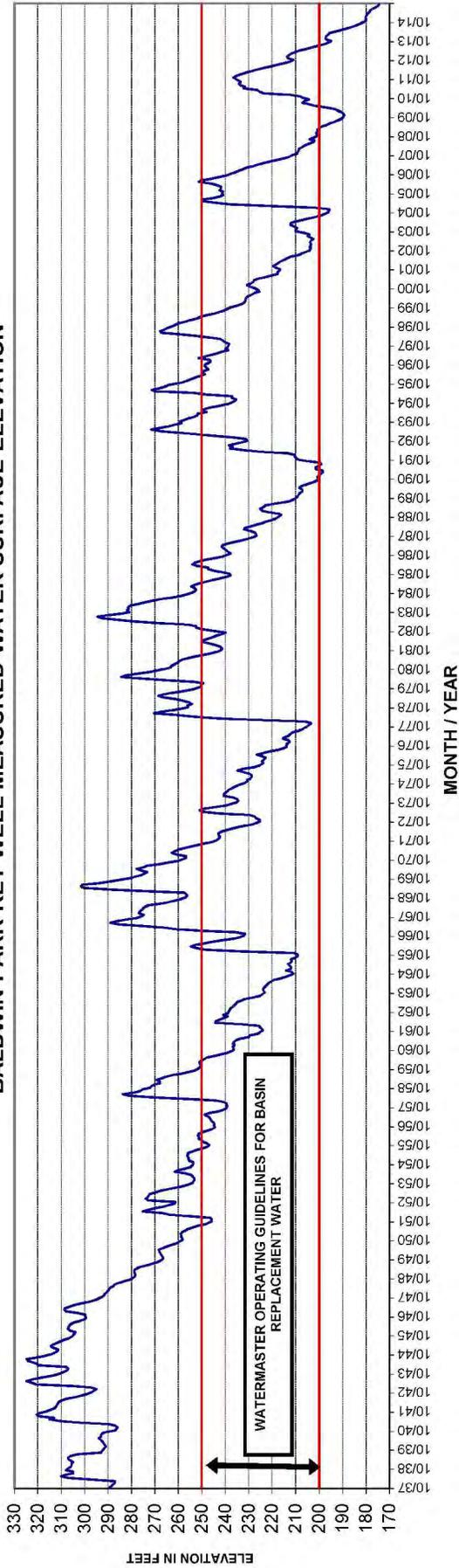
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San Rafael California 94901
2651 W Guadalupe Rd., Suite A209
Mesa Arizona 85202



RAINFALL AT SAN GABRIEL DAM



BALDWIN PARK KEY WELL MEASURED WATER SURFACE ELEVATION



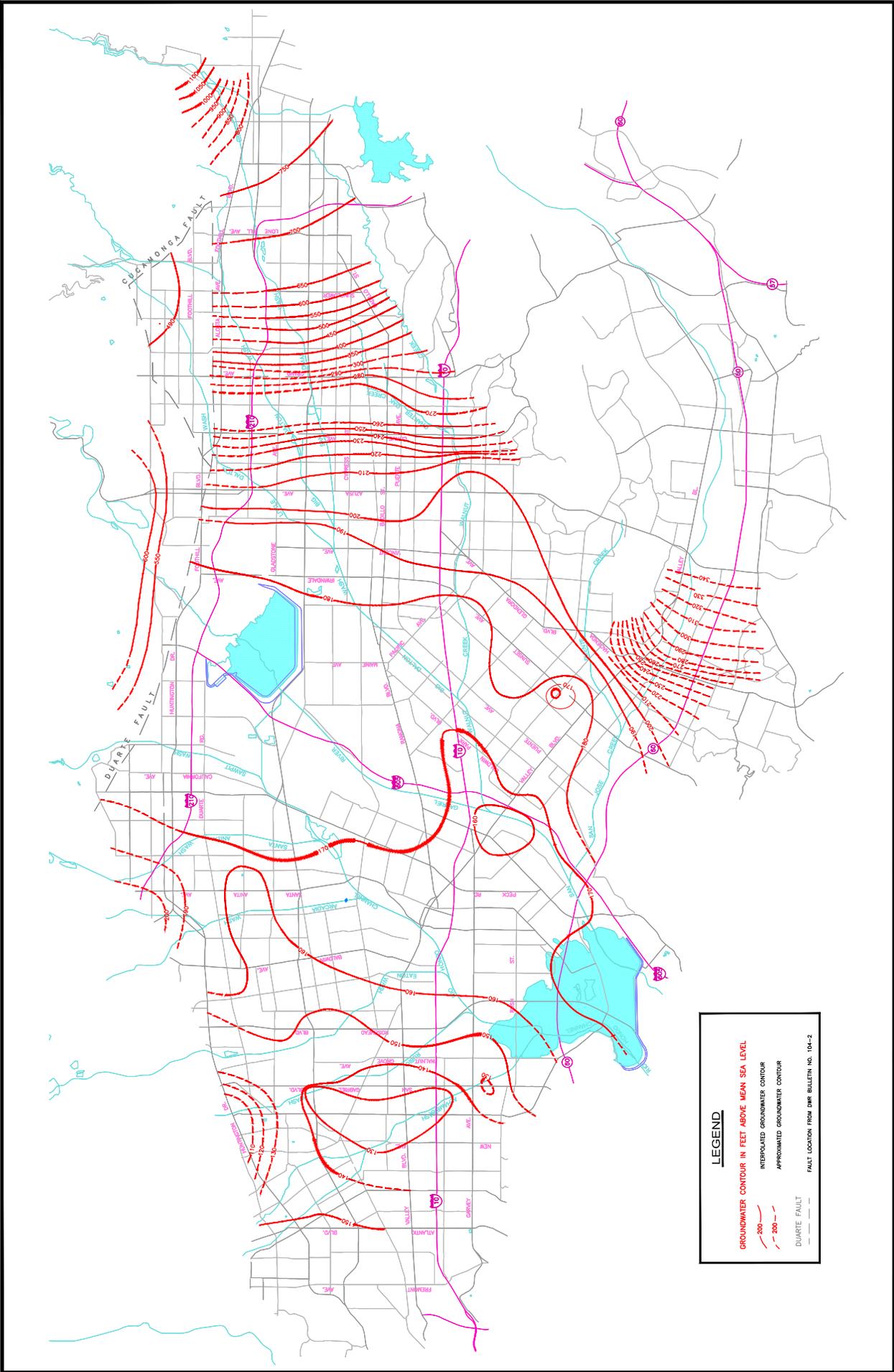
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 COVINA, CALIFORNIA 91724
 TEL: (626) 967-6202
 FAX: (626) 331-7065

2171 E Francisco Blvd., Suite K
 San Rafael California 94901
 2651 W Guadalupe Rd., Suite A209
 Mesa Arizona 85202

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SAN GABRIEL VALLEY WATER COMPANY

HISTORICAL BALDWIN PARK KEY WELL ELEVATIONS



LEGEND

- GROUNDWATER CONTOUR IN FEET ABOVE MEAN SEA LEVEL
- 200
- INTERPOLATED GROUNDWATER CONTOUR
- APPROXIMATED GROUNDWATER CONTOUR
- DUARTE FAULT
- FAULT LOCATION FROM DWR BULLETIN NO. 104-2


 N.T.S.

881 VILLAGE OAKS DRIVE, SUITE 100
 COVINA, CALIFORNIA 91724
 TEL: (626) 967-6202
 FAX: (626) 331-7085

 2171 E Francisco Blvd., Suite K
 San Rafael California 94901
 2651 W Guadalupe Rd., Suite A209
 Mesa Arizona 85202

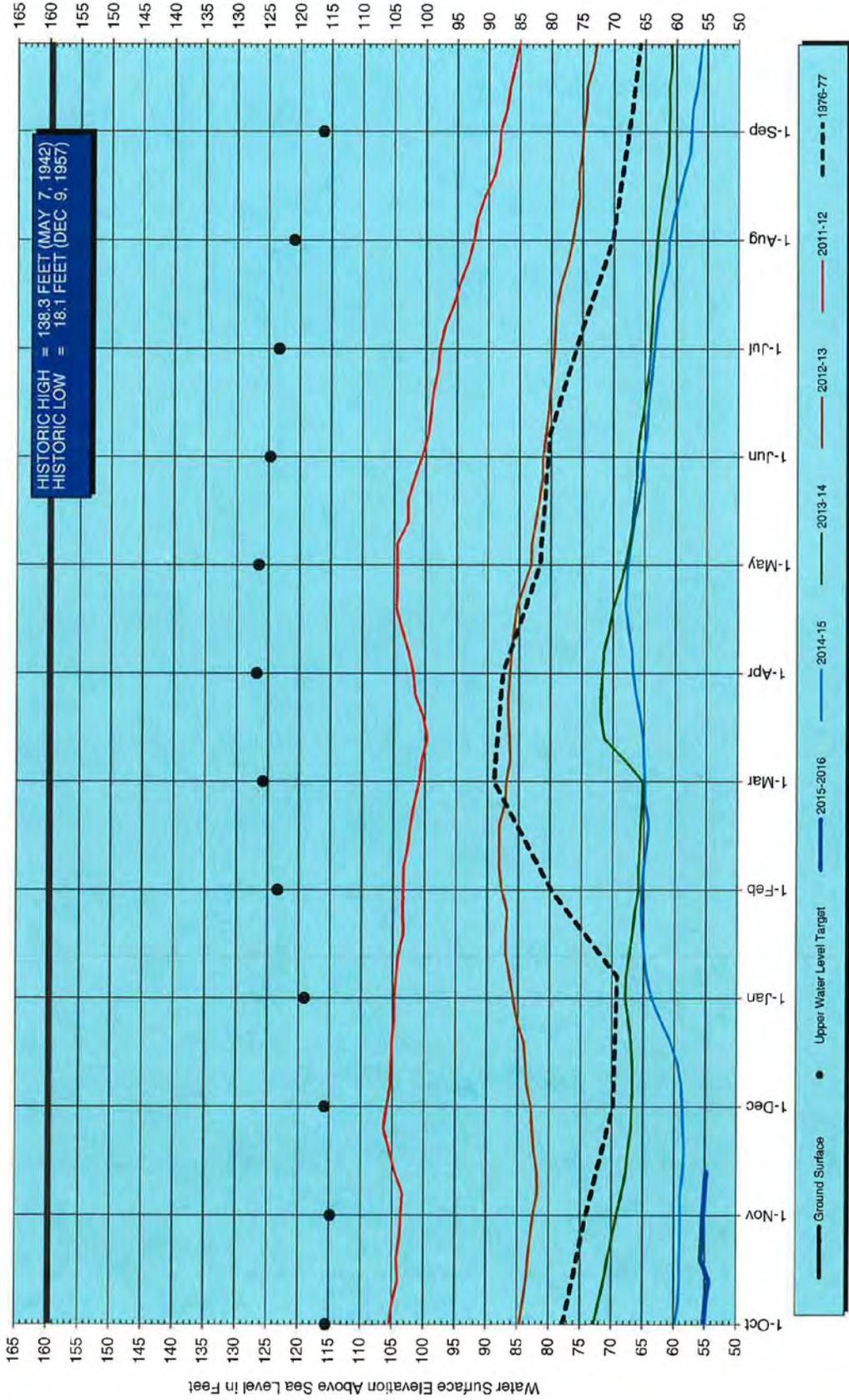


STETSON ENGINEERS INC.

SAN GABRIEL VALLEY WATER COMPANY

GROUNDWATER CONTOURS MAP
MAIN SAN GABRIEL BASIN - JULY 2015

MONTEBELLO FOREBAY WELL 1601T GROUNDWATER SURFACE ELEVATION



Source : Water Replenishment District of Southern California

SAN GABRIEL VALLEY WATER COMPANY

HISTORICAL CENTRAL BASIN GROUNDWATER ELEVATIONS

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 TEMECULA, CALIFORNIA 91724
 TEL: (951) 687-6200
 FAX: (951) 687-7085

2171 E Francisco Blvd., Suite K
 San Rafael California 94901
 2851 W. Granddunes Rd., Suite A209
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