Please mute your phone/tablet/computer unless speaking.

AGENDA
REGULAR BOARD MEETING
THREE VALLEYS MUNICIPAL WATER DISTRICT
1021 E. MIRAMAR AVENUE, CLAREMONT, CA 91711

Wednesday, June 2, 2021 – 8:00 a.m.

SPECIAL NOTICE OF TELECONFERENCE ACCESSIBILITY

Pursuant to the provisions of Executive Order N-29-20 issued by Governor Newsom in response to the COVID-19 outbreak and as a precaution to our Board of Directors, staff and the public, Three Valleys MWD will hold its Board meeting via teleconference. The public's physical attendance at the district is not allowed. The public may participate in the teleconference by clicking on the link below:

https://attendee.gotowebinar.com/register/8377024476001974032
(Dial-in instructions are provided after registering at the link above)

Any member of the public wishing to participate in Public Comment may do so by filling out the speaker's card at the following link: **https://arcg.is/0z5GqO** or by sending an email to **naguirre@tvmwd.com**

The mission of Three Valleys Municipal Water District is to supplement and enhance local water supplies to meet our region's needs in a reliable and cost-effective manner.

Item 1 – Call to Order **Kuhn**

Item 2 – Roll Call **Aguirre**

Item 3 – Additions to Agenda [*Government Code Section 54954.2(b)(2)]* **Kuhn**

Additions to the agenda may be considered when two-thirds of the board members present determine a need for immediate action, and the need to act came to the attention of TVMWD after the agenda was posted; this exception requires a degree of urgency. If fewer than two-thirds of the board members are present, all must affirm the action to add an item to the agenda. *The Board shall call for public comment prior to voting to add any item to the agenda after posting.*

Item 4 – Reorder Agenda **Kuhn**

Item 5 – Public Meeting FY 2021/22 Standby Charge

The Board will convene a public meeting to consider any comments or testimony regarding the FY 2021/22 Standby Charge. Final action to adopt the standby charge will not be taken at the public meeting; adoption will be considered by the Board following the public hearing scheduled for June 16, 2021 at 8:00 a.m. Pursuant to Government Code 6063, this public meeting was noticed in newspaper(s) of general circulation, Inland Valley Daily Bulletin and San Gabriel Valley Tribune, on April 28, May 5 and May 12, 2021. Copies of the notice are available upon request.

A. Open public meeting
B. Request staff report
C. Public testimony
D. Close public meeting

Item 6 – Presentation **Litchfield**

Mr. Andy Malone, Principal Geologist at West Yost, will provide an update on the subsidence issue in the Pomona area.

Item 7 – Public Comment *(Government Code Section 54954.3)* **Kuhn**

Opportunity for members of the public to directly address the Board on items of public interest within its jurisdiction. The public may also address the Board on items being considered on this agenda. TVMWD requests that all public speakers complete a speaker's card and provide it to the Executive Assistant.

We request that remarks be limited to three minutes or less. Pursuant to Government Code Section 54954.3, if speaker is utilizing a translator, the total allotted time will be doubled.

Item 8 – General Manager's Report **Litchfield**

The Executive Leadership Team will provide brief updates on existing matters under their purview and will be available to respond to any questions thereof.

8.A – Resolution No. 21-06-DRAFT for FY 2021/22 Standby Charge – [enc] **Linthicum**

The Board will review Resolution No. 21-06-DRAFT regarding the imposition of a Water Standby Charge for FY 2020/21.

8.B – Government Finance Officers Association Award – [enc] **Linthicum**

Three Valleys MWD has been awarded the GFOA Certificate of Achievement for Excellence in Financial Reporting for its comprehensive annual financial report for FYE 2020.

8.C – Review of FY 2021/22 General Manager's Work Plan – [enc] **Litchfield**

The Board will review the General Manager's Work Plan for FY 2021/22.

8.D – Miragrand Well Equipping Improvements Project, Project No. 58463 – [enc] **Kellett**

The Board will review bids for the Miragrand Well Equipping Improvements project.

8.E – Draft TVMWD 2020 Urban Water Management Plan – [enc] **Kellett**

The Board will receive an update on the Draft 2020 Urban Water Management Plan.

8.F – Projects Summary Update **Peralta**

The Board will be given an update of ongoing District projects.

Item 9 – Closed Session **Kuhn**

Conference with Legal Counsel – Existing Litigation [Government Code Section 54956.9(d)(1)]

Name of Case: San Diego County Water Authority v. Metropolitan Water District of Southern California, et al., San Francisco County Superior Court Case No. CPF-10-510830 (Consolidated with Case No. CPF-12-512466)

Name of Case: San Diego County Water Authority v. Metropolitan Water District of Southern California, et al., San Francisco County Superior Court Case No. CPF-14-514004

Name of Case: San Diego County Water Authority v. Metropolitan Water District of Southern California, et al., San Francisco County Superior Court Case No. CPF-16-515282

Name of Case: San Diego County Water Authority v. Metropolitan Water District of Southern California, et al., San Francisco County Superior Court Case No. CGC-17-563350

Name of Case: San Diego County Water Authority v. Metropolitan Water District of Southern California, et al., San Francisco County Superior Court Case No. CPF-18-516389

Item 10 – Future Agenda Items **Kuhn**

Item 11 – Adjournment and Next Meeting **Kuhn**

The Board will adjourn to a regular Board Meeting on Wednesday, June 16, 2021 at 8:00 a.m.

American Disabilities Act Compliance Statement

Government Code Section 54954.2(a)

Any request for disability-related modifications or accommodations (including auxiliary aids or services) sought to participate in the above public meeting should be directed to the TVMWD's Executive Assistant at (909) 621-5568 at least 24 hours prior to meeting.

Agenda items received after posting

Government Code Section 54957.5

Materials related to an item on this agenda submitted after distribution of the agenda packet are available for public review at the TVMWD office located at, 1021 East Miramar Avenue, Claremont, CA, 91711. The materials will also be posted on the TVMWD website at www.threevalleys.com.

Three Valleys MWD Board Meeting packets and agendas are available for review on its website at www.threevalleys.com.

Board of Directors
Staff Report

To: TVMWD Board of Directors

From: Matthew H. Litchfield, General Manager

Date: June 2, 2021

Subject: **Public Meeting Regarding the Imposition of a Water Standby Charge for FY 2021-22**

☒	**For Action**	☐	**Fiscal Impact**	**$**
☐	**Information Only**	☐	**Funds Budgeted:**	

Staff Recommendation:

The Board will conduct a public meeting regarding the imposition of a water standby charge for FY 2021-22.

Discussion:

TVMWD is to convene a public meeting regarding the imposition of a water standby charge prior to conducting a public hearing on possible adoption of the water standby charge scheduled for June 16, 2021. This public meeting required proper notice, which was done in the Inland Valley Daily Bulletin and the San Gabriel Valley Tribune on April 28, May 5, and 12, 2021.

Attached is the draft resolution that will be considered for approval at the Board meeting on June 16, 2021. The rate and methodology for the standby charge are described in the draft Engineer's Report, which is "Attachment A" of the resolution.

Strategic Plan Objective(s):

3.3 – Be accountable and transparent with major decisions

Attachment(s):

Exhibit A – Resolution No. 21-06-DRAFT Adopting Procedures to Fix, Adjust, Levy, and Collect a Water Standby Charge

Meeting History:

Board of Director's Meeting – March 3, 2021, Information Item Only

Board of Director's Meeting – April 7, 2021, Information Item Only

Board of Director's Meeting – April 21, 2021, FY 2021-22 Budget Adoption and Board Approval of Resolution No. 21-04-892 Initiating Procedures to Fix, Adjust, Levy and Collect a Water Standby Charge

NA/LC

RESOLUTION NO. 21-06-DRAFT

A RESOLUTION OF THE BOARD OF DIRECTORS OF THE THREE VALLEYS MUNICIPAL WATER DISTRICT ADOPTING PROCEDURES TO FIX, ADJUST, LEVY, AND COLLECT A WATER STANDBY CHARGE

WHEREAS, the Three Valleys Municipal Water District ("the District") is a municipal water district organized and operating pursuant to Water Code Section 71000 et seq.

WHEREAS, under the Uniform Standby Charges Procedures Act, Government Code Section 54984 et seq. ("the Act"), the District is authorized to fix before August 10 of any given year a water standby charge on land within its jurisdiction to which water service is made available for any purpose by the District, whether the water services are actually used or not.

WHEREAS, under the Act the Board may establish schedules varying the charge according to land uses, benefit derived or to be derived from the use, availability of facilities to provide water service, the degree of availability or quantity of the use of the water to the affected lands, and may restrict the assessment to one or more improvement districts or zones of benefit established within the jurisdiction of the District, and may impose the charge on an area, frontage, or parcel basis, or a combination thereof.

WHEREAS, on July 10, 1996, the District's Board of Directors adopted Resolution No. 7-96-361 which established a standby charge under the Act that was designed to fund the Readiness-to-Serve ("RTS") charge imposed upon the District by the Metropolitan Water District of Southern California ("MWD") and related administrative costs incurred by the District in connection therewith.

WHEREAS, Resolution No. 7-96-361 expressly provided that the District's standby charge was based upon the report of a qualified engineer which fixed that amount of the standby charge for the 1996-97 fiscal year at $5.92 per equivalent dwelling unit ("EDU") and provided for the adjustment of that standby charge during subsequent fiscal years according to the actual amount by which the RTS charge increased, and subject to a maximum assessment amount of $29.41 per EDU.

WHEREAS, Water Code Section 71639(b) authorizes the District to adjust the amount of its standby charge if the adjustment is made in the same manner as provided for taxes, fees, and charges in Government Code Section 53750(h)(2), which provides that a tax, fee, or charge is not deemed to be increased by an agency action that does either or both of the following: (A) adjusts the amount thereof in accordance with a schedule of adjustments adopted by the agency prior to November 6, 1996; or (B) implements or collects a previously approved tax, fee, or charge, so long as the rate is not increased beyond the level previously approved by the agency, and the methodology previously approved is not revised by the agency.

WHEREAS, Water Code Section 71639(c) further authorizes the District to adjust the amount of its standby charge if all of the following conditions are met: (1) the amount

of the assessment does not exceed $29.41 per EDU; (2) the revenue raised by the assessment, including its annual adjustments, is used exclusively to fund the RTS charge, or equivalent charge, imposed upon the District by MWD, and related administrative costs; and (3) The District adjusts its water rates to its retail agencies by an amount necessary to prevent surplus funding of the RTS charge imposed upon the District by MWD.

WHEREAS, Water Code Section 71639(c) further provides that in order for the District to fix a standby charge pursuant to the Act, the District's Board of Directors must adopt a resolution to initiate such proceedings, cause notice of intent to adopt the assessment to be published in accordance with Government Code Section 6066 prior to the date set for adoption thereof, and, at the time and place set forth in said notice, conduct a hearing on the assessment and hear and consider any and all objections thereto.

WHEREAS, on April 21, 2021, the District's Board of Directors adopted Resolution No. 21-04-892 initiating proceedings to fix, adjust, levy, and collect a water standby charge in accordance with Water Code Section 71639 and scheduling of a public meeting on June 2, 2021, and a public hearing on June 16, 2021.

WHEREAS, beginning on April 28, 2021, the District published a joint notice of the public meeting and the public hearing by placing a display advertisement of at least 1/8 page in a newspaper of general circulation within the District at least three times and five days apart.

WHEREAS, on June 2, 2021, at 8:00 a.m., at the District offices located at 1021 East Miramar Avenue, Claremont, California, the Board of Directors of the District held a public meeting via teleconference regarding the imposition of the charge.

WHEREAS, beginning on or about June 2, 2021, the District published a Notice of Public Hearing and Intent to Adopt a Water Standby Charge in a newspaper of general circulation within the District once a week for two successive weeks pursuant to Water Code Section 71639(c) and Government Code Section 6066.

WHEREAS, on June 16, 2021, at 8:00 a.m., at the District offices located at 1021 East Miramar Avenue, Claremont, California, the Board of Directors of the District held a public hearing via teleconference to hear and consider any and all objections or protests regarding the imposition of the charge, which hearing was duly conducted in the manner set forth in the Act.

NOW, THERFORE, the Board of Directors of the District does hereby find, resolve, determine, and order as follows:

1. The public interest and necessity requires the Board of Directors of the District to adopt this Resolution hereby fixing, adjusting, levying, and collecting standby charges pursuant to The Act and Water Code Section 71639 in order to meet the RTS financial obligations imposed upon the District by MWD and all administrative costs related thereto.

2. The written protests received by the District's Board of Directors which were not withdrawn at the time of its determination represented less than fifteen percent (15%) of the parcels subject to the charges set forth herein.

3. The standby charge hereby levied by the Board of Directors of the District is based upon the report of a qualified engineer, Harris & Associates, which is attached hereto as Attachment A ("the Engineer's Report"). The content and findings of the Engineer's Report are hereby adopted in full by the Board of Directors of the District and are incorporated herein in full by this reference, including, but not limited to, any and all statements and determinations specifically relating to each of the following:

a. A description of the charge and the method by which it is to be imposed;

b. A compilation of the amount of the charge for each parcel subject to the charge;

c. A statement of the methodology and rationale followed in determining the degree of benefit conferred by the service for which the charge is made;

d. The District's legal ability to fix and adjust a standby charge, the amount of the charge, and the properties affected thereby;

e. A description of the lands upon which the charge is to be imposed; and

f. The amount of the charge for each of the lands so described.

4. All adjustments in the amount of the standby charge set forth in the attached Engineer's Report are in compliance with the requirements of Water Code Section 71639(b) since the adjustments are made in the same manner as provided for taxes, fees, and charges in Government Code Section 53750(h)(2), which provides that a tax, fee, or charge is not deemed to be increased by an agency action that does either or both of the following: (A) adjusts the amount thereof in accordance with a schedule of adjustments adopted by the agency prior to November 6, 1996; or (B) implements or collects a previously approved tax, fee, or charge, so long as the rate is not increased beyond the level previously approved by the agency, and the methodology previously approved is not revised by the agency.

5. Additionally, all adjustments in the amount of the standby charge set forth in the attached Engineer's Report are in compliance with the requirements of Water Code Section 71639(c) since (a) the amount of the assessment does not exceed $29.41 per EDU, (b) the revenue raised by the assessment, including its annual adjustments, is used exclusively to fund the RTS charge, or equivalent charge, imposed upon the District by MWD, and related administrative costs, and (c) the water rates adopted by the District and levied upon its retail agencies have been calculated so as to prevent any surplus funding of the RTS charge imposed upon the District by MWD.

6. The District's General Manager is hereby authorized to take any and all actions necessary to carry out the intent of the District's Board of Directors as is stated herein, and to cause the standby charge hereby adopted to be collected at the same time, and in the same manner, as the levying of property taxes by the County of Los Angeles and/or as is otherwise available under the Act and applicable law.

7. If any charge hereby adopted becomes delinquent, the amount of the delinquency, together with any interest and penalties thereon, shall constitute a lien on the affected property upon the filing of a certificate in the Office of the Los Angeles County Recorder, which lien shall have the same force, effect, and priority as a judgment lien.

ADOPTED and **PASSED** at a meeting of the Three Valleys Municipal Water District's Board of Directors held via teleconference, on this 16th day of June 2021, by the following vote:

AYES:
NOES:
ABSTAIN:
ABSENT:

_____
Bob G. Kuhn, President

ATTEST:

_____
Carlos Goytia, Secretary

SEAL:

DRAFT

THREE VALLEYS MUNICIPAL WATER DISTRICT
WATER STANDBY CHARGE ASSESSMENT

2021/2022 ENGINEER'S ANNUAL LEVY REPORT

INTENT MEETING: APRIL 21, 2021
PUBLIC HEARING: JUNE 16, 2021

May 2021

PREPARED BY

Harris & Associates

22 Executive Park, Suite 200
Irvine, CA 92614
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ENGINEER'S CERTIFICATION

AGENCY: **THREE VALLEYS MUNICIPAL WATER DISTRICT**
PROJECT: **WATER STANDBY CHARGE ASSESSMENTS**
TO: **BOARD OF DIRECTORS of THREE VALLEYS MUNICIPAL WATER DISTRICT**

ENGINEER'S REPORT

Pursuant to the provisions of Section 54984 et seq. of the Government Code of the State of California, being Chapter 12.4, "Uniform Standby Charge Procedures Act" (the "Act"), and in accordance with Resolution No. 7-96-361 of the Board of Directors (the "Board") of the Three Valleys Municipal Water District (the "District"), adopted on July 10, 1996 establishing a Water Standby Charge Assessment, I, Alison Bouley, P.E., duly authorized representative of Harris & Associates Inc., consultant to the District, submit this Engineer's Report for Fiscal Year 2021/2022 consisting of the following parts and exhibits:

Part I

A description of each parcel of property and the boundaries of the area proposed to be subject to the levy of the uniform standby charge assessment.

Part II

An estimate of the costs of water services to be financed from the proceeds of the uniform standby charge assessment.

Part III

A description of the uniform standby charge assessment including:

- A description of each lot or parcel of property proposed to be subject to the assessment.
- The amount of the assessment for each lot or parcel.
- The assessment methodology describing the basis of the assessment.
- A description specifying the requirements for written and oral protests and the protest thresholds necessary for requiring a vote on, or abandonment of, the proposed assessment.

DATED this ___ day of April 2021

_____

Alison M. Bouley P.E., Assessment Engineer
R.C.E. No. C61383
Engineer of Work
County of Riverside
State of California

EXECUTIVE SUMMARY

A. Introduction

Harris & Associates submits this Report, consisting of (3) parts, for the Water Standby Charge Assessment adopted on July 10, 1996 by the Board of Directors of Three Valleys Municipal Water District in accordance with Resolution No. 7-96-361 under the Uniform Standby charges Procedures Act, Government Code Section 54984 et seq. ("the Act). The Act gives the District the authority to fix in any given year a water standby charge on land within its jurisdiction to which water service is made available for any purpose by the District, whether the water services are used or not. The District established the standby charge in 1996 to fund the Readiness-to-Serve ("RTS") charge imposed upon the District by the Metropolitan Water District of Southern California and related administrative costs related to the standby charge. The report provides the information in the following parts:

Part I

Description of the Proposed Parcels and Assessment Boundaries.

Part II

The estimate of costs including the administration of the assessments and the Readiness-to-Serve charge imposed by the Metropolitan Water District of Southern California for the fiscal year 2021/2022.

Part III

The description of assessments includes the methodology developed to establish the basis of assessment for apportioning the cost of providing water services, and the facilities needed to provide water services.

PART I – DESCRIPTION OF THE PROPOSED PARCELS AND ASSESSMENT BOUNDARIES

The proposed uniform standby charge assessment is entitled:

THREE VALLEYS MUNICIPAL WATER DISTRICT WATER STANDBY CHARGE ASSESSMENT

The boundaries of the area proposed to be subject to the levy of the Water Standby Charge Assessment are contiguous with the boundaries of the District. The lines and dimensions of each lot or parcel within the District Boundaries are those lines and dimensions shown on the maps of the Assessor of the County of Los Angeles for the year when this report was prepared and are incorporated herein by reference and made part of this Engineer's Report.

All future annexations to the District shall be included in the Water Standby ChargeAssessment. In future years, if any new parcels are created as a result of the division or consolidation of land, re-computation of the assessments will be conducted and the new parcels will be includedwithin the area of assessment.

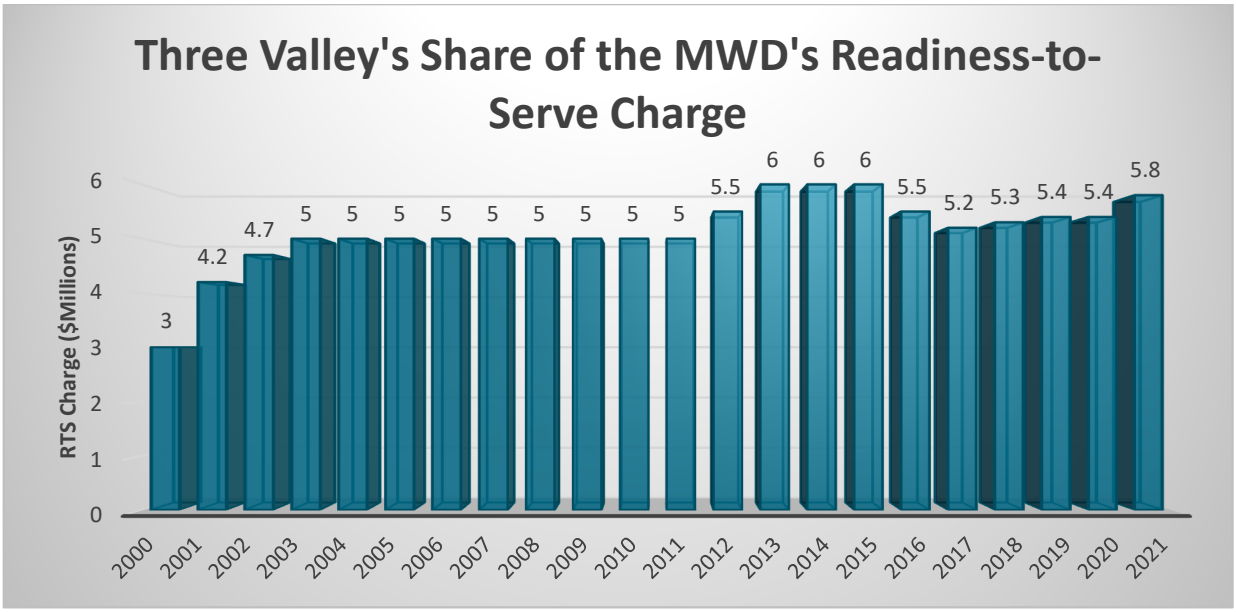
PART II – ESTIMATE OF COSTS

The Water Standby Charge Assessment revenue will be used for the purpose of meeting the Readiness-to-Serve ("RTS") charge imposed by the Metropolitan Water District of Southern California ("MWD"), and for related administrative costs.

The following table lists the projections for the RTS Charge, Administration Cost and Estimated Maximum Total Assessment to be funded by the assessment.

	FY 2012/2013	FY 2013/2014	FY 2014/2015	FY 2015/2016	FY 2016/2017	FY 2017/2018	FY 2018/2019	FY 2019/2020	FY 2020/2021	FY 2021/2022
RTS Charge	$5,541,364	$6,022,555	$6,371,116	$6,074,192	$5,537,230	$5,233,954	$5,274,931	$5,363,969	$5,494,518	$5,872,377
Assessment Administration	$49,832	$50,332	$51,056	$51,675	$52,057	$52,709	$53,383	$52,074	$51,635	$64,024
Est. Maximum Assessment	$5,379,146	$5,374,162	$5,375,222	$5,441,758	$5,445,359	$5,443,845	$5,425,678	$5,431,833	$5,450,397	$5,867,266

The estimated RTS charge through the year 2002 was based on the schedule provided byMWD shown in the chart below. Years 2003 through 2011 were based on the projected RTS charge of $5 million. The 2012 through 2021 RTS charges are based on the amount approved by the Southern California Metropolitan Water District Board for each year.



The amount budgeted to be generated by the assessment for FY 2021/2022 is $4,075,749.87 as calculated in Section III.

Administration of the assessment is performed annually. This administration includes updating the annual assessment roll to ensure consistency with the assessment methodology detailed in this Engineer's Report. The administration also includes an analysis of the revenues and expenditures from the previous Fiscal Year and preparation of an annual report for submittal to the Board of Directors for approval of the proposed Fiscal Year's assessments and expenditures. The table below provides a comparison of the assessment between fiscal years.

	FY 2020/2021[(1)]	FY 2021/2022	Difference [(2)]	Percentage Difference
Parcels	135,607	136,443	836	.62%
EDU's	186,373	199,499	13,126	7.04%
Rate/EDU	$19.90	$20.43	$0.53	2.66%
Est. Revenue	$3,708,519.36	$4,075,749.87	$367,230.51	9.90%

(1) Totals for FY 2020/2021 are based on the final applied levy by the Los Angeles County Auditor-Controller's Office.

(2) Note: Difference between Revenue, EDUs and parcels resulted from audit of parcels and land use designations.

PART III – DESCRIPTION OF ASSESSMENTS

This section of the report describes the methodology developed to establish the basis of assessment for apportioning the cost of providing water services, and the facilities needed to provide water services, to each lot or parcel based upon the type of use or potential use of each property. The basis of assessment was developed by Berryman & Henigar based upon information provided by the District, standard and member agency design criteria, and the requirements of Section 54984.2 of the Uniform Standby Charge Procedures Act. The following sections review the requirements of the California Government Code and describe the recommended assessment methodology.

A. LEGAL REQUIREMENTS

Chapter 12.4 "Uniform Standby Charge Procedures Act" of the California Government Code states that any local agency that provides water services may, by resolution adopted after notice and hearing, determine and levy an assessment for water services pursuant to this chapter.

The California Government Code further requires that the agency establish a methodology, which is related to the benefit received from the water services for calculating the assessment to be levied on each parcel. Section 54984.2 provides that:

"...The governing body of the agency which fixes the charge may establish schedules varying the charge according to land uses, benefit derived or to be derived from the use or availability of facilities to provide water, sewer, or water and sewer service, or the degree of availability or quantity of the use of the water, sewer, or water and sewer services to the affected lands, and may restrict the assessment to one or more improvement districts or zones of benefit established within the jurisdiction of the agency. The charge may be imposed on an area, frontage, or parcel basis, or a combination thereof."

All assessments described in this Report and approved by the Board are prepared in accordance with the Act and are in compliance with the provisions of the *California Constitution Article XIIID* (enacted by the passage of Proposition 218 in November 1996).

Pursuant to the *California Constitution Article XIIID Section 5*, certain assessments that were existing on July 1, 1997, the effective date of *Article XIIID*, are exempt from the substantive and procedural requirements of *Article XIIID Section 4* and property owner balloting for the assessments is not required until such time that the assessments are increased. Exempt are any assessments imposed

exclusively to finance the capital costs or maintenance and operation expenses for sidewalks, streets, sewers, water, flood control, drainage systems, or vector control.

In May of 2005, Senate Bill 376, was enacted to add Article 2.7 (commencing with Section 71639) to Chapter 2 of Part 5 of Division 20 of the Water Code, relating to water. This bill authorizes the agency to adopt the standby charge rate with a schedule of annual adjustments, and to adjust the standby charge rate in relation to the change of the MWD imposed RTS charge, subject to the maximum assessment amount of twenty-nine dollars and forty-one cents ($29.41) per Equivalent Dwelling Unit ("EDU").

B. ASSESSABLE PARCELS

The table below summarizes the number of parcels and the total acreage by land use type. This information is based on the records of the Assessor of the County of Los Angeles.

Land Use Category	Number of Parcels	Dwelling Units (DU's)	Acres
Single-Family Residential (SFR)	108,766	108,663	N/A
Multi-Family Residential and Condominiums	18,085	42,959	N/A
Mobile Homes	91	7,055	N/A
Commercial	3,784	N/A	5,658.96
Churches	259	N/A	483.36
Industrial	2,065	N/A	5,493.34
Recreational Camping Facilities	2	N/A	8.13
Vacant Residential	2,487	N/A	7,519.13
Vacant Non-Residential	904	N/A	1,574.45
Exempt	0	N/A	0.00
Total	**136,443**		

The land use classifications are defined as follows:

Single-Family Residential - parcels designated as single-family residential per the Los Angeles County Assessor's Roll.

Multi-Family Residential (including Condominiums) - parcels designated as multi-family residential, which includes duplexes, apartments, condominiums or other dwelling units with common party walls, per the Los Angeles County Assessor's Roll.

Mobile Homes - parcels designated as mobile homes per the Los Angeles County Assessor's Roll.

Commercial (including Churches) - parcels designated as commercial, institutional or recreational per the Los Angeles County Assessor's Roll.

Industrial - parcels designated as industrial, utility or other miscellaneous uses, per the Los Angeles County Assessor's Roll.

Recreational Camping Facilities - parcels designated as camps per the Los Angeles County Assessor's Roll.

Vacant - parcels designated as vacant residential that have no dwelling units, or parcels designated as vacant commercial/industrial that have no commercial/industrial structures on them, per the Los Angeles County Assessor's Roll.

Exempt - Exempted from the assessment would be any parcel owned by a public agency or within the area of public streets and other public properties, utility easements, right-of-way, public schools, public parks, and common areas or un-developable parcels of land.

C. EQUIVALENT DWELLING UNITS

To determine the benefit to the individual parcels with their varying land uses, an equivalent dwelling unit system was established. Each parcel is assigned equivalent dwelling units (EDUs) in proportion to the estimated benefit the parcel receives from the availability of water services. The total number of EDUs is then divided into the annual revenue requirement to determine the cost per EDU. The assessment for each parcel is then determined by multiplying the number of EDUs for each parcel by the cost per EDU.

Since the assessment is based upon the use of the property and the potential water usage of the property, the assessment methodology has been developed based on land use. The assessment methodology developed determines the number of EDUs to be assigned to each parcel. In determining the number of EDUs assigned, three factors are considered: parcel size, land use (intent of development), and the water use design factor of the land use of the property.

Equivalent Dwelling Unit (EDU) factors have been established to indicate the estimated benefit received by each parcel within the District. This method of assessment has established the single- family residential parcel as the basic unit for calculation of the assessment and is defined as one EDU. All other parcels within the District are assigned a proportional EDU based on a formula that equates the properties specific development status (land use) and size to that of the single- family parcel.

The assignment of EDUs to each of the different land uses is as follows:

Single-Family Residential (SFR). The single-family parcel has been defined as being 1.0 EDU.

Multi-Family Residential. Multi-family or condominium parcels are converted to EDUs based on the number of dwelling units on each parcel. Due to population density and size of structure relative to the typical single-family residence, each dwelling unit defined as multi-family residential, including condominiums is **0.75 EDU**. Water availability benefit does not increase proportionately as the number of units increase on a multi-family parcel. By decreasing the equivalency as the number of units increase, a reasonable benefit assessment is achieved. Therefore, the equivalency is reduced to **0.5 EDU** per dwelling unit, for apartment buildings with 5 units or more. Parcels with 5 or more units are considered "high density" as opposed to the "medium density" of duplexes, triplexes and four-plexes, and the Los Angeles County Assessor's land use codes segregate these parcels out.

Mobile Homes. Mobile home parks, and mobile homes located within mobile home parks, are converted to EDUs based on the population density and size of structure relative to a single-family residence. Therefore, mobile home parks and mobile homes located in mobile home parks are assessed **0.5 EDU** per mobile home. No decrease is applied to this factor, as mobile homes are all separate dwellings with no common walls.

Studies have consistently shown that the average apartment unit impacts infrastructure approximately 75% as much as a single-family residence, and the average mobile home unit impacts infrastructure approximately 50%, (Sources: Institute of Transportation Engineers Informational Report Trip Generation, Fifth Edition, 1991; Metcalf and Eddy, Wastewater Engineering Treatment, Disposal, Reuse, Third Edition, 1991). Trip generation and wastewater usage are functions of population density. It is concluded that other infrastructure will be similarly impacted at a reduced level. The smaller average unit size of multiple residential and mobile homes and their reduced impact on water use result in a lesser benefit per unit to property.

Commercial/Industrial. Commercial and industrial parcels are converted to EDUs based on the lot size of each parcel of land. The number of equivalent dwelling units per acre for commercial/industrial property has been equated to the average single-family residential lot size of approximately 8,700 square feet, or 5 lots per acre. All properties that are developed for commercial/ industrial uses are therefore assigned **5.0 EDU's** per acre for the first five acres, with a minimum of 1 EDU per parcel. Based upon a review of large non-residential parcels within the District, as the parcel size increases above five acres, the development density on the parcel generally decreases due to requirements to provide on-site circulation, allow for the storage of materials or equipment, provide buffers to adjacent land uses and other factors associated with the types of development which require larger parcels. Therefore, after the first 5 acres, each additional acre will be charged as vacant land as further described below; 25% of 5.0 EDU's, or 1.25 EDU's per acre.

Additionally, a water use factor is applied to both the commercial and industrial parcels as follows, based on relative average water usage as compared to single-family residential developments:

- Commercial Water Use Factor = 1.4
- Industrial Water Use Factor = 1.1

Recreational Camping Facilities. Recreational camping facilities typically have large land areas comprised of mostly park-like open space and only a few buildings**.** Therefore, to more accurately assign EDUs to these parcels, a "theoretical area" will be calculated for each of them. The typical developed commercial parcel has 1/3 of its lot area covered by improvements. Using this standard, the "theoretical area" is computed by multiplying the improvement area of each camping parcel by 3. This "theoretical area" is then converted to acreage, and the Equivalent Dwelling Unit factor of 5 EDU per acre is applied.

Vacant. Vacant property receives a benefit from water services availability. Water availability allows the parcel to develop to its maximum use in the future. Based upon the opinions of professional appraisers who appraise current market property values for real estate in Southern California, the land value portion of a property typically ranges from 20 to 30 percent; in the Three Valleys Municipal Water District, the average is about 25 percent. Additionally, the utilization of vacant property is significantly less than improved property. Consequently, vacant property shall be assessed at the rate of 25% of improved property. Therefore, vacant single-family residential parcels are assessed 25% of a developed SFR parcel, or **0.25 EDU** per parcel, and vacant non-SFR parcels are assessed at the rate of 25% of the developed commercial/industrial properties, or **1.25 EDUs** per acre or any portion thereof, up to a maximum of 5 acres per parcel.

A summary of Equivalent Dwelling Units and Benefit Factors is shown on the following table:

EQUIVALENT DWELLING UNITS							
LAND USE	**BASIC UNIT**		**EDU FACTOR**		**USE FACTOR**		**EDU RATES**
Single-Family Res. (SFR)	1 DU	x	1	x	1	=	1.0 EDU/DU
Multi-Family Res. and Condominiums	1 DU	x	0.75	x	1		0.75 EDU/DU for the first 4 DU's
	1 DU	x	0.5	x	1	=	0.5 EDU/DU after the 4th DU
Mobile Homes	1 DU	x	0.5	x	1	=	0.5 EDU/DU
Commercial	1 acre	x	5	x	1.4	=	7.0 EDU/acre for the first 5 acres (min. 1 EDU/parcel)
	1 acre	x	1.25	x	1.4	=	1.75 EDU/acre after the 5th acre
Industrial	1 acre	x	5	x	1.1	=	5.5 EDU/acre for the first 5 acres (min. 1 EDU/parcel)
	1 acre	x	1.25	x	1.1	=	1.375 EDU/acre after the 5th acre
Recreational Camping Facilities	1 acre*	x	5	x	1	=	5.0 EDU/acre
Vacant SFR	1 parcel	x	0.25	x	1	=	0.25 EDU/parcel
Vacant Non-SFR	1 acre	x	1.25	x	1	=	1.25 EDU/acre (min. .25 EDU/parcel; max of 5 acres/parcel)

D. ASSESSMENT RATES

The total number of Equivalent Dwelling Units (EDUs) has been calculated for the District based upon current land use data as shown on the latest assessor's roll for Los Angeles County and the methodology described above. The number of EDUs by land use type is shown in the table below:

Land-Use Type	Equivalent Dwelling Units
SFR	108,766.00
MFR and Condominium	27,772.75
Mobile Home Parks	4,027.50
Commercial	31,607.68
Churches	3,164.51
Industrial	22,633.42
Recreational Camping Facilities	0.86
Vacant SFR	621.75
Vacant Non-SFR	904.68
Total:	**199,499.15**

Based upon the budget of $4,075,749.87 as shown in Section II of this report, the Assessment Rate for FY 2021/2022 per Equivalent Dwelling Unit (EDU) is **$20.43/EDU**, as calculated below.

Total Equivalent Dwelling Units	Applied Assessment Rate/EDU	FY 2020/2021 Total Assessment Revenue
199,499.15	$20.43	$4,075,749.87

Note: Difference in Total Assessment and EDUs multiplied by the Rate is due to rounding.

The following table, Summary of Assessment Rates, provides the proposed Maximum Assessment and Applied Assessment Rates for the ten-year period beginning with FY 2012/2013. The Board may continue to levy the Assessment in future years (i.e. beyond FY 2021/2022) so long as MWD continues to impose the RTS charge upon the District. However, the maximum Assessment Rate per EDU shall never be greater than $29.41, nor shall the total amount assessed be greater than the sum of the RTS charge and administrative costs.

SUMMARY OF MAXIMUM AND APPLIED ASSESSMENT RATES

Fiscal Year	2012/2013	2013/2014	2014/2015	2015/2016	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021	2021/2022
Maximum Assessments Rate/EDU	$29.41	$29.41	$29.41	$29.41	$29.41	$29.41	$29.41	$29.41	$29.41	$29.41
Applied Assessments Rate/EDU	$20.46	$23.22	$25.02	$23.09	$20.16	$18.51	$18.79	$19.23	$19.90	$20.43

E. AMOUNT OF ASSESSMENT

The amount of the proposed assessment for FY 2021/2022, based on EDUs as apportioned to each parcel shown on the latest roll of the Los Angeles County Assessor, is contained in the Assessment Roll on file in the office of the Secretary of the Three Valleys Municipal Water District. The description of each parcel is part of the records of the County Assessor and these records are, by reference, made a part of this Engineers Report.

F. ACCURACY OF DATA

The data utilized in developing the assessment rate calculations has been taken directly from the Los Angeles County Assessor's Roll.

Some parcels that are partially improved often will appear on the Assessor's roll as improved. These parcels that are brought to the attention of the District, and are found to be so classified after field review, will have their assessment revised per this report: for that portion of the property which is improved, the developed land use benefit formula will apply; for that portion of the property which is unimproved, the vacant land use benefit formula will apply.

Should a property owner find a discrepancy regarding a parcel, it is recommended that the owner notify the Three Valleys Municipal Water District by contacting the Secretary of the Three Valleys Municipal Water District. If warranted, the District will assist the owner in processing a correction with the County Assessor's Office. The District will be responsible for revisions to the Water Standby Charge Assessment for the property for the current Fiscal Year if the change in amount is greater than five percent (5%). If the change is less than or equal to five percent, then the adjustment for the following year will be made at the time that the annual assessments are determined for the next Fiscal Year, and no refund will be made for the previous year's assessment.

EXHIBIT A

SAMPLE CALCULATIONS FOR VARIOUS LAND USES

Land Use	Benefit Calculation (EDU) x (Use Factor)				EDUs	$20.43/EDU
Single Family Res.	(1 DU x 1 EDU/DU)	x	1.0	=	1	$20.43
Triplex	(3 DU x .75 EDU/DU)	x	1.0	=	2.25	$45.97
10-Unit Apartment	[(4 DU x .75 EDU/DU) + (6 DU x .5EDU/DU)]	x	1.0	=	6	$122.58
90-Unit Apartment	[(4 DU x .75 EDU/DU) + (86 DU x .5EDU/DU)]	x	1.0	=	46	$939.78
Store ¼ acre parcel	(¼ acre x 5.0 EDU/acre)	x	1.4	=	1.75	$35.75
Bank/Office Bldg. ½ acre parcel	(½ acre x 5.0 EDU/acre)	x	1.4	=	3.5	$71.51
Office Building 2 acre parcel	(2 acre x 5.0 EDU/acre)	x	1.4	=	14	$286.02
Service Station ⅓ acre parcel	(⅓ acre x 5.0 EDU/acre)	x	1.4	=	2.33	$47.66
Light Manufacturing ¼ acre parcel	(¼ acre x 5.0 EDU/acre)	x	1.1	=	1.38	$28.09
Heavy Manufacturing 7 acre parcel	[(5 ac x 5.0 EDU/ac) + (2 ac x 1.25 EDU/ac)]	x	1.1	=	30.25	$618.01
Recreational Camping Facility	[(2,500 sf x 3) ÷ 43,560 sf/ac)] x 5.0 EDU/ac	x	1.0	=	0.86	$17.59
Vacant SFR	(1 parcel x .25 EDU/parcel)	x	1.0	=	0.25	$5.11
Vacant Non-SFR 1 acre parcel	(1 acre x 1.25 EDU/acre)	x	1.0	=	1.25	$25.54
Vacant Non-SFR 5+ acre parcel	(5 acre x 1.25 EDU/acre)	x	1.0	=	6.25	$127.69

Note: Total Assessment EDU may not calculate exactly due to rounding.

EXHIBIT B

ASSESSMENT ROLL FOR FY 2021/2022

Each Assessor Parcel Number and its assessment to be levied for FY 2021/2022 is shown on the Assessment Roll on file in the office of the Secretary of the Three Valleys Municipal Water District and is incorporated herein by reference. Reference is made to the Los Angeles County Assessor's office for further description of the parcels in the District.

Board of Directors
Staff Report

To: TVMWD Board of Directors

From: Matthew H. Litchfield, General Manager

Date: June 2, 2021

Subject: **Government Finance Officers Association Award**

☐	**For Action**	☐	**Fiscal Impact** **$**
☒	**Information Only**	☐	**Funds Budgeted:**

Staff Recommendation:

No Action Necessary – Informational Item Only

Discussion:

Staff is pleased to announce TVMWD has been awarded the *Certificate of Achievement for Excellence in Financial Reporting* presented by the Government Finance Officers Association of the United States and Canada (GFOA) for its Comprehensive Annual Financial Report for the fiscal year ended June 30, 2020. This is the fourteenth consecutive year TVMWD has received this award.

This certificate is awarded to government units whose Comprehensive Annual Financial Report achieves the highest standards in governmental accounting and financial reporting. Receiving this award demonstrates TVMWD's continued commitment to transparency and full disclosure in our financial reporting.

Strategic Plan Objective(s):

3.1 – Utilize and comply with a set of financial policies to maintain TVMWD's financial health

3.3 – Be accountable and transparent with major decisions

Attachment(s):

Exhibit A – Financial Report Award

Meeting History:

None

NA/JL

Government Finance Officers Association
203 North LaSalle Street, Suite 2700
Chicago, Illinois 60601-1210
312.977.9700 *fax:* 312.977.4806

5/17/2021

Bob Kuhn
President of the Board
Three Valleys Municipal Water District, California

Dear Mr. Kuhn:

We are pleased to notify you that your comprehensive annual financial report for the fiscal year ended June 30, 2020 qualifies for GFOA's Certificate of Achievement for Excellence in Financial Reporting. The Certificate of Achievement is the highest form of recognition in governmental accounting and financial reporting, and its attainment represents a significant accomplishment by a government and its management.

When a Certificate of Achievement is awarded to a government, an Award of Financial Reporting Achievement (AFRA) is also presented to the individual(s) or department designated by the government as primarily responsible for its having earned the Certificate. This award has been sent to the submitter as designated on the application.

We hope that you will arrange for a formal presentation of the Certificate and Award of Financial Reporting Achievement, and give appropriate publicity to this notable achievement. A sample news release is included to assist with this effort.

We hope that your example will encourage other government officials in their efforts to achieve and maintain an appropriate standard of excellence in financial reporting.

Sincerely,

Michele Mark Levine
Director, Technical Services

Government Finance Officers Association

Certificate of Achievement for Excellence in Financial Reporting

Presented to

Three Valleys Municipal Water District
California

For its Comprehensive Annual
Financial Report
For the Fiscal Year Ended

June 30, 2020

Christopher P. Morrill

Executive Director/CEO

Board of Directors
Staff Report

To: TVMWD Board of Directors

From: Matthew H. Litchfield, General Manager

Date: June 2, 2021

Subject: **General Manager FY 2021-22 Work Plan**

☐	**For Action**	☐	**Fiscal Impact**	☐	**Funds Budgeted**
☒	**Information Only**	☐	**Cost Estimate:**		

Staff Recommendation:

No Action Necessary – Informational Item Only

Background:

Each year, the General Manager and Executive Staff prepare the General Manager Work Plan ("Work Plan") that lays out the specific projects or initiatives to meet the overall goals in support of the TVMWD mission outlined in the Annual Strategic Plan.

Discussion:

The FY 2021-22 Work Plan outlines specific projects, initiatives and activities that are measurable with specific performance objectives. A copy of the proposed Work Plan is attached as **Exhibit A**. All the activities outlined in the Work Plan are designed to further the mission of TVMWD and each activity listed is referenced back to each specific strategic goal outlined in the FY 2021/22 Strategic Plan. New or significantly modified objectives from the previous fiscal year General Manager Work Plan are identified in the new plan.

Strategic Plan Objective(s):

3.3 – Be accountable and transparent with major decisions

3.4 – Communicate TVMWD's role in the delivery of water

Attachment(s):

Exhibit A – General Manager's Work Plan, Fiscal Year 2021-22

Meeting History:

None

NA/ML

THREE VALLEYS MUNICIPAL WATER DISTRICT
GENERAL MANAGER'S WORK PLAN
FISCAL YEAR 2021-22

The mission of Three Valleys Municipal Water District is to supplement and enhance local water supplies to meet our region's needs in a reliable and cost-effective manner.

PLANNED ACTIVITIES

	Activity	Success Measure	District Strategic Objectives
1.	**TVMWD Miragrand Avenue Well** Complete design and publicly bid well site improvements.	• Complete 100% plans and specifications • Public bidding for well site improvements • Landscape and site design conforms to conceptual renderings developed with the local neighbors • Equipping and placing well into service in CY 2022	1.1, 1.3, 1.4, 1.5 2.1
2.	**TVMWD Padua Avenue Well*** Pursue purchase of a portion of property owned by Caltrans near Baseline and Padua for a future well.	• Execute Decertification Agreement with Caltrans • Negotiate a purchase agreement with Caltrans	1.1, 1.3, 1.4, 1.5, 2.1
3.	**TVMWD Emergency Electrical Upgrade*** Construction of new electrical facilities to allow a portable generator to connect to Miramar Water Treatment Plant	• Complete RFP and publicly bid • Construct new facilities • Test system to be prepared for emergency electrical shutdowns	1.4,1.5
4.	**Maximize Energy Production from Hydrogeneration Units** Maximize run times for all three hydro stations to maximize revenue.	• Meet or Exceed budgeted goals for power production.	2.1
5.	**Six Basins Operating Agreement*** Execute a new agreement for operation of Old Baldy Well and future Durward Well on behalf of PBWA parties.	• Execute agreement with PBWA parties with Board approval • Continue pursuit of DDW Permit Amendment permitting TVMWD to operate the wells.	2.1 3.3 4.4
6.	**Miramar/JWL Pump Back Agreement*** Create new agreement to memorialize pump back operations with JWL parties. Currently no agreement exists.	• Develop draft agreement with JWL parties • Execute agreement with JWL parties with Board approval	2.1 3.3 4.4
7.	**Maximize Water Sales Through Miramar** Maximizing water production in treatment plant decreases unit cost of water. Includes maximizing well production year-round.	• Meet or exceed budgeted goals for water sales. • Maintaining strong working relationships with Member Agencies.	1.2 2.1, 2.2, 2.3
8.	**Monthly Key Performance Metrics Report and Strategic Plan Activities Progress Report** Reports for Board identifying key performance metrics and our progress towards achieving Strategic Plan Goals.	• Inclusion in Board SharePoint site and update monthly	3.3

*New activity added by General Manager Litchfield

PLANNED ACTIVITIES			
	Activity	**Success Measure**	**District Strategic Objectives**
9.	**District Facility Modifications** Continue to improve office space efficiency for staff as well as replacement of covered parking structure.	• Explore cost-effective options to replace or repair covered parking due to structural deficiencies • Provide covered sunscreen structures for critical infrastructure	1.4
10.	**Financial/Human Resources Software Replacement Planning** Tyler Technologies is no longer doing R&D to improve our EDEN financial software. Support provided by Tyler had degraded. Identify options to transition from EDEN.	• Staff will disseminate RFP that includes requirements of a new financial and human resources software. • Staff will select new vendor and establish a timeline for implementation, tentatively planned for fall 2022.	3.1 4.1, 4.5
11.	**Job Continuity Guidelines** Work with administrative staff to finalize and maintain job continuity guidelines for each individual job classification.	• Provide new presentation of expectations and why needed • Managers will work with staff to complete handbooks	4.2
12.	**Emergency Response** Continue to work with PWAG and conduct internal tabletop exercise and one "surprise" drill (Date TBD). Implement additional NIMS/SEMS training and develop ICS form library and EOC supplies.	• EOC hands-on drill with a total of up to three (3) drills per year • Train staff on specific roles in EOC • Schedule additional SEMS/NIMS training for staff • Utilize virtual training and tools for staff development	1.4, 1.5 3.5
13.	**Geographical Information Systems (GIS) Implementation** Develop and institute GIS District wide to improve workflow efficiencies and improve asset management capabilities.	• Prepare RFP and select qualified consultant • Develop ESRI-based GIS applications to improve efficiency of operations • Implement Asset Management with GIS	1.4 3.1 4.3, 4.5
14.	**Information Technology Master Plan** Develop planning documentation and institute practices for the management of the district's hardware and software programs	• Assess & align software program versions • Revamp hardware rotation schedule • Review/modify IT contracts and subscriptions • Manage security camera systems • Place physical backup server in EOC • Assess current cyber-attack risks and improve protections	3.1 4.1, 4.3, 4.5
15.	**District Website Enhancements** Investigate the need and potential for improving the District's website for visual and navigational enhancements and improved transparency.	• Insert all board meeting recordings on website for up to 2 years • Develop and publish a video on the history of TVMWD	3.2, 3.3, 3.4 4.3
16.	**TVMWD Sponsored Legislation*** Pursue legislation that modifies Brown Act teleconferencing rules and improves access to public meetings by the public.	• Assembly Bill 703 (AB 703) successfully signed into law by the Governor during the 2-year legislative cycle	3.4, 3.5

PLANNED ACTIVITIES			
	Activity	**Success Measure**	**District Strategic Objectives**
17.	**MWD Rialto Feeder PCCP Rehabilitation** Explore options to maintain service to Miramar and other member agencies for long term 6 to 9 month shutdowns for Rialto Feeder for PCCP repairs/replacement.	• Pursue a regional project alternative that benefits multiple agencies • Develop short list of potential projects • Execute non-binding LOI with all parties • Collaborate with MWD on regional solution and funding mechanisms	1.3, 1.5 2.4
18.	**MWD Regional Recycled Water Project ("Carson Project")** Pursue potential capacity in the Carson Project for recharge in the Main San Gabriel Basin	• Execute non-binding LOI among MWD, USGVMWD, and MSGBWM with a potential range of capacity of take of advanced treated water • Pursue agreement with PBWA for capacity in Carson Project	1.1, 1.3, 1.5 2.4, 2.5 3.4 3.5
19.	**MWD Rate Refinement*** Actively participate in the 2021 Rate Refinement Process ensuring the future financial stability of MWD.	• Participate in all workshops and committee meetings • Advocate for rate changes to improve MWD's financial standing for long term stability in a various water demand environments • Advocate for MWD operating budget cost cutting measures	2.4 3.4
20.	**Increase Water Storage Capabilities*** Pursue opportunities to store additional SWP water in local groundwater basins	• Pursue Storage Agreement in Chino Basin • Store additional water in the Main San Gabriel Groundwater Basin when water supplies and district finances are sufficient • Pursue additional sources of replenishment water in 6 Basins Groundwater Basin due to additional TVMWD well extractions including the possibility of SARRCUP water. • Execute Memorandum of Agreement with LA County Public Works and City of Glendora for PM-26A service connection for Big Dalton Spreading Grounds • Continue to work with MWD on pursuing PM-27 and PM-29 Service Connections.	1.1, 1.3, 1.5 2.4, 2.5
21.	**TVMWD Water Conservation Support Programs*** Continue to promote all water conservation programs on behalf of our member agencies	• Promote MWD funding for programs and rebates • Support Member Agency Conservation Coordinators' programs • Provide outreach in support of conservation initiatives	1.3, 1.6

Board of Directors
Staff Report

To: TVMWD Board of Directors

From: Matthew H. Litchfield, General Manager

Date: June 2, 2021

Subject: **Miragrand Well Equipping (Project No. 58463)**

☐	**For Action**	☐	**Fiscal Impact**	☐	**Funds Budgeted**
☒	**Information Only**	☐	**Cost Estimate:**		**$2,800,000**

Requested Action:

No Action Necessary – Informational Item Only

Discussion:

Phase 2 - Well Equipping Bids

The TVMWD Miragrand Well Equipping Project will involve construction and installation of 8-inch and 12-inch discharge piping, a vertical turbine pump, 125 horsepower motor, a well enclosure building, a new SCE transformer to provide electrical power to the well, electrical improvements, and SCADA integration/programming tasks.

A mandatory pre-bid meeting was held on May 3, 2021 and final bids were opened on May 26, 2021. The initial bid results are shown in Table 1 below. The apparent low bid of $2,668,408 is $317,592 (10.6%) lower than the Engineer's Estimate of $2,986,000.

Table 1 – Bid Summary

No.	Company Name	Bid Amount
1	Pyramid Building & Engineering, Inc.	$2,668,408
2	Pacific Hydrotech Corporation	$2,893,600
3	Cora Constructors	$2,916,000
4	Schuler Constructors, Inc.	$3,194,000
5	R.C. Foster Corporation	$3,368,000

Staff is in the process of confirming the completeness and accuracy of all the bids and reviewing the references and financial information provided by the apparent low bidder (Pyramid Building & Engineering, Inc).

Staff will provide a recommendation to award construction at the June 16, 2021 Board meeting. The construction work and related activities are anticipated to require approximately ten months to complete.

Strategic Plan Objective(s):

1.1 – Secure water supplies that exceed the estimated annual demands by 10%.

1.3 – Maintain diverse and environmentally responsible sources of water supplies and storage.

1.5 – Prepare for long-term MWD shutdown or catastrophic event that affects operations.

3.3 – Be accountable and transparent with major decisions

Attachment(s):

None

Meeting History:

None

NA/BP/TK

Board of Directors
Staff Report

To:	TVMWD Board of Directors
From:	Matthew H. Litchfield, General Manager
Date:	June 2, 2021
Subject:	**Draft 2020 Urban Water Management Plan (UWMP) and Water Shortage Contingency Plan (WSCP) Review**

☐	**For Action**	☐	**Fiscal Impact** **$**
☒	**Information Only**	☐	**Funds Budgeted:**

Staff Recommendation:

No Action Necessary – Informational Item Only

Discussion:

On June, 17, 2020, the Board authorized the General Manager to award a professional services agreement to Stetson Engineer's, Inc. for the purpose of developing and preparing the District's 2020 Urban Water Management Plan (UWMP).

The District also partnered with five of our member agencies to jointly develop our respective 2020 UWMP documents. The participating agencies are City of Glendora, Golden State Water Company, City of Pomona, Rowland Water District, and Walnut Valley Water District with Three Valleys MWD serving in the role of lead agency and providing oversight of the administrative functions for this project.

The Urban Water Management Act (Act), which was enacted by the California Legislature in 1983, requires that every urban water supplier providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually prepare and adopt an UWMP, in accordance with prescribed requirements.

The Act also specifies the requirements and procedures for each water supplier to adopt a Water Shortage Contingency Plan (WSCP). The District's 2020 UWMP incorporates the District's Water Shortage Contingency Plan.The Act requires submission of an updated UWMP to the California Department of Water Resources (DWR) every five years. The District is required to complete and submit the 2020 UWMP to DWR by July 1, 2021. The last submittal of the District's UWMP (2015) was adopted by the Board on May 18, 2016.An UWMP is required in order for a water supplier to be eligible for any water grant or loan administered by DWR or other state funding.

The current requirements for preparing the UWMP are included in the California Water Code (CWC) Sections 10608 through 10657. Stetson has prepared the District's 2020 UWMP in compliance with the CWC and following the recommended framework provided in DWR's Final "Urban Water Management Plan Guidebook 2020", dated March 2021.

The Act requires urban water suppliers to perform planning analyses to evaluate reliability as part of the development of an UWMP including: (1) a water supply reliability assessment, which requires development of a detailed evaluation of the supplies necessary to meet demands over at least a 25-year planning horizon in normal conditions, single dry-year conditions, and five consecutive dry years; (2) a water shortage contingency plan that documents the stages of actions needed to address up to a 50 percent reduction in an agency's water supplies; and (3) an emergency plan that defines the actions to be taken in the event of a catastrophic interruption in water supplies.

In addition, the Act requires urban water suppliers to describe water supply projects and programs, efficient uses of water, demand management measures, implementation strategy and schedule, water quality impacts, and the agency's coordination process with various stakeholders in preparation of the UWMP.

The UWMP is a planning document that helps the urban water suppliers to assess existing and future water demands and evaluate long-term supply reliability. The UWMP also evaluates potential future sources and water conservation efforts to improve overall reliability for a water supplier's service area. The 2020 UWMP satisfies all the process and content reporting requirements mandated by the Act and provides a comprehensive summary of the District's water demand and supply outlook through 2045.The UWMP describes the Three Valleys MWD service area, the retail water agencies served, the sources of water used within Three Valleys and corresponding projections of supply through 2045. The District's member agencies played a part in providing data and comment throughout this process.

Public Input Process

- Pursuant to Section 10620(d)(3) of the California Water code, water suppliers are required to send notifications to water management agencies, relevant public agencies, and other water suppliers that the Urban Water Management Plan is being updated and that they are invited to provide comments during the update process. This was done on October 28, 2020 and the contact list is in Exhibit B.
- The UWMP was also discussed at several of the past monthly Member Agencies Managers' meetings. TVMWD incorporated comments received (as appropriate) from its member agencies into the draft plan.
- On May 25, 2021, TVMWD sent out a Notice of Public Hearing to be held on June 16,2021, for the 2020 UWMP and the WSCP to its member agencies, cities within our service area, Inland Empire Utilities Agency, Chino Basin Watermaster, Main San Gabriel Basin Watermaster, Metropolitan Water District, Six Basins Watermaster, Upper San Gabriel Valley Municipal Water District, and Los Angeles County. All entities are invited to attend and provide comments. A copy of the draft 2020 UWMP and WSCP was made available on the District's website.

Key Reporting Points of this Plan

- TVMWD has supply capabilities that would be sufficient to meet expected demands from 2020 through 2045 under average year, single dry-year, and mulitiple dry-year hydrologic conditions.

- TVMWD has comprehensive plans for stages of actions it would undertake to address up to 50 percent reduction in water supplies due to drought or catostrophic events through its Water Shortage Contingency Plan in coordination with Metropolitan's Water Supply Allocation plan.
- Population is only expected to grow by 9.4% over the entire Three Valleys service area from 2020 to 2045.
- Total water demands on TVMWD are expected to be stable under normal conditions. Significant changes may occur in scenarios where extreme hydrological conditions alter either demands or water supplies. This could be a wet year where demands decrease due to local precipitation or a dry year when demands increase to meet water needs.
- TVMWD plans to increase local supplies through developing additional groundwater production capabilities. The projected goal is to produce 3,000 acre-feet per year from groundwater sources by 2045.

Strategic Plan Objective(s):

1.1 – Secure water supplies that exceed the estimated annual demands by 10%.
1.3 – Maintain diverse and environmentally responsible sources of water supplies and storage.
1.4 – Maintain water infrastructure to assure 100% reliability.
1.5 – Prepare for long-term MWD shutdown or catastrophic event that affects operations.
1.6 – Support Water Conservation Programs and Water Use Efficiency.
2.1 – Increase Miramar Treatment Plant deliveries to 60%-70% of available capacity.
2.5 – Increase ability to store water for future use.
3.3 – Be accountable and transparent with major decisions.

Attachment(s):

Exhibit A – Resolution No. 21-06-DRAFT Adopting the 2020 UWMP
Exhibit B – Resolution No. 21-06-DRAFT Adopting the Water Shortage Contingency Plan
Exhibit C – Draft TVMWD 2020 Urban Water Management Plan
Exhibit D – Draft TVMWD 2020 Urban Water Management Plan Appendices

Meeting History:

None

NA/LC/TK

RESOLUTION NO. 21-06-DRAFT

A RESOLUTION OF THE BOARD OF DIRECTORS OF THE THREE VALLEYS MUNICIPAL WATER DISTRICT ADOPTING THE 2020 URBAN WATER MANAGEMENT PLAN

WHEREAS, the Urban Water Management Planning Act requires urban water suppliers providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually prepare and adopt, in accordance with prescribed requirements, an urban water management plan every five years; and

WHEREAS, the Urban Water Management Planning Act specifies the requirements and procedures for adopting such Urban Water Management Plans; and

WHEREAS, the Board of Directors of Three Valleys Municipal Water District has duly reviewed, discussed, and considered the 2020 Urban Water Management Plan and has determined the 2020 Urban Water Management Plan to be consistent with the Urban Water Management Planning Act and to be an accurate representation of the water resources plan for Three Valleys Municipal Water District.

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of Three Valleys Municipal Water District that, on June 16, 2021, this District hereby adopts this 2020 Urban Water Management Plan for submittal to the State of California.

PASSED, APPROVED AND ADOPTED at a meeting of the Three Valleys Municipal Water District's Board of Directors held via teleconference this 16TH day of June 2021, by the following vote:

AYES:
NOES:
ABSENT:
ABSTAIN:

_____
Bob G. Kuhn
President, Board of Directors

ATTEST:

_____
Carlos Goytia
Secretary, Board of Directors

SEAL

RESOLUTION NO. 21-06-DRAFT

A RESOLUTION OF THE BOARD OF DIRECTORS OF THE THREE VALLEYS MUNICIPAL WATER DISTRICT ADOPTING THE WATER SHORTAGE CONTINGENCY PLAN

WHEREAS, the Urban Water Management Planning Act requires urban water suppliers providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually prepare and adopt, in accordance with prescribed requirements, an urban water management plan every five years; and

WHEREAS, the Urban Water Management Planning Act specifies the requirements and procedures for adopting such Water Shortage Contingency Plan; and

WHEREAS, the Urban Water Management Planning Act requires urban water suppliers to conduct an annual water supply and demand assessment (Annual Assessment) each year and to include in their water shortage contingency plans the procedures they use to conduct the Annual Assessment; and

WHEREAS, the procedures used to conduct an Annual Assessment include, but are not limit to, the written decision-making process that an urban water supplier will use each year to determine its water supply reliability; and

WHEREAS, Three Valleys Municipal Water District's (TVMWD's) water shortage contingency plan provides that by June of each year, TVMWD staff will present a completed Annual Assessment for approval by TVMWD's Board of Directors or by the Board's authorized designee with expressly delegated authority for approval of Annual Assessment determinations; and

WHEREAS, the Board of Directors of Three Valleys Municipal Water District has duly reviewed, discussed, and considered such Water Shortage Contingency Plan and has determined the Water Shortage Contingency Plan to be consistent with the Urban Water Management Planning Act and to be an accurate representation of the planned actions during shortage conditions for Three Valleys Municipal Water District.

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of Three Valleys Municipal Water District that, on June 16, 2021, this District hereby adopts this Water Shortage Contingency Plan for submittal to the State of California and expressly authorizes the General Manager of Three Valleys Municipal Water District to approve the Annual Assessment each year.

PASSED, APPROVED AND ADOPTED at a meeting of the Three Valleys Municipal Water District's Board of Directors held via teleconference this 16TH day of June 2021 by the following vote:

AYES:
NOES:
ABSENT:
ABSTAIN:

Bob G. Kuhn
President, Board of Directors

ATTEST:

Carlos Goytia
Secretary, Board of Directors

SEAL

THREE VALLEYS MUNICIPAL WATER DISTRICT

MAY 2021

FINAL DRAFT

2020 URBAN WATER MANAGEMENT PLAN

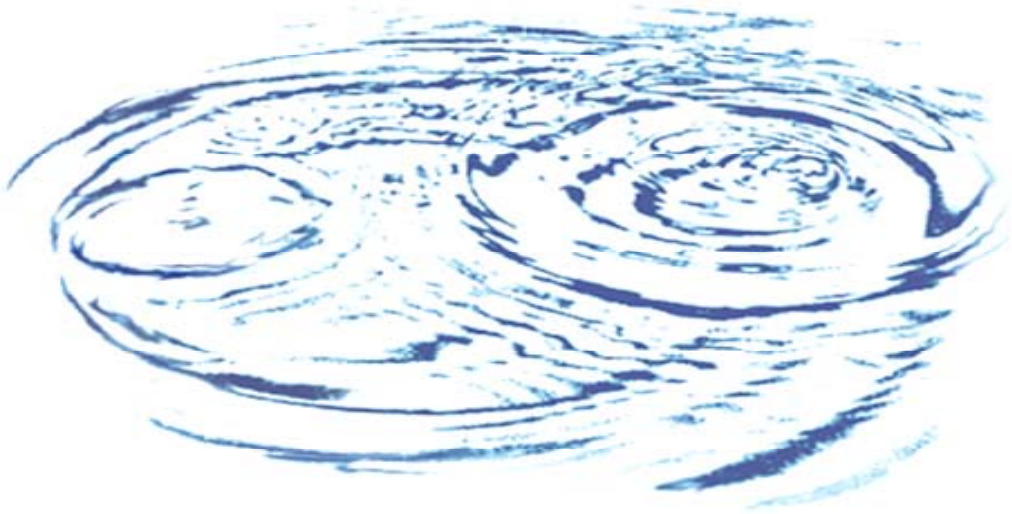
STETSON ENGINEERS INC.

Northern California • Southern California • Arizona • Colorado • Oregon

FINAL DRAFT

Three Valleys Municipal Water District

2020 Urban Water Management Plan



MAY 2021

STETSON ENGINEERS INC.

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Northern California • Southern California • New Mexico • Arizona • Nevada • Colorado

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LIST OF ACRONYMS

AB	Assembly Bill
ACS	American Community Survey
AF	Acre-feet
AFY	Acre-feet per year
Annual Assessment	Annual Water Supply and Demand Assessment
AWWA	American Water Works Association
BSA	Boy Scouts of America
CIC	Covina Irrigating Company
CIMIS	California Irrigation Management Information System
CPUC	California Public Utilities Commission
CWC	California Water Code
DOF	Department of Finance
Delta	Sacramento-San Joaquin Delta
Department	Department of Water Resources
DMM	Demand Management Measures
DPW	Los Angeles County Department of Public Works
DRA	Drought Risk Assessment
DWR	Department of Water Resources
ERP	Emergency Response Plan
ETo	Evapotranspiration
FY	Fiscal Year
GCMs	General Circulation Models
GIS	Geographical Information Systems
GPCD	Gallons per capita per day
GSP	Groundwater Sustainability Plan
GSWC	Golden State Water Company
IRP	Integrated Resources Plan
JWPCP	Joint Water Pollution Control Plant
kWh	Kilowatt Hours
LACSD	Los Angeles County Sanitation District
M&I	Municipal and Industrial
Main Basin	Main San Gabriel Basin
MGD	Million gallons per day
mg/L	Milligrams per liter
MSAC	Mount San Antonio College
MWD	Metropolitan Water District of Southern California
Plan	Urban Water Management Plan
PVPA	Pomona Valley Protective Association

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PWRP	Pomona Water Reclamation Plant
PWS	Public Water System
RCP 4.5	Representative Concentration Pathway 4.5
RDM	Robust Decision Making
RRA	Risk and Resilience Assessment
RWD	Rowland Water District
SAWCo	San Antonio Water Company
SB	Senate Bill
SCAG	Southern California Association of Governments
SCE	Southern California Edison
SGMA	Sustainable Groundwater Management Act of 2014
SJCWRP	San Jose Creek Water Reclamation Plant
SWRCB	State Water Resources Control Board
SWS	Suburban Water System
SWP	State Water Project
TDS	Total Dissolved Solids
USEPA	United States Environment Protection Agency
U.S. Census	United States Census
UWMP	Urban Water Management Plan
VHWC	Valencia Heights Water Company
VOC	Volatile Organic Compounds
WECWC	West End Consolidated Water Company
WEWAC	Water Education/Water Awareness Committee
WVWD	Walnut Valley Water District
WSAP	Water Supply Allocation Plan
WSCP	Water Shortage Contingency Plan
WRCC	Western Regional Climate Center
WUCA	Water Utility Climate Alliance

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CHAPTER 1

URBAN WATER MANAGEMENT PLAN INTRODUCTION AND OVERVIEW

LAY DESCRIPTION - INTRODUCTION

An urban water supplier is defined (pursuant to Section 10617 of the California Water Code[1]) 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. 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.*"

The Three Valleys Municipal Water District (District) is classified as an urban water supplier because it serves more than 3,000 customers (i.e. individual metered accounts) and it supplies more than 3,000 acre-feet of water annually to its customers for municipal purposes.

In accordance with the "Urban Water Management Planning Act", which was enacted by the California Legislature in 1983, every urban water supplier (including the District) is required to prepare and adopt an Urban Water Management Plan (UWMP), periodically review its UWMP, and incorporate updated and new information into an updated UWMP at least once every five years.

The District's most recent update was its 2015 UWMP (or 2015 Plan) which was submitted to, and approved by, the California Department of Water Resources (DWR). Urban water suppliers (including the District) are required to complete and submit their 2020 UWMPs to DWR by July 1st, 2021.

[1] References to CWC Sections in this 2020 UWMP were obtained from https://leginfo.legislature.ca.gov/

The current requirements for preparing the UWMP are included in California Water Code (CWC) Sections 10608 through 10657. The District's 2020 UWMP (or 2020 Plan) was prepared consistent with the CWC and the recommended organization provided in DWR's Final "Urban Water Management Plan Guidebook 2020" (Final 2020 UWMP Guidebook), dated March 2021.

The UWMP provides urban water suppliers (including the District) with a reliable management action plan for long-term resource planning to ensure adequate water supplies are available to meet existing and future water supply needs. In addition, the 2020 UMWP incorporates water supply reliability determinations resulting from potential prolonged drought, regulatory revisions, and/or changing climatic conditions.

The District's 2020 Plan consists of the following Chapters:

Chapter 1 Urban Water Management Plan Introduction and Overview
Chapter 2 Plan Preparation
Chapter 3 System Description
Chapter 4 Water Use Characterization
Chapter 5 SB X7-7 Baselines, Targets, and 2020 Compliance
Chapter 6 Water Supply Characterization
Chapter 7 Water Service Reliability and Drought Risk Assessment
Chapter 8 Water Shortage Contingency Plan
Chapter 9 Demand Management Measures
Chapter 10 Plan Adoption, Submittal, and Implementation

A lay description is presented at the beginning of each of these Chapters.

LAY DESCRIPTION – CHAPTER 1

URBAN WATER MANAGEMENT PLAN INTRODUCTION AND OVERVIEW

Chapter 1 (Urban Water Management Plan Introduction and Overview) of the District's 2020 Plan discusses and provides the following:

- An overall lay description of the 2020 Plan, including California Water Code and Urban Water Management Plan Act requirements, is provided. The District is required to prepare an Urban Water Management Plan.
- The District's 2020 Plan was prepared consistent with the recommended organization provided in DWR's Final "Urban Water Management Plan Guidebook 2020", dated March 2021. A description regarding the organization of the 2020 Plan, including a summary of each Chapter, is provided. The District's Water Shortage Contingency Plan (discussed in Chapter 8) is also included in the 2020 Plan.
- The 2020 Plan incorporates DWR's water use and supply tables (standardized tables) for the reporting and submittal of UWMP data. These tables are included within the respective sections of the 2020 Plan and in Appendix A.
- The District's coordination efforts with other planning agencies are discussed, including coordination efforts with the Metropolitan Water District of Southern California and the Southern California Association of Governments.
- The District's eligibility to receive grants and loans administered by the State of California and/or DWR, as a result of preparing the 2020 Plan, is discussed.
- Information is provided which demonstrates the District's prior, continued, and projected reduction on imported water supplies obtained (either directly or indirectly) from the Sacramento-San Joaquin Delta (Delta). The District has reduced its reliance on the imported water supplies for Fiscal Year 2014-15 and

Fiscal Year 2019-2020. In addition, the District is projected to continue reducing its reliance on the imported water supplies through Fiscal Year 2044-45.

- The checklist developed by DWR and used by the District to incorporate the specific UWMP requirements is discussed. The completed checklist is provided in Appendix C.

1.1 RECOMMENDED UWMP ORGANIZATION

The District's 2020 Urban Water Management Plan (2020 Plan) was prepared consistent with the recommended organization provided in DWR's Final "Urban Water Management Plan Guidebook 2020" (Final 2020 UWMP Guidebook), dated March 2021. The District's 2020 Plan consists of the following Chapters:

Chapter 1	Urban Water Management Plan Introduction and Overview
Chapter 2	Plan Preparation
Chapter 3	System Description
Chapter 4	Water Use Characterization
Chapter 5	SB X7-7 Baselines, Targets, and 2020 Compliance
Chapter 6	Water Supply Characterization
Chapter 7	Water Service Reliability and Drought Risk Assessment
Chapter 8	Water Shortage Contingency Plan
Chapter 9	Demand Management Measures
Chapter 10	Plan Adoption, Submittal, and Implementation

Pursuant to CWC requirements, the District's 2020 Plan incorporates DWR's water use and supply tables (standardized tables) for the reporting and submittal of UWMP data. DWR's standardized tables are provided within the body of the 2020 Plan text as well as in Appendix A. The District also submitted the UWMP data (standardized tables) electronically through DWR's Online Submittal Tool.

The District's 2020 Plan also provides supporting documents (appendices) including notification letters of the Plan update, public notice of the Plan hearing, and adoption resolution from the District's governing body. Further discussions regarding these supporting documents are provided within the individual Chapters of the District's 2020 Plan.

1.2 UWMPS IN RELATION TO OTHER EFFORTS

The District is a wholesale water agency and a member agency of the Metropolitan Water District of Southern California (MWD). As a member agency, the District has coordinated with MWD regarding the preparation of MWD's 2021 Integrated Resources Plan (IRP) and 2020 UWMP. In addition, the District's 2020 Plan has been made available for use to its sub-agencies.

1.3 UWMPS AND GRANT OR LOAN ELIGIBILITY

Pursuant to DWR's Final 2020 UWMP Guidebook:

"*In order for a Supplier to be eligible for any water grant or loan administered by DWR, the Supplier must have a current UWMP on file that has been determined by DWR to address the requirements of the Water Code. A current UWMP must also be maintained by the Supplier throughout the term of any grant or loan administered by DWR. A 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. Suppliers are encouraged to seek guidance on the specifics of any state funding source from the respective funding agencies. The following sections of the Water Code are pertinent to Suppliers considering pursuit of grants or loans*."

The District's 2020 UWMP has been prepared to meet eligibility requirements for grants and loans administered by the State and/or DWR.

1.4 DEMONSTRATION OF CONSISTENCY WITH THE DELTA PLAN FOR PARTICIPANTS IN COVERED ACTIONS

Pursuant to DW'R's Final 2020 UWMP Guidebook, an urban water supplier that anticipates participating in or receiving water from a proposed project (or "covered action") such as a multi-year water transfer, conveyance facility, or new diversion that involves transferring water through, exporting water from, or using water in the Sacramento-San Joaquin Delta (Delta) should provide information in their 2015 and 2020 UWMPs for use in demonstrating consistency with Delta Plan Policy WR P1, "*Reduce Reliance on the Delta Through Improved Regional Water Self-Reliance"*. In addition, pursuant to California Code of Regulations, Title 23, § 5003:

> *(c)(1) Water suppliers that have done all of the following are contributing to reduced reliance on the Delta and improved regional self-reliance and are therefore consistent with this policy:*
>
> > *(A) Completed a current Urban or Agricultural Water Management Plan (Plan) which has been reviewed by the California Department of Water Resources for compliance with the applicable requirements of Water Code Division 6, Parts 2.55, 2.6, and 2.8;*
> >
> > *(B) Identified, evaluated, and commenced implementation, consistent with the implementation schedule set forth in the Plan, of all programs and projects included in the Plan that are locally cost effective and technically feasible which reduce reliance on the Delta; and*
> >
> > *(C) Included in the Plan, commencing in 2015, the expected outcome for measurable reduction in Delta reliance and improvement in regional self-reliance. The expected outcome for measurable reduction in Delta reliance and improvement in regional self-reliance shall be reported in the Plan as the reduction in the amount of water used, or in the percentage of water used, from the Delta watershed. For the purposes of reporting, water*

efficiency is considered a new source of water supply, consistent with Water Code section 1011(a).

The District has reduced its reliance on the imported water supplies for fiscal year (FY) 2014-15 and FY 2019-20. In addition, the District is projected to continue reducing its reliance on the imported water supplies through FY 2044-45. A further discussion which demonstrates the District's measurable reduction in imported reliance and improvement in regional self-reliance is provided in Appendix B.

1.5 TIPS FOR UWMP PREPARERS

The District's 2020 UWMP is considered an update to the District's 2015 UWMP. However, the 2020 UWMP is considered a stand-alone document. As discussed in Section 1.1, the District's 2020 UWMP was prepared consistent with the recommended organization provided in DWR's Final 2020 UWMP Guidebook.

A checklist of specific UWMP 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

LAY DESCRIPTION – CHAPTER 2

PLAN PREPARATION

Chapter 2 (Plan Preparation) of the District's 2020 Plan discusses and provides the following:

- The basis for preparing an Urban Water Management Plan is provided. The District is required to prepare the 2020 Plan because it is an "urban water supplier" (the District serves more than 3,000 customers and it supplies more than 3,000 acre-feet of water annually to its customers for municipal purposes)
- The District's Plan has been prepared as an "individual" plan rather than a "regional" plan. The District's Plan provides information specific to the District as well as information regarding the availability and reliability of the water supplies it wholesales to its sub-agencies.
- Information presented in the District's 2020 Plan is provided on "fiscal year" basis which is from July 1 through June 30 of the following year.
- Water quantities presented in the District's 2020 Plan are provided on an "acre-foot" basis.
- The District's coordination and outreach efforts with wholesale water agencies, other retail water agencies, and the community are described. The District coordinated the preparation of its 2020 Plan with its sub-agencies (including Cities within its service area) and public agencies that share a common source of supply of the preparation of the District's 2020 Plan.
- The District's notification process to the cities and county within which the District provides water supplies to is discussed.

2.1 PLAN PREPARATION

As discussed in Section 1.1, the District's 2020 Plan was prepared consistent with the recommended organization provided in DWR's Final 2020 UWMP Guidebook. Pursuant to DWR's Final 2020 UWMP Guidebook:

"*The California Water Code (Water Code) specifies several requirements for preparing a UWMP, including who is required to prepare a UWMP; how to prepare a UWMP, depending on whether the Supplier choses to participate in a regional or individual planning effort; selection of reporting year-type; and coordination, notification, and outreach.*"

Pursuant to CWC requirements, the District's 2020 Plan incorporates DWR's water use and supply tables (standardized tables) for the reporting and submittal of UWMP data.

2.2 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. This part applies only to water supplied from public water systems subject to Chapter 4 (commencing with Section 116275) of Part 12 of Division 104 of the Health and Safety Code.

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 July 1, in years ending in six and one, incorporating updated and new information from the five years preceding each update.

The District's 2020 Plan was prepared in accordance with the UWMP Act which was established 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.

Section 10621(a) of the CWC states, "*Each urban water supplier shall update its plan at least once every five years on or before July 1, in years ending in six and one, incorporating updated and new information from the five years preceding each update".* As a result, DWR requires the 2020 Plans be submitted by July 1, 2021.

The District is an "urban water supplier" pursuant to Section 10617 of the CWC and supplies more than 3,000 acre-feet per year (AFY) at wholesale for municipal purposes. The District's 2020 Plan is an update to the District's 2015 Plan.

2.2.1 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.

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.

As a wholesale water agency, the District is not defined as a Public Water System (PWS) and is not required by DWR to provide PWS information.

2.2.2 SUPPLIERS SERVING MULTIPLE SERVICE AREAS / PUBLIC WATER SYSTEMS

Table 2-1 Public Water Systems (Not Applicable)

Table 2-1 is not applicable for wholesalers.

The District has developed its 2020 Plan reporting solely on its service area to address all requirements of the California Water Code. However, based upon their 2020 water production and imported water deliveries, the following urban water suppliers (or Public Water Systems) within, or partially within, the District's boundaries may also be required to prepare a Plan:

- City of Covina
- City of Glendora
- City of La Verne
- City of Pomona
- Covina Irrigating Company
- Golden State Water Company- Claremont
- Golden State Water Company- San Dimas
- Rowland Water District
- Suburban Water Systems
- Walnut Valley Water District

2.3 REGIONAL PLANNING

The District has developed its 2020 Plan reporting solely on its service area to address all requirements of the California Water Code. The District's 2020 Plan was not developed as a Regional Plan. However, the District's Plan provides information specific to the

District as well as information regarding the availability and reliability of the water supplies it wholesales to its sub-agencies. The District's Plan is available for use and reference to its sub-agencies. In addition, the District worked closely with its sub-agencies on the development of their respective 2020 Plans. The 2020 Plans for the District's sub-agencies are incorporated into the District's Plan by reference.

MWD coordinated with the District regarding the development of the District's 2020 Plan. Likewise, MWD's 2020 Plan is available for use and reference by its member agencies and urban water suppliers within those member agencies.

2.4 INDIVIDUAL OR REGIONAL PLANNING AND COMPLIANCE

As shown in Table 2-2, the District's 2020 Plan is an "Individual UWMP". The District has developed its 2020 Plan reporting solely for its service area to address all requirements of the California Water Code. The District notified and coordinated with appropriate regional agencies and constituents (See Section 2.6).

Table 2-2 Plan Identification Type

Submittal Table 2-2: Plan Identification			
Select Only One	**Type of Plan**		**Name of RUWMP or Regional Alliance** *if applicable* (select from drop down list)
☑	**Individual UWMP**		
	☐	Water Supplier is also a member of a RUWMP	
	☐	Water Supplier is also a member of a Regional Alliance	
☐	**Regional Urban Water Management Plan (RUWMP)**		
NOTES:			

2.4.1 REGIONAL UWMP

CWC 10620.

(d)(1) An urban water supplier may satisfy the requirements of this part by participation in area wide, regional, watershed, or basin wide 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, the District's 2020 Plan was developed as an "Individual UWMP" and not part of a Regional Plan.

2.4.2 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, the District's 2020 Plan was developed as an "Individual UWMP" and not part of a Regional Alliance.

2.5 FISCAL OR CALENDAR YEAR AND UNITS OF MEASURE

CWC 10608.20.

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

2.5.1 FISCAL OR CALENDAR YEAR

The data provided in the District's 2020 Plan is reported on a fiscal year basis, unless noted otherwise, as shown in Table 2-3. A fiscal year begins on July 1st of every year.

2.5.2 REPORTING COMPLETE 2020 DATA

The data provided in the District's 2020 Plan is provided on a fiscal year basis through June 30, 2020.

2.5.3 UNITS OF MEASURE

As shown in Table 2-3, the data provided in the District's 2020 Plan is reported in units of AF, unless noted otherwise.

Table 2-3 Supplier Identification

Submittal Table 2-3: Supplier Identification	
Type of Supplier (select one or both)	
☑	Supplier is a wholesaler
☐	Supplier is a retailer
Fiscal or Calendar Year (select one)	
☐	UWMP Tables are in calendar years
☑	UWMP Tables are in fiscal years
If using fiscal years provide month and date that the fiscal year begins (mm/dd)	
07/01	
Units of measure used in UWMP * (select from drop down)	
Unit	AF
**** Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*	
NOTES:	

2.6 COORDINATION AND OUTREACH

CWC 10631.

(h) 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 (f). 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 (f).

2.6.1 WHOLESALE AND RETAIL COORDINATION

The District is a wholesale agency serving 13 sub-agencies in its service area. The following is a list of the District's sub-agencies:

- Boy Scouts of America
- California State Polytechnic University, Pomona
- City of Covina
- City of Glendora
- City of La Verne
- City of Pomona
- Covina Irrigating Company
- Golden State Water Company (Claremont and San Dimas systems)
- Mount San Antonio College
- Rowland Water District
- Suburban Water Systems
- Valencia Heights Water Company
- Walnut Valley Water District

The District coordinated with these sub-agencies during the preparation of the District's Plan. The District also worked closely with many of its sub-agencies during the preparation of their respective Plans, including the City of Glendora, City of Pomona, Golden State Water Company (Claremont and San Dimas systems), Rowland Water District, and Walnut Valley Water District. As indicated in Table 2-4, the District provided its 2020 Plan to its sub-agencies which includes water demand and supply projections in five-year increments for normal, single dry, and five consecutive year drought conditions over the next 20 years.

Table 2-4 Water Supplier Information Exchange

Submittal Table 2-4 Wholesale: Water Supplier Information Exchange (select one)	
☑	Supplier has informed more than 10 other water suppliers of water supplies available in accordance with Water Code Section 10631. Completion of the table below is optional. If not completed, include a list of the water suppliers that were informed.
Section 2.6	**Provide page number for location of the list.**
☐	Supplier has informed 10 or fewer other water suppliers of water supplies available in accordance with Water Code Section 10631. **Complete the table below.**
Water Supplier Name	
Add additional rows as needed	
NOTES:	

2.6.2 COORDINATION WITH OTHER AGENCIES AND THE COMMUNITY

CWC 10620.

(d)(3) 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 both the plan…

The District is a wholesale water supplier that provides treated imported water to its sub-agencies and untreated imported water to replenish groundwater supplies of the Main San Gabriel Basin (Main Basin) and Six Basins. The District also produces groundwater from Six Basins to augment imported water supplies. The District notified its sub-agencies (including Cities within its service area) and public agencies that share a common source of supply of the preparation of the District's 2020 Plan. The District regularly hosts Member Agency Managers' meetings on a monthly basis to discuss and/or provide updates on the District's 2020 Plan. In addition to its sub-agencies, the District provided copies of the draft plan to the following:

- Chino Basin Watermaster
- Inland Empire Utilities Agency
- Main San Gabriel Basin Watermaster
- Metropolitan Water District of Southern California
- Six Basins Watermaster
- Upper San Gabriel Valley Municipal Water District

As discussed in Section 10.2, the District notified these agencies, as well as the cities and county within which the District provides water supplies, at least sixty (60) days prior to the public hearing of the preparation of the 2020 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.

2.6.3 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 the District provides water supplies that the District was reviewing and considering amendments (updates) to the previous 2015 Plan, and as a result prepare the 2020 Plan. Notification was provided at least 60 days prior to the public hearing (see Appendix D).

CHAPTER 3

SYSTEM DESCRIPTION

LAY DESCRIPTION – CHAPTER 3

SYSTEM DESCRIPTION

Chapter 3 (System Description) of the District's 2020 Plan discusses and provides the following:

- A description of the District's service area is provided. The District's service area covers the eastern portion of Los Angeles County and includes the Cities of Claremont, Covina, Diamond Bar, Glendora, Industry, La Verne, Pomona, San Dimas, Walnut, West Covina, and unincorporated areas of Los Angeles County (including Charter Oak and Rowland Heights).
- The District's water service area encompasses an area of approximately 133 square miles. The location of the District's water service area is provided in Figure 1.
- A description regarding the District's water service area climate is provided. The monthly historical average temperatures (including minimum and maximum), monthly historical average rainfall, and monthly evapotranspiration (ETo) in the vicinity of the District's service area is summarized. The sources of the climate information are also discussed.
- The population within the District's water service area is discussed and projected. The sources of the population information are also discussed. The District provides water service to an area with a current population of 513,623. The District is projected to have a population of 561,782 by Fiscal Year 2044-45.

- A discussion of land use information used by the District to develop the 2020 Plan is provided. The District reviewed the current and projected land uses within its service area. The District also reviewed data provided by the Southern California Association of Governments, the Department of Finance, and the United States Census Bureau and prepared for counties, cities, and unincorporated areas within Southern California.

3.1 GENERAL DESCRIPTION

CWC 10631.

(a) Describe the service area of the supplier, including current and projected population, climate, and other social, economic, and demographic factors affecting the supplier's water management planning. The projected population estimates shall be based upon data from the state, regional, or local service agency population projections within the service area of the urban water supplier and shall be in five-year increments to 20 years or as far as data is available. The description shall include the current and projected land uses within the existing or anticipated service area affecting the supplier's water management planning. Urban water suppliers shall coordinate with local or regional land use authorities to determine the most appropriate land use information, including, where appropriate, land use information obtained from local or regional land use authorities, as developed pursuant to Article 5 (commencing with Section 65300) of Chapter 3 of Division 1 of Title 7 of the Government Code.

The District is a wholesale water agency and was originally formed in January 1950 as the Pomona Valley Municipal Water District under the Municipal Water District Act. The Municipal Water District Act provides for, "The people of any county or counties, or of any portions thereof, whether such portions include unincorporated territory only or incorporated territory of any city or cities, or both such incorporated and unincorporated territories…" to organize municipal water districts. With respect to water supply, the Municipal Water District Act allows such a district to "…acquire, control, distribute, store, spread, sink, treat, purify, reclaim, recapture, and salvage any water, including sewage and storm waters, for the beneficial use or users of the District, its inhabitants, or the owners of rights to water in the District."

The District supplies water on a wholesale basis to its sub-agencies. The District's sub-agencies retail the water directly to their customers, or wholesale it to other water systems for resale. The District's sub-agencies produce water from local sources; however, when water demands exceed these local supplies, the sub-agencies may rely on the District to supply their supplemental water needs. As discussed in Section 2.6.1, the District 13 sub-agencies include the following:

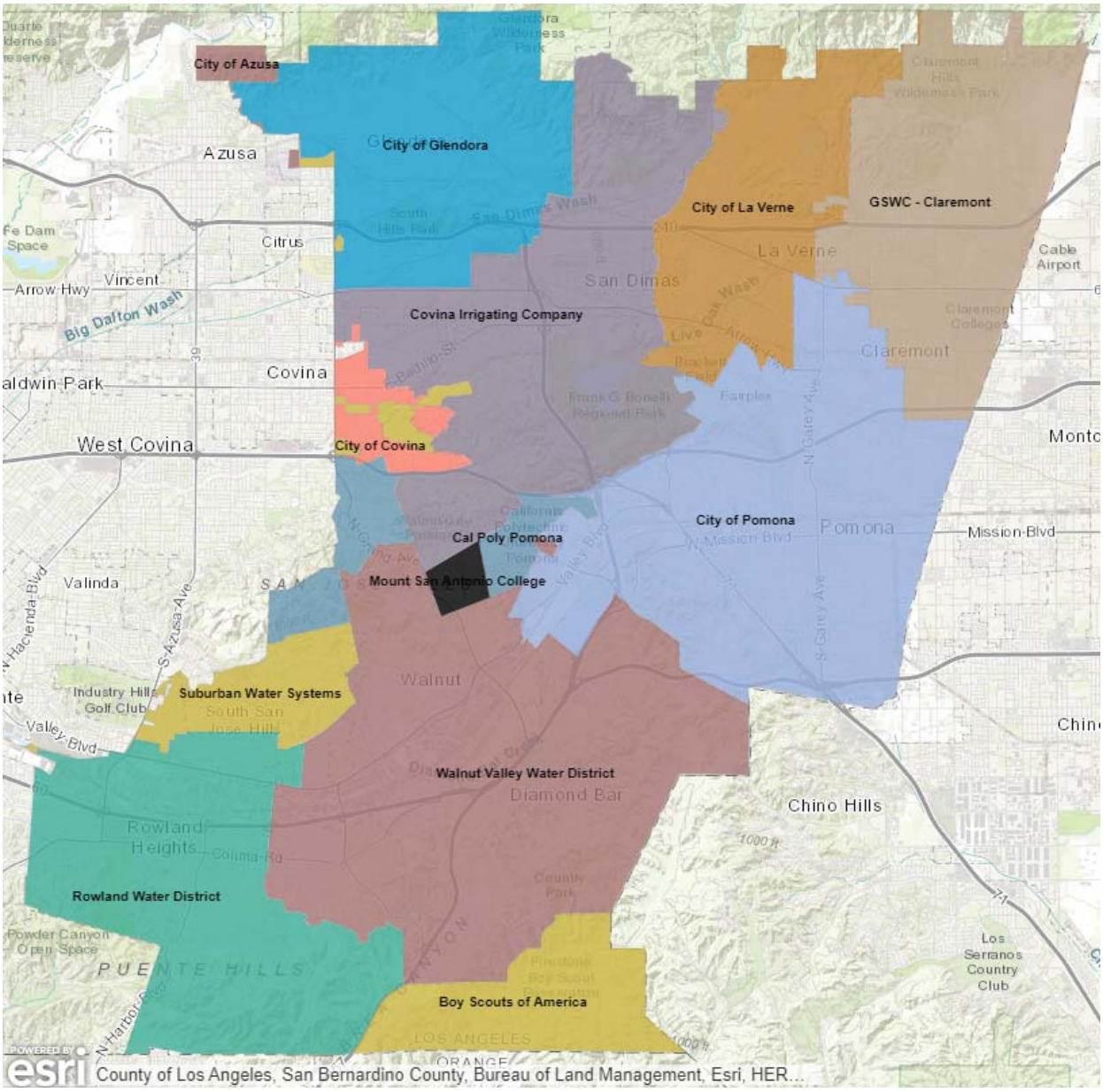
- Boy Scouts of America
- California State Polytechnic University, Pomona
- City of Covina
- City of Glendora
- City of La Verne
- City of Pomona
- Covina Irrigating Company
- Golden State Water Company (Claremont and San Dimas systems)
- Mount San Antonio College
- Rowland Water District
- Suburban Water Systems
- Valencia Heights Water Company
- Walnut Valley Water District

The location of the service areas for these sub-agencies is provided in the figure below.

The District's service area covers the eastern portion of Los Angeles County and includes the Cities of Claremont, Covina, Diamond Bar, Glendora, Industry, La Verne, Pomona, San Dimas, Walnut, West Covina, and unincorporated areas of Los Angeles County (including Charter Oak and Rowland Heights). The District encompasses an area of approximately 133 square miles. The District's service area is provided in Figure 1. The

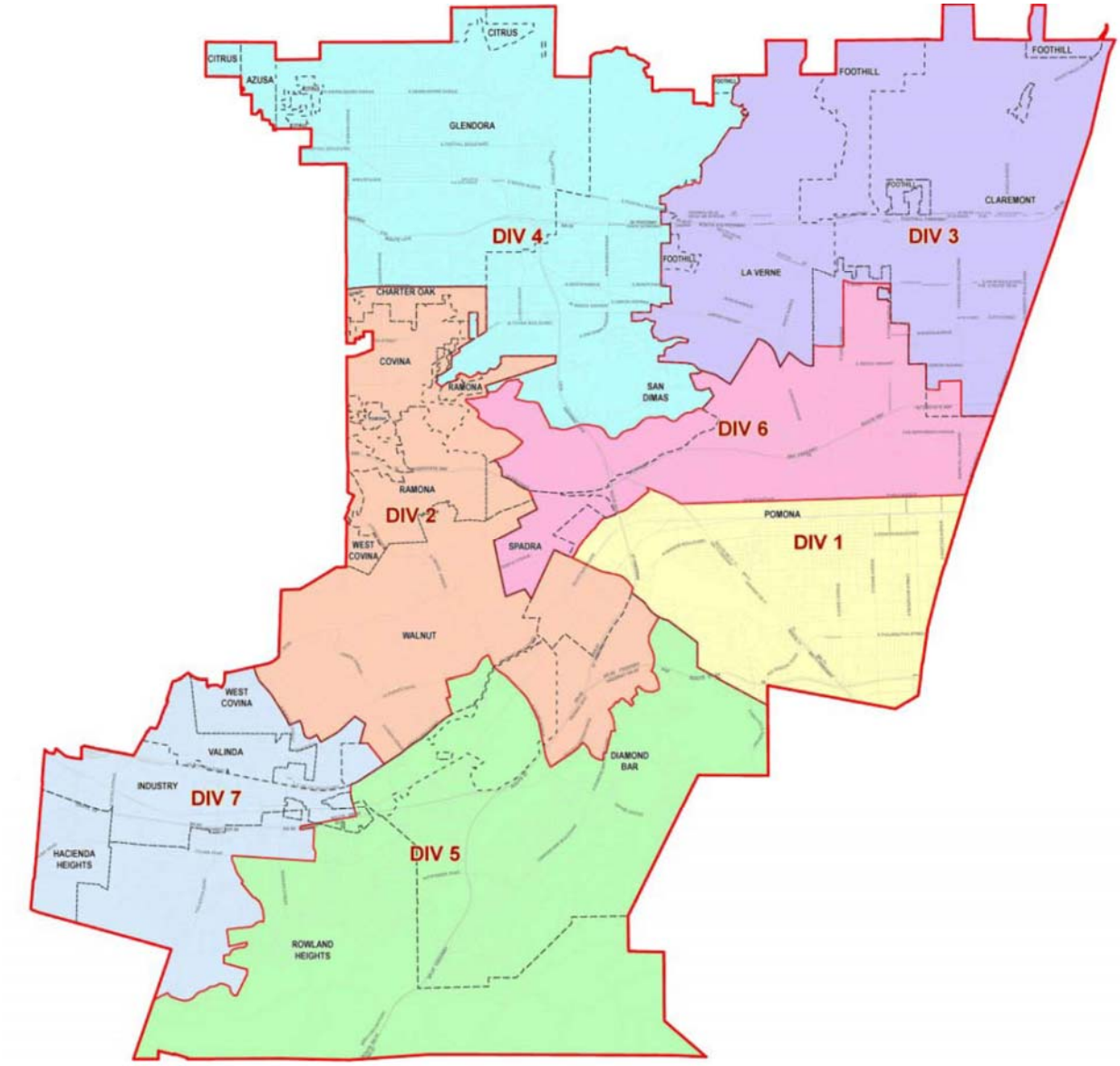
District is governed by a seven-member Board of Directors who each represent one of seven divisions.

Sub-Agency Service Areas



Source: Three Valleys Municipal Water District (https://www.threevalleys.com/member-agencies)

Division Boundaries



Source: Three Valleys Municipal Water District

The District changed its name to Three Valleys Municipal Water District in 1981 to better reflect the three areas that it serves: the Pomona, Walnut and East San Gabriel Valleys. As identified in Section 2.6, the District serves 13 sub-agencies. The District is a wholesale water supplier and is one of 26 member agencies of MWD.

The District obtains untreated, imported water supplies from MWD for treatment at the District's Miramar Water Treatment Plant. In addition, the District produces groundwater from three wells located in the Six Basins which is also treated at the Miramar Water Treatment Plant. Treated water from the District's Miramar Water Treatment Plant is sold to the District's sub-agencies. Treated water can also be distributed through the Pomona-Walnut-Rowland Joint Water Line (JWL). The JWL provides treated water to the City of Pomona, Walnut Valley Water District, and Rowland Water District. The JWL is managed by elected officials representing the City of Pomona, Walnut Valley Water District, and Rowland Water District as a joint-powers agency.

The District obtains untreated, imported water supplies from MWD for spreading and groundwater replenishment purposes within the Main San Gabriel Basin and Six Basins (through CENB-48, PM-26, PM-GWR, PM-SGP PM-SGP-01, ,and USG-03 connections).

The District obtains untreated, imported water supplies from MWD for delivery to Covina Irrigating Company through the District's MWD-SGP-03 connection. Covina Irrigating Company treats imported water deliveries at its William B. Temple Treatment Plant (Temple Plant).

The District also obtains treated, imported water supplies from MWD for direct delivery to the District's sub-agencies through the following connections:

- Boy Scouts of America (PM-14)
- Cal Poly Pomona (PM-08)
- Covina, City of (PM-19)
- Covina Irrigating Company (PM-SGP-03)
- Glendora, City of (PM-06, PM-18, and PM-23)
- Golden State Water Company (PM-07 and PM-16)
- Joint Water Line (PM-15A and PM-15B)
- Mt. San Antonio College (PM-01)
- Pomona, City of (PM-11)
- Rowland Water District (PM-09 and PM-22)
- Walnut Valley Water District (PM-10, PM-12, an PM-24)

3.2 SERVICE AREA BOUNDARY MAPS

As discussed in Section 3.1, the District's water service area covers approximately 133 square miles in the eastern portion of Los Angeles County. A service area boundary map is provided on Figure 1. The District's water service area relative to the municipal boundaries within the Cities of Claremont, Covina, Diamond Bar, Glendora, Industry, La Verne, Pomona, San Dimas, Walnut, West Covina, and unincorporated areas of Los Angeles County (including Charter Oak and Rowland Heights) is provided in Figure 2.

The District's service area map was submitted online through DWR's Population Tool in a "KML" file format (i.e. Google Earth format). The KML file was originally created in a Geographical Information Systems (GIS) shape file format and converted into a KML format. To the extent information was available, metadata was included in the KML file

(including map projection, contact information, start and end dates for which the map is valid, constraints, attribute table definitions, and digitizing base).

The District is one of MWD's member agencies and similarly, the District has many of its own sub-agencies. The following tabulation provides a list of the District's sub-agencies, a description of each sub-agency and their water resources, and their corresponding service area.

Description of Sub-Agency Service Area and Supply Sources

Sub-Agency	Description
Boy Scouts of America (BSA)	• The BSA is one of the three institutional agencies that uses imported water provided from the District. • The BSA owns and operates the Firestone Scout Reservation, a campground and wilderness facility located in the southern portion of the District's service area. • The Firestone Scout Reservation uses only treated imported water supplies.
California State Polytechnic University, Pomona (Cal Poly)	• Cal Poly is one of the three institutional agencies that uses imported water provided from the District. • Cal Poly is located in the central portion of the District's service area within the City of Pomona. • Cal Poly uses a combination of treated imported water and groundwater for its domestic supply. Cal Poly uses recycled water provided from the City of Pomona for irrigation purposes.
City of Covina	• The City of Covina's service area covers the majority of the City of Covina, a portion of the City of West

	Covina, and unincorporated areas of Los Angeles County. • The City of Covina primarily receives water supplies from Covina Irrigating Company, which produces water from local surface and groundwater sources. In addition, Covina Irrigating Company treats imported water provided by the District. • The City of Covina can also rely on treated imported water from the District when necessary.
City of Glendora	• The City of Glendora's service area covers the majority of the City of Glendora, portions of the Cities of Azusa and San Dimas, and unincorporated areas of Los Angeles County. • Approximately 98 percent of the City of Glendora's service area lies with the District's boundaries. • The City of Glendora is located in the northwestern portion of the District's service area. • The City of Glendora primarily produces its water supply through groundwater pumping from the Main San Gabriel Basin. The City of Glendora also purchases water supplies from Covina Irrigating Company. • The City of Glendora can also purchase treated imported water from the District.
City of La Verne	• The City of La Verne's service area covers the majority of the City of La Verne and unincorporated areas of Los Angeles County. • The City of La Verne is located in the northern portion of the District's service area.

	• The City of La Verne's water supply sources include groundwater from the Six Basins and imported water treated at the District's Miramar Water Treatment Plant.
City of Pomona	• The City of Pomona's service area covers the majority of the City of Pomona and portions of the Cities of Chino Hills, Claremont, La Verne, and Montclair. • The City of Pomona is located in the eastern portion of the District's service area. • The City of Pomona has several water sources including local surface water from the San Antonio Canyon, groundwater from Chino Basin, Spadra Basin, and Six Basins, as well as treated imported water from the District. The City of Pomona also owns and operates a recycled water distribution system to deliver recycled water for non-potable purposes.
Covina Irrigating Company (CIC)	• CIC provides wholesale water service to its stockholders located within the Cities of Baldwin Park, Covina, Glendora, San Dimas, and West Covina. • CIC currently obtains groundwater from the Main San Gabriel Basin, surface water from the San Gabriel River and untreated imported water from the District.
Golden State Water Company - Claremont	• GSWC is an investor-owned water company regulated by the California Public Utilities Commission (CPUC). • GSWC (Claremont) serves the City of Claremont, portions of the Cities of Montclair, Pomona, Upland, and unincorporated areas of Los Angeles County. • GSWC water supply sources include groundwater from the Six Basins and Chino Basin as well as

	imported water treated at the District's Miramar Water Treatment Plant.
Golden State Water Company - San Dimas	• GSWC is an investor-owned water company regulated by the CPUC. • GSWC (San Dimas) serves the City of San Dimas, portions of the Cities of Covina, La Verne, and Walnut, and unincorporated areas of Los Angeles County. • GSWC has several water sources including CIC (surface and groundwater), groundwater from the Main San Gabriel Basin, and treated imported water from the District. GSWC also has a limited amount of surface water available for irrigation purposes.
Mount San Antonio College (MSAC)	• MSAC is one of the three institutional agencies that uses imported water provided from the District. • MSAC is located in the central portion of the District's service area within the City of Walnut. • MSAC uses treated imported water from MWD through the District. MSAC also uses several small groundwater wells for non-potable purposes.
Rowland Water District (RWD)	• RWD is a public water district within the District's service area. • RWD serves portions of the Cities of Industry, La Puente, West Covina, and unincorporated areas of Los Angeles County including Rowland Heights and Hacienda Heights. • RWD purchases treated imported water supplies from MWD through the District. RWD also has a recycled water system for non-potable purposes. In addition,

	RWD receives groundwater produced from the Main Basin, Central Basin, and Puente Basin.
Suburban Water System (SWS)	• SWS is an investor-owned water company regulated by the CPUC. • SWS serves the Cities of Covina, Glendora, La Puente, Walnut, and West Covina and unincorporated areas of Los Angeles County. SWS is located in the western portion of the District's service area. • SWS receives its water supply from CIC (groundwater, surface water and purchase imported water) and groundwater produced from the Main San Gabriel Basin. SWS also purchases treated imported water from MWD through the District or through Upper San Gabriel Valley Municipal Water District. SWS also operates a recycled water system to deliver recycled water for non-potable purposes.
Valencia Heights Water Company (VHWC)	• VHWC is a mutual water company serving portions of the City of West Covina and unincorporated areas of Los Angeles County. • VHWC is located in the central portion of the District's service area. • VHWC receives its water supply from CIC (ground water, surface water and purchased imported water) and groundwater produced from the Main San Gabriel Basin. VHWC can purchase treated imported water from MWD.
Walnut Valley Water District (WVWD)	• WVWD is a public water district and serves the City of Diamond Bar, portions of the Cities of Industry,

	Pomona, Walnut, West Covina and unincorporated areas of Los Angeles County. • WVWD purchases treated imported water supplies from MWD through the District. WVWD also operates a recycled water system and receives its recycled water from the Pomona Water Reclamation Plant and several groundwater production wells extracting from the Puente Basin and Spadra Basin. In addition, RWD receives groundwater produced from the Main Basin and Central Basin.

3.3 SERVICE AREA CLIMATE

CWC 10631.

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

CWC 10630.

It is the intention of the Legislature, in enacting this part, to permit levels of water management planning commensurate with the numbers of customers served and the volume of water supplied, while accounting for impacts from climate change.

The monthly historical average temperatures (including minimum and maximum), monthly historical average rainfall, and monthly ETo in the vicinity of the District'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	51.9	38.5	65.6	3.4	1.95
February	54.2	40.8	67.7	3.5	2.41
March	56.4	42.6	70.3	2.7	3.75
April	59.9	45.9	74.1	1.2	4.55
May	64.0	50.2	77.9	0.4	5.19
June	69.1	53.9	84.3	0.1	5.97
July	74.4	58.0	91.0	0.0	6.60
August	74.7	58.3	91.2	0.1	6.41
September	72.0	55.6	88.6	0.3	4.88
October	65.3	50.2	80.6	0.8	3.46
November	58.1	42.9	73.2	1.5	2.31
December	52.7	38.7	66.5	2.7	1.72
Annual	62.2	47.6	77.4	17.2	49.20

Source:

Historical average monthly precipitation and temperature information was obtained from the Western Regional Climate Center (http://www.wrcc.dri.edu/) and is based on data collected from Station 047050 (Pomona Fairplex, California) from 1893 through 2017. Historical monthly average ETo information was obtained from the California Irrigation Management Information Systems (http://wwwcimis.water.ca.gov) and is based on data collected from Station 78 (Pomona).

The historical average rainfall in the vicinity of the District's service area is 17.2 inches. The District's service area in the Pomona Valley, Walnut Valley, and eastern San Gabriel Valley has a Mediterranean climate and summers can reach average maximum daily temperatures in the high 80s to low 90s. Although changes in climatic conditions may have an impact, the projected water supply demands will be based on average year, single dry year and five consecutive year drought, based on historical data and projected demands. Precipitation within the vicinity of the area receiving water supplies from the District is discussed further in Section 7.2. A discussion of the District's sources of supply,

how those sources may be impacted by climate change, and the proactive actions the District and other local/regional water managers may take to address the potential climate change on water supplies is provided in Section 4.5.

3.4 SERVICE AREA POPULATION AND DEMOGRAPHICS

3.4.1 SERVICE AREA POPULATION

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.

The area receiving water supplies from the District has a current population of 513,623. Table 3-1 presents the current and projected population of the area receiving water supplies from the District from FY 2019-20 to FY 2044-45. The area receiving water supplies from the District is projected to have a population of 561,782 by FY 2044-45.

The District initially reviewed the available historical populations within its service area for population growth trends. The District determined historical U.S. Census populations within its service area using DWR's Population Tool (https://wuedata.water.ca.gov/). The District's service area boundary was uploaded to DWR's Population Tool in a "KML" file format (i.e. Google Earth format). The KML file was originally created in a GIS shapefile format and converted into a KML format. The uploaded KML file represents the District's service area boundary from 1990 to present (2020). DWR's Population Tool utilized U.S. Census data from 1990, 2000, and 2010, along with the District's service area boundary, to estimate the population served by the District in the years 1990, 2000, and 2010.

Population data provided by the U.S. Census and from the Southern California Association of Governments (SCAG) was used to estimate the 2020 population within the District's service area. The District obtained population estimates for the year 2018 from the United States Census Bureau's American Community Survey (ACS). The District performed a GIS analysis (based on the percentage of ACS population data associated within the District's service area boundaries) to estimate population within the District's service area for the year 2018.

Projected populations in the District's service area (including the year 2020) were based on growth rate projections obtained from data provided in SCAG's "*The 2020-2045 Regional Transportation Plan / Sustainable Communities Strategy of the SCAG*", dated September 2020, which incorporates demographic trends, existing land use, general plan land use policies, and input and projections through the year 2045 from the Department of Finance (DOF) and the US Census Bureau for counties, cities and unincorporated areas within Southern California.

Table 3-1 Population – Current and Projected

Submittal Table 3-1 Wholesale: Population - Current and Projected						
Population Served	2020	2025	2030	2035	2040	2045*(opt)*
	513,623	523,167	532,888	542,790	552,204	561,782
NOTES: The 2020 population and the population projected through 2045 were obtained from data in SCAG's 2020-2045 Regional Transportation Plan (See Section 3.4.1 and Section 5.4.1).						

3.4.2 OTHER SOCIAL, ECONOMIC, AND DEMOGRAPHIC FACTORS

CWC 10631.

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

No other demographic factors affect the District's water management planning. However, increased population will have an impact on water demand.

3.5 LAND USES WITHIN SERVICE AREA

The District is a wholesale water agency which provides both treated and untreated imported water to its retail sub-agencies. However, the District does not provide water directly to retail customers. The District obtains a five-year projection of both treated and imported water demands from its customers which is updated annually. As discussed in Section 3.4, the District also obtained data from the Southern California Association of Governments document entitled "*The 2020-2045 Regional Transportation Plan / Sustainable Communities Strategy of the SCAG*", dated September 2020. Projected populations in the District's service area were based on growth rate projections developed by SCAG. The data provided by SCAG incorporates demographic trends, existing land use, general plan land use policies, and input and projections through the year 2045 from the Department of Finance and the US Census Bureau for counties, cities and unincorporated areas within Southern California. The projected population was used to project future demand through the year 2045. As discussed in Section 2.6, the District coordinated the preparation of the 2020 Plan with the Cities of Azusa, Claremont, Diamond Bar, Industry, La Puente, Walnut, the County of Los Angeles, and other agencies.

CHAPTER 4

WATER USE CHARACTERIZATION

LAY DESCRIPTION – CHAPTER 4

WATER USE CHARACTERIZATION

Chapter 4 (Water Use Characterization) of the District's 2020 Plan discusses and provides the following:

- The District provides water service to individual "water use categories". These water use sectors include sales to other agencies and groundwater recharge. Individual descriptions for these water use categories are provided in Section 4.2.1.
- The District's total water demands from its sub-agencies over the past 10 years have ranged from 57,472 AFY to 76,723 AFY, with an average of 67,327 AFY. The District currently measures its water use through meter data and billing records.
- The District's current and projected water demands from its sub-agencies in five-year increments over the next 25 years are provided (through Fiscal Year 2044-45) as shown on Table 4-3.

4.1 NON-POTABLE VERSUS POTABLE WATER USE

The Water Code requires a description and quantification of water uses within the District's service area, including both non-potable and potable water. Recycled water (non-potable) uses are addressed in Section 6.5; however, recycled water is not served by the District, as shown in Table 4-3.

4.2 PAST, CURRENT, AND PROJECTED WATER USES BY SECTOR

CWC 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 long-term total projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and a drought lasting five consecutive 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.

CWC 10631.

(d)(1) For an urban retail water supplier, 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, based upon information developed pursuant to subdivision (a), identifying the uses among water use sectors, including, but not necessarily limited to, all of the following…

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

(4)(A) Water use projections, where available, shall 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.

The District's current and projected water demands from its sub-agencies are provided in five-year increments over the next 25 years (through FY 2044-45) in Tables 4-1, 4-2, and 4-3. The District's total water demands were projected based on current water use factors incorporating recent water demands from its sub-agencies and the total population projections based on land use trends within the District.

The District provides water service to individual water use categories. The water use categories supplied by the District are discussed in Section 4.2.1. The water use for each of these categories during FY 2019-20 is provided in Table 4-1. The projected water use for each individual water use categories is provided in Table 4-2 and is based on the percentage breakdown of water use from each individual water use categories in FY 2019-20 (the percentages were then applied to the projected total water use).

Table 4-1 Demands for Potable and Non-Potable Water - Actual

Submittal Table 4-1 Wholesale: Demands for Potable and Non-Potable[1] Water - Actual			
Use Type	2020 Actual		
Drop down list May select each use multiple times These are the only use types that will be recognized by the WUE data online submittal tool	Additional Description (as needed)	Level of Treatment When Delivered Drop down list	Volume[2]
Add additional rows as needed			
Sales to other agencies		Drinking Water	60,031
Groundwater recharge		Raw Water	14,523
Other Potable	Local Projects	Drinking Water	2,169
		TOTAL	76,723

[1] *Recycled water demands are NOT reported in this table. Recycled water demands are reported in Table 6-4.*
[2] *Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.*

NOTES:

Table 4-2 Use for Potable and Non-Potable Water - Projected

Submittal Table 4-2 Wholesale: Use for Potable and Raw Water [1] - Projected						
Use Type		Projected Water Use [2] Report To the Extent that Records are Available				
Drop down list May select each use multiple times These are the only Use Types that will be recognized by the WUEdata online submittal tool.	Additional Description (as needed)	2025	2030	2035	2040	2045 (opt)
Add additional rows as needed						
Sales to other agencies		45,394	45,304	45,194	45,010	44,806
Groundwater recharge		10,982	10,960	10,934	10,889	10,840
Other Potable		1,640	1,637	1,633	1,626	1,619
	TOTAL	58,016	57,901	57,761	57,525	57,265
[1] *Recycled water demands are NOT reported in this table. Recycled water demands are reported in Table 6-4.* *Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.*						[2]
NOTES:						

Table 4-3 Total Gross Water Use (Potable and Non-Potable)

Submittal Table 4-3 Wholesale: Total Water Use (Potable and Non-Potable)						
	2020	2025	2030	2035	2040	2045 (opt)
Potable and Raw Water From Tables 4-1W and 4-2W	76,723	58,016	57,901	57,761	57,525	57,265
Recycled Water Demand* From Table 6-4W	0	0	0	0	0	0
TOTAL WATER DEMAND	76,723	58,016	57,901	57,761	57,525	57,265
**Recycled water demand fields will be blank until Table 6-4 is complete.*						
NOTES:						

4.2.1 WATER USE SECTORS LISTED IN WATER CODE

CWC 10635.

(d)(1) For an urban retail water supplier, 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, based upon information developed pursuant to subdivision (a), identifying the uses among water use sectors, including, but not necessarily limited to, all of the following:

(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.
(J) Distribution system water loss.

As shown in Table 4-1, the District's service area includes the following water use sectors:

- Sales to Other Agencies
  (Water sales made to another agency. Projected sales may be based on projected demand provided by the receiving agency. There is inherent uncertainty in future projections, therefore, any projected sales reported in the Plan are for planning purposes only and are not considered a commitment on the part of the seller. This is a wholesale demand.)

- Groundwater Recharge
  (The managed and intentional replenishment of natural groundwater supplies using man-made conveyances such as infiltration basins or injection wells. Water used for groundwater banking or storage may also be reported using this sector.)

4.2.2 WATER USE SECTORS IN ADDITION TO THOSE LISTED IN WATER CODE

The District's service area does not include other water demand sectors which are not listed in the California Water Code (including exchanges, surface water augmentation, transfers, and wetlands or wildlife habitat).

4.2.3 PAST WATER USE

Chapter 6 provides a discussion of the sources of water supply the District uses to meet its water demands. Section 6.1 provides a tabulation of the District's historical annual water demands for each water supply source. Over the past ten years, the District's total water demands have ranged from 57,472 AFY to 76,723 AFY, with an average of 67,327 AFY. In addition, the District recently experienced a five consecutive year drought within its service area from FY 2011-12 to FY 2015-16. The District also reviewed its historical water demands from its sub-agencies to determine the projected water demands and water supply reliability (discussed in Chapter 7).

4.2.4 DISTRIBUTION SYSTEM WATER LOSS

CWC 10631.

(d)(1) For an urban retail water supplier, 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, based upon information developed pursuant to subdivision (a), identifying the uses among water use sectors, including, but not necessarily limited to, all of the following…

(J) Distribution system water loss.

CWC 10631.

(3)(A) The distribution system water loss shall be quantified for each of the five years preceding the plan update, in accordance with rules adopted pursuant to Section 10608.34.

(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.

(C) In the plan due July 1, 2021, and in each update thereafter, data shall be included to show whether the urban retail water supplier met the distribution loss standards enacted by the board pursuant to Section 10608.34.

As a wholesale supplier, the District is not required by DWR to perform water loss audits and report distribution system water loss.

Table 4-4 12 Month Water Loss Audit Report (Not Applicable)

Table 4-4 is not applicable for wholesalers.

4.2.5 CURRENT WATER USE

The District currently measures its water use through meter data and billing records. The water use for the District's individual water use sectors during FY 2019-20 are provided in Table 4-1. The District does not provide recycled water supplies, however a summary of projected recycled water uses is provided in Table 4-3.

DWR has created an optional "Planning Tool Worksheet" for water suppliers to review and assess monthly water use trends. However, DWR has deemed the tool as optional and the District is not required by DWR to use the tool. However, Section 6.1 provides a tabulation of the District's historical annual water uses for each water supply source. During the past 10 years, the District experienced a five consecutive year drought within its service area from FY 2011-12 to FY 2015-16. A further discussion regarding the reliability of the District's water supply sources is provided in Chapter 7.

4.2.6 PROJECTED WATER USE

CWC 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 long-term total projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and a drought lasting five consecutive 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.

CWC 10631.

(h) 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 (f). 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 (f).

CWC 10631.

(d)(4)(A) Water use projections, where available, shall 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.

(d)(4)(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.

The District's projected water demands are provided in five-year increments over the next 20 years (through FY 2044-45) in Table 4-3. The District's projected water demands and water supplies during a normal year, a single dry year, and a five consecutive year

drought are provided in Chapter 7. The projected water demands for each of the District's water use sectors are provided in Table 4-2.

The District's water demands from its sub-agencies were projected based on existing water use factors incorporating recent water demands from its sub-agencies, and the total population projections based on land use trends within the area receiving water from the District. A discussion of the District's water supplies from MWD, a wholesaler, are discussed in Section 6.2. As discussed in Section 2.6, the District has coordinated its water demand projections with MWD for each water use sector.

As a wholesaler, the District's water demand projections are not required by DWR to 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.

Table 4-5 Inclusion in Water Use Projections (Not Applicable)

Table 4-5 is not applicable for wholesalers.

4.2.7 CHARACTERISTIC FIVE-YEAR WATER USE

CWC 10635.

(b) Every urban water supplier shall include, as part of its urban water management plan, a drought risk assessment for its water service to its customers as part of information considered in developing the demand management measures and water supply projects and programs to be included in the urban water management plan. The urban water supplier may conduct an interim update or updates to this drought risk assessment within the five-year cycle of its urban water management plan update. The drought risk assessment shall include each of the following:

(3) A comparison of the total water supply sources available to the water supplier with the total projected water use for the drought period.

(4) Considerations of the historical drought hydrology, plausible changes on projected supplies and demands under climate change conditions, anticipated regulatory changes, and other locally applicable criteria.

The District's projected water demands are provided in five-year increments over the next 25 years (and through FY 2044-45) in Table 4-3. The District's projected water demands and water supplies during a normal year, a single dry year, and a five consecutive year drought over the next 25 years (and through FY 2044-45) are provided in Chapter 7.

The District's "Drought Risk Assessment" (DRA) for the next five years (from FY 2020-21 through FY 2024-25) is discussed in Section 7.3. The DRA includes the District's projected annual water demands and supplies for each of the next five years and was prepared based on the five driest consecutive years on record. The DRA provides an assessment of the District's water service reliability during a drought lasting five years. The DRA reflects anticipated water demands from its sub-agencies and supplies prior to any expected benefits associated with water supply shortage responses included in the District's Water Shortage Contingency Plan (provided in Chapter 8). In addition to historical drought hydrology, the District considered impacts to water supplies and demands based on climate change conditions (discussed in Section 4.5)

4.3 WORKSHEETS AND REPORTING TABLES

The District's current and projected water demands, including the water demands for each of the District's water use sectors, are provided in five-year increments over the next 25 years (and through FY 2044-45) in Tables 4-1, 4-2, and 4-3.

4.3.1 OPTIONAL PLANNING TOOL USE ANALYSIS WORKSHEET

As discussed in Section 4.2.5, DWR has deemed the "Planning Tool Worksheet" as optional and the District is not required by DWR to use the tool. In addition, the District has been able to provide sufficient water supplies to its customers, including during a five consecutive year drought and years with historically high water demands. A further discussion regarding the reliability of the District's water supply sources is provided in Chapter 7.

4.3.2 DWR 2020 UWMP SUBMITTAL TABLES

The District's current water demands for each of the water use sectors during FY 2019-20 are provided in Table 4-1. The District's projected water demands for each of the water use sectors, in five-year increments over the next 25 years (and through FY 2044-45), are provided in Table 4-2. The District's total projected water demands, including potable water, in five-year increments over the next 25 years (and through FY 2044-45), are summarized in Table 4-3. As a wholesale supplier, the District is not required by DWR to perform water loss audits and report distribution system water loss.

4.4 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.

As a wholesale supplier, the District is not required by DWR to report projected water demands from its sub-agencies for lower income single-family and multi-family households.

4.5 CLIMATE CHANGE CONSIDERATIONS

CWC 10630.

It is the intention of the Legislature, in enacting this part, to permit levels of water management planning commensurate with the numbers of customers served and the volume of water supplied, while accounting for impacts from climate change.

CWC 10635.

(b) Every urban water supplier shall include, as part of its urban water management plan, a drought risk assessment for its water service to its customers as part of information considered in developing the demand management measures and water supply projects and programs to be included in the urban water management plan. The urban water supplier may conduct an interim update or updates to this drought risk assessment within the five-year cycle of its urban water management plan update. The drought risk assessment shall include each of the following…

(4) Considerations of the historical drought hydrology, plausible changes on projected supplies and demands under climate change conditions, anticipated regulatory changes, and other locally applicable criteria.

Climate is defined as "the average course or condition of the weather at a place usually over a period of years as exhibited by temperature, wind velocity and precipitation[2]". A change in the climate which produces a greater amount of precipitation (i.e. more runoff and/or snowpack) and lower temperatures is generally a benefit to water supplies. However, drought conditions which may result in decreased precipitation, decreased runoff, and increased temperature may adversely affect an urban water supplier's ability to meet demands by potentially impacting supplies. Consequently, the focus of impacts of climate change is on these adverse consequences.

Section 6.2 of this Plan describes the District's sources of water supply, management practices associated with those sources, and the long-term reliability of those sources. Section 7.3 includes a Drought Risk Assessment which considers the potential impacts of climate change to the District's water supply sources. Chapter 8 provides a detailed

[2] www.merriam-webster.com

discussion of the District's Water Shortage Contingency Plan, including but not limited to, the six standard water shortage levels in the event climate change results in a reduction to water supplies associated with a periodic drought condition. The following is a discussion of the District's sources of supply, how those sources may be impacted by climate change, and the proactive actions the District and other local/regional water managers may take to address the potential climate change impacts on water supplies.

Imported Water Supplies

The District provides untreated and treated imported water as discussed in Section 6.2.1. The District relies on MWD for those imported water supplies. MWD has prepared a Regional 2020 Urban Water Management Plan which includes a discussion (Section 2.6 in MWD's 2020 UWMP) of the reliability of its water supplies and the impacts of climate change and is incorporated by reference in this Plan. The following is a brief summary of MWD's efforts:

Resource Planning

- MWD has established the Robust Decision Making (RDM) approach to identify vulnerabilities to its water supplies. Climate change information was applied to MWD's simulated water supply scenarios to demonstrate the vulnerability of water supplies to climate change.

- MWD altered the inflow hydrology scenarios on the Colorado River simulation model to reflect modified inflow to MWD's Colorado River aqueduct.

Knowledge Sharing and Research Support

- MWD is an active and founding member of the Water Utility Climate Alliance (WUCA) which includes 12 nationwide partners collaborating on climate change considerations. As such, MWD shares agency actions on climate change and adaptation. WUCA has also released numerous research papers on climate change.

Implementation of Programs and Policies

- MWD's programs include the use of solar energy, use of ride share programs, and reduction of greenhouse emissions. Collectively these actions are intended to impact the effects of climate change.

Groundwater Supplies – Six Basins

The District uses groundwater produced from the Six Basins as noted in Section 6.2.2 of this Plan. As a subbasin to the San Gabriel Valley Basin (Basin Number 4-13 pursuant to DWR Bulletin 118), the Six Basins has been identified by DWR as a very low-priority groundwater basin partially due to the fact it is adjudicated. In that regard, the Six Basins is actively managed by the Six Basins Watermaster and those management activities are described in detail in Section 6.2.2.

Recognizing the potential impacts of climate change on the Six Basins groundwater supplies (decreased local runoff and replenishment, along with increased groundwater production which may lead to decreased groundwater levels), the District has used climate tools available on the California Energy Commission's Cal-Adapt website (https://cal-adapt.org/) to identify potential future climate change cycles for the Six Basins. The Cal-Adapt website has been developed by the Geospatial Innovation Facility at the

University of California, Berkeley with funding and advisory oversight by the California Energy Commission and California Strategic Growth Council.

To address the uncertainty in future greenhouse gas emissions, Cal-Adapt has developed a Representative Concentration Pathway 4.5 (RCP 4.5) scenario and a Representative Concentration Pathway 8.5 (RCP 8.5) scenario. RCP 4.5 represents a scenario in which greenhouse gas emissions peak around 2040, then decline and stabilize. RCP 8.5 represents a scenario in which emissions continue to strongly rise through 2050 and plateau around 2100. RCP 4.5 is a "medium" emissions scenario that models a future in which there is an effort made by societies to reduce greenhouse gas emissions, whereas RCP 8.5 is a "business-as-usual" scenario. For the District's climate change analysis, the RCP 4.5 scenario was selected.

The Cal-Adapt climate tools also incorporate several General Circulation Models (GCMs), which represent physical processes in the atmosphere, ocean, and land surface. These GCMs projected future climates under conditions such as warm/dry, cooler/wetter, and average simulations. For the District's climate change analysis, the average condition GCM (CanESM2) was selected.

The climate tools available on the Cal-Adapt website were to simulate projected annual precipitation and annual average maximum temperature in the Six Basins. An electronic boundary of the Six Basins was submitted online through the Cal-Adapt website in a "KML" file format (i.e. Google Earth format) and data using several of the available climate tools was generated.

Based on the data generated by the Cal-Adapt simulations (see Appendix E), the average annual rainfall in the Six Basins is projected to be 19.50 inches over the next 25 years (through 2045), compared to a historical average of 17.52 inches (from 1950 through 2019). In addition, the average maximum temperature is projected to be 81.2 degrees Fahrenheit compared to a historical average of 77.7 degrees Fahrenheit. Although there

may be more precipitation in the future, it may be more likely to fall as rainfall compared to snowfall. The simulation does not denote the duration or intensity of the storms contributing to the annual precipitation. Notwithstanding, the Santa Ana River watershed includes a complex and interconnected series of dams, reservoirs and replenishment basins to capture stormwater runoff. Consequently, most if not all precipitation (whether it is rain or snowfall) likely will be captured for use in the Six Basins area during normal and dry years and will not be adversely impacted by a potentially higher average annual temperature.

Recognizing these potential impacts to local hydrology resulting from climate change and the resultant impacts to the groundwater supplies, the Six Basins Watermaster has taken (and may reinstate as needed) the following proactive actions to anticipate and circumvent the potential impacts of climate change. These actions will enable the District to use the Six Basins as a reliable source of supply.

Reduce Operating Safe Yield

The adjudicated water rights in the Six Basins are 19,300 AF. Through adoption of an annual Operating Safe Yield the Six Basins Watermaster has the ability to reduce the amount of water rights available to Producers before they must cease production and shift to more expensive imported water. The Operating Safe Yield has been reduced to 13,000 AF which is about 67 percent of the adjudicated total. This action provides producers with an economic incentive to reduce demands and to avoid potential purchase of expensive treated imported water.

CHAPTER 5

SB X7-7 BASELINES, TARGETS, AND 2020 COMPLIANCE

LAY DESCRIPTION – CHAPTER 5

SB X7-7 BASELINES, TARGETS, AND 2020 COMPLIANCE

Chapter 5 (SB X7-7 Baselines, Targets, and 2020 Compliance) of the District's 2020 Plan discusses and provides the following:

- The Water Conservation Act of 2009 (or SB X7-7) required the State of California to achieve a 20 percent reduction in urban water use by the year 2020.
- SB X7-7 required urban water suppliers, including the District, to develop a "2020 Water Use Target" to assist the State of California to achieve the 20 percent reduction. The 2020 Water Use Target represents the amount of water each person should use per day (i.e. gallons per capita per day or GPCD) by the year 2020.
- As a wholesale water agency, the District is not required to calculate a 2020 Water Use Target or show compliance with the 2020 Water Use Target. However, an assessment regarding the District's present and proposed future measures, programs, and policies to assist the retail water suppliers in the District's service area achieve their individual 2020 Water Use Targets is provided (in Chapter 9).

5.1 GUIDANCE FOR WHOLESALE AGENCIES

CWC 10608.12.

(w) "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.

As a wholesale water agency, the District is not required to "establish and meet baseline and targets for daily per capita water use", nor is the District required to submit the SB X7-7 Verification Form (Department of Water Resources' Final "Guidebook for Urban Water Suppliers"). Nevertheless, according to the DWR's UWMP guidebook wholesale agencies, such as the District, are required to "provide an assessment of their present and proposed future measures, programs, and policies that will help the retail water suppliers in their wholesale service area achieve their SB X7-7 water use reduction targets".

The District participates in wholesale agency programs, which provide financial incentives for water conservation, technical support through workshops, and available staff for conservation projects. The District provides financial incentives for water conservation through its many retrofit and rebate programs that replace high water-use fixtures with efficient water-use fixtures. Some of the most effective measures include, water conservation programs funded by MWD (via pass through by the District) and supported by the District and made available to its sub-agencies. In addition, the District has supported and/or adopted various policies to encourage demand reduction (conservation) in its service area. Regional programs are also in place that local agencies can participate in to encourage water conservation. Information regarding the District's wholesale agency programs are discussed under Section 9.1.6.

In FY 2019-20, the District provided more than $190,000 for communication and conservation programs throughout the District. The District has also assisted its sub-

agencies with outreach and public relations. These programs and messaging campaigns have been effective in educating the public about the importance of water conservation. These conservation programs have changed the public's behavior and attitudes about water conservation as reflected in significantly reduced water use within the District's service area.

5.2 SB X7-7 FORMS AND SUMMARY TABLES

As a wholesale agency, the District is not required by DWR to complete Section 5.2 and subsequent subsections.

Table 5-1 Baselines and Targets Summary from SB X7-7 Verification Form (Not Applicable)

Table 5-1 is not applicable for wholesalers.

Table 5-2 2020 Compliance from SB X7-7 2020 Compliance Form (Not Applicable)

Table 5-2 is not applicable for wholesalers.

5.3 BASELINE AND TARGET CALCULATIONS FOR 2020 UWMPS

As a wholesale agency, the District is not required by DWR to complete Section 5.3.

5.4 METHODS FOR CALCULATING POPULATION AND GROSS WATER USE

CWC 10608.20.

(e) An urban retail water supplier shall include in its urban water management plan due in 2010 pursuant to Part 2.6 (commencing with Section 10610) the baseline daily per capita water use, urban water use target, interim urban water use target, and compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data.

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

CWC 10644.

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

As a wholesale agency, the District is not required by DWR to complete Section 5.4 and subsequent subsections.

5.5 2020 COMPLIANCE DAILY PER CAPITA WATER USE (GPCD)

CWC 10608.12.

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

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.

As a wholesale agency, the District is not required by DWR to complete Section 5.5 and subsequent subsections.

5.6 REGIONAL ALLIANCE

As a wholesale agency, the District is not required by DWR to complete Section 5.6 and subsequent subsections.

CHAPTER 6

WATER SUPPLY CHARACTERIZATION

LAY DESCRIPTION – CHAPTER 6

WATER SUPPLY CHARACTERIZATION

Chapter 6 (Water Supply Characterization) of the District's 2020 Plan discusses and provides the following:

- The District's water supply sources include: groundwater pumped from Six Basins; untreated, imported surface water purchased from Metropolitan Water District of Southern California for use at the District's treatment plant; and treated imported surface water purchased from Metropolitan Water District of Southern California
- The District's main source of water supply is imported water from MWD.
- A tabulation of the District's historical water supplies is provided in Section 6.1.
- A discussion regarding the District's imported water supplies from MWD is provided. Information regarding imported water connections, capacities, reliability, and historical production is provided.
- A discussion regarding the District's purchased water supplies from City of Pomona is provided. Information regarding purchased water connections, capacities, and historical production is provided.
- A discussion regarding the District's groundwater supplies from the Six Basins is provided. Information regarding basin location, adjudication, management, water levels, water quality, water rights, and historical production is provided.
- The District's proposed future projects to maximize its water supply resources are discussed.
- The District's "energy intensity" is discussed and represents the quantity of energy consumed, measured in kilowatt hours, divided by the volume of water, measured

in acre-feet over a one-year period. The total energy intensity associated with the District's water management processes was estimated during FY 2019-20.

In this Chapter, the District will identify and describe each of its sources of water supply. In addition, the District will describe the following:

- Management of each water supply source;
- Current provisions of a basin adjudication or Groundwater Sustainability Plan (GSP), as applicable, pertaining to management of groundwater supplies;
- Measures the District is taking to develop potential new sources of water supply (as applicable); and
- Opportunities for exchanges and transfers on a long- or short-term basis.

The characterization of the District's water supply sources will account for the anticipated availability during a normal year, a single dry year, a five consecutive year drought, along with projections through FY 2044-45.

6.1 WATER SUPPLY ANALYSIS OVERVIEW

CWC 10631.

(b) Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments described in subdivision (a), providing supporting and related information, including all of the following:

(1) A detailed discussion of anticipated supply availability under a normal water year, single dry year, and droughts lasting at least five years, as well as more frequent and severe periods of drought, as described in the drought risk assessment. For each source of water supply, consider any information pertinent to the reliability analysis conducted pursuant to Section 10635, including changes in supply due to climate change.

(2) When multiple sources of water supply are identified, a description of the management of each supply in correlation with the other identified supplies

CWC 10631.

(h) 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 (f). 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 (f).

The District's water supply sources include: groundwater pumped from Six Basins; untreated, imported surface water purchased from Metropolitan Water District of Southern California for use at the District's treatment plant; and treated imported surface water purchased from Metropolitan Water District of Southern California. The District's main source of water supply is imported water from MWD. A tabulation of the District's historical water supplies is provided below.

Fiscal Year	Miramar Treatment Plant		Spreading	To CIC	To Other Agencies	Local Projects	Total
	Six Basins Groundwater	MWD Untreated Imported Water[1]	MWD Untreated Imported Water[2]	MWD Untreated Imported Water[3]	MWD Treated Imported Water[4]		
2010-11	855	16,281	12,265	0	33,949	1,380	64,729
2011-12	738	14,184	12,872	0	35,142	1,854	64,789
2012-13	776	19,929	10,102	0	38,555	2,184	71,546
2013-14	632	18,358	3,110	0	49,603	2,529	74,233
2014-15	1,110	16,781	2,268	0	39,444	2,753	62,357
2015-16	1,044	15,771	2,453	5,627	30,671	1,907	57,472
2016-17	945	17,613	12,884	1,825	33,610	2,413	69,289
2017-18	1,219	14,744	3,763	8,089	37,696	2,975	68,486
2018-19	968	16,706	2,310	8,419	33,236	2,008	63,648
2019-20	1,200	16,468	14,523	7,181	35,182	2,169	76,723

Source: Data provided by the District

[1] Includes untreated water supply from MWD that TVMWD treats for potable use (PM-21)

[2] Includes water supply from MWD used for spreading and replenishment purposes (PM-21-SASG, PM-26, PM-GWR, PM-SGP, PM-SGP01, USG-03, CENB-48, OC-59)

[3] Includes untreated water supply from MWD that CIC treats for potable use (MWD-SGP03)

[4] Includes treated water supply from MWD for direct use (PM-01, PM-06, PM-7, PM-8, PM-9, PM-10, PM-11, PM-12, PM-14, PM-15A, PM-15B, PM-16, PM-18, PM-19, PM-22, PM-23, and PM-24)

6.1.1 SPECIFIC ANALYSIS APPLICABLE TO ALL WATER SUPPLY SOURCES

The section below provides a discussion of the following information to the extent practical:

- The District's existing and planned sources of water supply are identified;
- Each source of supply is quantified in five-year increments through FY 2044-45;

- The anticipated supply availability under normal, single dry, and five consecutive dry years, and any other water year conditions included in the Drought Risk Assessment (see Chapter 7) are described;
- The management of each water supply in correlation with other identified supplies is described.
- Information pertinent to the reliability analysis, including climate change effects, is considered.

The District historically has relied on groundwater supplies from Six Basins, and untreated and treated imported surface water purchased from Metropolitan Water District of Southern California. The following descriptions summarize the District's sources of supply (detailed descriptions are provided in Section 6.2).

Existing and Planned Sources of Supply

Purchased Untreated Imported Water

The District has historically purchased untreated imported water from Metropolitan Water District of Southern California, as described in Section 6.2.1. In addition, Section 6.2.1 provides a detailed discussion of the existing and planned supply of the untreated imported water, including a description of the management and reliability of those untreated imported water supplies. Table 6-8 summarizes the actual untreated imported water supply for FY 2019-20. In addition, Table 6-9 summarizes the projected water supply, in five-year increments, through FY 2044-45 under varying water supply conditions.

Groundwater

The District has historically pumped groundwater from the Six Basins as described in Section 6.2.2. In addition, Section 6.2.2 provides a detailed discussion of the existing and planned supply of the groundwater, including a description of the management and reliability of those groundwater supplies. In addition, the District can purchase San Antonio Creek surface water supplies from the City of Pomona to recharge Six Basins. Table 6-8 summarizes the actual groundwater supplies for FY 2019-20. In addition, Table 6-9 summarizes the projected water supply, in five-year increments, through FY 2044-45 under varying water supply conditions.

Storm Water

The District has historically received groundwater from the Six Basins. Management and use of the stormwater runoff from the Six Basins watershed, which is crucial to groundwater management, is described in Section 6.2.4. However, the District currently does not have its own program to beneficially use stormwater runoff as a direct source of supply.

6.1.2 OTHER CHARACTERIZATION CONSIDERATIONS

A description of the District's water system along with a map of its service area is included in Chapter 3. In addition, the agencies which manage the water supplies used by the District are identified in Section 6.2.1 (imported water), 6.2.2 (groundwater), 6.2.3 (surface water), 6.2.4 (stormwater), and 6.2.5 (recycled water).

6.1.3 OPTIONAL PLANNING TOOL

As discussed in Section 4.2.5, DWR has created an optional "Planning Tool Worksheet" for water suppliers to review and assess monthly water use trends. However, DWR has deemed the tool as optional and the District is not required by DWR to use the tool. Section 6.1 provides a tabulation of the District's historical annual water uses for each water supply source. During the past 10 years, the District experienced a five consecutive

year drought within its service area from FY 2011-12 to FY 2015-16. In addition, historical records indicate the District's annual water demands typically have been even greater prior to FY 2011-12. The District has been able to provide sufficient water supplies to its customers, including during long-term droughts and years with historically high water demands. In addition, the District has been able to provide water service to meet maximum day water demands for these years, including during the summer months. A further discussion regarding the reliability of the District's water supply sources is provided in Chapter 7.

6.2 NARRATIVE SECTIONS FOR SUPPLIER'S UWMP WATER SUPPLY CHARACTERIZATION

6.2.1 PURCHASED OR IMPORTED WATER

The District depends upon MWD for its current and future imported water supplies. MWD supplies imported water to the District, which in turn provides that imported water to its sub-agencies. Treated imported water is provided to the District's sub-agencies for direct use from the District service connections off of the MWD distribution system.

- Untreated imported water is delivered to the District's Miramar Water Treatment Plant where it is treated and subsequently provided to its sub-agencies. Untreated imported water may also be delivered to replenish portions of the Six Basins.
- Untreated imported water is delivered to the Main Basin to satisfy its Replacement Water obligations required under the Main Basin Judgment (see Section 6.2.2). The reliability of future supplies of imported water historically has been impacted by the sources of supply available to MWD. The reliability of these imported water supplies is discussed further in Section 7.1.2.

MWD discusses the historical sources of water supply in Section 1.4 of its 2020 UWMP, which is incorporated by reference. Appendix F provides tables from MWD's draft 2020 UWMP summarizing the historical sources of water supply available to MWD, its supply capability and projected demands for an average year, single dry year, and a five consecutive year drought, and its projections for the District. As shown in Appendix F, MWD has sufficient water supplies to meet all of the projected supplemental water demands for its member agencies through 2045, even during a five consecutive year drought. MWD's primary sources of supply and impacts to those supplies are briefly discussed below.

Colorado River

MWD owns and operates the Colorado River Aqueduct which conveys water from Lake Havasu on the Colorado River to water transmission pipelines and to Lake Skinner and Lake Matthews for storage. MWD's Colorado River water right historically included a fourth and fifth priority under the 1931 Seven Party Agreement relating to California's share in the Colorado River water supply. MWD is currently allotted an amount of 550,000 acre-feet under the fourth priority right and an amount of 662,000 AFY under the fifth priority right, but may receive additional supplies depending on water supply conditions for any given year. MWD can receive water under the fifth priority right when the United States Secretary of the Interior determines that there is a surplus of water or if Arizona or Nevada does not use all of their allocated water.

State Water Project (SWP)

MWD contracts with the State of California, through the State Water Project, for the delivery of northern California water through the California Aqueduct. The State Water Project is a statewide water conveyance system that captures, stores and conveys water to 29 water agencies. The State Water Project's original total contractual commitment called for a capacity of 4.2 million acre-feet per year. MWD has a maximum annual

entitlement of 2,011,500 acre-feet. Each year the California Department of Water Resources provides MWD with an allocation to SWP water (expressed as a percentage of its entitlement) based on hydrologic conditions at the time. In order for the SWP to increase deliveries to the maximum amount of contractual commitments to water every year, the SWP must expand its water storage and conveyance facilities to divert greater flows from north of the San Francisco Bay -Sacramento River Delta area (Bay-Delta) area into the California Aqueduct.

Water Supply Allocation Plan (WSAP)

During calendar year 2007, critically dry conditions impacted MWD's main water supply sources. In addition, a ruling in the Federal Courts in August 2007 provided protective measures for the Delta Smelt (and subsequently other aquatic species) in the Sacramento-San Joaquin River Delta resulting in restrictions on the availability of State Water Project water. As a result, MWD adopted a WSAP in February 2008 to allocate available water supplies to its member agencies. MWD revised the WSAP in December 2014. The WSAP establishes ten different shortage levels and a corresponding Allocation to each member agency (discussed further in Chapter 8.1). Based on the shortage level established by MWD, the WSAP provides a reduced Allocation to a member agency for its Municipal and Industrial (M&I) retail demand and replenishment demand. The WSAP considers historical local water production, full service treated water deliveries, agricultural deliveries and water conservation efforts when calculating each member agency's Allocation.

In general, the WSAP process calculates total historical member agency demand. That historical demand is then compared to member agency projected local supply for a specific Allocation year. The balance required from MWD, less an Allocation reduction factor, is the member agency's imported "Water Supply Allocation". When a member

agency reduces its local demand through conservation or other means, the imported water Allocation will increase. Depending on MWD's available supply, MWD can establish a specific WSAP shortage level. The shortage level causes a regional reduction and calculates an allocation for each of its member agency. Additional information about MWD's WSAP is provided in MWD's Regional 2020 UWMP which is incorporated by reference. The following is a summary of MWD's water shortage levels:

Level 1 – Regional Percent Reduction of 5%
Level 2 – Regional Percent Reduction of 10%
Level 3 – Regional Percent Reduction of 15%
Level 4 – Regional Percent Reduction of 20%
Level 5 – Regional Percent Reduction of 25%
Level 6 – Regional Percent Reduction of 30%
Level 7 – Regional Percent Reduction of 35%
Level 8 – Regional Percent Reduction of 40%
Level 9 – Regional Percent Reduction of 45%
Level 10 – Regional Percent Reduction of 50%

MWD did not declare any WSAP Allocations for fiscal years 2011-12, 2012-13, 2013-14 and 2014-15. However, due to the fourth consecutive year of below average rainfall and critically dry conditions, MWD declared a WSAP Allocation Level 3 for fiscal year 2015-16, which represents a regional reduction of 15 percent. MWD rescinded the WSAP for fiscal year 2016-17 and has not reinstated it since.

The District's imported water purchases over the past five years have been tabulated in Section 6.1. Over the past five years, the District purchased 56,428 AFY to 75,522 AFY,

with an average of 66,048 AFY. The District's projected purchases of untreated imported water, over the next 25 years in five-year increments, is provided in Table 6-9.

6.2.2 GROUNDWATER

CWC 10631.

(b)(4) If groundwater is identified as an existing or planned source of water available to the supplier, all of the following information:

(A) The current version of any groundwater sustainability plan or alternative adopted pursuant to Part 2.74 (commencing with Section 10720), any groundwater management plan adopted by the urban water supplier, including plans adopted pursuant to Part 2.75 (commencing with Section 10750), or any other specific authorization for groundwater management for basins underlying the urban water supplier's service area.

(B) A description of any groundwater basin or basins from which the urban water supplier pumps groundwater. 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. For a basin that has not been adjudicated, information as to whether the department has identified the basin as a high- or medium-priority basin 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 coordinate with groundwater sustainability agencies or groundwater management agencies listed in subdivision (c) of Section 10723 to maintain or achieve sustainable groundwater conditions in accordance with a groundwater sustainability plan or alternative adopted pursuant to Part 2.74 (commencing with Section 10720).

(C) 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.

(D) 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.

SIX BASINS

Six Basins - Sustainable Groundwater Management Act

Six Basins is a subbasin of the San Gabriel Valley Groundwater Basin pursuant to DWR Bulletin 118, Basin Number 4-13. Pursuant to the Sustainable Groundwater Management Act of 2014 (SGMA), the Six Basins is named as an adjudicated groundwater basin, is exempt from the requirements of developing a GSP and is designated a low-priority basin. In compliance with SGMA, the Six Basins Watermaster submits its Annual Report to DWR.

Six Basins - Adjudication

Six Basins was adjudicated in 1998 and a copy of the Six Basins Judgment is provided in Appendix G. Parties include the Cities of Claremont, La Verne, Pomona, and Upland; the Golden State Water Company (GSWC, formally known as the Southern California Water Company), the San Antonio Water Company (SAWCo), the District, the West End Consolidated Water Company (WECWC), and the Pomona Valley Protective Association (PVPA). The provisions of the Judgment are administered and managed by the court-ordered Six Basins Watermaster.

Six Basins - Description

Six Basins is a group of six interconnected groundwater basins that underlie areas of the Cities of Claremont, La Verne, Pomona, and Upland, and surrounding unincorporated areas of Los Angeles and San Bernardino Counties. Six Basins is comprised of alluvium or other water-bearing formations. Six Basins covers an area of approximately twenty-one (21) square miles and is located in the northeasterly portion of the San Gabriel Valley Groundwater Basin. Six Basins is bounded by the San Jose Hills to the south, the Chino

Basin to the east, the San Gabriel Mountains to the north, and the Main San Gabriel Basin to the west. The location of the Six Basins is provided in Figure 4.

The Six Basins is comprised of the Upper Claremont Heights, Lower Claremont Heights, Canyon, Live Oak, Ganesha, and Pomona Basins, and their locations are described as follows:

- The Upper Claremont Heights Basin is bounded by the Sierra Madre/ Cucamonga Fault to the north, Indian Hill Fault to the south, the Chino Basin to the east, and the Claremont Heights Barrier to the west.
- The Lower Claremont Heights Basin is bounded by the Sierra Madre/ Cucamonga Fault to the north, Indian Hill Fault to the south, the Claremont Heights Barrier to the east, and the Thompson Wash Barrier to the west.
- The Canyon Basin is bounded by the Sierra Madre/ Cucamonga Fault to the south and east, and by the surface trace of the bedrock and alluvium interface to the north and west.
- The Live Oak Basin is bounded by the Sierra Madre/ Cucamonga Fault to the north, the Indian Hill Fault line to the south, the Thompson Wash Barrier to the east, and the Main San Gabriel Basin to the west.
- The Ganesha Basin is bounded by the Indian Hill Fault to the north, the San Antonio Fault to the south and east, and the Main San Gabriel Basin to the west.
- The Pomona Basin is bounded by the Indian Hill Fault line to the north, the bedrock and alluvium boundary between the San Antonio Fault and the Chino Basin to the south, and the San Antonio Fault to the west.

A court-appointed Watermaster is responsible for the administration of the Six Basins Judgment. Pursuant to the Judgment, the safe yield of the Six Basins is 19,300 AFY, which is defined as the amount of water that can be produced from the parties on an annual basis to ensure long-term, sustainable groundwater production. The production, replenishment, and recovery of the Live Oak and Ganesha Basins (collectively referred

to as Two Basins) are reserved solely for the City of La Verne and are not subject to any groundwater production limitations, provided that production by the City of La Verne does not substantially injure the rights of any other Six Basin parties. However, the Canyon, Upper Claremont Heights, Lower Claremont Heights, and Pomona Basins (collectively referred to as Four Basins) are subject to individual Operating Safe Yields determined annually by the Six Basins Watermaster.

The Six Basins Watermaster annually determines the Operating Safe Yield for the Four Basins based on recent and expected groundwater replenishment, production, and groundwater levels. The Operating Safe Yield allocation for each party is based on the percentage share of the adjudicated base annual production rights. The base annual production rights are the average annual production for each party during calendar years 1985 and 1986. The tabulation below provides the base annual production rights and the percent share of the Six Basins parties for use of groundwater in the Four Basins.

Six Basins Watermaster Party	**% Share**	**Base Annual Production Right (AFY)**
City of Claremont	2.772%	535
City of La Verne	7.601%	1467
City of Pomona	20.798%	4013
City of Upland	9.544%	1842
GSWC	34.741%	6705
Pomona College	1.850%	357
SAWCo	7.166%	1383
Three Valleys Municipal Water District	0.130%	25
WECWC	15.399%	2972
Totals	**100%**	**19,300**

Parties are allowed to carry-over unused portions of their annual pumping rights for up to one year. Carryover rights are limited to a maximum of 25 percent of the Parties'

respective share of the operating safe yield. However, any amount extracted in excess of the water rights will then be deducted from the following year's water rights.

Parties are allowed to utilize storage capacity in the Four Basins, subject to entering into an agreement with the Watermaster. Storage agreements define the type of water that may be stored, acceptable locations for spreading, volume of recoverable water, and annual and total storage limitations. Currently, three parties have storage agreements with the Watermaster, including the City of Pomona, SAWCo, and the District.

Each year, a party's total allowable production right is the sum of its share of the operating safe yield, carryover rights from the previous year, total recoverable water in storage, transfers from other parties, water produced by an approved special project, and temporary surplus water. If a party's total production exceeds its total allowable production for the year, that party is obligated to spread replacement water in an amount equal to the excess production.

Watermaster collects and tabulates groundwater level data for wells in Six Basins, including data from wells maintained by Watermaster, data collected by the parties, and data available through the State Water Resources Control Board (SWRCB)'s Geotracker database for groundwater remediation sites. Groundwater level data are reported to Watermaster to evaluate groundwater conditions and support the annual determination of operating safe yields. Pursuant to Six Basins Watermaster Annual Reports, groundwater levels steadily declined during the drought period from 2012 to 2016. However, 2017 to 2019 were relatively wet and in combination with spreading at the San Antonio Spreading Grounds (into Six Basins), resulted in either a decrease in the rate of decline of, or an increase in, groundwater levels. From 1999 to 2019, the annual operating safe yield in the Six Basins ranged from 13,000 AF to 24,000 AF. In consideration of the recent amount of groundwater in storage and the need to control groundwater levels, Watermaster set an operating safe yield of 16,000 AF for 2016, 14,000 AF in 2017, 13,500 AF in 2018, and 13,000 AF for 2019 and 2020.

The District may purchase surface water supplies diverted by the City of Pomona from the San Antonio Creek. In the spring of 2015, the District connected to the City of Pomona's Canon pipeline that conveys water from San Antonio Creek (behind San Antonio Dam) to the City of Pomona's Pedley Filtration Plant located in the City of Claremont. The District has the ability to purchase this surface water and direct it into spreading basins via spreading pipeline extensions within the San Antonio Spreading Grounds that benefit the District's groundwater wells located in the Six Basins.

Groundwater quality in the northerly portion of Six Basins has been observed to be generally good as this area includes geology and land use that promote natural and artificial replenishment through surface spreading. The southerly and westerly portions of the Six Basins generally see higher concentrations of perchlorate, nitrate, and volatile organic compounds (VOCs) due to past agricultural land use and industrial contamination. Wellhead treatment is necessary in these areas to allow delivery of the groundwater for potable use.

Six Basins - Historical and Projected Basin Production

The District currently produces groundwater from three wells located in the Six Basins. The District's share of the operating safe yield, exclusive of its member agencies, is 0.130 percent. Water produced from the Six Basin is delivered to the District's Miramar Water Treatment Plant for treatment. Over the past five years, the District has produced 945 AFY to 1,219 AFY, with an average of 1,075 AFY from the Six Basins. The District's projected production from the Six Basins, over the next 25 years in five-year increments, is provided in Table 6-9.

Table 6-1 Groundwater Volume Pumped

Submittal Table 6-1 Wholesale: Groundwater Volume Pumped						
☐	Supplier does not pump groundwater. The supplier will not complete the table below.					
☐	All or part of the groundwater described below is desalinated.					
Groundwater Type	Location or Basin Name	2016*	2017*	2018*	2019*	2020*
Add additional rows as needed						
Alluvial Basin	Six Basins	1,044	945	1,219	968	1,200
	TOTAL	1,044	945	1,219	968	1,200
**** Units of measure (AF, CCF, MG)*** *must remain consistent throughout the UWMP as reported in Table 2-3.*						
NOTES:						

6.2.3 SURFACE WATER

The District does not use self-supplied surface water sources to meet its water demands. However, the District purchases San Antonio Creek surface water supplies from the City of Pomona to replenish the Six Basins. As discussed in Section 6.2.2., the District may purchase surface water supplies diverted by the City of Pomona from the San Antonio Creek. In the spring of 2015, the District connected to the City of Pomona's Canon pipeline that conveys water from San Antonio Creek (behind San Antonio Dam) to the City of Pomona's Pedley Filtration Plant located in the City of Claremont. The District has the ability to purchase this surface water and direct it into spreading basins via spreading pipeline extensions within the San Antonio Spreading Grounds that benefit the District's groundwater wells located in the Six Basins.

6.2.4 STORMWATER

The District does not directly use stormwater to meet its water demands.

6.2.5 WASTEWATER AND RECYCLED WATER

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, and shall include all of the following:

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

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

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

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

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

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

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

Municipal recycled water is municipal wastewater that has been treated to a specified quality to enable it to be reused for a beneficial purpose. For purposes of the UWMPs, "recycled water" is defined as municipal recycled water (i.e. water that has been treated and discharged from a municipal wastewater facility). Municipal wastewater must meet two requirements; it must be reused beneficially pursuant to Title 22 of the California Code of Regulations and it must be reused in accordance with a Regional Water Quality Control

Board permit. Title 22 of the California Code of Regulations defines beneficial reuse of recycled water as "...the use of recycled water that has been transported from the point of treatment or production to the point of use without an intervening discharge to water of the State....";

The District does not directly use or have access to either wastewater or recycled water. However, a number of the District's sub-agencies use recycled water as part of their water resource supply. Recycled Water is an important local resource that is crucial for sustainable management of long-term water supplies. Currently, recycled water in California is limited to non-potable or indirect potable uses such as irrigation of turf and landscaping, agricultural uses, dust control and industrial cooling. Within the District's service area, recycled water is used in its sub-agencies' non-potable distribution systems (designated by purple-colored pipes).

6.2.5.1 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…

Recycled water distribution systems are located in the southern portion of the District's service area. There are two water reclamation plants which provide recycled water to water companies within the District's service area; the Pomona Water Reclamation Plant (PWRP) and the San Jose Creek Water Reclamation Plant (SJCWRP). Los Angeles County Sanitation District (LACSD) owns and operates both of these facilities and are the two sources of recycled water for the District's sub-agencies.

LACSD uses some of the recycled effluent from the PWRP at its Spadra Landfill. The remaining recycled water produced at the PWRP is delivered to Cal Poly Pomona, Forest Lawn Memorial Park, City of Pomona, and WVWD. The City of Pomona and WVWD utilize the recycled water for their respective recycled water systems to sell to their customers with non-potable demands. Cal Poly, who receives the majority of its recycled water through the City of Pomona, uses the water supply for agricultural and landscape irrigation purposes.

A large pumping plant near the western boundary of the District's service area was built to provide recycled water for the City of Industry, Rowland Water District, Suburban Water Systems and VHWC. Currently, Rowland Water District, Suburban Water Systems, and VHWC are the only sub-agencies within the District utilizing recycled water from the SJCWRP.

6.2.5.2 WASTEWATER COLLECTION, TREATMENT, AND DISPOSAL

CWC 10633.

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

Wastewater within the District's service area is collected by LACSD and treated at LACSD's SJCWRP, PWRP, or Joint Water Pollution Control Plant (JWPCP). There are two water reclamation plants located within the District's service area.

The Pomona Water Reclamation Plant has a capacity of 15 million gallons per day (MGD) or about 16,800 acre-feet per year and produces approximately 9,000 AFY of recycled water. The majority of it is used for direct non-potable purposes including landscape irrigation of parks, schools, golf courses, greenbelts, etc. and process water for local

industrial manufacturing. The PWRP uses recycled water at over 210 different sites. After the last treatment process (disinfection), effluent is discharged over a free flowing weir into a small pump station wet well. This wet well acts as a splitter box that distributes allocated flows to the PWRP pump station.

The SJCWRP, which began operations in 1971, has a treatment capacity of about 100 MGD and provides coagulated, filtered and disinfected tertiary effluent. The SJCWRP plant serves a largely residential population of approximately 1 million people. On average, approximately 43 MGD (or 47,040 AFY) of recycled water produced at the SJCWRP is used at over 180 different reuse sites. Solids from the SJCWRP are conveyed to the LACSD's Joint Water Pollution Control Plant for treatment.

SJCWRP is located near the Cities of Industry and Whittier outside of the District's service area. Because the plant is down gradient of the District's service area, the water must be pumped back to be delivered into the District. The majority of the recycled effluent from SJCWRP is utilized downstream of the plant in the Central Basin. City of Industry owns and operates a large pipeline and pumps recycled water from the SJCWRP to the east toward the District's service area. 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.

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. 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 by LACSD to ensure compliance with applicable local, state, and federal standards for discharge water.

Table 6-2 Wastewater Collected Within Area in 2020 (Not Applicable)

Table 6-2 is not applicable for wholesalers.

Table 6-3 Wastewater Treatment and Discharge within Service Area in 2020

Submittal Table 6-3 Wholesale: Wastewater Treatment and Discharge Within Service Area in 2020											
☑	Wholesale Supplier neither distributes nor provides supplemental treatment to recycled water. 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)* [2]	Method of Disposal *Drop down list*	Does This Plant Treat Wastewater Generated Outside the Service Area? *Drop down list*	Treatment Level *Drop down list*	2020 volumes [1] Wastewater Treated	Discharged Treated Wastewater	Recycled Within Service Area	Recycled Outside of Service Area	Instream Flow Permit Requirement
Add additional rows as needed											
						Total	0	0	0	0	0
[1] **Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.											
[2] If the **Wastewater Discharge ID Number** is not available to the UWMP preparer, access the SWRCB CIWQS regulated facility website at https://ciwqs.waterboards.ca.gov/ciwqs/readOnly/CiwqsReportServlet?inCommand=reset&reportName=RegulatedFacility											
NOTES:											

6.2.5.3 RECYCLED WATER SYSTEM DESCRIPTION

CWC 10633.

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

Wastewater within the District's service area is collected by LACSD. With the exception for some of the recycled water used by LACSD at the Spadra Landfill, Cal Poly Pomona, City of Pomona, and Walnut Valley Water District can utilize all the recycled water produced by the Pomona plant. The City of Pomona and WVWD then utilize the water for

their respective recycled water systems to sell to their customers with non-potable demands. Cal Poly, who receives the majority of its recycled water through the City of Pomona, uses the water supply for agricultural and landscape irrigation purposes.

There are daily fluctuations in supply and demand that result in unused recycled water being discharged into the nearby San Jose Creek flood control channel. This unused portion flows into the San Gabriel River and is then used for groundwater recharge downstream. The amount of unused recycled water discharged downstream is expected to be nearly eliminated with more storage and demand for non-potable supplies.

Based on LACSD's most recent "Recycled Water Use for FY18-19" annual report, the plant produced 6.67 MGD (7,480 AFY) of coagulated, filtered, disinfected tertiary recycled water for the year. Rowland Water District took over operation of the portion of the WVWD recycled water distribution system that ran through its service area and has connected to the City of Industry system which gets its recycled water from the SJCWRP, but still maintains a back-up connection with WVWD.

Recycled water is also transported from the SJCWRP to the City of Industry's facilities. A large pumping plant near the western boundary of the District's service area was built to provide recycled water flows for the City of Industry, Rowland Water District, Suburban Water Systems and VHWC. Currently, Rowland Water District, Suburban Water Systems, and VHWC are the only sub-agencies within the District utilizing recycled water from the SJCWRP. Based on LACSD's most recent "Recycled Water Use for FY18-19" annual report, , the entire facility produced a total of 43.77 MGD (49,045 AFY) of coagulated, filtered, disinfected tertiary recycled water for the year.

6.2.5.4 POTENTIAL, CURRENT, AND PROJECTED RECYCLED WATER USES

CWC 10633.

(b) A description of the recycled water currently being used in the supplier's service area, including, but not limited to, the type, place, and quantity of use. A description of the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.

(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.

The PWRP and SJCWRP produce disinfected tertiary treated wastewater in compliance with the applicable sections Title 22 of the Code of Regulations. Recycled water within the District's service area is for: landscape/agricultural irrigation and industrial use. Future use of recycled water in the District's service area will increase as infrastructure to deliver the supply expands. Surface irrigation of landscaped medians/parkways, schools, parks, and other open areas will be potential users for recycled water.

MSAC, one of the District's institutional sub-agencies, has also evaluated its potential use of recycled water in the future. MSAC, which is located in the City of Walnut, is adjacent to WVWD's service area. A connection to WVWD's recycled system would allow the school to use the recycled water to irrigate large sports fields on campus. This would directly offset MSAC's current use of potable imported water for this same purpose.

Within the next several years, there could be potential construction of infrastructure to deliver recycled water to the southern half of District's service area. Because the current market for recycled water is not fully developed, there have been difficulty justifying the

economic feasibility. In addition to installing the main pipelines needed to move the recycled water, agencies must convince customers to switch to recycled water supplies, and then the expense of connecting individual users adds another layer to the overall cost. Agencies must deal with these issues to determine economic feasibility.

Over the planning horizon of this Plan, the types of recycled water use projected within the District's service area are expected to remain the same (i.e. landscape and agricultural irrigation and industrial/commercial process water).

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

Submittal Table 6-4 Wholesale: Current and Projected Retailers Provided Recycled Water Within Service Area							
☑	Recycled water is not directly treated or distributed by the Supplier. The Supplier will not complete the table below.						
Name of Receiving Supplier or Direct Use by Wholesaler	Level of Treatment *Drop down list*	2020*	2025*	2030*	2035*	2040*	2045* *(opt)*
Add additional rows as needed							
	Total	0	0	0	0	0	0
*** Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.							
NOTES:							

Table 6-5 2015 Recycled Water Use Projection Compared to 2020 Actual (Not Applicable)

Submittal Table 6-5 Wholesale: 2015 UWMP Recycled Water Use Projection Compared to 2020 Actual		
☑	Recycled water was not used or distributed by the supplier in 2015, nor projected for use or distribution in 2020. The wholesale supplier will not complete the table below.	
Name of Receiving Supplier or Direct Use by Wholesaler	2015 Projection for 2020*	2020 Actual Use*
Add additional rows as needed		
Total	0	0
***Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*		
NOTES:		

6.2.5.5 ACTIONS TO ENCOURAGE AND OPTIMIZE FUTURE RECYCLED WATER USE

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, and shall include all of the following:

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

Table 6-6 Methods to Expand Future Recycled Water Use (Not Applicable)

Table 6-6 is not applicable for wholesalers.

As a wholesale agency, the District is not required by DWR to complete Section 6.2.5.5.

6.2.6 DESALINATED WATER OPPORTUNITIES

CWC 10631.

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

Six Basins

The District pumps groundwater from the Six Basin which is low in total dissolved solids (TDS) and does not require desalination. The SWRCB-DDW recommended level is 500 milligrams per liter (mg/L) and water can be provided for long-term domestic use with TDS concentrations of up to 1,000 mg/L. Recent water quality data indicates the TDS values for the District's groundwater wells are less than 500 mg/L. Due to the low TDS concentration of the groundwater from the Six Basins, the District does not need to investigate the use of desalination as a long-term supply. However, there may be opportunities for use of desalinated ocean water as a potential water supply source in the future, through coordination with other agencies that have ocean desalination programs.

6.2.7 WATER EXCHANGES AND TRANSFERS

CWC 10631.

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

6.2.7.1 EXCHANGES

Pursuant to DWR's 2020 Final Guidebook, "*Water exchanges are typically water delivered by one water user to another water user, with the receiving water user providing water in return at a specified time or when the conditions of the parties' agreement are met. Water exchanges can be strictly a return of water on a basis agreed upon by the participants or it can include payment and the return of water.*"

The District participates in MWD's Dry-Year Yield Program (DYYP). The DYYP is a groundwater storage and recovery program where supplemental water is stored in the Chino Basin during surplus years and could be recovered in-lieu of imported water from MWD through IEUA. The DYYP allows maximum use of imported water supplies available during wet years and stored groundwater in the Chino Basin during dry years. The DYYP can store up to 100,000 AF with maximum replenishment of 25,000 AFY and maximum extraction of 33,000 AFY. During FY 2019-20, there was 45,961 AF within the DYYP account. The agreement that authorized the DYYP will expire in 2028.

6.2.7.2 TRANSFERS

Pursuant to DWR's 2020 Final Guidebook, "*The Water Code defines a water transfer as a temporary or long-term change in the point of diversion, place of use, or purpose of use due to a transfer, sale, lease, or exchange of water or water rights.*"

The District and some of its sub-agencies have explored water transfers, especially those agencies more reliant on imported water. Due to the uncertainties associated with the reliability of imported water, it becomes essential for those with limited local water supplies to examine other resource opportunities.

As discussed in Section 6.2.2, water rights under the Six Basins Judgment can be transferred by assignment, sale, contract, or lease so long as such transfers meet the requirements of the Judgment. However, a Party's right to produce, store or recover groundwater in the Four Basins Area may not be transferred, exchanged or exercised in the Two Basins Area. In addition, a Party's right to produce, store or recover groundwater in the Two Basins Area may not be transferred, exchanged or exercised in the Four Basins Area. The District and several of its sub-agencies are able to utilize the transfer opportunities available for Six Basins water when necessary.

Some of the District's sub-agencies have also investigated the potential to transfer water from water rights held north of the Delta. These investigations are also in their early stages and appear promising from a cost perspective. If the completed analysis shows that the cost of delivering this water is comparable to alternative supplies, it could result in additional resources within the area served by the District.

6.2.7.3 EMERGENCY INTERTIES

Emergency 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.

Emergency interconnections are not available to the District because the District is a wholesale water agency that provides treated imported water supplies to its sub-agencies. However, the District has multiple connections with several of its sub-agencies to provide these agencies with water supplies during emergency situations.

6.2.8 FUTURE WATER PROJECTS

CWC 10631.

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

The District plans to increase water reliability and reduce its reliance for imported water by constructing additional groundwater production wells over the next several years. The District's objective is to construct a new well about every two years and be able to produce approximately 5,000 AF per year of additional groundwater. This would enable the District to supply about half (50%) of the historical annual production of the Miramar Plant using groundwater.

Table 6-7 Expected Future Water Supply Projects or Programs

Submittal Table 6-7 Wholesale: Expected Future Water Supply Projects or Programs						
☐	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.					
☑	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.					
Section 6.2.8	Provide page location of narrative in the UWMP					
Name of Future Projects or Programs	Joint Project with other suppliers?		Description *(if needed)*	Planned Implementation Year	Planned for Use in Year Type *Drop Down list*	Expected Increase in Water Supply to Supplier*
	Drop Down Menu	*If Yes, Supplier Name*				
Add additional rows as needed						
Construct additional groundwater production wells	*No*		The District's objective is to construct a new well about every two years	Ongoing	All Year Types	5,000
***Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*						
NOTES:						

6.2.9 SUMMARY OF EXISTING AND PLANNED SOURCES OF WATER

CWC 10631.

(b) Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments described in subdivision (a), providing supporting and related information, including all of the following…

(b)(2) When multiple sources of water supply are identified, a description of the management of each supply in correlation with the other identified supplies.

(h) 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 (f). 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 (f).

6.2.9.1 DESCRIPTION OF SUPPLIES

As discussed in Section 6.2, the District's water supply sources consist of untreated imported water purchased from MWD (see Section 6.2.1), treated imported water purchased from MWD (see Section 6.2.1), and groundwater from Six Basins (see Section 6.2.2). The actual quantities of the water supply sources available to the District during FY 2019-20 are summarized in Table 6-8. The reliable quantities of projected water supply sources available to the District in five-year increments through FY 2044-45 during normal or average years are summarized in Table 6-9. The reliability of these sources of supply are addressed in Section 7.2.3, including during normal years, single dry years, and five consecutive year droughts.

The order of use of the District's projected reliable water supplies from FY 2019-20 through FY 2044-45 in five-year increments is based on historical practices, water supply

availability, and the cost of water. It is anticipated the District will initially use purchased untreated and treated imported water. The District will also use groundwater produced from the Six Basins.

6.2.9.2 QUANTIFICATION OF SUPPLIES

The actual quantities of the water supply sources available to the District during FY 2019-20 are summarized in Table 6-8. The reliable quantities of projected water supply sources available to the District in five-year increments through FY 2044-45 during average years are summarized in Table 6-9. The reliability of these sources of supply are addressed in Section 7.2.3, including during normal years, single dry years, and five consecutive year droughts.

The District's projected quantities of untreated and treated imported water supplies and/or groundwater water supplies are based on historical long-term averages and available supplies during previous dry year conditions. It is anticipated the District will have sufficient water supplies available to meet projected demands.

Table 6-8 Water Supplies – Actual

Submittal Table 6-8 Wholesale: Water Supplies — Actual				
Water Supply	Additional Detail on Water Supply	2020		
Drop down list May use each category multiple times.These are the only water supply categories that will be recognized by the WUEdata online submittal tool		Actual Volume*	Water Quality Drop Down List	Total Right or Safe Yield* (optional)
Add additional rows as needed				
Groundwater (not desalinated)	Six Basins	1,200	Drinking Water	
Purchased or Imported Water	MWD	73,354	Drinking Water	
Other	Local Projects	2,169	Drinking Water	
	Total	76,723		0
***Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*				
NOTES:				

Table 6-9 Water Supplies – Projected

Submittal Table 6-9 Wholesale: Water Supplies — Projected											
Water Supply	Additional Detail on Water Supply	Projected Water Supply* Report To the Extent Practicable									
		2025		2030		2035		2040		2045 (opt)	
Drop down list May use each category multiple times. These are the only water supply categories that will be recognized by the WUEdata online submittal tool		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)
Add additional rows as needed											
Groundwater (not desalinated)	Six Basins	2,500		3,000		3,000		3,000		3,000	
Purchased or Imported Water	MWD	52,516		51,401		51,261		51,025		50,765	
Other	Local Projects	3,000		3,500		3,500		3,500		3,500	
Total		58,016	0	57,901	0	57,761	0	57,525	0	57,265	0
***Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*											
NOTES:											

6.2.10 SPECIAL CONDITIONS

The District considered the issues described below when developing its planned sources of water supply.

6.2.10.1 CLIMATE CHANGE EFFECTS

Climate change has the possibility of impacting the availability of planned water supplies, particularly during a drought period. Section 4.5 of this Plan provides a discussion regarding climate change effects on the District's various sources of supply.

6.2.10.2 REGULATORY CONDITIONS AND PROJECT DEVELOPMENT

The District has considered the implications of changing regulatory conditions and project development on the availability of planned water supplies. Section 1.4 provides a discussion on the reduced regional reliance on imported water supplies.

6.2.10.3 OTHER LOCALLY APPLICABLE CRITERIA

There are no locally applicable criteria which applies to the District.

6.3 SUBMITTAL TABLES COMPLETION USING THE OPTIONAL PLANNING TOOL

As discussed in Section 4.2.5, DWR has created an optional "Planning Tool Worksheet" for water suppliers to review and assess monthly water use trends. However, DWR has deemed the tool as optional and the District is not required by DWR to use the tool. Section 6.1 provides a tabulation of the District's historical annual water uses for each water supply source. During the past 10 years, the District experienced a five consecutive year drought within its service area from FY 2011-12 to FY 2015-16. In addition, historical

records indicate the District's annual water demands typically have been even greater prior to FY 2011-12. The District has been able to provide sufficient water supplies to its customers, including during long-term droughts and years with historically high water demands. In addition, the District has been able to provide water service to meet maximum day water demands for these years, including during the summer months. A further discussion regarding the reliability of the District's water supply sources is provided in Chapter 7.

6.4 ENERGY USE

CWC 10631.2.

(a) In addition to the requirements of Section 10631, an urban water management plan shall include any of the following information that the urban water supplier can readily obtain:

(1) An estimate of the amount of energy used to extract or divert water supplies.

(2) An estimate of the amount of energy used to convey water supplies to the water treatment plants or distribution systems.

(3) An estimate of the amount of energy used to treat water supplies.

(4) An estimate of the amount of energy used to distribute water supplies through its distribution systems.

(5) An estimate of the amount of energy used for treated water supplies in comparison to the amount used for nontreated water supplies.

(6) An estimate of the amount of energy used to place water into or withdraw from storage.

(7) Any other energy-related information the urban water supplier deems appropriate.

"Energy intensity" is defined as the quantity of energy consumed, measured in kilowatt hours (kWh), divided by the volume of water, measured in acre-feet for a water management process over a one-year period. The information used to calculate the estimated energy intensity associated with the District's water system is provided below.

The energy intensity information is based on readily obtainable energy and water use data for the following water management processes: 1) extraction or diversion of water supplies; 2) placement into storage; 3) conveyance to distribution; 4) treatment; and 5) water system distribution.

The District has tabulated its energy intensity using readily obtainable energy consumption data obtained from monthly electricity bills from Southern California Edison (SCE) for the whole water system and the corresponding water use data obtained from available water meter readings. The District has reported the energy intensity associated with the water management processes which occur within its operational control. Because the District does not track individual energy usage for each water management process identified above, the District has estimated the energy intensity using the a "total utility approach" (i.e. sum of all water management processes). The total energy consumed was approximately 1,496,659 kWh during FY 2019-20. Although the total energy consumption reported includes electricity usage for general administration (e.g. at the District's headquarters) which is not associated with any water management processes, the general administration energy usage is considered negligible compared to overall water system use and has not been netted out.

The total volume of water entering the potable water system was approximately 76,723 AF during FY 2019-20 and is consistent with the total volume of water provided in Table 4-1.

The District's water management processes include "consequential hydropower generation" where the energy generation is a direct consequence of water delivery (i.e. all water passing through the energy generation devices is delivered to users). The total hydropower produced was approximately 1,744,943 kWh during FY 2019-20.

The net power generated by the District during FY 2019-20 was 248-284 kWh (or 1,744,943 kWh less 1,496,659 kWh). Because the consequential hydropower generation

is greater than the amount of total energy consumed, the energy intensity is a negative value. The total energy intensity associated with the District's water management processes is estimated at -3.2 kWh/AF. The energy intensity data and calculations based on the "total utility approach" are provided in Table O-1B below.

The District's water management processes do not include "non-consequential hydropower generation" where the energy generation is not a direct consequence of water delivery (i.e. energy could be generated even if no water was being delivered to water users). In addition, the District's water management processes do not include any substantial "self-generated energy sources" including solar, wind, geothermal, biomass, co-generation, and diesel generator sources.

Table O-1B. Recommended Energy Reporting — Total Utility Approach

Urban Water Supplier: *Three Valleys Municipal Water District*

Water Delivery Product (If delivering more than one type of product use Table O-1C)
Wholesale Potable Deliveries

Table O-1B: Recommended Energy Reporting - Total Utility Approach				
Enter Start Date for Reporting Period	7/1/2019	Urban Water Supplier Operational Control		
End Date	6/30/2020			
☐ Is upstream embedded in the values reported?		Sum of All Water Management Processes	Non-Consequential Hydropower	
Water Volume Units Used	*AF*	Total Utility	Hydropower	Net Utility
Volume of Water Entering Process (volume unit)		*76723*	*0*	*76723*
Energy Consumed (kWh)		*-248284*	*0*	*-248284*
Energy Intensity (kWh/volume)		*-3.2*	*0.0*	*-3.2*

Quantity of Self-Generated Renewable Energy
0 kWh

Data Quality *(Estimate, Metered Data, Combination of Estimates and Metered Data)*
Combination of Estimates and Metered Data

Data Quality Narrative:

Energy information was identified based on Southern California Edison (SCE) billing records. Although the total energy consumed includes electricity usage for general administration (which is not an identified water management process), general administration energy use is considered to be negligible compared to overall water system use and has not been netted out. The District produces energy through hydropower generation (which has been factored into the "Energy Consumed" value).

Narrative:

The total energy consumption includes energy associated with operating groundwater production wells and booster pumps to deliver water in the distribution system. Energy consumption is associated with operating groundwater treatment. Energy consumption is also associated with plant lighting and air conditioning, and operating the Supervisory Control and Data Acquisition (SCADA) system and chlorination injection pumps. The District produces energy (through hydropower generation) which exceeds consumption. Because the consequential hydropower generation is greater than the amount of total energy consumed, the energy intensity is a negative value.

CHAPTER 7

WATER SERVICE RELIABILITY AND DROUGHT RISK ASSESSMENT

LAY DESCRIPTION – CHAPTER 7

WATER SERVICE RELIABILITY AND DROUGHT RISK ASSESSMENT

Chapter 7 (Water Service Reliability and Drought Risk Assessment) of the District's 2020 Plan discusses and provides the following:

- FY 2016-17 represents an "average" or "normal" water year for the District in which the total amount of rainfall was similar to the historical average rainfall.
- A "single dry" year for the District was represented in FY 2017-18, in which the total amount of rainfall was below the historical average rainfall.
- A "five consecutive year drought" period for the District is represented from FY 2011-12 to FY 2015-16, where the total amount of rainfall during each of these years was less than the historical average rainfall.
- The District's current and projected water supplies available during normal years in five-year increments over the next 25 years are provided (through Fiscal Year 2044-45) as shown on Table 7-2.
- The District's current and projected water supplies available during single dry years in five-year increments over the next 25 years are provided (through Fiscal Year 2044-45) as shown on Table 7-3.
- The District's current and projected water supplies available during each year of a five consecutive year drought in five-year increments over the next 25 years are provided (through Fiscal Year 2044-45) as shown on Table 7-4.
- The reliability of the District's water supply sources, including a review of water supply constraints, is provided. A single dry year or a five consecutive year drought

period will not compromise the District's ability to provide a reliable supply of water to its customers.

- A Drought Risk Assessment is provided which includes an assessment of the District's water supply reliability over a five consecutive year drought period. The District's DRA assumes a five consecutive year drought from FY 2020-21 through FY 2024-25 and includes a review of water supplies, water uses, and water supply reliability for each water supply source during this period. The District's water system has experienced a prior five consecutive year drought with no limitation to its collective water supplies. However, the cost of those water supplies may have increased based on the mix of water supplies which are used. Consequently, the District has the ability to enact varying water shortage levels (see Chapter 8) to help educate its customers and provide an economic incentive for the retail customers to reduce their water consumption.

7.1 INTRODUCTION

This section of the District's UWMP describes the District's ability to meet retail customer water demands by analyzing a variety of factors which affect the District's water supply. This section assesses the District's water service reliability during average years, single dry years, and during a five consecutive year drought period to meet the water needs of its sub-agencies. This section also includes the discussion of a Drought Risk Assessment which provides a mechanism for the District to evaluate the risk to its water supply under a drought lasting for the next five consecutive years.

7.2 WATER SERIVCE RELIABILITY ASSESSMENT

CWC 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 long-term total projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and a drought lasting five consecutive 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.

7.2.1 CONSTRAINTS ON WATER SOURCES

CWC 10631.

(b)(1) A detailed discussion of anticipated supply availability under a normal water year, single dry year, and droughts lasting at least five years, as well as more frequent and severe periods of drought, as described in the drought risk assessment. For each source of water supply, consider any information pertinent to the reliability analysis conducted pursuant to Section 10635, including changes in supply due to climate change.

Information regarding the reliability of the District's water supplies to many of the District's sub-agencies is based on the historical precipitation data in the San Gabriel Valley. Historical annual precipitation in the San Gabriel Valley is discussed in Section 3.3 and is based on historical data collected from Station 047050 (Pomona Fairplex, California). Furthermore, Section 4.5 of this Plan notes that potential future climate change impacts may result in an increase in the average annual precipitation within the District's service area, thus indicating use of historical data is a reasonable and conservative approach. As indicated in Section 3.3, the historical average rainfall in the vicinity of the District's service area is 17.2 inches. FY 2016-17 represents an average or normal water year for the District in which the total amount of rainfall was similar to the historical average rainfall. A single dry year for the District was represented in FY 2017-18, in which the total amount of rainfall was below the historical average rainfall. A five consecutive year drought period

for the District is represented from FY 2011-12 to FY 2015-16, where the total amount of rainfall during each of these years was less than the historical average rainfall. Table 7-1 summarizes these "base years" for average, single dry, and five consecutive year drought and provides the total amount of water supplies available to the District's sub-agencies during those base years. The following discussion assesses the water service reliability of the District's water supply sources.

Water Service Reliability - Imported Water

The District's treated imported water supplies from MWD may be impacted during a five consecutive year drought or other conditions which limits MWD from delivering sufficient water supplies to all of its member agencies, and consequently to the District. In anticipation of such a reduction in supplies, MWD developed a WSAP which is briefly described below. The WSAP provides a means of providing reduced water supplies to each of MWD's member agencies for up to 10 levels of reduction representing up to a 50 percent reduction.

During calendar year 2007, critically dry conditions impacted MWD's water supply sources. In addition, a ruling in the Federal Courts in August 2007 provided protective measures for the Delta Smelt (and subsequently other aquatic species) in the Sacramento-San Joaquin River Delta resulting in restrictions on the availability of State Water Project water. As a result, MWD adopted a WSAP in February 2008 to allocate available water supplies to its member agencies. MWD revised the WSAP in December 2014.

The WSAP establishes ten different shortage levels and a corresponding Allocation to each member agency. Based on the shortage levels established by MWD, the WSAP provides a separate reduced Allocation to a member agency for its 1) Municipal and Industrial retail demand and 2) replenishment demand. The WSAP formula considers historical local water production, full service treated water deliveries, agricultural

deliveries and water conservation efforts when calculating each member agency's Allocation.

In general, the WSAP process calculates total historical member agency demand. That historical demand is then compared to member agency projected local supply for a specific Allocation year. The balance required from MWD, less an Allocation reduction factor, is the member agency's "Water Supply Allocation" of imported water from MWD. When a member agency reduces its local demand through conservation or other means, the Allocation of imported water will increase. Depending on MWD's available supply, MWD can establish a specific WSAP shortage level. The shortage level causes a regional reduction and calculates an allocation for each of its member agencies. Additional information about MWD's WSAP is provided in MWD's Regional 2020 UWMP which is incorporated by reference. The following is a summary of MWD's water shortage levels:

Level 1 – Regional Percent Reduction of 5%
Level 2 – Regional Percent Reduction of 10%
Level 3 – Regional Percent Reduction of 15%
Level 4 – Regional Percent Reduction of 20%
Level 5 – Regional Percent Reduction of 25%
Level 6 – Regional Percent Reduction of 30%
Level 7 – Regional Percent Reduction of 35%
Level 8 – Regional Percent Reduction of 40%
Level 9 – Regional Percent Reduction of 45%
Level 10 – Regional Percent Reduction of 50%

In response to a fourth consecutive year of below average rainfall and critically dry conditions, MWD declared a WSAP Allocation Level 3 for fiscal year 2015-16, which represented a regional reduction of 15 percent. MWD rescinded the WSAP for fiscal year 2016-17 and has not reinstated the WSAP since that time.

Water Service Reliability Summary

Table 7-1 shows the water supplies during the base years (for average year, single dry year and a five consecutive year drought).

7.2.2 SERVICE RELIABILITY - YEAR TYPE CHARACTERIZATION

7.2.2.1 TYPES OF YEARS

The District's base years for an average year, a single dry year, and a five consecutive year drought are discussed in Section 7.2 and are summarized in Table 7-1. As indicated in Chapter 6, the District's water supplies sources have been sufficient in meeting the District's sub-agencies' historical water demands during an average year, a single dry year, and a five consecutive year drought. An average year was based on a historical year during the past 10 years with a total precipitation similar to the historical average precipitation in the vicinity of the District's service area. Because a single dry year or a five consecutive year drought period will not compromise the District's ability to provide a reliable supply of water to its sub-agencies, a single dry year in this Plan was selected based one of the driest years during the past 10 years. The five consecutive year drought period was based on a period of five consecutive dry years during the past 10 years.

As indicated in Section 3.3, the historical average rainfall in the vicinity of the District's service area is 17.2 inches. FY 2016-17 represents an average or normal water year for the District in which the total amount of rainfall was similar to the historical average rainfall. A single dry year for the District was represented in FY 2017-18, in which the total amount of rainfall was less than the historical average rainfall. A five consecutive year drought period for the District is represented from FY 2011-12 to FY 2015-16, where the total amount of rainfall during each of these years was less than the historical average rainfall. Table 7-1 summarizes these "base years" for an average year, a single dry year and a

five consecutive year drought period and provides the total amount of water supplies available to the District during those base years.

Table 7-1 Basis of Water Year Data (Reliability Assessment)

Submittal Table 7-1 Wholesale: Basis of Water Year Data (Reliability Assessment)			
Year Type	**Base Year** 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	**Available Supplies if Year Type Repeats**	
		☐ Quantification of available supplies is not compatible with this table and is provided elsewhere in the UWMP. Location _____	
		☐ Quantification of available supplies is provided in this table as either volume only, percent only, or both.	
		Volume Available *	**% of Average Supply**
Average Year	2017	69,289	100%
Single-Dry Year	2018	68,486	98.8%
Consecutive Dry Years 1st Year	2012	64,789	93.5%
Consecutive Dry Years 2nd Year	2013	71,546	103.3%
Consecutive Dry Years 3rd Year	2014	74,233	107.1%
Consecutive Dry Years 4th Year	2015	62,357	90.0%
Consecutive Dry Years 5th Year	2016	57,472	82.9%
Supplier 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 a supplier 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. Suppliers may create an additional worksheet for the additional tables.			
***Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*			
NOTES:			

7.2.2.2 SOURCES FOR WATER DATA

The monthly historical average temperatures (including minimum and maximum), monthly historical average rainfall, and monthly ETo in the vicinity of the District's service area are discussed in Section 3.3. Historical climate information was obtained from the WRCC, DPW, and from DWR's CIMIS.

7.2.3 SERVICE RELIABILITY – SUPPLY AND DEMAND COMPARISON

CWC 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 long-term total projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and a drought lasting five consecutive 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.

The District primarily obtains its water supply from MWD. As discussed in Section 7.3 and shown in Table 7-2, Table 7-3, and Table 7-4, each of the District's water supply sources share the same base years. As previously discussed in Section 7.2.1, a single dry year or a five consecutive year drought period will not compromise the District's ability to provide a reliable supply of water to its sub-agencies.

As previously discussed in Section 4.2.6, the District's projected normal year water demands from its sub-agencies over the next 25 years, in five-year increments, were projected based on existing water use factors incorporating recent water demands from its sub-agencies, and the total population projections based on land use trends within the area receiving water from the District. The ratio of total water supplies available to the District during a historical normal year in FY 2016-17 (or 69,289 AF) and during a

historical single dry year in FY 2017-18 (or 68,486 AF) was used to estimate the District's projected water demands from its sub-agencies during single dry years. The ratio of total water supplies available to the District during a historical normal year in FY 2016-17 (or 69,289 AF) and a historical a five consecutive year drought period from FY 2011-12 to FY 2015-16 (or 64,789 AF, 71,546 AF, 74,233 AF, 62,357 AF, and 57,472 AF, respectively) was used to estimate the District's projected water demands from its sub-agencies during a five consecutive year drought period. The District's projected dry year water supplies over the next 25 years were based on the minimum supplies needed by the District to meet projected single-dry year demands. Table 7-2, Table 7-3, and Table 7-4 summarize the District's projected water demands and supplies over the next 25 years in five-year increments, including during normal years, single dry years, and a five consecutive year drought periods. These tables indicate the District can meet water demands from its sub-agencies during normal years, single dry years, and a five consecutive year drought periods over the next 25 years.

7.2.3.1 WATER SERVICE RELIABILITY – NORMAL YEAR

Table 7-2 summarizes the District's projected water demands from its sub-agencies and supplies over the next 25 years in five-year increments during normal years. Table 7-2 indicates the District can meet water demands from its sub-agencies during normal years over the next 25 years.

Table 7-2 Normal Year Supply and Demand Comparison

Submittal Table 7-2 Wholesale: Normal Year Supply and Demand Comparison					
	2025	2030	2035	2040	2045 *(Opt)*
Supply totals *(autofill from Table 6-9)*	58,016	57,901	57,761	57,525	57,265
Demand totals *(autofill fm Table 4-3)*	58,016	57,901	57,761	57,525	57,265
Difference	0	0	0	0	0
NOTES:					

7.2.3.2 WATER SERVICE RELIABILITY – SINGLE DRY YEAR

Table 7-3 summarizes the District's projected water demands from its sub-agencies and supplies over the next 25 years in five-year increments during single dry years. Table 7-3 indicates the District can meet water demands from its sub-agencies during single dry years over the next 25 years.

Table 7-3 Single Dry Year Supply and Demand Comparison

Submittal Table 7-3 Wholesale: Single Dry Year Supply and Demand Comparison					
	2025	2030	2035	2040	2045 (Opt)
Supply totals*	57,344	57,230	57,091	56,859	56,601
Demand totals*	57,344	57,230	57,091	56,859	56,601
Difference	0	0	0	0	0
***Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*					
NOTES:					

7.2.3.3 WATER SERVICE RELIABILITY – FIVE CONSECUTIVE DRY YEARS

Table 7-4 summarizes the District's projected water demands and supplies over the next 25 years in five-year increments during five consecutive year drought periods. Table 7-4 indicates the District can meet water demands during five consecutive year drought periods over the next 25 years.

Table 7-4 Multiple Dry Years Supply and Demand Comparison

Submittal Table 7-4 Wholesale: Multiple Dry Years Supply and Demand Comparison						
		2025*	2030*	2035*	2040*	2045* (Opt)
First year	Supply totals	54,248	54,140	54,009	53,789	53,545
	Demand totals	54,248	54,140	54,009	53,789	53,545
	Difference	0	0	0	0	0
Second year	Supply totals	59,906	59,787	59,642	59,399	59,130
	Demand totals	59,906	59,787	59,642	59,399	59,130
	Difference	0	0	0	0	0
Third year	Supply totals	62,156	62,032	61,882	61,630	61,350
	Demand totals	62,156	62,032	61,882	61,630	61,350
	Difference	0	0	0	0	0
Fourth year	Supply totals	52,212	52,108	51,981	51,770	51,535
	Demand totals	52,212	52,108	51,981	51,770	51,535
	Difference	0	0	0	0	0
Fifth year	Supply totals	48,122	48,026	47,910	47,715	47,498
	Demand totals	48,122	48,026	47,910	47,715	47,498
	Difference	0	0	0	0	0
Sixth year *(optional)*	Supply totals					
	Demand totals					
	Difference	0	0	0	0	0
***Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.**						
NOTES:						

7.2.4 DESCRIPTION OF MANAGEMENT TOOLS AND OPTIONS

CWC 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 Six Basins is managed by the Six Basins Watermaster. During the period of management under the Judgment, significant drought events have occurred. In each drought cycle Six Basins has been managed to maintain water levels. Therefore, based on historical and on-going management practices, the District will be able to rely on the Six Basins for adequate supply over the next 25 years under single dry years and a five consecutive year drought periods.

Section 6.2.2 provides a description of the management of groundwater resources in the Six Basins, as well as information on basin management. Chapter 6 also demonstrates the management structure of the Six Basins provides a reliable source of groundwater supply for the District during a normal year, a single-dry year and a five consecutive year drought. Historical data indicates the Six Basins has been well managed for the full period of the adjudication, resulting in a stable and reliable water supply. Therefore, the groundwater supplies in the Six Basins are deemed reliable.

7.3 DROUGHT RISK ASSESSMENT

CWC 10635.

(b) Every urban water supplier shall include, as part of its urban water management plan, a drought risk assessment for its water service to its customers as part of information considered in developing the demand management measures and water supply projects and programs to be included in the urban water management plan. The urban water supplier may conduct an interim update or updates to this drought risk assessment within the five-year cycle of its urban water management plan update. The drought risk assessment shall include each of the following:

(1) A description of the data, methodology, and basis for one or more supply shortage conditions that are necessary to conduct a drought risk assessment for a drought period that lasts five consecutive water years, starting from the year following when the assessment is conducted.

(2) A determination of the reliability of each source of supply under a variety of water shortage conditions. This may include a determination that a particular source of water supply is fully reliable under most, if not all, conditions.

(3) A comparison of the total water supply sources available to the water supplier with the total projected water use for the drought period.

(4) Considerations of the historical drought hydrology, plausible changes on projected supplies and demands under climate change conditions, anticipated regulatory changes, and other locally applicable criteria.

The District's water supply sources include groundwater pumped from Six Basins, untreated, imported surface water purchased from Metropolitan Water District of Southern California for use at its treatment plant, and purchased surface water from Pomona. The following discussion provides a Drought Risk Assessment which assesses the District's water supply reliability over a five consecutive year drought period. The District's DRA incorporates a five consecutive year drought from FY 2020-21 through FY 2024-25 and includes a review of water supplies, water uses, and water supply reliability.

7.3.1 DRA, DATA, METHODS, AND BASIS FOR WATER SHORTAGE CONDITIONS

The District's DRA was prepared using historical production data from the District's water supply sources. The following assumptions were considered during the preparation of the District's DRA for each year of the five consecutive year drought.

- The five consecutive year drought period associated with the 2020 UWMP is based on five consecutive dry years from FY 2020-21 through FY 2024-25
- The projected water supplies available during each year of this five consecutive year drought are assumed to be identical to the water supplies produced during each year between FY 2011-12 and FY 2015-16 (which represents the most recent and historical five consecutive year drought).
- The projected demands from its sub-agencies during this five consecutive year drought are based on water demands from FY 2016-17 (a normal year) which were adjusted based on projected population within the area receiving water supplies from the District over the next five years along with the ratio of the normal year demands to actual demands over each year of the most recent and historical five consecutive year drought period (from FY 2011-12 and FY 2015-16).
- The projected demands from its sub-agencies were compared to the projected supplies to identify potential water supply deficits which may require implementation of the Water Shortage Contingency Plan (discussed further in Chapter 8).

The following methodologies were considered during the preparation of the District's DRA during for each year of the five consecutive year drought:

1) Drought Year 1: The region had experienced an average to above average year of precipitation in the prior year. Water use in the prior year had been below average due to a reduced need for outdoor water use, the groundwater basin had been replenished from above average local stormwater runoff, and imported water supplies were not restricted.
2) Drought Year 2: The region receiving water supplies from the District experienced a second year of below average precipitation and runoff. Sub-agencies' retail customers increase water use for outdoor irrigation to compensate for lack of precipitation. Groundwater and imported water supplies have not been impacted.
3) Drought Year 3: The region receiving water supplies from the District experienced a third year of below average precipitation and runoff. Sub-agencies' retail customers increase water use for outdoor irrigation to compensate for lack of precipitation. Groundwater and imported water supplies have not been impacted. However, there is an increased demand on both groundwater and treated imported water.
4) Drought Year 4: The region receiving water supplies from the District experienced a fourth year of below average precipitation and runoff. Groundwater supplies have not been impacted.
5) Drought Year 5: Fifth year of below average precipitation and runoff. Groundwater supplies have not been impacted.

7.3.2 DRAFT WATER SOURCE RELIABILITY

The District's DRA incorporates a five consecutive year drought based on five consecutive dry years commencing in FY 2021-22. The quantity of water supplies available for each year during this five consecutive year drought period included in the District's DRA is assumed to be the same as the quantity of water supplies produced by

the District (i.e. demands) during the most recent and historical five consecutive year drought which occurred from FY 2011-12 through FY 2015-16. Production data for those years have been tabulated in Section 6.1. The following describes the anticipated reliability of each water source for each year of the five consecutive year drought based on recent experience.

Groundwater

The District receives water supplies from the Six Basins which is actively managed by the Six Basins Watermaster, as described in Section 6.2.2. Each year the Six Basins Watermaster reviews water supply conditions including local rainfall, groundwater levels, local stormwater runoff available for replenishment, imported water availability and the amount of imported water stored in the groundwater basin for future demands. The Watermaster identifies the annual amount of groundwater which may be pumped (such as an Operating Safe Yield) before more expensive imported water would need to be purchased from MWD to replenish the Basin for all production in excess of the water rights. Regardless of the annual safe yield adopted there is never a restriction on the amount of water which may be pumped from the Six Basins, only the cost of producing the groundwater is impacted. The Six Basins Watermaster is not restricted as to when or how much untreated imported water will be delivered to the Six Basins, only that it ultimately be delivered. The quantity of groundwater used (and reliably available) during the most recent and historical five consecutive year drought period have been tabulated in Section 6.1. During this period, the District was able to increase its production of its groundwater supplies from an adjudicated and managed groundwater basin. The District also had the ability to systematically implement aspects of its Water Shortage Contingency Plan (see Chapter 8). As a result of these collective actions (and experience during prior consecutive five-year droughts), the District does not anticipate a water supply shortage from the Six Basins.

Imported Water

The District obtains imported water from the Metropolitan Water District of Southern California. Section 6.2.1 describes the planning conducted by the Metropolitan Water District of Southern California regarding imported water supplies available to the District. The reliability of MWD's supplies is also discussed in its 2020 Regional UWMP and is incorporated by reference. The District purchases imported water which is delivered directly within its distribution system. The District's purchases of imported water over the past ten years have been tabulated in Section 6.1.

The imported water purchases by the District during the most recent and historical five consecutive year drought period have been tabulated in Section 6.1. Because the District's DRA assumes the most recent and historical five consecutive year drought scenario will be repeated over the next five years, it is assumed the quantity of imported water supplies purchased during the most recent and historical five consecutive year drought scenario will be available. Furthermore, this constitutes the minimum amount of imported water which may be available in a future five consecutive year drought absent MWD's programs which it has since implemented.

Local Surface Water

The District uses surface water from City of Pomona as described in Section 6.2.3. The surface water used during the most recent and historical five consecutive year drought period have been tabulated in Section 6.1. The quantities tabulated in Section 6.1 constitute the minimum amount of local surface water which may be available in a five consecutive year drought.

Summary

The District's water system has experienced a prior five consecutive year drought with no limitation to its collective water supplies. However, the cost of those water supplies may have increased based on the mix of supplies which are used. Consequently, the District has the ability to enact varying water shortage levels (see Chapter 8) to help educate its sub-agencies and provide an economic incentive for the sub-agencies retail customers to reduce their water consumption.

7.3.3 DRA TOTAL WATER SUPPLY AND USE COMPARISON

Gross water use for the projected five consecutive year drought is shown on Table 7-5. Section 7.3.2 describes the water source reliability for each source of supply the District will rely on during a five consecutive year drought. The annual quantities are provided in Table 7-5. For the purposes of the District's DRA, as a worst-case scenario, the District has considered no water supply augmentation (as indicated in Table 7-5) from its imported supplies. When necessary, the District can implement various water shortage levels of its Water Shortage Contingency Plan (as discussed in Chapter 8) in order to reduce its water demands. The total water supplies available to the District shown in Table 7-5 are based on the quantity of supplies produced by the District (i.e. demands) during the most recent historical five consecutive drought period (from FY 2011-12 through FY 2015-16). As shown in Table 7-5, assuming no additional water supply benefits will be available from groundwater supplies, the District will implement various stages of its Water Shortage Contingency Plan to balance water demands with available supplies during year 1 of the projected five consecutive year drought.

Table 7-5 Five-Year Drought Risk Assessment Tables to Address Water Code Section 10635(b)

Submittal Table 7-5: Five-Year Drought Risk Assessment Tables to address Water Code Section 10635(b)

2021	Total
Total Water Use	68,242
Total Supplies	64,789
Surplus/Shortfall w/o WSCP Action	(3,453)
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	0
WSCP - use reduction savings benefit	3,453
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	5%

2022	Total
Total Water Use	71,496
Total Supplies	71,546
Surplus/Shortfall w/o WSCP Action	50
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	0
WSCP - use reduction savings benefit	0
Revised Surplus/(shortfall)	50
Resulting % Use Reduction from WSCP action	0%

2023	Total
Total Water Use	70,173
Total Supplies	74,233
Surplus/Shortfall w/o WSCP Action	4,060
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	0
WSCP - use reduction savings benefit	0
Revised Surplus/(shortfall)	4,060
Resulting % Use Reduction from WSCP action	0%

2024	Total
Total Water Use	55,579
Total Supplies	62,357
Surplus/Shortfall w/o WSCP Action	6,778
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	0
WSCP - use reduction savings benefit	0
Revised Surplus/(shortfall)	6,778
Resulting % Use Reduction from WSCP action	0%

2025	Total
Total Water Use	48,122
Total Supplies	57,472
Surplus/Shortfall w/o WSCP Action	9,350
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	0
WSCP - use reduction savings benefit	0
Revised Surplus/(shortfall)	9,350
Resulting % Use Reduction from WSCP action	0%

7.3.4 OPTIONAL PLANNING TOOL WORKBOOK

DWR has deemed the “Planning Tool Worksheet” as optional and the District is not required by DWR to use the tool. The District has provided sufficient water supplies to its sub-agencies’, including during long-term droughts and years with historically high water demands. The District has also been able to provide water service to meet maximum day water demands for these years, including during the summer months.

CHAPTER 8

WATER SHORTAGE CONTINGENCY PLAN

LAY DESCRIPTION – CHAPTER 8

WATER SHORTAGE CONTINGENCY PLAN

Chapter 8 (Water Shortage Contingency Plan) of the District's 2020 Plan discusses and provides the following:

- The District's Water Shortage Contingency Plan is a detailed approach which presents how the District intends to act, or respond, in the case of an actual water shortage contingency.
- Preparation of the District's "Annual Water Supply and Demand Assessment" (or Annual Assessment) is discussed. Commencing July 1, 2022, the District is required to submit the Annual Assessment. The Annual Assessment will include a review of the District's "unconstrained" water demands for the current year and for a potential upcoming single dry year. Unconstrained water demands represent the District's water demands prior to any "response actions" the District may invoke pursuant to the District's Water Shortage Contingency Plan.
- The District will manage water supplies to minimize the adverse impacts of water shortages. The District's plan for water usage during periods of shortage is designed to incorporate six standard water shortage levels corresponding to progressive ranges from up to a 10, 20, 30, 40, and 50 percent shortage, and greater than a 50 percent shortage.
- For each declared water supply shortage level, customers will be required to reduce their consumption by the percentage specified in the corresponding water supply shortage level.

- For each declared water supply shortage level, the District has established response actions to reduce demand on water supplies and to reduce any shortage gaps in water supplies. These demand reduction actions include irrigation and other outdoor use restrictions, rate structure changes, and other water use prohibitions.
- The operational changes the District will consider in addressing water shortages on a short-term basis are discussed and include improved monitoring, analysis, and tracking of customer water usage to enforce demand reduction measures.
- The District's Emergency Response Plan is summarized. The Emergency Response Plan provides the management, procedures, and designated actions the District and its employees will implement during emergency situations (including catastrophic water shortages) resulting from natural disasters, system failures, and other unforeseen circumstances.
- The preparation of the District's seismic risk assessment and mitigation plan is discussed. The locations of earthquake faults in the vicinity of the District's water service area are provided.
- The effectiveness of the shortage response actions for each of the District's standard water shortage levels is presented. The District has been able to provide sufficient water supplies to its customers, including during long-term droughts and years with historically high water demands.
- The communication protocols implemented by the District when it declares any water shortage level are presented.
- The legal authorities associated with District's standard water shortage levels are presented.
- The financial consequences associated with District's standard water shortage levels are presented.
- The District will evaluate the need for revising the Water Shortage Contingency Plan to resolve any water shortage gaps, as necessary. The steps necessary for

the District to adopt and amend its Water Shortage Contingency Plan are presented.

The following Water Shortage Contingency Plan includes references to Chapters and Sections from Three Valleys Municipal Water District's 2020 Urban Water Management Plan:

8.1 WATER SUPPLY RELIABILITY ANALYSIS

CWC 10632.

(a)(1) The analysis of water supply reliability conducted pursuant to Section 10635.

The District's sources of supply were discussed in Section 6.2 of the 2020 UWMP and consist of groundwater from Six Basins and untreated imported water purchased from MWD. Six Basins is adjudicated and groundwater supplies are managed. The reliability of the various sources of supply are discussed in Chapter 7 of this UWMP. Imported water supplies may be impacted in the event MWD implements its WSAP due to a water supply shortage.

8.2 ANNUAL WATER SUPPLY AND DEMAND ASSESSMENT PROCEDURES

CWC 10632.

(a)(2) The procedures used in conducting an annual water supply and demand assessment that include, at a minimum, both of the following:

(A) The written decision-making process that an urban water supplier will use each year to determine its water supply reliability.

(B) The key data inputs and assessment methodology used to evaluate the urban water supplier's water supply reliability for the current year and one dry year, including all of the following:

(i) Current year unconstrained demand, considering weather, growth, and other influencing factors, such as policies to manage current supplies to meet demand objectives in future years, as applicable.

(ii) Current year available supply, considering hydrological and regulatory conditions in the current year and one dry year. The annual supply and demand assessment may consider more than one dry year solely at the discretion of the urban water supplier.

(iii) Existing infrastructure capabilities and plausible constraints.

(iv) A defined set of locally applicable evaluation criteria that are consistently relied upon for each annual water supply and demand assessment.

(v) A description and quantification of each source of water supply.

CWC 10632.1.

An urban water supplier shall conduct an annual water supply and demand assessment pursuant to subdivision (a) of Section 10632 and, on or before July 1 of each year, submit an annual water shortage assessment report to the department with information for anticipated shortage, triggered shortage response actions, compliance and enforcement actions, and communication actions consistent with the supplier's water shortage contingency plan. An urban water supplier that relies on imported water from the State Water Project or the Bureau of Reclamation shall submit its annual water supply and demand assessment within 14 days of receiving its final allocations, or by July 1 of each year, whichever is later.

Beginning July 1, 2022, the District will submit an "Annual Water Supply and Demand Assessment" (Annual Assessment) in accordance with DWR's guidance and requirements. The Annual Assessment will include a review of the District's unconstrained

water demands (i.e. water demands prior to any projected response actions the District may trigger under this Water Shortage Contingency Plan) for the current year and the upcoming (potential single dry) year. The District will also include information regarding anticipated shortages, triggered shortage response actions, compliance and enforcement actions, and communication actions consistent with the District's Water Shortage Contingency Plan.

For each Annual Assessment, the District plans to prepare a preliminary assessment which evaluates the adequacy of its water supplies for the current and upcoming years by April of each year. The preliminary assessment will include a review of water supplies for at least a single dry year.

The components of an Annual Assessment consist of the following:

- A written decision-making process
- Key data inputs and assessment methodology

8.2.1 DECISION MAKING PROCESS

The District purchases untreated imported water as its primary source of water supply. Consequently, during the third quarter of each fiscal year the District will review its water demands from the initial six months along with the current groundwater basin conditions, local hydrology and imported water supply outlook. This information will be used to help develop the Annual Assessment. A draft of the Annual Assessment will be circulated internally within the District for peer review and comment. Based on comments received, a redraft will be prepared and provided to the District managers during the Spring of each year. The draft subsequently will be provided to the General Manager for final review. Subsequently, a final draft of the Annual Assessment will be provided to the District's Board of Directors for review and included in the agenda as part of a Board meeting such

that it can be approved and any recommended specific shortage response actions may be enacted. The final Annual Assessment will be provided to DWR no later than July 1 of each year.

The Annual Assessments will be instrumental in providing guidance to the District for decisions regarding potential declarations of a water supply shortage and implementation of water reduction stages, instituting mandatory water restrictions, promoting water use efficiency and conservation programs, water rates and drought rate surcharges, and the necessity of pursuing alternative water supplies. This process will help ensure adequate water supplies resources are available to the District.

8.2.2 DATA AND METHODOLOGIES

The key data inputs and methodologies which will be evaluated by the District during the preparation of the preliminary assessment will include the following:

1) Evaluation Criteria: The locally applicable evaluation criteria used to prepare the Annual Assessment will be identified. The criteria include the key data inputs and methodologies described below.
2) Water Supply: A description of each available water supply source will be provided. The descriptions will include a quantification of each available water supply source and will be based on review of current production capacities, historical production, Urban Water Management Plans, and prior water supply studies (including Water Supply Assessments and/or Master Plans).
3) Unconstrained Water Demand: The potential unconstrained water demands during the current year and the upcoming (potential single dry) year prior to any special shortage actions, will be reviewed. The review will include factors such as weather, existing and projected land uses and populations, actual customer consumption and water use factors, monthly Urban Water Supplier Monitoring Reports, existing

water shortage levels (see Section 8.3), and existing water conservation ordinances (see Section 9.2.1).

4) Planned Water Use for Current Year Considering Dry Subsequent Year: The water supplies available to meet the demands during the current year and the upcoming (potential single dry) year will be considered and identified. The evaluation will include factors such as estimated water demands, weather, groundwater basin operating safe yields, water quality results, existing available pumping capacities, imported water allocations, contractual obligations, regulatory issues, use of emergency interconnections, and the costs associated with producing each water supply source.
5) Infrastructure Considerations: The capabilities of the water distribution system infrastructure to meet the water demands during the current year and the upcoming (potential single dry) year will be considered. Available production capacities (e.g. groundwater well capacities) and distribution system water losses (see Section 4.2.4) will be reviewed. In addition, capital improvement and replacement projects, as well as potential projects which may increase water system and production capacities (see Section 6.2.8), will be considered.
6) Other Factors: Additional local considerations, if any, which can affect the availability of water supplies will be described.

The preliminary assessment will be prepared by District staff and will be reviewed by the District's General Manager. Following the review of the preliminary assessment, the District will prepare the Annual Assessment for presentation and approval during a regular scheduled meeting of the District's Board of Directors prior to June 30th of each year. Upon Board approval, District staff will formally submit the Annual Assessment to the California Department of Water Resources by July 1st of each year. The Annual Assessments will be instrumental in providing guidance to the District for decisions regarding potential declarations of a water supply shortage and implementation of water reduction stages, instituting mandatory water restrictions, promoting water use efficiency and conservation programs, water rates and drought rate surcharges, and the necessity

of pursuing alternative water supplies. This process will help ensure adequate water supplies resources are available to the District.

8.3 SIX STANDARD WATER SHORTAGE LEVELS

CWC 10632.

(a)(3)(A) Six standard water shortage levels corresponding to progressive ranges of up to 10, 20, 30, 40, and 50 percent shortages and greater than 50 percent shortage. Urban water suppliers shall define these shortage levels based on the suppliers' water supply conditions, including percentage reductions in water supply, changes in groundwater levels, changes in surface elevation or level of subsidence, or other changes in hydrological or other local conditions indicative of the water supply available for use. Shortage levels shall also apply to catastrophic interruption of water supplies, including, but not limited to, a regional power outage, an earthquake, and other potential emergency events.

(B) An urban water supplier with an existing water shortage contingency plan that uses different water shortage levels may comply with the requirement in subparagraph (A) by developing and including a cross-reference relating its existing categories to the six standard water shortage levels.

The District will manage water supplies prudently to minimize the adverse impacts of water shortages. The District's plan for water usage during periods of shortage is designed to provide an approach to communicate the severity of water supply shortage conditions. There are six standard water shortage levels corresponding to progressive ranges from 10 to greater than 50 percent shortage level. Water shortage trigger mechanisms have been established to ensure that this policy is implemented.

Table 8-1 provides a description of the six water shortage conditions which may be triggered by a shortage in the District's water supply sources, depending on the severity of the shortage and its anticipated duration.

Table 8-1 Water Shortage Contingency Planning Levels

Submittal Table 8-1 Water Shortage Contingency Plan Levels		
Shortage Level	**Percent Shortage Range**	**Shortage Response Actions** (*Narrative description*)
1	Up to 10%	Watering or irrigating of lawn, landscape or other vegetated area with potable water by a direct end user is limited to three days per week. All leaks, breaks, or other malfunctions in the direct end user's plumbing or distribution system must be repaired within seventy-two (72) hours of notification by the District unless other arrangements are made which will include a written plan to address the repairs.
2	Up to 20%	In addition to Shortage Level 1; Additional restrictions may be implemented as determined by the District, after notice to customers.
3	Up to 30%	In addition to Shortage Level 2; Additional restrictions may be implemented as determined by the District, after notice to customers.
4	Up to 40%	Watering or irrigating of lawn, landscape or other vegetated area with potable water by a direct end user is limited to two days per week. Filling or re-filling ornamental lakes or ponds by a direct end user is prohibited, except to the extent needed to sustain aquatic life, provided that such animals are of significant value and have been actively managed within the water feature prior to declaration of a supply shortage level
5	Up to 50%	In addition to Shortage Level 2; Additional restrictions may be implemented as determined by the District, after notice to customers.
6	>50%	In addition to Shortage Level 5; watering or irrigating of lawn, landscape or other vegetated area with potable water by a direct end user is prohibited. All leaks, breaks, or other malfunctions in the direct end user's plumbing or distribution system must be repaired within twenty four (24) hours of notification by the District unless other arrangements are made with the District which will include written plans that include a timeline of repairs.
NOTES:		

The District's previous Water Shortage Contingency Plan (WSCP) contains three (3) standard shortage levels. In accordance with the 2020 UWMP which must include six (6) water shortage levels, a crosswalk has been provided below to illustrate the relationship between the previous WSCP and the one provided in Table 8-1.

Corresponding Relationships Between Supplier's 2015 Shortage Levels and the 2020 WSCP Mandated Shortage Levels

Shortage Level	Supply Condition/Shortage
1	A Level 1 Water Supply Shortage exists when the District determines, in its sole discretion, that due to drought or other water supply conditions, a water supply shortage or threatened shortage exists and a direct end user consumer demand reduction is necessary to make more efficient use of water and appropriately respond to existing water conditions.
2	A Level 2 Water Supply Shortage exists when the District determines, in its sole discretion, that due to drought or other water supply conditions, a water supply shortage or threatened shortage exists and a direct end user consumer demand reduction is necessary to make more efficient use of water and appropriately respond to existing water conditions. A Level 2 Water Supply Shortage includes water conservation measures in addition to those measures included under a Level 1 Water Supply Shortage.
3	A Level 3 condition exists when the District declares a water shortage emergency pursuant to the requirements of California Water Code Sections 71640-71644 and notifies its member agencies, including a direct end user, that a significant reduction in consumer demand is necessary to maintain sufficient water supplies for public health and safety.

2020 Standard Level	Shortage Level
1	≤ to 10%
2	10 to 20%
3	20 to 30%
4	30 to 40 %
5	40 to 50 %
6	> 50 %

8.4 SHORTAGE RESPONSE ACTIONS

CWC 10632.

(a)(4) Shortage response actions that align with the defined shortage levels and include, at a minimum, all of the following:

(A) Locally appropriate supply augmentation actions.

(B) Locally appropriate demand reduction actions to adequately respond to shortages.

(C) Locally appropriate operational changes.

(D) Additional, mandatory prohibitions against specific water use practices that are in addition to state-mandated prohibitions and appropriate to the local conditions.

(E) For each action, an estimate of the extent to which the gap between supplies and demand will be reduced by implementation of the action.

8.4.1 DEMAND REDUCTION

Upon adoption of a water supply shortage stage, as described in Table 8-1, the restrictions and mandatory water reductions will be effective ten days following the water shortage declaration. A full listing of the restrictions/prohibitions associated with each shortage level is provided below.

Permanent Water Conservation Requirements

The following water conservation requirements are effective and apply to a direct end user at all times during the existence of this Ordinance. Violations of this section will be considered waste and an unreasonable use of water.

a. Limits on Watering Hours: Watering or irrigating of lawn, landscape or other vegetated area with potable water by a direct end user is prohibited between the hours of 9:00 a.m. and 6:00 p.m. Pacific Standard Time on any day, except by use of a hand-held bucket or similar container, a hand-held hose equipped with a

positive self-closing water shut-off nozzle or device, or for very short periods of time for the express purpose of adjusting or repairing an irrigation system.

b. Limit on Watering Duration: Watering or irrigating of lawn, landscape or other vegetated area with potable water by a direct end user using a landscape irrigation system or a watering device that is not continuously attended is limited to no more than fifteen (15) minutes watering per day per station. This subsection does not apply to landscape irrigation systems that exclusively use very low-flow drip type irrigation systems.

c. No Excessive Water Flow or Runoff: Watering or irrigating of any lawn, landscape or other vegetated area by a direct end user in a manner that causes or allows excessive water flow or runoff onto an adjoining sidewalk, driveway, street, alley, gutter or ditch is prohibited.

d. No Washing Down Hard or Paved Surfaces: Washing down hard or paved surfaces, including but not limited to sidewalks, walkways, driveways, parking areas, tennis courts, patios or alleys, by a direct end user is prohibited except when necessary to alleviate safety or sanitary hazards, and then only by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off device, a low-volume, high-pressure cleaning machine equipped to recycle any water used, or a low-volume high-pressure water broom.

e. Obligation to Fix Leaks, Breaks or Malfunctions: Excessive use, loss or escape of water through breaks, leaks or other malfunctions in the direct end user's plumbing or distribution system for any period of time after such escape of water should have reasonably been discovered and corrected and in no event more than seven (7) days of receiving notice from the District is prohibited.

f. Re-circulating Water Required for Water Fountains and Decorative Water Features: Operating a water fountain or other decorative water feature that does not use re-circulated water by a direct end user is prohibited.

g. Limits on Washing Vehicles: Using water to wash or clean a vehicle, including but not limited to any automobile, truck, van, bus, motorcycle, boat or trailer, whether motorized or not, by a direct end user is prohibited, except by use of a hand-held

bucket or similar container or a hand-held hose equipped with a positive self-closing water shut-off nozzle or device.

h. Drinking Water Served Upon Request Only: Eating or drinking establishments of a direct end user, including but not limited to a restaurant, hotel, cafe, cafeteria, bar, or other public place where food or drinks are sold, served, or offered for sale, are prohibited from providing drinking water to any person unless expressly requested.

i. Commercial Lodging Establishments Must Provide Guests Option to Decline Daily Linen Services: Hotels, motels, and other commercial lodging establishments and similar facilities of a direct end user must provide customers the option of not having towels and linen laundered daily. Commercial lodging establishments must prominently display notice of this option in each bathroom using clear and easily understood language.

j. No Installation of Single Pass Cooling Systems: Installation of single pass cooling systems by a direct end user is prohibited in buildings requesting new water service.

k. Restaurants Required to Use Water Conserving Dish Wash Spray Valves: Food preparation establishments of a direct end user, such as restaurants or cafes, are prohibited from using non- water conserving dish wash spray valves.

l. Reporting Mechanism - Hotline: The District will encourage visitors, students, staff, and faculty of a direct end user to call the District's main telephone number to report violations of this Ordinance.

Level 1 Water Supply Shortage

a. Level 1 Water Supply Shortage exists when the District determines, in its sole discretion, that due to drought or other water supply conditions, a water supply shortage or threatened shortage exists and a direct end user consumer demand reduction is necessary to make more efficient use of water and appropriately respond to existing water conditions. Upon the declaration by the District of a Level 1 Water Supply Shortage condition, the District will implement the mandatory Level 1 conservation measures identified in this section.

b. Additional Water Conservation Measures: In addition to the prohibited uses of water identified in Section IV of this Ordinance, the following water conservation requirements apply to a direct end user during a declared Level 1 Water Supply Shortage:

   1. Limits on Watering Days: Watering or irrigating of lawn, landscape or other vegetated area with potable water by a direct end user is limited to three days per week. During the months of November through March, watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to no more than one day per week. This provision does not apply to landscape irrigation zones that exclusively use very low flow drip type irrigation systems. This provision also does not apply to watering or irrigating by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or for very short periods of time for the express purpose of adjusting or repairing an irrigation system.
   2. Obligation to Fix Leaks, Breaks or Malfunctions: All leaks, breaks, or other malfunctions in the direct end user's plumbing or distribution system must be repaired within seventy-two (72) hours of notification by the District unless other arrangements are made which will include a written plan to address the repairs.

Level 2 Water Supply Shortage

a. Level 2 Water Supply Shortage exists when the District determines, in its sole discretion, that due to drought or other water supply conditions, a water supply shortage or threatened shortage exists and a direct end user consumer demand reduction is necessary to make more efficient use of water and appropriately respond to existing water conditions. Upon the declaration by the District of a Level 2 Water Supply Shortage condition, the District will implement the mandatory Level 2 conservation measures identified in this section.

b. Additional Water Conservation Measures: In addition to the prohibited uses of water identified under the Permanent Water Conservation Requirements and Level 1 Water Shortage Level, the following water conservation requirements apply to a direct end user during a declared Level 2 Water Supply Shortage:
    1. Limits on Watering Days: Watering or irrigating of lawn, landscape or other vegetated area with potable water by a direct end user is limited to three days per week. During the months of November through March, watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to no more than one day per week. This provision does not apply to landscape irrigation zones that exclusively use very low flow drip type irrigation systems. This provision also does not apply to watering or irrigating by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or for very short periods of time for the express purpose of adjusting or repairing an irrigation system.
    2. Obligation to Fix Leaks, Breaks or Malfunctions: All leaks, breaks, or other malfunctions in the direct end user's plumbing or distribution system must be repaired within seventy-two (72) hours of notification by the District unless other arrangements are made which will include a written plan to address the repairs.

Level 3 Water Supply Shortage

a. Level 3 Water Supply Shortage exists when the District determines, in its sole discretion, that due to drought or other water supply conditions, a water supply shortage or threatened shortage exists and a direct end user consumer demand reduction is necessary to make more efficient use of water and appropriately respond to existing water conditions. Upon the declaration by the District of a Level 3 Water Supply Shortage condition, the District will implement the mandatory Level 3 conservation measures identified in this section.

b. Additional Water Conservation Measures: In addition to the prohibited uses of water identified under the Permanent Water Conservation Requirements and Water Supply Shortage Level 1 through 2, the following water conservation requirements apply to a direct end user during a declared Level 3 Water Supply Shortage:

   1. Limits on Watering Days: Watering or irrigating of lawn, landscape or other vegetated area with potable water by a direct end user is limited to three days per week. During the months of November through March, watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to no more than one day per week. This provision does not apply to landscape irrigation zones that exclusively use very low flow drip type irrigation systems. This provision also does not apply to watering or irrigating by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or for very short periods of time for the express purpose of adjusting or repairing an irrigation system.
   2. Obligation to Fix Leaks, Breaks or Malfunctions: All leaks, breaks, or other malfunctions in the direct end user's plumbing or distribution system must be repaired within seventy-two (72) hours of notification by the District unless other arrangements are made which will include a written plan to address the repairs.

Level 4 Water Supply Shortage

a. A Level 4 Water Supply Shortage exists when the District determines, in its sole discretion, that due to drought or other water supply conditions, a water supply shortage or threatened shortage exists and a direct end user consumer demand reduction is necessary to make more efficient use of water and appropriately respond to existing water conditions. Upon the declaration by the District of a Level 4 Water Supply Shortage condition, the District will implement the mandatory Level 4 conservation measures identified in this section.

b. Additional Conservation Measures: In addition to the prohibited uses of water identified under the Permanent Water Conservation Requirements and Water Supply Shortage Level 1 through 3, the following additional water conservation requirements apply to a direct end user during a declared Level 4 Water Supply Shortage:

    1. Watering Days: Watering or irrigating of lawn, landscape or other vegetated area with potable water by a direct end user is limited to two days per week. During the months of November through March, watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to no more than one day per week. This provision does not apply to landscape irrigation zones that exclusively use very low flow drip type irrigation systems. This provision also does not apply to watering or irrigating by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or for very short periods of time for the express purpose of adjusting or repairing an irrigation system.
    2. Obligation to Fix Leaks, Breaks or Malfunctions: All leaks, breaks, or other malfunctions in the direct end user's plumbing or distribution system must be repaired within forty-eight (48) hours of notification by the District unless other arrangements are made with the District which will include a written notification by the direct end user of a timeline of repairs.

3. Limits on Filling Ornamental Lakes or Ponds: Filling or re-filling ornamental lakes or ponds by a direct end user is prohibited, except to the extent needed to sustain aquatic life, provided that such animals are of significant value and have been actively managed within the water feature prior to declaration of a supply shortage level under this Ordinance.
4. Limits on Washing Vehicles: Using water to wash or clean a vehicle, including but not limited to, any automobile, truck, van, bus, motorcycle, boat or trailer, whether motorized or not, by a direct end user is prohibited except by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut- off nozzle or device, by high pressure/low volume wash systems, or at a commercial car washing facility that utilizes a re-circulating water system to capture or reuse water.
5. Limits on Filling Residential Swimming Pools & Spas: Re-filling of more than one foot and initial filling of residential swimming pools or outdoor spas with potable water by a direct end user is prohibited.

Level 5 Water Supply Shortage

a. A Level 5 Water Supply Shortage exists when the District determines, in its sole discretion, that due to drought or other water supply conditions, a water supply shortage or threatened shortage exists and a direct end user consumer demand reduction is necessary to make more efficient use of water and appropriately respond to existing water conditions. Upon the declaration by the District of a Level 5 Water Supply Shortage condition, the District will implement the mandatory Level 5 conservation measures identified in this section.
b. Additional Conservation Measures: In addition to the prohibited uses of water identified under the Permanent Water Conservation Requirements and Water Supply Shortage Level 1 through 4, the following additional water conservation requirements apply to a direct end user during a declared Level 5 Water Supply Shortage:

1. Watering Days: Watering or irrigating of lawn, landscape or other vegetated area with potable water by a direct end user is limited to two days per week. During the months of November through March, watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to no more than one day per week. This provision does not apply to landscape irrigation zones that exclusively use very low flow drip type irrigation systems. This provision also does not apply to watering or irrigating by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or for very short periods of time for the express purpose of adjusting or repairing an irrigation system.
2. Obligation to Fix Leaks, Breaks or Malfunctions: All leaks, breaks, or other malfunctions in the direct end user's plumbing or distribution system must be repaired within forty-eight (48) hours of notification by the District unless other arrangements are made with the District which will include a written notification by the direct end user of a timeline of repairs.
3. Limits on Filling Ornamental Lakes or Ponds: Filling or re-filling ornamental lakes or ponds by a direct end user is prohibited, except to the extent needed to sustain aquatic life, provided that such animals are of significant value and have been actively managed within the water feature prior to declaration of a supply shortage level under this Ordinance.
4. Limits on Washing Vehicles: Using water to wash or clean a vehicle, including but not limited to, any automobile, truck, van, bus, motorcycle, boat or trailer, whether motorized or not, by a direct end user is prohibited except by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut- off nozzle or device, by high pressure/low volume wash systems, or at a commercial car washing facility that utilizes a re-circulating water system to capture or reuse water.

5. Limits on Filling Residential Swimming Pools & Spas: Re-filling of more than one foot and initial filling of residential swimming pools or outdoor spas with potable water by a direct end user is prohibited.

Level 6 Water Supply Shortage

a. A Level 6 Water Supply Shortage condition is also referred to as an "Emergency" condition. A Level 6 condition exists when the District declares a water shortage emergency pursuant to the requirements of California Water Code Sections 71640-71644 and notifies its member agencies, including a direct end user, that a significant reduction in consumer demand is necessary to maintain sufficient water supplies for public health and safety. Upon the declaration of a Level 6 Water Supply Shortage condition, the District will implement the mandatory Level 6 conservation measures identified in this section, in addition to any other restrictions, prohibitions, and/or exclusions adopted by the District's Board of Directors in any separate ordinance declaring such emergency.
b. Additional Conservation Measures: In addition to the prohibited uses of water identified under Permanent Water Conservation Requirements and Water Supply Shortage Level 1 through 5, the following water conservation requirements apply to a direct end user during a declared Level 6 Water Supply Shortage Emergency:
    1. No Watering or Irrigating: Watering or irrigating of lawn, landscape or other vegetated area with potable water by a direct end user is prohibited. This restriction does not apply to the following categories of use, unless recycled water is available and may be applied to the use:
        i. Maintenance of vegetation, including trees and shrubs, that are watered using a hand-held bucket or similar container, hand-held hose equipped with a positive self–closing water shut-off nozzle or device;
        ii. Maintenance of existing landscape necessary for fire protection;
        iii. Maintenance of existing landscape for soil erosion control;

iv. Maintenance of plant materials identified to be rare or essential to the well- being of protected species;

v. Maintenance of landscape within active public parks and playing fields, day care centers, and golf course greens, provided that such irrigation does not exceed two (2) days per week according to the schedule established in Level 4 Water Supply Shortage(b)(1) and time restrictions in Permanent Water Conservation Requirements(a) and (b)(1);

vi. Actively irrigated environmental mitigation projects.

2. Obligation to Fix Leaks, Breaks or Malfunctions: All leaks, breaks, or other malfunctions in the direct end user's plumbing or distribution system must be repaired within twenty four (24) hours of notification by the District unless other arrangements are made with the District which will include written plans that include a timeline of repairs.

3. No New Potable Water Service: Upon declaration of a Level 6 Water Supply Shortage Emergency condition, no new potable water service will be provided, no new temporary meters or permanent meters will be provided, and no statements of immediate ability to serve or provide potable water service (such as, will-serve letters, certificates, or letters of availability) will be issued to a direct end user, except under the following circumstances:

   i. A valid, unexpired building permit has been issued for the project; or

   ii. The project is necessary to protect the public health, safety, and welfare; or

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

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

4. Water Allocations and Mandatory Reductions: The District will activate a water allocation process using a method that does not in effect penalize direct end users for prior implementation of conservation methods or installation of water-saving devices. The District will provide notice of activation of the allocation process to a direct end user pursuant to Section 8.5. Following the effective date of the water allocation, any direct end user using water in excess of the allocation will be subject to a penalty in the amount of double the Tier 2 rate should the water use as allocated for such direct end user fall between 101% to 115% of its individual allocations; and if the water use falls between 116% or higher, the rate will be four (4) times the Tier 2 rate for each billing unit of water in excess of the allocation.
5. Large Landscape Areas – Rain Sensors: Large landscape areas of a direct end user, such as parks, cemeteries, golf course, school grounds, and playing fields, that use landscape irrigation systems to water or irrigate, must use landscape irrigation systems with rain sensors that automatically shut off such systems during periods of rain or irrigation timers which automatically use information such as evapotranspiration sensors to set an efficient water use schedule.

Table 8-2 Demand Reduction Actions

Submittal Table 8-2: Demand Reduction Actions				
Shortage Level	Demand Reduction Actions ***Drop down list*** *These are the only categories that will be accepted by the WUEdata online submittal tool. Select those that apply.*	How much is this going to reduce the shortage gap? *Include units used (volume type or percentage)*	Additional Explanation or Reference *(optional)*	Penalty, Charge, or Other Enforcement? ***For Retail Suppliers Only*** *Drop Down List*
Add additional rows as needed				
1	Landscape - Limit landscape irrigation to specific days	Collective reduction from all Shortage Level 1 actions is up to 5,240 AF		Yes
1	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	Collective reduction from all Shortage Level 1 actions is up to 5,240 AF		Yes
2	Other	Collective reduction from all Shortage Level 2 actions is up to 10,479 AF	All actions under Shortage Level 1	Yes
3	Other	Collective reduction from all Shortage Level 3 actions is up to 15,719 AF	All actions under Shortage Level 2	Yes
4	Other	Collective reduction from all Shortage Level 4 actions is up to 20,959 AF	All actions under Shortage Level 3	Yes
4	Water Features - Restrict water use for decorative water features, such as fountains	Collective reduction from all Shortage Level 4 actions is up to 20,959 AF	prohibit filling or refilling ornamental lakes or ponds	Yes
4	Other - Prohibit vehicle washing except at facilities using recycled or recirculating water	Collective reduction from all Shortage Level 4 actions is up to 20,959 AF		Yes
4	Other water feature or swimming pool restriction	Collective reduction from all Shortage Level 4 actions is up to 20,959 AF	prohibit intial filling or refilling of more than one foot of residential swimming pools or outdoor spas	
5	Other	Collective reduction from all Shortage Level 5 actions is up to 26,198 AF	All actions under Shortage Level 4	Yes
6	Other	Collective reduction from all Shortage Level 6 actions is greater than 26,198 AF	All actions under Shortage Level 5	
6	Landscape - Prohibit all landscape irrigation	Collective reduction from all Shortage Level 6 actions is greater than 26,198 AF		
6	Other	Collective reduction from all Shortage Level 6 actions is greater than 26,198 AF	No new potable water service	
6	Implement or Modify Drought Rate Structure or Surcharge	Collective reduction from all Shortage Level 6 actions is greater than 26,198 AF		
6	Other	Collective reduction from all Shortage Level 6 actions is greater than 26,198 AF	Direct end users that use landscape irrigation systems to irrigate must use landscape irrigation systems with rain sensors that automatically shut off such systems during periods of rain	Yes
NOTES:				

Table 8-3 Supply Augmentation and Other Actions

Submittal Table 8-3: Supply Augmentation and Other Actions			
Shortage Level	Supply Augmentation Methods and Other Actions by Water Supplier ***Drop down list*** *These are the only categories that will be accepted by the WUEdata online submittal tool*	How much is this going to reduce the shortage gap? *Include units used (volume type or percentage)*	Additional Explanation or Reference *(optional)*
Add additional rows as needed			
1	Transfers	Not applicable (see Notes)	
2	Transfers	Not applicable (see Notes)	
3	Transfers	Not applicable (see Notes)	
4	Transfers	Not applicable (see Notes)	
5	Transfers	Not applicable (see Notes)	
6	Transfers	Not applicable (see Notes)	
NOTES: The District is a wholesale water supplier that provides treated imported water from the State Water Project through MWD to its sub-agencies. The District does not anticipate augmenting water supplies. However, the District's sub- agencies will consider increased production from the Main Basin, Chino Basin, and or Six Basins (through potential transfer of water rights) using existing facilities to address increased demands. As noted on Table 8-2, the District plans to implement demand reduction measures in the event water supplies from existing sources are not sufficient to meet anticipated demands.			

8.4.2 SUPPLY AUGMENTATION

As discussed in Chapter 6, the District's sources of water supply include groundwater produced from the Six Basins and imported water purchased from MWD. The District does not anticipate augmenting water supplies. However, the District's sub-agencies will consider increased supplies from existing sources. Table 8-3 reflects this approach and does not identify any new supplies. Instead, the District's sub-agencies will focus on demand reduction measures in the event existing sources of supply are not sufficient to meet customer demands. As noted in Section 8.2, beginning July 1, 2022, the District will prepare and submit an Annual Assessment which will include a review of water supplies available to meet water demands for the current and upcoming years. If the District is currently in, or considers entering into, one of the standard water shortage levels identified in Section 8.3, the District will consider the water supply (augmentation) actions described below.

For each water shortage level discussed in Section 8.3, the District will consider supplementing its existing water supplies through purchase of additional imported water supplies. However, due to previous critically dry conditions, MWD developed the "Water Supply Allocation Plan" whereby available supplies are equitably allocated to its member agencies, including the District. The WSAP establishes ten different shortage levels and a corresponding drought allocation to each member agency. Based on the shortage level established by MWD, the WSAP provides a reduced drought allocation to a member agency for its Municipal and Industrial retail demand. The ratio of MWD water supply drought allocation to local water supply will change based on the WSAP stage. The MWD drought allocation can be used to make Full Service water deliveries at the Tier 1 rate up to a Tier 1 allocation. Any Full Service water delivered in excess of a drought allocation is subject to a penalty rate in addition to the normal rate paid for the water.

In addition to the WSAP, MWD describes supply augmentation actions in its Regional 2020 UWMP, which is incorporated by reference. MWD's primary first response to any gap between core supplies (from the State Water Project and Colorado River) and demand is to make optimal use of its supply augmentation options, consisting of drawing from flexible supply programs and storage reserves. MWD has developed and actively manages a portfolio of water supply programs including water transfer, storage, and exchange agreements. MWD pursues voluntary water transfer and exchange programs to help mitigate supply/demand imbalances and provide additional dry-year supply sources. In addition, MWD has developed significant storage capacity in reservoirs, conjunctive use, and other groundwater storage programs totaling approximately 6.0 million AF. Pursuant to MWD's "Emergency Storage Objective", updated in 2019, approximately 750,000 AF of total stored water is emergency storage reserved by MWD for use in the event of supply interruptions.

8.4.3 OPERATIONAL CHANGES

During a water supply shortage situation, the District will manage its water supply resources to provide water supplies to help meet the demands of its member agencies; however, the retail water suppliers ultimately have the responsibility of meeting their customer demands. Section 8.4.2 describes the District's water supply sources and water supply augmentation actions available. Section 8.4.1 describes the District's standard water shortage levels and associated demand reduction measures. The supply augmentation actions and demand reduction measures, when implemented, may potentially result in short-term operational changes which are necessary to allow the District to utilize all available water supply sources in response to water shortage situations.

As noted in Section 8.2, beginning July 1, 2022, the District will prepare and submit an Annual Assessment which will include a review of the water supplies available to meet water demands for the current and upcoming years. Preparation of the Annual Assessment will assist the District in determining any potential operational changes. In addition, the District's standard water shortage levels and the associated demand reduction measures, in conjunction with the District's existing Demand Management Measures (discussed in Chapter 9), will be essential to the District in reducing water demands during any water shortage period. The operational changes the District will consider in addressing non-catastrophic water shortages on a short-term basis include the following:

- Improved monitoring, analysis, and tracking of water usage to enforce demand reduction measures
- Optimized production from existing available water supply sources (including groundwater and surface water)

- Improved monitoring, maintenance, and repairs to reduce water distribution system losses

8.4.4 ADDITIONAL MANDATORY RESTRICTIONS

The mandatory restrictions which are implemented by the District to reduce sub-agencies' customer demands are discussed in Section 8.4.1. There are no additional mandatory restrictions planned at this time.

8.4.5 EMERGENCY RESPONSE PLAN

Catastrophic water shortages are incorporated in the District's standard water shortage levels (identified in Section 8.3) and the associated demand reduction measures (described in Section 8.4.1). In addition to the water supply augmentation actions (Section 8.4.2) and potential operational changes (Section 8.4.3) which the District may consider in order to continue providing water supplies, the District will review and implement any necessary steps included in its "Emergency Response Plan".

As part of the "America's Water Infrastructure Act of 2018", community water systems serving a population greater than 3,300 people, including the District, are required to review and update their "Risk and Resilience Assessment" (RRA) and the associated "Emergency Response Plan" (ERP) every five (5) years. However, due to security concerns regarding the submitting of these reports, water systems are required to submit certifications to the United States Environment Protection Agency (USEPA), from March 31, 2020 and December 30, 2021, confirming the current RRA and ERP have been reviewed and updated.

The District's RRA, prepared in 2020, evaluates the vulnerabilities, threats, and consequences from potential hazards to the District's water system. The District prepared its RRA (which is incorporated by reference) by evaluating the following items:

- Natural hazards and malevolent acts (i.e., all hazards);
- Resilience of water facility infrastructure (including pipes, physical barriers, water sources and collection, treatment, storage and distribution facilities, and electronic, computer and other automated systems);
- Monitoring practices;
- Financial systems (e.g., billing systems);
- Chemical storage and handling; and
- Operation and maintenance.

The District's RRA evaluated a series of potential malevolent acts, natural hazards, and other threats in order to estimate the potential "monetized risks" (i.e. associated economic consequences to both the water system and surrounding region, and the likelihood of occurrence) associated with the District's water facility assets. The cost-effectiveness of implementing potential countermeasures to reduce risks was also reviewed.

The District's ERP, prepared in 2020, provides the management, procedures, and designated actions the District and its employees will implement during emergency situations (including catastrophic water shortages) resulting from natural disasters, system failures and other unforeseen circumstances. The District's ERP (which is incorporated by reference) provides the guidelines for evaluating an emergency situation, procedures for activating an emergency response, and details of the different response phases in order to ensure that sub-agencies' receive a reliable and adequate supply of potable water. The scope of the ERP includes emergencies which directly affect the water system and the ability to maintain safe operations (such as a chlorine release, and

earthquake or a threat of contamination). The ERP also incorporates the results of the District's RRA and includes the following:

- Strategies and resources to improve resilience, including physical and cybersecurity
- Plans and procedures for responding to a natural hazard or malevolent act
- Actions and equipment to lessen the impact of a natural hazard or malevolent act
- Strategies to detect natural hazards or malevolent act

The District will review the ERP for procedures regarding the utilization of alternative water supply sources in response to water supply shortages, including during the standard water shortage levels. The District will also review applicable procedures described in the ERP regarding any necessary temporary shutdown of water supply facilities, including appropriate regulatory and public notifications.

8.4.6 SEISMIC RISK ASSESSMENT AND MITIGATION PLAN

CWC 10632.5.

(a) In addition to the requirements of paragraph (3) of subdivision (a) of Section 10632, beginning January 1, 2020, the plan shall include a seismic risk assessment and mitigation plan to assess the vulnerability of each of the various facilities of a water system and mitigate those vulnerabilities.

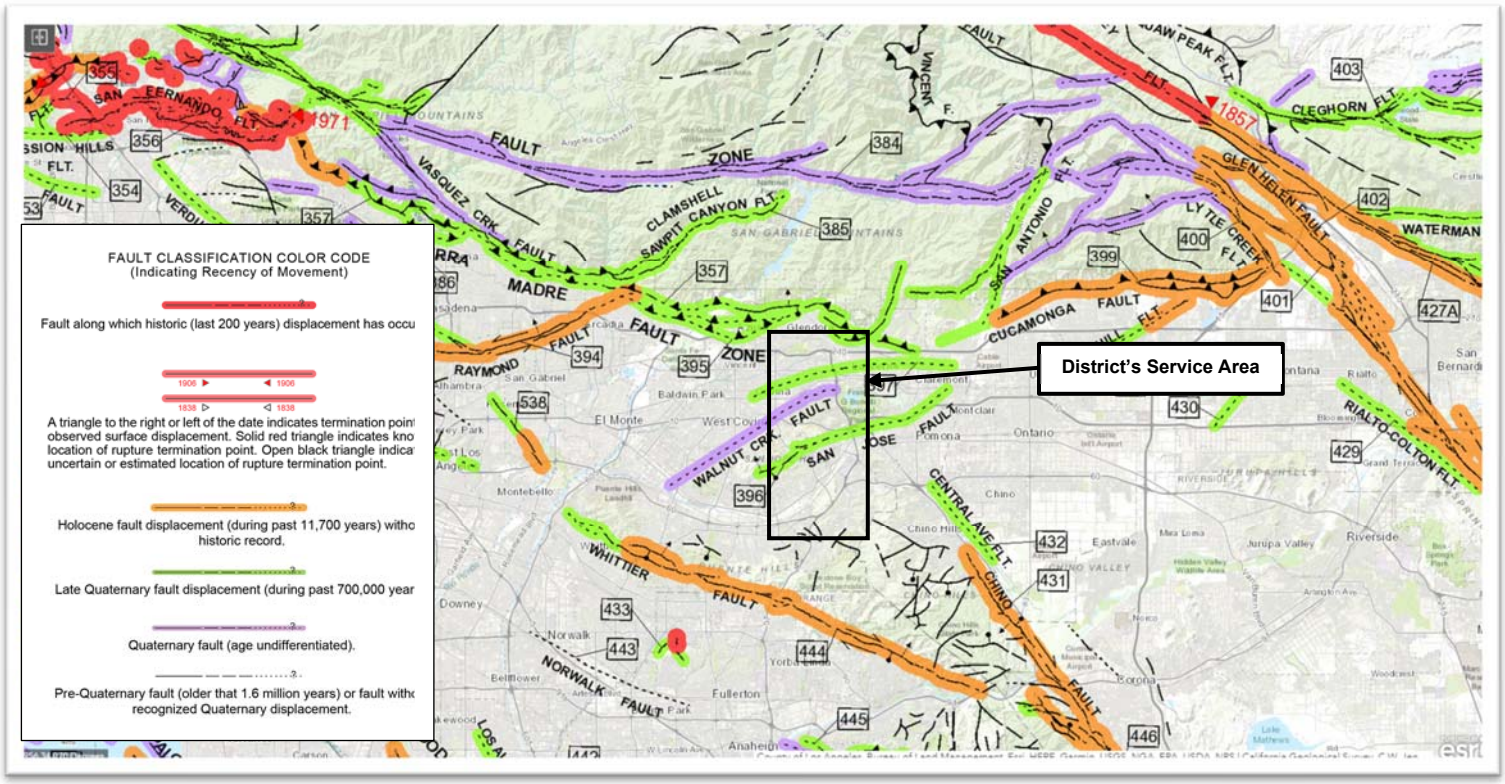
(b) An urban water supplier shall update the seismic risk assessment and mitigation plan when updating its urban water management plan as required by Section 10621.

(c) An urban water supplier may comply with this section by submitting, pursuant to Section 10644, a copy of the most recent adopted local hazard mitigation plan or multihazard mitigation plan under the federal Disaster Mitigation Act of 2000 (Public Law 106-390) if the local hazard mitigation plan or multihazard mitigation plan addresses seismic risk.

The County of Los Angeles prepared a "All-Hazards Mitigation Plan" in 2019 which identified methods to assess significant natural hazards (including earthquakes) affecting areas throughout Los Angeles County, and the mitigation strategies necessary to reduce risks, including seismic risk. The County's All-Hazards Mitigation Plan is provided in Appendix H.

The California Geological Survey has published the locations of numerous faults which have been mapped in the Southern California region. Although the San Andreas fault is the most recognized and is capable of producing an earthquake with a magnitude greater than 8 on the Richter scale, some of the lesser-known faults have the potential to cause significant damage. The locations of these earthquake faults in the vicinity of the District's water service area are provided in the figure below. The faults that are located in close proximity to and could potentially cause significant shaking in the District's water service area include the San Andreas fault, the Walnut Creek fault, the Whittier fault, the San Jose fault, the Cucamonga fault, the Chino fault, the Central Avenue fault, and the Sierra Madre fault.

Location of Earthquake Faults

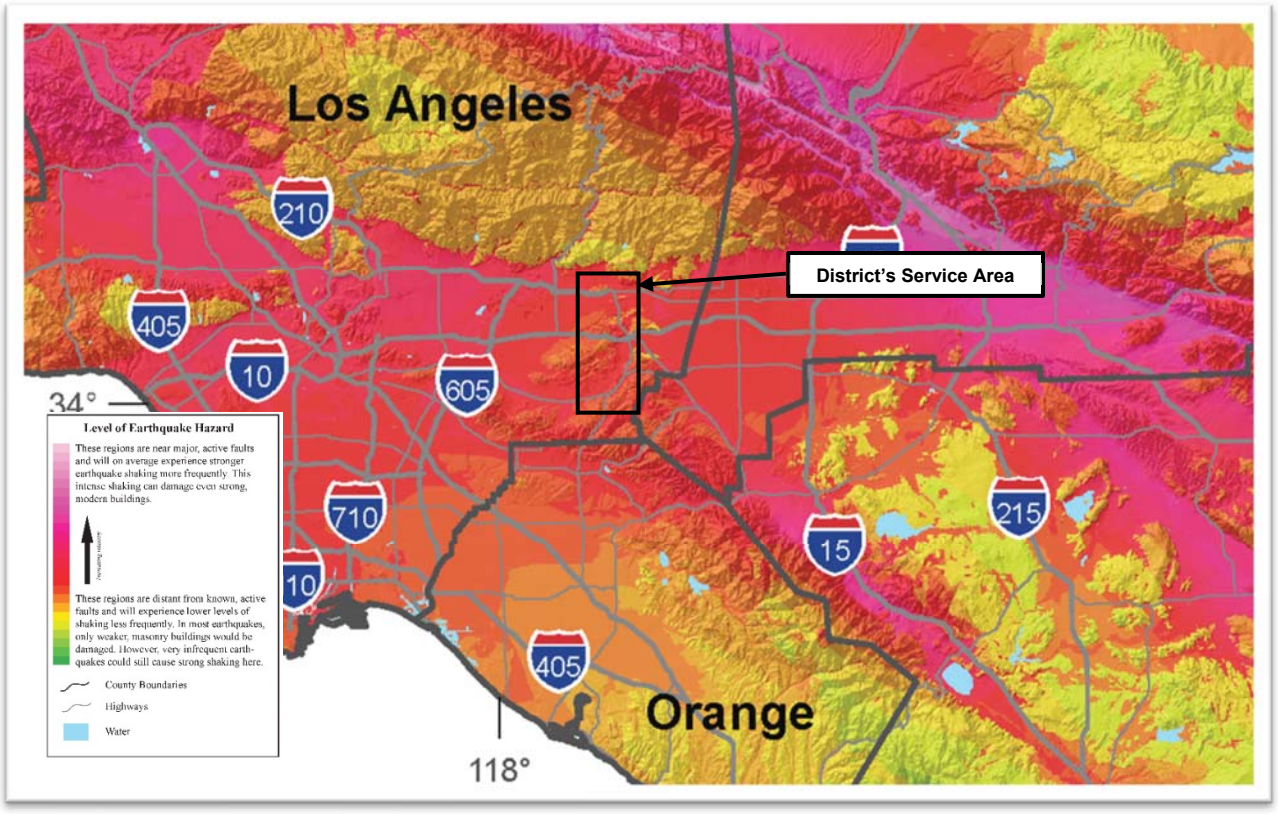


Source: https://maps.conservation.ca.gov/cgs/fam/App/

The following figure provides the relative intensity of ground shaking in the vicinity of the area receiving water supplies from the District from anticipated future earthquakes. The locations of relatively long-period (1.0 second) earthquake shaking, including the area receiving water supplies from the District, are provided. Long-period shaking affects tall, relatively flexible buildings, but also correlates with earthquake damage. The shaking potential is calculated based on the level of ground motion that has a 2 percent chance of being exceeded in 50 years (or the level of ground-shaking with an approximate 2,500-year average repeat time). As discussed in Section 8.4.5, the District has prepared an Emergency Response Plan which provides the management, procedures, and designated actions the District and its employees will implement during emergency situations resulting from natural disasters, including during earthquakes, to ensure that

sub-agencies receive a reliable and adequate supply of potable water. The District's ERP is incorporated by reference.

Earthquake Shaking Potential



Source: "Earthquake Shaking Potential for California", 2016, California Geological Survey and United States Geological Survey

8.4.7 SHORTAGE RESPONSE ACTION EFFECTIVENESS

The effectiveness of the shortage response actions for each of the standard water shortage levels identified in Section 8.3 is evident in the District's historical ability to meet its sub-agencies' water demands during water supply shortages. In addition, the District supports local agencies in efforts to enforce regulations and prohibitions on water use. The effectiveness of each of the District's shortage response actions, in order to reduce any potential gaps between supply and demand, has been quantified in the expected demand reduction provided in Table 8-2 and Table 8-3.

Section 6.1 provides a tabulation of the District's historical annual water demands from its sub-agencies for each water supply source. During the past 10 years, the District experienced a five consecutive year drought within the area receiving its water supplies from FY 2011-12 to FY 2015-16. Throughout this extended five consecutive year drought year period, the District's annual water production ranged from 57,472 AF to 74,233 AF, with an average of approximately 66,079 AF. In addition, historical records indicate the District previously produced a maximum of up to 76,723 AF during FY 2019-20. The District has been able to provide sufficient water supplies to its sub-agencies, including during long-term droughts and years with historically high water demands. In addition, the District has been able to provide water service to meet maximum day water demands for these years, including during the summer months.

The District's water demands from its sub-agencies during the most recent five years (from FY 2015-16 to FY 2019-20) averaged approximately 67,124 AFY. Due to conservation efforts and demand management measures (discussed in Chapter 9), the District's recent water demands from its sub-agencies have been less than its historical water demands, including during long-term droughts. The District's projected water demands from its sub-agencies (during normal, single dry, and multiple dry years) are provided in Section 7.2.3 and are anticipated to incorporate similar reductions in water use rates as a result of the shortage response actions, ongoing conservation efforts, and demand management measures. Because the District's projected water demands are less than its historical water demands, it is anticipated the District will be able to continue providing sufficient water supplies to its sub-agencies to meet projected water demands, including during long-term droughts.

Based on the District's ability in meeting water demands during past water supply shortages, adopted water shortage levels, adjusted operating safe yields, and long-term droughts, it is anticipated that the District will be able to continue providing sufficient water supplies to its customers during any of its standard water shortage levels. Although adequate supplies are anticipated, the cost of those water supplies may become

incrementally more expensive. The District will enact varying levels of its water shortage contingency plan to encourage its sub-agencies to reduce water consumption and at the same time reduce the need to use the more expensive water supplies. Notwithstanding, the effectiveness of each of the District's shortage response actions, in order to reduce any potential gaps between supply and demand, has been quantified in the expected demand reduction provided in Table 8-2 and Table 8-3. The effectiveness of the District's shortage response actions is based on the District's water demands prior to 2015 (unconstrained demands). The District reduced its water demands in 2015 in response to the Governor's April 1, 2015 Executive Order B-29-15 which mandated statewide reduction in water use of 25 percent. The District's actual water demand reduction during this period was used to estimate the extent of water use reductions for the District's Water Shortage Stages. The District's Water Shortage Levels 1, 2, 3, 4, 5, and 6 are expected to reduce water demands by up to 10%, 20%, 30%, 40%, 50%, and greater than 50%, respectively.

8.5 COMMUNICATION PROTOCOLS

CWC 10632.

(a)(5) Communication protocols and procedures to inform customers, the public, interested parties, and local, regional, and state governments, regarding, at a minimum, all of the following:

(A) Any current or predicted shortages as determined by the annual water supply and demand assessment described pursuant to Section 10632.1.

(B) Any shortage response actions triggered or anticipated to be triggered by the annual water supply and demand assessment described pursuant to Section 10632.1.

(C) Any other relevant communications.

Pursuant to CWC 10632.1, The District's Annual Assessment will be submitted to DWR by July 1 of each year or within 14 days of receiving its final allocation, whichever is later.

The Annual Assessment will provide information on the District's anticipated shortage, triggered response actions, compliance and enforcement actions, and communication actions, as discussed in Section 8.2. The District may use the Annual Assessment as a method of declaring the appropriate water shortage level.

A water shortage level must first be adopted as a resolution during scheduled District board meetings. In accordance with the District's communication protocol, for each shortage level the District will hold a public hearing to address comments in connection with the adoption of any resolutions declaring a water shortage level. Information pertaining to the adopted resolution will be provided to the public, customers, interested parties, and local agencies.

The mandatory conservation requirements applicable to the water shortage conditions will take effect on the 10th day after the date the shortage level is declared. Within five (5) days following the declaration of the shortage level, the District will publish a notice of the adoption of the resolution in a local newspaper used for publication of official notices. If the District activates a water allocation process, the District will provide notice of the allocation by including it in the regular billing statement or by any other mailing to the address to which the District customarily mails the billing statement for fees or charges for on-going water service. A water allocation will be effective on the fifth day following the date of mailing or at such later date as specified in the notice.

The information provided will include the declared shortage level, response action associated with each shortage level, and any other relevant information relating to the resolution.

8.6 COMPLIANCE AND ENFORCEMENT

CWC 10632.

(a)(6) For an urban retail water supplier, customer compliance, enforcement, appeal, and exemption procedures for triggered shortage response actions as determined pursuant to Section 10632.2.

As a wholesale agency, the District is not required by DWR to complete Section 8.6.

8.7 LEGAL AUTHORITIES

CWC 10632.

(a)(7)(A) A description of the legal authorities that empower the urban water supplier to implement and enforce its shortage response actions specified in paragraph (4) that may include, but are not limited to, statutory authorities, ordinances, resolutions, and contract provisions.

(B) A statement that an urban water supplier shall declare a water shortage emergency in accordance with Chapter 3 (commencing with Section 350) of Division 1.

(C) A statement that an urban water supplier shall coordinate with any city or county within which it provides water supply services for the possible proclamation of a local emergency, as defined in Section 8558 of the Government Code.

CWC Division 1, Section 350

The governing body of a distributor of a public water supply, whether publicly or privately owned and including a mutual water company, shall declare a water shortage emergency condition to prevail within the area served by such distributor whenever it finds and determines that the ordinary demands and requirements of water consumers cannot be satisfied without depleting the water supply of the distributor to the extent that there would be insufficient water for human consumption, sanitation, and fire protection.

In the event that the demand of water consumers cannot be satisfied without depleting a substantial amount of water supply needed for human consumption, sanitation, and fire protection, the District shall declare a water shortage emergency. The District shall coordinate with any city or county within its service area for possible declaration of a local

emergency including the Cities of Claremont, Covina, Diamond Bar, Glendora, Industry, La Verne, Pomona, San Dimas, Walnut, West Covina, and unincorporated areas of Los Angeles County (including Charter Oak and Rowland Heights)

The District adopted Ordinance No. 09-06-16 ("Establishing a Water Conservation and Water Shortage Program and Regulations for its Direct End Service") in 2009. The ordinance implements measures to ensure effective water supply planning, assure reasonable and beneficial use of water, prevent waste of water, and maximize the efficient use of water within the District's service area. In addition, the District must reduce its demand for imported water to avoid penalties for excessive use and ensure sufficient water supply remain for the health, safety, and welfare of the public. A copy of this ordinance is provided in Appendix I.

In June 2017, the District adopted Resolution No. 17-06-801 declaring a Water Supply Watch. Under a Water Supply Watch, the District coordinated with its sub-agencies in the development of a rate structure to promote water use efficiency and unified regional message to communicate the need for continued water use efficiency to the public, businesses, stakeholder industries and public officials. The District also encouraged its sub-agencies to implement water use efficiency measures to preserve regional storage reserves. A copy of this resolution is provided in Appendix J.

The District has developed a WSAP as an approach to control water demand through water rate penalties for excessive use. The WSAP limits how much water can be purchased during the fiscal year without incurring a penalty and is implemented during an extreme shortage stage. The limit varies depending on a number of factors, but mainly local groundwater extracted during the fiscal year. The WSAP is structured with 10 defined shortage level stages that correspond to an annual allocation of water to each of the sub-agencies. The penalties determined in the WSAP are as follows:

- Up to allowed water limit – no penalty is incurred (just the cost of the water)
- Up to 15% above the limit – A penalty of $1,480/AF plus the cost of the water
- Over 15% above the limit – A penalty of $2,960/AF plus the cost of the water

A copy of the WSAP is included in Appendix K.

8.8 FINANCIAL CONSEQUENCES OF WSCP

CWC 10632.

(a)(8) A description of the financial consequences of, and responses for, drought conditions, including, but not limited to, all of the following:

(A) A description of potential revenue reductions and expense increases associated with activated shortage response actions described in paragraph (4).

(B) A description of mitigation actions needed to address revenue reductions and expense increases associated with activated shortage response actions described in paragraph (4).

(C) A description of the cost of compliance with Chapter 3.3 (commencing with Section 365) of Division 1.

The expected change in revenues and expenditures to the District can vary due to implementing water shortage response actions from the WSCP. Like most other water agencies, the District experiences a decrease in revenue associated with reduced water sales. The District prepares and updates the water sales forecast annually among its normal budgetary planning activities.

The District has established a Water Rate Stabilization Reserve to help fund operations when water sales are less than projected. This reserve shall be set at an amount to supplant lost income in the event of 10% water sales shortages over a 2-3 period ($1,200,000-$1,800,000). The District currently has about $1,400,000 in this reserve.

The District has other reserve funds that can also be accessed by board approval of about $8,300,000. These reserve funds are intended to:

- Minimize the impacts of any short-term fluctuations in revenues/expenses without adopting unplanned rate increases
- Provide a safety net in the event of emergency
- Minimize external borrowing and interest expense

  Determine the most opportune time to issue debt when necessary

8.9 MONITORING AND REPORTING

CWC 10632.

(a)(9) For an urban retail water supplier, monitoring and reporting requirements and procedures that ensure appropriate data is collected, tracked, and analyzed for purposes of monitoring customer compliance and to meet state reporting requirements.

The District is a wholesale water agency only and does not directly provide water to end use customers. The District will coordinate with its sub-agencies to assist with communication and outreach efforts needed during water shortages. In addition, the District will coordinate with MWD on regional efforts to maximize water use efficiency and mitigate supply limitations.

8.10 WSCP REFINEMENT PROCEDURES

CWC 10632.

(a)(10) Reevaluation and improvement procedures for systematically monitoring and evaluating the functionality of the water shortage contingency plan in order to ensure shortage risk tolerance is adequate and appropriate water shortage mitigation strategies are implemented as needed.

The District's Water Shortage Contingency Plan has been prepared as an adaptive management plan. As discussed in Section 8.9, the District will monitor and report on the implementation of the Water Shortage Contingency Plan. The District will review the implementation results for any current or potential shortage gaps between water supplies and demands. The District will evaluate the need for revising the Water Shortage Contingency Plan in order to resolve any shortage gaps, as necessary. The District will consider the following potential revisions in the event of a potential shortage gap:

- Implementation of additional public outreach, education, and communication programs (in addition to the programs discussed in Chapter 9).
- Implementation of more stringent water use restrictions under the standard water shortage levels (discussed in Section 8.4.2).
- Implementation of stricter enforcement actions and penalties (discussed in Section 8.6).
- Improvements to the water supply augmentation responses (discussed in Section 8.4.1), as well as any associated operational changes (discussed in Section 8.4.3) which may be required.
- Incorporation of additional actions recommended by District staff or other interested parties.

The District will use the monitoring and reporting data to evaluate the ability for these potential revisions to resolve any shortage gaps which may occur within the standard water shortage levels.

This Water Shortage Contingency Plan is adopted as part of the District's 2020 Urban Water Management Plan adoption process discussed in Section 10.3. It is anticipated the District will review, revise, and adopt an updated Water Shortage Contingency Plan as part of preparing its 2025 Urban Water Management Plan as necessary. However,

the District will continue to review the monitoring and reporting data, and if needed, update the Water Shortage Contingency Plan more frequently. Any updates to the District's Water Shortage Contingency Plan will include a public hearing and adoption process by the District's Board (see Section 8.12).

8.11 SPECIAL WATER FEATURE DISTINCTION

CWC 10632.

(b) For purposes of developing the water shortage contingency plan pursuant to subdivision (a), an 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.

As a wholesale agency, the District is not required by DWR to complete Section 8.11.

8.12 PLAN ADOPTION, SUBMITTAL, AND AVAILABILITY

CWC 10632.

(c) The urban water supplier shall make available the water shortage contingency plan prepared pursuant to this article to its customers and any city or county within which it provides water supplies no later than 30 days after adoption of the water shortage contingency plan.

The District's Water Shortage Contingency Plan is adopted as part of the District's 2020 Urban Water Management Plan adoption process discussed in Chapter 10. The process for adopting the District's Water Shortage Contingency Plan includes the following:

- The District will conduct a public hearing and make the Water Shortage Contingency Plan available for public inspection.
- The District will provide notification of the time and place of the public hearing to any city or county in which water is provided.
- The District will publish notice of public hearing in a newspaper once a week, for two successive weeks (with at least five days between publication dates).
- The District's Board will adopt the 2020 Urban Water Management Plan and the Water Shortage Contingency Plan
- As part of submitting the 2020 Urban Water Management Plan to DWR, the District will also submit the Water Shortage Contingency Plan (electronically through DWR's online submittal tool) within 30 days of adoption and by July 1, 2021. The District will submit a copy of the Water Shortage Contingency Plan to the California State Library and to any city or county in which water is provided within 30 days of adoption. In addition, the District will make the Water Shortage Contingency Plan available for public review within 30 days of adoption.

If there are any subsequent amendments required, the process for adopting an amended Water Shortage Contingency Plan includes the following:

- The District will conduct a public hearing and make the amended Water Shortage Contingency Plan available for public inspection.
- The District's Board will adopt the amended Water Shortage Contingency Plan
- The District will submit the amended Water Shortage Contingency Plan to DWR (electronically through DWR's online submittal tool) within 30 days of adoption

Additional information regarding the adoption, submittal, and availability of the District's Water Shortage Contingency Plan (and 2020 Urban Water Management Plan) is provided in Chapter 10.

CHAPTER 9

DEMAND MANAGEMENT MEASURES

LAY DESCRIPTION – CHAPTER 9

DEMAND MANAGEMENT MEASURES

Chapter 9 (Demand Management Measures) of the District's 2020 Plan discusses and provides the following:

- The District has implemented "Demand Management Measures" to reduce its water demands and achieve its water use targets (discussed in Chapter 5)
- The District's Demand Management Measures include metering of all its water supply connections with its sub-agencies.
- The District's Demand Management Measures include public education and outreach programs regarding water conservation.
- The District's Demand Management Measures include staffing of its water conservation program.
- Additional Demand Management Measures including rebate, conservation, asset management, and wholesale supplier assistance programs are discussed.
- A summary of the Demand Management Measures the District has implemented over the past five (5) years is provided.

9.1 DEMAND MANAGEMENT MEASURES FOR WHOLESALE SUPPLIERS

CWC 10631.

(e) Provide a description of the 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, 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.

As a wholesale water agency, the District is committed to promoting and facilitating water conservation projects by its sub-agencies. These projects/programs focus on commercial and industrial equipment and processes, residential plumbing retrofits, turf replacement programs, smart irrigation controller and sprinkler retrofits, and conservation education programs. The District prioritizes its education programs as an essential conservation measure to enhance long-term reliability and growth. One of the ways the District does this is by conducting public tours of its Miramar Water Treatment Plant to promote water conservation awareness. The District also focuses on public education and awareness as a necessary means to inform the public of efficient water use.

The District has expanded into conservation research and increased coordination of funding for retail sub-agency sponsored projects. The District assists its sub-agencies with funding and implementation of conservation projects which are essential in

maintaining a high level of water use efficiency. The District's water conservation coordinators regularly provide coordination with the District's sub-agencies regarding water conservation programs/projects.

9.1.1 METERING

All of the District's connections with its sub-agencies are fully metered to accurately track water sales (demands). The District performs regular calibration/testing and replacement/repairs of its meters to ensure meter accuracy.

9.1.2 PUBLIC EDUCATION AND OUTREACH

The District conducts public education and outreach efforts to assist and support its sub-agencies, including partnering with MWD on mass media campaigns promoting water conservation, school education programs, informational booths at public events, newsletters, informative websites, online tools, press releases, and newspaper articles. The District assists its sub-agencies at public outreach events by hosting or co-hosting educational booths at events including Earth Days and school functions. The District supports and partners with MWD during mass media campaigns to benefit from MWD's extensive regional reach. The District typically conducts over 15 tours annually at the Miramar Water Treatment Plant for grades 3 through college. Presentations are given to educate visitors regarding water treatment plant operations and the true significance of clean safe water. In addition, information regarding the history, administration procedures, and importance of the District and water conservation is provided throughout the tour.

District staff creates advertisements and articles each year to run in local newspapers to educate the public on conservation, water protection and water supply sources. The District hosts three Leadership Breakfasts a year to educate local officials, elected officials and the general public regarding the importance to California water. These

breakfasts feature dynamic water industry leaders and discussions of regional topics related to the water industry.

The District hosts and administers at least three MWD tours including the State Water Project, Colorado River Aqueduct, Diamond Valley Lake, or the Edmonston Pumping Plant. The District also hosts at least one local event to showcase its local facilities and the improvements made throughout the year and proposed capital projects and the importance to local supplies.

9.1.3 WATER CONSERVATION PROGRAM COORDINATION AND STAFFING SUPPORT

The District employs two staff members that are responsible for public outreach and coordination with the District's sub-agencies, MWD, local schools, and the public to encourage conservation and promote/support public awareness and participation. The District provides funding in its annual budget to support these activities.

9.1.4 OTHER DEMAND MANAGEMENT MEASURES

Similar to MWD, the District has adopted a tiered rate structure in delivering imported water to its sub-agencies. The Tier 1 and Tier 2 rates serve to promote water conservation and discourage excessive water use by requiring sub-agencies to actively manage their own systems to minimize costs associated with purchasing imported water. The District allocates to each sub-agency a specific quantity of imported water for each calendar year. The individual allocation amounts were initially determined based on the average annual imported water use during the 10-year period prior to the start of the program. The District closely tracks the monthly imported water usage by each sub-agency. If a sub-agency exceeds its allocation of imported water during a calendar year, it may be subject to a higher water rate for the water purchased above the allocation. For Calendar Year 2020,

the District's rates for treated imported water were $1,068 per AF, under Tier 1, and $1,155 per AF, under Tier 2, a difference of $87 per AF.

In addition to the demand management measures (DMMs) discussed above, the District participates in MWD's regional rebate program, the SoCal Water$mart Program, which is available to the District's residential and commercial customers. There are rebates available for indoor plumbing including high efficiency clothes washers and toilets. Rebates are also available for outdoor plumbing include those for weather-based irrigation controllers, rotating sprinkler nozzles, and replacement of irrigated lawn with drought tolerant plants or other approved landscape options. The District plans to continue implementation of these programs to promote water conservation.

9.1.5 ASSET MANAGEMENT

The District has developed an asset management program for its major infrastructure including its distribution system. The plan includes conducting regular distribution system maintenance and/or inspection and making improvements to and/or repairs/replacement of assets as needed. The District responds to repairs as needed. The District may implement GIS mapping with a structured improvement and repair program. The District also prepares an annual "Strategic Plan" report which identifies the five-year capital improvement projects and costs (including maintenance and improvement projects) necessary to operate the District's facilities.

9.1.6 WHOLESALE SUPPLIER ASSISTANCE PROGRAMS

As a wholesaler, the District participates in assistance programs to its retail sub-agencies including the conservation programs identified in the sections above. The District utilizes allocated funds from MWD to assist the sub-agencies in promoting conservation programs, water saving devices, rebate programs, educational forums, and other efforts to reduce water demand. The District provides financial incentives for water conservation

through retrofit and rebate programs that replace high water-use fixtures with efficient water-use fixtures. The District also provides support through available staff assigned to direct conservation measures.

9.2 EXISTING DEMAND MANAGEMENT MEASURES FOR RETAIL SUPPLIERS

CWC 10631.

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

(1)(A) For an urban retail water supplier, as defined in Section 10608.12, a narrative description that addresses the nature and extent of each water demand management measure implemented over the past five years. 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.

(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.

As a wholesale agency, the District is not required by DWR to complete Section 9.2.

9.3 REPORTING IMPLEMENTAYION

9.3.1 IMPLEMENTATION OVER THE PAST FIVE YEARS

CWC 10631.

(e) 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.

The District is committed to implementing water conservation programs. The highlights of DMM implementation over the past five years are described below.

As discussed in Section 9.1, the District is committed to promoting and facilitating water conservation projects by its sub-agencies. The District prioritizes its education programs as an essential conservation measure to enhance long-term reliability and growth. The District also focuses on public education and awareness as a necessary means to inform the public of efficient water use. The District has expanded into conservation research and increased coordination of funding for retail sub-agency sponsored projects.

As discussed in Section 9.1.1, all of the District's connections with its sub-agencies are fully metered. The District performs periodic calibration/testing and replacement/repairs of its meters to ensure meter accuracy.

As discussed in Section 9.1.2, the District conducts public education and outreach efforts to assist and support its sub-agencies such as hosting or co-hosting educational booths at outreach events. The District raises awareness about water conservation through support/partner with MWD on mass media water conservation campaigns, school education programs, informational booths at public events, newsletters, informative

websites, online tools, and newspaper articles. The District conducts tours and presentations to educate the public on water conservation and the significance of clean safe water. The District staff participates in Ag Day LA to educate and explain the relationship between clean water, water conservation and agriculture in the State of California. The District hosts Leadership Breakfasts to educate local officials, elected officials and the public regarding the importance to California water.

As discussed in Section 9.1.3, the District employs two staff members to oversee all public outreach and coordination with the District's sub-agencies, MWD, local schools, and the public to encourage conservation and promote/support public awareness and participation. The District plans to continue to provide water conservation program coordination and staffing support.

As discussed in Section 9.1.4, the District has a tiered rate structure in delivering imported water to its sub-agencies. The Tier 1 and Tier 2 rates serve to promote water conservation and discourage excessive water use. Beginning Calendar Year 2020, the Districts rates for imported water were $1,068 per AF, under Tier 1, and $1,155 per AF, under Tier 2, a difference of $87 per AF. However, the District's Tier 1 rates are currently less than MWD's Tier 1 rates to promote conservation by avoiding the higher Tier 2 rates.

Also, the District participates in MWD's regional rebate program, the SoCal Water$mart Program, which is available to the District's residential and commercial customers.

As discussed in Section 9.1.5, the District prepares an annual "Strategic Plan" report which identifies the five-year capital improvement projects and costs necessary to operate the District's facilities.

As discussed in Section 9.1.6, the District participates in assistance programs to the retail sub-agencies that it serves. The District assists the sub-agencies in promoting conservation programs, water saving devices, rebate programs, educational forums, and

other efforts to reduce water demand. The District provides financial incentives for water conservation through retrofit and rebate programs. The District also provides support through available staff assigned to direct conservation measures.

9.3.2 IMPLEMENTATION TO ACHIEVE WATER USE TARGETS

CWC 10631.

(F)(1)(A) For an urban retail water supplier, as defined in Section 10608.12, a narrative description that addresses the nature and extent of each water demand management measure implemented over the past five years. 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.

The Demand Management Measures implemented by the District are discussed in Section 9.1. Descriptions regarding the nature and extent of these Demand Management Measures implemented by the District over the past five years are discussed in Section 9.3. The District will continue to implement these Demand Management Measures and other water conservation programs and work collaboratively with MWD to provide water conservation programs for its sub-agencies.

9.4 WATER USE OBJECTIVES (FUTURE REQUIREMENTS)

The District is not a retail water agency and is not required to comply with the Water Use Objectives. However, the District will continue to implement the Demand Management Measures discussed in Section 9.1.

CHAPTER 10

PLAN ADOPTION, SUBMITTAL, AND IMPLEMENTATION

LAY DESCRIPTION – CHAPTER 10

PLAN ADOPTION, SUBMITTAL, AND IMPLEMENTATION

Chapter 10 (Plan Adoption, Submittal, and Implementation) of the District's 2020 Plan discusses and provides the following:

- The steps the District has performed to adopt and submit its 2020 Plan are detailed
- The steps the District has performed to adopt and submit its Water Shortage Contingency Plan are detailed
- The District coordinated the preparation of its 2020 Plan with the Chino Basin Watermaster, Inland Empire Utilities Agency, Main San Gabriel Basin Watermaster, Six Basin Watermaster, and Upper San Gabriel Valley Municipal Water District. The District notified these agencies at least sixty (60) days prior to the public hearing of the preparation of the 2020 Plan and invited these agencies to participate in the development of the 2020 Plan.
- The District provided a notice of the public hearing to the same agencies regarding the time, date, and place of the public hearing.
- The District published a newspaper notification of the public hearing, once a week for two successive weeks
- The District conducted a public hearing to discuss and adopt the District's 2020 Plan and District's Water Shortage Contingency Plan.
- Within 30 days of adoption, the District submitted the 2020 Plan and Water Shortage Contingency Plan to the California Department of Water Resources.

- Within 30 days of adoption, the District submitted all data tables associated with the 2020 Plan to the California Department of Water Resources.
- Within 30 days of adoption, the District submitted a copy of the 2020 Plan to the State of California Library.
- Within 30 days of adoption, the District submitted a copy of the 2020 Plan (and Water Shortage Contingency Plan) to the County of Los Angeles Registrar / Recorders office and the Cities within its service area.
- Within 30 days after submittal of the 2020 Plan to the California Department of Water Resources, the District made the 2020 Plan (including the Water Shortage Contingency Plan) available at the District's Office and on the District's website.
- The steps the District will perform to amend the 2020 Plan and/or the Water Shortage Contingency Plan, if necessary, are provided.

10.0 PLAN ADOPTION, SUBMITTAL, AND IMPLEMENTATION

The data provided in the District's 2020 Plan and the Water Shortage Contingency Plan is provided on a FY basis through June 30, 2020 (as discussed in Section 2.5).

10.1 INCLUSION OF ALL 2020 DATA

The data provided in the District's 2020 Plan and the Water Shortage Contingency Plan is provided on a FY basis through June 30, 2020 (as discussed in Section 2.5).

10.2 NOTICE OF PUBLIC HEARING

The District's public hearing notification process for its 2020 Plan and the Water Shortage Contingency Plan is discussed below.

10.2.1 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.

CWC 10642.

…The urban water supplier shall provide notice of the time and place of a hearing to any city or county within which the supplier provides water supplies. Notices by a local public agency pursuant to this section shall be provided pursuant to Chapter 17.5 (commencing with Section 7290) of Division 7 of Title 1 of the Government Code. A privately owned water supplier shall provide an equivalent notice within its service area…

10.2.1.1 60 DAY NOTIFICATION

As discussed in Section 2.6.2., the District coordinated the preparation of the 2020 Plan with Chino Basin Watermaster, Inland Empire Utilities Agency, Main San Gabriel Basin Watermaster, Six Basin Watermaster, and Upper San Gabriel Valley Municipal Water District. The District notified these agencies, as well as the cities and county within which the District provides water supplies, at least sixty (60) days prior to the public hearing of the preparation of the 2020 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.

10.2.1.2 NOTICE OF PUBLIC HEARING

The District provided a notice of the public hearing to the Chino Basin Watermaster, Inland Empire Utilities Agency, Main San Gabriel Basin Watermaster, Six Basin Watermaster, and Upper San Gabriel Valley Municipal Water District. The District notified these agencies, as well as the cities and county within which the District provides water supplies. The notice includes the time and place of the public hearing. To ensure that the Plan and the Water Shortage Contingency Plan were available for review, the District placed a copy of the draft 2020 Plan and the draft Water Shortage Contingency Plan for review on its website. Copies of the notice of the public hearing are provided in Appendix D.

10.2.1.3 SUBMITTAL TABLES

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

Table 10-1 Notification to Cities and Counties

Submittal Table 10-1 Wholesale: Notification to Cities and Counties (select one)		
☐	Supplier has notified more than 10 cities or counties in accordance with Water Code Sections 10621 (b) and 10642. **Completion of the table below is not required. Provide a separate list of the cities and counties that were notified.**	
	Provide the page or location of this list in the UWMP.	
☑	Supplier has notified 10 or fewer cities or counties. **Complete the table below.**	
City Name	60 Day Notice	Notice of Public Hearing
Add additional rows as needed		
Azusa	Yes	Yes
Claremont	Yes	Yes
Covina	Yes	Yes
Diamond Bar	Yes	Yes
Glendora	Yes	Yes
Industry	Yes	Yes
La Puente	Yes	Yes
La Verne	Yes	Yes
Pomona	Yes	Yes
Walnut	Yes	Yes
County Name *Drop Down List*	60 Day Notice	Notice of Public Hearing
Add additional rows as needed		
Los Angeles County	Yes	Yes
NOTES:		

10.2.2 NOTICE TO THE PUBLIC

CWC 10642.

…Prior to adopting either, the urban water supplier shall make both the plan and the water shortage contingency plan available for public inspection and shall hold a public hearing or hearings thereon. Prior to any of these hearings, notice of the time and place of the hearing shall be published within the jurisdiction of the publicly owned water supplier pursuant to Section 6066 of the Government Code. The urban water supplier shall provide notice of the time and place of a hearing to any city or county within which the supplier provides water supplies.

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.

The District 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, the District published a notice of public hearing in the newspaper during the weeks of May 31, 2021 and June 7, 2021. A notice of public hearing was also provided to the District's office and was posted throughout the District's service area and on the District's website. A copy of the published notice is provided in Appendix D. To ensure the draft 2020 Plan and the draft Water Shortage Contingency Plan were available for review, the District placed a copy at the District's Office and made a copy available for review on its website.

10.3 PUBLIC HEARING AND ADOPTION

CWC 10642.

…Prior to adopting either, the urban water supplier shall make both the plan and the water shortage contingency plan available for public inspection and shall hold a public hearing or hearings 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.

10.3.1 PUBLIC HEARING

Prior to adopting the draft 2020 Plan and the draft Water Shortage Contingency Plan, the District held a public hearing on June 16, 2021 which included input from the community regarding the District's draft 2020 Plan and the draft Water Shortage Contingency Plan. In addition, the District considered the economic impacts measures described in Section 8.8.

10.3.2 ADOPTION

CWC 10642.

… After the hearing or hearings, the plan or water shortage contingency plan shall be adopted as prepared or as modified after the hearing or hearings.

Following the public hearing, the District adopted both the draft 2020 Plan and the draft Water Shortage Contingency Plan (included in Chapter 8). A copy of the resolution adopting the 2020 Plan and the Water Shortage Contingency Plan is provided in Appendix L.

10.4 PLAN SUBMITTAL

CWC 10621.

(e) Each urban water supplier shall update and submit its 2020 plan to the department by July 1, 2021.

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.

(c) 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.

The District submittal process for its 2020 Plan and the Water Shortage Contingency Plan is discussed below.

10.4.1 SUBMITTING A UWMP AND WATER SHORTAGE CONTINGENCY PLAN TO DWR

Within 30 days of adoption of the 2020 Plan by the District's Board of Directors, the District submitted the adopted 2020 Plan (including the Water Shortage Contingency Plan) to DWR. The 2020 Plan and Water Shortage Contingency Plan were submitted through DWR's "Water Use Efficiency (WUE) Data Portal" website.

DWR developed a checklist which was used by the District to assist DWR with its determination that the District's 2020 Plan has addressed the requirements of the California Water Code. The District has completed the DWR checklist by indicating where the required CWC elements can be found within the District's 2020 Plan (See Appendix C).

10.4.2 ELECTRONIC DATA SUBMITTAL

CWC 10644.

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

Within 30 days of adoption of the 2020 Plan, the District submitted all data tables associated with the 2020 Plan through DWR's "Water Use Efficiency Data Portal" website.

10.4.3 SUBMITTING A UWMP, INCLUDING WSCP, TO THE CALIFORNIA STATE LIBRARY

Within 30 days of adoption of the 2020 Plan by the District's Board of Directors, a copy (CD or hardcopy) of the 2020 Plan was submitted to the State of California Library. A copy of the letter to the State Library will be maintained in the District's file. The 2020 Plan will be mailed to the following address if sent by regular mail:

California State Library
Government Publications Section
Attention: Coordinator, Urban Water Management Plans
P.O. Box 942837
Sacramento, CA 94237-0001

The 2020 Plan will be mailed to the following address if sent by courier or overnight carrier:

California State Library
Government Publications Section
Attention: Coordinator, Urban Water Management Plans
900 N Street
Sacramento, CA 95814

10.4.4 SUBMITTING A UWMP TO CITIES AND COUNTIES

Within 30 days of adoption of the 2020 Plan (including the Water Shortage Contingency Plan) by the District's Board of Directors, a copy of the 2020 Plan was submitted to the County of Los Angeles Registrar / Recorders office and the Cities within its service area. A copy of the letter to the County of Los Angeles will be maintained in the District's file.

10.5 PUBLIC AVAILABILITY

CWC 10645.

(a) 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.

(b) Not later than 30 days after filing a copy of its water shortage contingency 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 2020 Plan to DWR, the District made the 2020 Plan (including the Water Shortage Contingency Plan) available at the District's Office during normal business hours and on the District's website.

NOTIFICATION TO PUBLIC UTILITIES COMMISSION

CWC 10621.

(c) An urban water supplier regulated by the Public Utilities Commission shall include its most recent plan and water shortage contingency plan as part of the supplier's general rate case filings.

The District is not regulated by the California Public Utilities Commission.

10.6 AMENDING AN ADOPTED UWMP OR WATER SHORTAGE CONTINGENCY PLAN

CWC 10621.

(d)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) An urban water supplier shall submit to the department, the California State Library, and any city or county within which the supplier provides water supplies a copy of its plan no later than 30 days after adoption. Copies of amendments or changes to the plans shall be submitted to the department, the California State Library, and any city or county within which the supplier provides water supplies within 30 days after adoption.

The District's amendment process for its 2020 Plan is discussed below.

10.6.1 AMENDING A UWMP

If the District amends the adopted 2020 Plan, the amended Plan will undergo adoption by the District's governing board. Within 30 days of adoption, the amended Plan will then

be submitted to DWR, the State of California Library, the County of Los Angeles Registrar / Recorders office, and the District's Office.

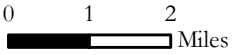
10.6.2 AMENDING A WATER SHORTAGE CONTINGENCY PLAN

CWC 10644.

(b) If an urban water supplier revises its water shortage contingency plan, the supplier shall submit to the department a copy of its water shortage contingency plan prepared pursuant to subdivision (a) of Section 10632 no later than 30 days after adoption, in accordance with protocols for submission and using electronic reporting tools developed by the department.

If the District amends the adopted 2020 Plan (including the Water Shortage Contingency Plan), the amended Plan (and Water Shortage Contingency Plan) will undergo adoption by the District's governing board. Within 30 days of adoption, the amended Plan (and Water Shortage Contingency Plan) will then be submitted to DWR, the State of California Library, the County of Los Angeles Registrar / Recorders office, and the cities within its service area.

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community



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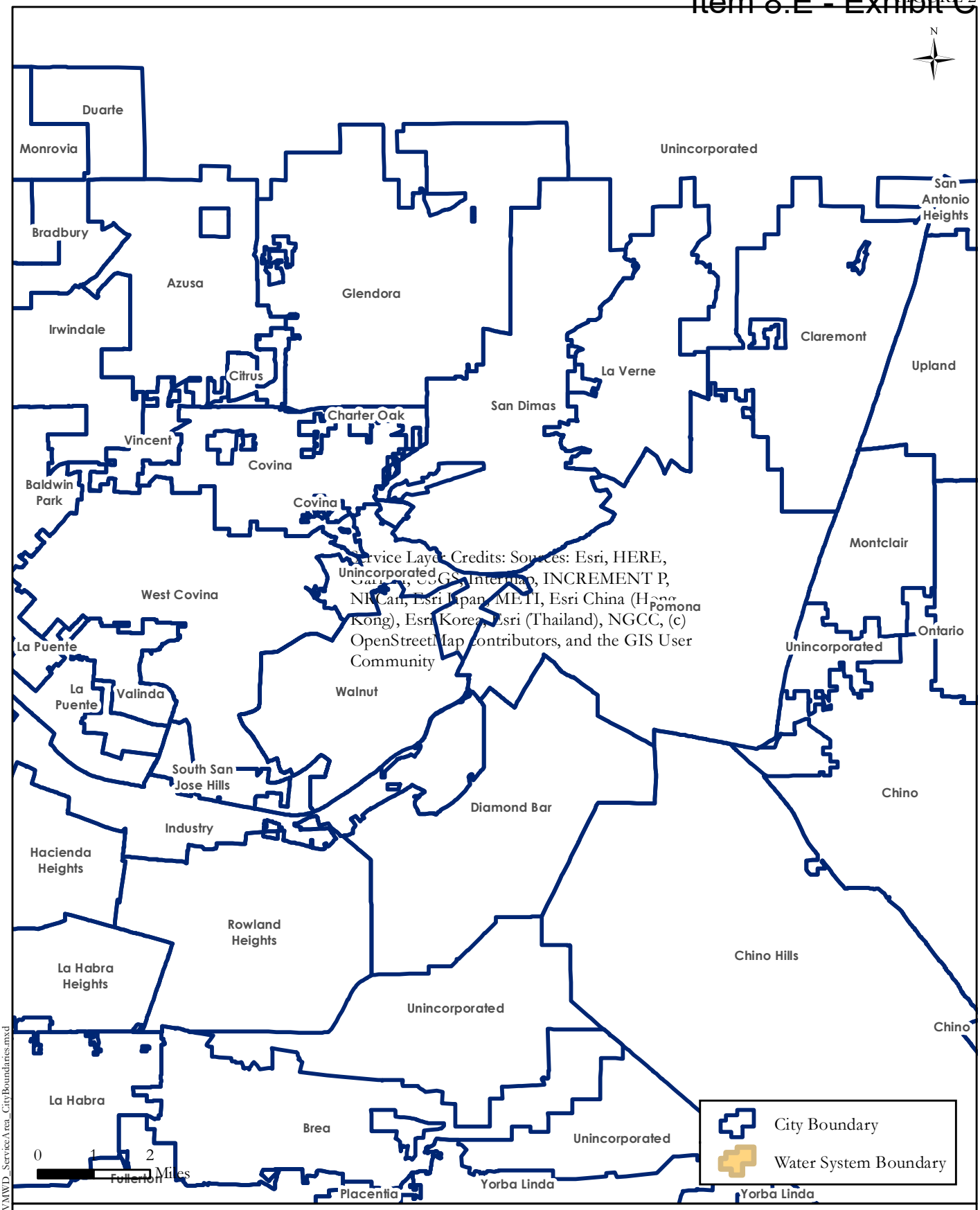
THREE VALLEYS MUNICIPAL WATER DISTRICT
WATER SERVICE AREA



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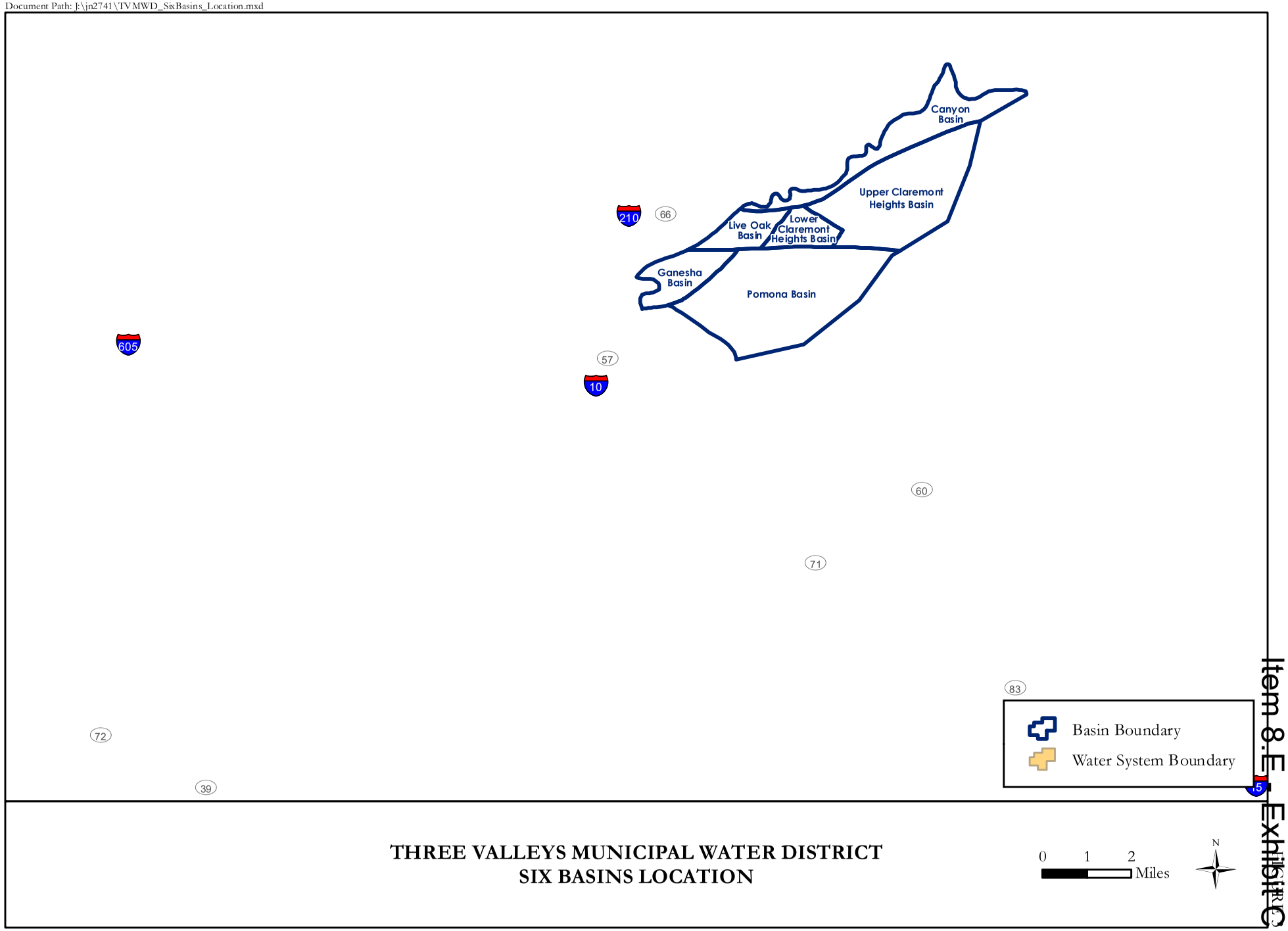
THREE VALLEYS MUNICIPAL WATER DISTRICT
SERVICE AREA
AND CITY BOUNDARIES

Document Path: J:\jn2741\TVMWD_SixBasins_Location.mxd



THREE VALLEYS MUNICIPAL WATER DISTRICT
SIX BASINS LOCATION

0 1 2 Miles

N

Item 8.E Exhibit C

APPENDIX A

DWR STANDARDIZED TABLES

Submittal Table 2-2: Plan Identification			
Select Only One	**Type of Plan**		**Name of RUWMP or Regional Alliance** *if applicable* (select from drop down list)
☑	**Individual UWMP**		
	☐	Water Supplier is also a member of a RUWMP	
	☐	Water Supplier is also a member of a Regional Alliance	
☐	**Regional Urban Water Management Plan (RUWMP)**		
NOTES:			

Submittal Table 2-3: Supplier Identification	
Type of Supplier (select one or both)	
☑	Supplier is a wholesaler
☐	Supplier is a retailer
Fiscal or Calendar Year (select one)	
☐	UWMP Tables are in calendar years
☑	UWMP Tables are in fiscal years
If using fiscal years provide month and date that the fiscal year begins (mm/dd)	
07/01	
Units of measure used in UWMP * (select from drop down)	
Unit	AF
**** Units of measure (AF, CCF, MG)*** *must remain consistent throughout the UWMP as reported in Table 2-3.*	
NOTES:	

Submittal Table 2-4 Wholesale: Water Supplier Information Exchange (select one)	
☑	Supplier has informed more than 10 other water suppliers of water supplies available in accordance with Water Code Section 10631. Completion of the table below is optional. If not completed, include a list of the water suppliers that were informed.
Section 2.6	**Provide page number for location of the list.**
☐	Supplier has informed 10 or fewer other water suppliers of water supplies available in accordance with Water Code Section 10631. **Complete the table below.**
Water Supplier Name	
Add additional rows as needed	
NOTES:	

Submittal Table 3-1 Wholesale: Population - Current and Projected						
Population Served	2020	2025	2030	2035	2040	2045*(opt)*
	513,623	523,167	532,888	542,790	552,204	561,782
NOTES: The 2020 population and the population projected through 2045 were obtained from data in SCAG's 2020-2045 Regional Transportation Plan (See Section 3.4.1 and Section 5.4.1).						

Submittal Table 4-1 Wholesale: Demands for Potable and Non-Potable[1] Water - Actual

Use Type	2020 Actual		
Drop down list May select each use multiple times These are the only use types that will be recognized by the WUE data online submittal tool	Additional Description (as needed)	Level of Treatment When Delivered Drop down list	Volume[2]
Add additional rows as needed			
Sales to other agencies		Drinking Water	60,031
Groundwater recharge		Raw Water	14,523
Other Potable	Local Projects	Drinking Water	2,169
		TOTAL	76,723

[1] *Recycled water demands are NOT reported in this table. Recycled water demands are reported in Table 6-4.*

[2] *Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.*

NOTES:

Submittal Table 4-2 Wholesale: Use for Potable and Raw Water [1] - Projected						
Use Type		Projected Water Use [2] Report To the Extent that Records are Available				
Drop down list May select each use multiple times These are the only Use Types that will be recognized by the WUEdata online submittal tool.	Additional Description (as needed)	2025	2030	2035	2040	2045 (opt)
Add additional rows as needed						
Sales to other agencies		45,394	45,304	45,194	45,010	44,806
Groundwater recharge		10,982	10,960	10,934	10,889	10,840
Other Potable		1,640	1,637	1,633	1,626	1,619
TOTAL		58,016	57,901	57,761	57,525	57,265

[1] *Recycled water demands are NOT reported in this table. Recycled water demands are reported in Table 6-4.*
Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.

[2]

NOTES:

Submittal Table 4-3 Wholesale: Total Water Use (Potable and Non-Potable)						
	2020	2025	2030	2035	2040	2045 (opt)
Potable and Raw Water From Tables 4-1W and 4-2W	76,723	58,016	57,901	57,761	57,525	57,265
Recycled Water Demand* From Table 6-4W	0	0	0	0	0	0
TOTAL WATER DEMAND	76,723	58,016	57,901	57,761	57,525	57,265
**Recycled water demand fields will be blank until Table 6-4 is complete.*						
NOTES:						

Submittal Table 6-1 Wholesale: Groundwater Volume Pumped						
☐	Supplier does not pump groundwater. The supplier will not complete the table below.					
☐	All or part of the groundwater described below is desalinated.					
Groundwater Type	Location or Basin Name	2016*	2017*	2018*	2019*	2020*
Add additional rows as needed						
Alluvial Basin	Six Basins	1,044	945	1,219	968	1,200
	TOTAL	1,044	945	1,219	968	1,200
**** Units of measure (AF, CCF, MG)*** *must remain consistent throughout the UWMP as reported in Table 2-3.*						
NOTES:						

Submittal Table 6-3 Wholesale: Wastewater Treatment and Discharge Within Service Area in 2020

☑ Wholesale Supplier neither distributes nor provides supplemental treatment to recycled water. 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)* [2]	Method of Disposal *Drop down list*	Does This Plant Treat Wastewater Generated Outside the Service Area? *Drop down list*	Treatment Level *Drop down list*	2020 volumes [1]				
							Wastewater Treated	Discharged Treated Wastewater	Recycled Within Service Area	Recycled Outside of Service Area	Instream Flow Permit Requirement
Add additional rows as needed											
						Total	0	0	0	0	0

[1] **Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.

[2] If the **Wastewater Discharge ID Number** is not available to the UWMP preparer, access the SWRCB CIWQS regulated facility website at https://ciwqs.waterboards.ca.gov/ciwqs/readOnly/CiwqsReportServlet?inCommand=reset&reportName=RegulatedFacility

NOTES:

Submittal Table 6-4 Wholesale: Current and Projected Retailers Provided Recycled Water Within Service Area							
☑	Recycled water is not directly treated or distributed by the Supplier. The Supplier will not complete the table below.						
Name of Receiving Supplier or Direct Use by Wholesaler	Level of Treatment *Drop down list*	2020*	2025*	2030*	2035*	2040*	2045* *(opt)*
Add additional rows as needed							
	Total	0	0	0	0	0	0
*** Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.							
NOTES:							

Submittal Table 6-5 Wholesale: 2015 UWMP Recycled Water Use Projection Compared to 2020 Actual		
☑	Recycled water was not used or distributed by the supplier in 2015, nor projected for use or distribution in 2020. The wholesale supplier will not complete the table below.	
Name of Receiving Supplier or Direct Use by Wholesaler	2015 Projection for 2020*	2020 Actual Use*
Add additional rows as needed		
Total	0	0
***Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*		
NOTES:		

Submittal Table 6-7 Wholesale: Expected Future Water Supply Projects or Programs						
☐	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.					
☑	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.					
Section 6.2.8	Provide page location of narrative in the UWMP					
Name of Future Projects or Programs	Joint Project with other suppliers?		Description *(if needed)*	Planned Implementation Year	Planned for Use in Year Type *Drop Down list*	Expected Increase in Water Supply to Supplier*
	Drop Down Menu	*If Yes, Supplier Name*				
Add additional rows as needed						
Construct additional groundwater production wells	*No*		The District's objective is to construct a new well about every two years	Ongoing	All Year Types	5,000
***Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*						
NOTES:						

Submittal Table 6-8 Wholesale: Water Supplies — Actual				
Water Supply	Additional Detail on Water Supply	2020		
Drop down list May use each category multiple times.These are the only water supply categories that will be recognized by the WUEdata online submittal tool		Actual Volume*	Water Quality Drop Down List	Total Right or Safe Yield* (optional)
Add additional rows as needed				
Groundwater (not desalinated)	Six Basins	1,200	Drinking Water	
Purchased or Imported Water	MWD	73,354	Drinking Water	
Other	Local Projects	2,169	Drinking Water	
	Total	76,723		0
Units of measure (AF, CCF, MG) *must remain consistent throughout the UWMP as reported in Table 2-3.*				
NOTES:				

Submittal Table 6-9 Wholesale: Water Supplies — Projected

Water Supply	Additional Detail on Water Supply	Projected Water Supply* Report To the Extent Practicable									
		2025		2030		2035		2040		2045 (opt)	
Drop down list May use each category multiple times. These are the only water supply categories that will be recognized by the WUEdata online submittal tool		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)
Add additional rows as needed											
Groundwater (not desalinated)	Six Basins	2,500		3,000		3,000		3,000		3,000	
Purchased or Imported Water	MWD	52,516		51,401		51,261		51,025		50,765	
Other	Local Projects	3,000		3,500		3,500		3,500		3,500	
	Total	58,016	0	57,901	0	57,761	0	57,525	0	57,265	0

***Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*

NOTES:

Submittal Table 7-1 Wholesale: Basis of Water Year Data (Reliability Assessment)			
Year Type	**Base Year** 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	**Available Supplies if Year Type Repeats**	
		☐ Quantification of available supplies is not compatible with this table and is provided elsewhere in the UWMP. Location _____	
		☐ Quantification of available supplies is provided in this table as either volume only, percent only, or both.	
		Volume Available *	**% of Average Supply**
Average Year	2017	69,289	100%
Single-Dry Year	2018	68,486	98.8%
Consecutive Dry Years 1st Year	2012	64,789	93.5%
Consecutive Dry Years 2nd Year	2013	71,546	103.3%
Consecutive Dry Years 3rd Year	2014	74,233	107.1%
Consecutive Dry Years 4th Year	2015	62,357	90.0%
Consecutive Dry Years 5th Year	2016	57,472	82.9%

Supplier 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 a supplier 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. Suppliers may create an additional worksheet for the additional tables.

***Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*

NOTES:

Submittal Table 7-2 Wholesale: Normal Year Supply and Demand Comparison					
	2025	2030	2035	2040	2045 *(Opt)*
Supply totals *(autofill from Table 6-9)*	58,016	57,901	57,761	57,525	57,265
Demand totals *(autofill fm Table 4-3)*	58,016	57,901	57,761	57,525	57,265
Difference	0	0	0	0	0
NOTES:					

Submittal Table 7-3 Wholesale: Single Dry Year Supply and Demand Comparison					
	2025	2030	2035	2040	2045 (Opt)
Supply totals*	57,344	57,230	57,091	56,859	56,601
Demand totals*	57,344	57,230	57,091	56,859	56,601
Difference	0	0	0	0	0
***Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*					
NOTES:					

Submittal Table 7-4 Wholesale: Multiple Dry Years Supply and Demand Comparison						
		2025*	2030*	2035*	2040*	2045* (Opt)
First year	Supply totals	54,248	54,140	54,009	53,789	53,545
	Demand totals	54,248	54,140	54,009	53,789	53,545
	Difference	0	0	0	0	0
Second year	Supply totals	59,906	59,787	59,642	59,399	59,130
	Demand totals	59,906	59,787	59,642	59,399	59,130
	Difference	0	0	0	0	0
Third year	Supply totals	62,156	62,032	61,882	61,630	61,350
	Demand totals	62,156	62,032	61,882	61,630	61,350
	Difference	0	0	0	0	0
Fourth year	Supply totals	52,212	52,108	51,981	51,770	51,535
	Demand totals	52,212	52,108	51,981	51,770	51,535
	Difference	0	0	0	0	0
Fifth year	Supply totals	48,122	48,026	47,910	47,715	47,498
	Demand totals	48,122	48,026	47,910	47,715	47,498
	Difference	0	0	0	0	0
Sixth year *(optional)*	Supply totals					
	Demand totals					
	Difference	0	0	0	0	0
***Units of measure (AF, CCF, MG) must** remain consistent throughout the UWMP as reported in Table 2-3.*						
NOTES:						

Submittal Table 7-5: Five-Year Drought Risk Assessment Tables to address Water Code Section 10635(b)

2021	Total
Total Water Use	68,242
Total Supplies	64,789
Surplus/Shortfall w/o WSCP Action	(3,453)
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	0
WSCP - use reduction savings benefit	3,453
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	5%

2022	Total
Total Water Use	71,496
Total Supplies	71,546
Surplus/Shortfall w/o WSCP Action	50
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	0
WSCP - use reduction savings benefit	0
Revised Surplus/(shortfall)	50
Resulting % Use Reduction from WSCP action	0%

2023	Total
Total Water Use	70,173
Total Supplies	74,233
Surplus/Shortfall w/o WSCP Action	4,060
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	0
WSCP - use reduction savings benefit	0
Revised Surplus/(shortfall)	4,060
Resulting % Use Reduction from WSCP action	0%

2024	Total
Total Water Use	55,579
Total Supplies	62,357
Surplus/Shortfall w/o WSCP Action	6,778
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	0
WSCP - use reduction savings benefit	0
Revised Surplus/(shortfall)	6,778
Resulting % Use Reduction from WSCP action	0%

2025	Total
Total Water Use	48,122
Total Supplies	57,472
Surplus/Shortfall w/o WSCP Action	9,350
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	0
WSCP - use reduction savings benefit	0
Revised Surplus/(shortfall)	9,350
Resulting % Use Reduction from WSCP action	0%

Submittal Table 8-1
Water Shortage Contingency Plan Levels

Shortage Level	Percent Shortage Range	Shortage Response Actions (*Narrative description*)
1	Up to 10%	Watering or irrigating of lawn, landscape or other vegetated area with potable water by a direct end user is limited to three days per week. All leaks, breaks, or other malfunctions in the direct end user's plumbing or distribution system must be repaired within seventy-two (72) hours of notification by the District unless other arrangements are made which will include a written plan to address the repairs.
2	Up to 20%	In addition to Shortage Level 1; Additional restrictions may be implemented as determined by the District, after notice to customers.
3	Up to 30%	In addition to Shortage Level 2; Additional restrictions may be implemented as determined by the District, after notice to customers.
4	Up to 40%	Watering or irrigating of lawn, landscape or other vegetated area with potable water by a direct end user is limited to two days per week. Filling or re-filling ornamental lakes or ponds by a direct end user is prohibited, except to the extent needed to sustain aquatic life, provided that such animals are of significant value and have been actively managed within the water feature prior to declaration of a supply shortage level
5	Up to 50%	In addition to Shortage Level 2; Additional restrictions may be implemented as determined by the District, after notice to customers.
6	>50%	In addition to Shortage Level 5; watering or irrigating of lawn, landscape or other vegetated area with potable water by a direct end user is prohibited. All leaks, breaks, or other malfunctions in the direct end user's plumbing or distribution system must be repaired within twenty four (24) hours of notification by the District unless other arrangements are made with the District which will include written plans that include a timeline of repairs.

NOTES:

Submittal Table 8-2: Demand Reduction Actions

Shortage Level	Demand Reduction Actions ***Drop down list*** *These are the only categories that will be accepted by the WUEdata online submittal tool. Select those that apply.*	How much is this going to reduce the shortage gap? *Include units used (volume type or percentage)*	Additional Explanation or Reference *(optional)*	Penalty, Charge, or Other Enforcement? ***For Retail Suppliers Only*** *Drop Down List*
Add additional rows as needed				
1	Landscape - Limit landscape irrigation to specific days	Collective reduction from all Shortage Level 1 actions is up to 5,240 AF		Yes
1	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	Collective reduction from all Shortage Level 1 actions is up to 5,240 AF		Yes
2	Other	Collective reduction from all Shortage Level 2 actions is up to 10,479 AF	All actions under Shortage Level 1	Yes
3	Other	Collective reduction from all Shortage Level 3 actions is up to 15,719 AF	All actions under Shortage Level 2	Yes
4	Other	Collective reduction from all Shortage Level 4 actions is up to 20,959 AF	All actions under Shortage Level 3	Yes
4	Water Features - Restrict water use for decorative water features, such as fountains	Collective reduction from all Shortage Level 4 actions is up to 20,959 AF	prohibit filling or refilling ornamental lakes or ponds	Yes
4	Other - Prohibit vehicle washing except at facilities using recycled or recirculating water	Collective reduction from all Shortage Level 4 actions is up to 20,959 AF		Yes
4	Other water feature or swimming pool restriction	Collective reduction from all Shortage Level 4 actions is up to 20,959 AF	prohibit intial filling or refilling of more than one foot of residential swimming pools or outdoor spas	
5	Other	Collective reduction from all Shortage Level 5 actions is up to 26,198 AF	All actions under Shortage Level 4	Yes
6	Other	Collective reduction from all Shortage Level 6 actions is greater than 26,198 AF	All actions under Shortage Level 5	
6	Landscape - Prohibit all landscape irrigation	Collective reduction from all Shortage Level 6 actions is greater than 26,198 AF		
6	Other	Collective reduction from all Shortage Level 6 actions is greater than 26,198 AF	No new potable water service	
6	Implement or Modify Drought Rate Structure or Surcharge	Collective reduction from all Shortage Level 6 actions is greater than 26,198 AF		
6	Other	Collective reduction from all Shortage Level 6 actions is greater than 26,198 AF	Direct end users that use landscape irrigation systems to irrigate must use landscape irrigation systems with rain sensors that automatically shut off such systems during periods of rain	Yes

NOTES:

Submittal Table 8-3: Supply Augmentation and Other Actions			
Shortage Level	Supply Augmentation Methods and Other Actions by Water Supplier ***Drop down list*** *These are the only categories that will be accepted by the WUEdata online submittal tool*	How much is this going to reduce the shortage gap? *Include units used (volume type or percentage)*	Additional Explanation or Reference *(optional)*
Add additional rows as needed			
1	Transfers	Not applicable (see Notes)	
2	Transfers	Not applicable (see Notes)	
3	Transfers	Not applicable (see Notes)	
4	Transfers	Not applicable (see Notes)	
5	Transfers	Not applicable (see Notes)	
6	Transfers	Not applicable (see Notes)	

NOTES: The District is a wholesale water supplier that provides treated imported water from the State Water Project through MWD to its sub-agencies. The District does not anticipate augmenting water supplies. However, the District's sub- agencies will consider increased production from the Main Basin, Chino Basin, and or Six Basins (through potential transfer of water rights) using existing facilities to address increased demands. As noted on Table 8-2, the District plans to implement demand reduction measures in the event water supplies from existing sources are not sufficient to meet anticipated demands.

Submittal Table 10-1 Wholesale: Notification to Cities and Counties (select one)		
☐	Supplier has notified more than 10 cities or counties in accordance with Water Code Sections 10621 (b) and 10642. **Completion of the table below is not required. Provide a separate list of the cities and counties that were notified.**	
	Provide the page or location of this list in the UWMP.	
☑	Supplier has notified 10 or fewer cities or counties. **Complete the table below.**	
City Name	60 Day Notice	Notice of Public Hearing
Add additional rows as needed		
Azusa	Yes	Yes
Claremont	Yes	Yes
Covina	Yes	Yes
Diamond Bar	Yes	Yes
Glendora	Yes	Yes
Industry	Yes	Yes
La Puente	Yes	Yes
La Verne	Yes	Yes
Pomona	Yes	Yes
Walnut	Yes	Yes
County Name *Drop Down List*	60 Day Notice	Notice of Public Hearing
Add additional rows as needed		
Los Angeles County	Yes	Yes
NOTES:		

APPENDIX B

DEMONSTRATION OF REDUCED IMPORTED WATER RELIANCE

DEMONSTRATION OF CONSISTENCY WITH THE DELTA PLAN FOR PARTICIPANTS IN COVERED ACTIONS (FY 2014-2015 THROUGH FY 2044-45) THREE VALLEYS MUNICIPAL WATER DISTRICT

Introduction

Pursuant to the California Department of Water Resources (DWR), an urban water supplier that anticipates participating in or receiving water from a proposed project (or "covered action") such as a multi-year water transfer, conveyance facility, or new diversion that involves transferring water through, exporting water from, or using water in the Sacramento-San Joaquin Delta (Delta) should provide information in their 2015 and 2020 Urban Water Management Plans (UWMPs) for use in demonstrating consistency with Delta Plan Policy WR P1, "*Reduce Reliance on the Delta Through Improved Regional Water Self-Reliance"*. In addition, pursuant to California Code of Regulations, Title 23, § 5003:

> *(c)(1) Water suppliers that have done all of the following are contributing to reduced reliance on the Delta and improved regional self-reliance and are therefore consistent with this policy:*
>
> > *(A) Completed a current Urban or Agricultural Water Management Plan (Plan) which has been reviewed by the California Department of Water Resources for compliance with the applicable requirements of Water Code Division 6, Parts 2.55, 2.6, and 2.8;*
> >
> > *(B) Identified, evaluated, and commenced implementation, consistent with the implementation schedule set forth in the Plan, of all programs and projects included in the Plan that are locally cost effective and technically feasible which reduce reliance on the Delta; and*
> >
> > *(C) Included in the Plan, commencing in 2015, the expected outcome for measurable reduction in Delta reliance and improvement in regional self-reliance. The expected outcome for measurable reduction in Delta reliance and improvement in regional self-reliance shall be reported in the Plan as the reduction in the amount of water used, or in the percentage of water used, from the Delta watershed. For the purposes of reporting, water efficiency is considered a new source of water supply, consistent with Water Code section 1011(a).*

The District is member agency of the Metropolitan Water District of Southern California (MWD). As noted in MWD's document entitled "*Infeasibility of Accounting Supplies from the Delta Watershed for Metropolitan's Member Agencies and their Customers*" (which is included in MWD's Regional 2020 UWMP and is provided as Attachment 1 below), "... Metropolitan's service area, as a whole, reduces reliance on the Delta through investments in non-Delta water supplies, local water supplies, and regional and local demand management measures. Metropolitan's member agencies coordinate reliance on the Delta through their membership in Metropolitan, a regional cooperative providing wholesale water service to its 26 member agencies. Accordingly, regional reliance on the Delta can only be measured regionally—not by individual Metropolitan member agencies and not by the customers of those member agencies...."

In addition, MWD's 2020 Regional UWMP indicates "...in accordance with UMWP requirements, Metropolitan's member agencies and their customers (many of them, retail agencies) also report demands and supplies for their service areas in their respective UWMPs. The data reported by those agencies are not additive to the regional totals shown in Metropolitan's UWMP; rather, their reporting represents subtotals of the regional total and should be considered as such for the purposes of determining reduced reliance on the Delta…While the demands that Metropolitan's member agencies and their customers report in their UWMPs are a good reflection of the demands in their respective service areas, they do not adequately represent each water supplier's contributions to reduced reliance on the Delta. In order to calculate and report their reliance on water supplies from the Delta watershed, water suppliers that receive water from the Delta through other regional or wholesale water suppliers would need to determine the amount of Delta water that they receive from the regional or wholesale supplier. Two specific pieces of information are needed to accomplish this: first is the quantity of demands on the regional or wholesale water supplier that accurately reflect a supplier's contributions to reduced reliance on the Delta, and second is the quantity of a supplier's demands on the regional or wholesale water supplier that are met by supplies from the Delta watershed…For water suppliers that make investments in regional projects or programs it may be infeasible to quantify their demands on the regional or wholesale water supplier

in a way that accurately reflects their individual contributions to reduced reliance on the Delta." Nonetheless, the District has taken proactive measures to help reduce regional reliance on imported water supplies and is discussed in the following sections.

Reduced Reliance Calculation Tables

Pursuant to DWR guidance, Tables C-1 through C-4 were prepared to show the potential reduction of reliance on imported water supplies for the District. The District has used these tables to demonstrate its reduced regional reliance on imported water supplies, but not specifically Delta Watershed supplies. For each of the tables, a "Baseline year" was selected. Water demands during subsequent years (from 2015 through 2045 in five-year increments) were compared to water demands during the Baseline year. Table C-1 considers the population and service area water demands, and a demand in gallons per capita per day (GPCD) water use rate was calculated for each of the years following the Baseline year. The calculated reduction in GPCD from the Baseline year was then translated to an estimated amount of water saved as a result of water conservation measures. Table C-2 references the estimated amount of water saved from Table C-1 and shows the District's water demand without water use efficiency in effect.

A method of showing reduced regional reliance on imported water supplies is to show increased regional self-reliance. Table C-3 lists water supply sources that contribute to regional self-reliance, including water use efficiency (from Table C-1 and C-2), recycled water use, and groundwater recharge activities. Regional self-reliance is expressed both in terms of acre feet (AF) and as a percentage.

The calculation of reduced regional reliance on imported water supplies is shown on Table C-4. Table C-4 also shows the percent change in imported water supplies relative to the District's total supply. A negative percent change of imported water supplies indicates the District has reduced regional reliance on imported water supplies.

Since the Baseline year, the District has decreased its reduced regional reliance on imported water supplies in 2015, 2020, and anticipates doing so through 2045.

The District has reduced its reliance on imported water supplies in up to two separate categories, as follows:

- The collective demand in GPCD from its sub-agencies for the "Baseline year" was compared to the GPCD in subsequent years (from FY 2014-15 through FY 2044-45, in five-year increments). The reduced GPCD multiplied by the collective population within the area served by the District in these subsequent years is indicative of the potential reduced regional reliance on imported water supplies and is included in Table C-1.
- The District is involved in a regional program to deliver recycled water to the San Gabriel Valley to replenish the Main San Gabriel Basin.

These categories of reduced regional reliance on imported water supplies are discussed below. The sum of the reduced regional reliance on imported water demand resulting from these categories is reflected on Table C-3 and Table C-4, respectively, and is reflective of the District's overall reduced reliance.

Reduced GPCD

Section 6.2.2 of this 2020 Plan describes the management of the Main Basin, Puente Basin, Six Basins and Spadra Basin. To the extent the District's sub-agencies historically (baseline during FY 2008-09) has produced groundwater in excess of their water rights, they have paid assessments to the applicable Watermaster which were then used to purchase untreated imported water from the Metropolitan Water District of Southern California. The untreated imported water subsequently is delivered to replenish the applicable groundwater basin.

The 2020 UWMPs for the District's sub-agencies describe the Demand Management Measures (DMMs) which those agencies have implemented to reduce the amount of water used. In addition, Chapter 6 describes the groundwater basin management measures implemented by the various groundwater basin management agencies. These actions translate to a reduction in the GPCD usage rate by its sub-agencies which are described in their respective 2020 UWMPs regarding SB X7-7 water use targets. These actions directly impact total water demands from the sub-agencies, and consequently, the quantity of imported water supplies. Absent the proactive measures taken by the District's sub-agencies, it is anticipated there may have been a greater demand on imported water.

Pursuant to DWR guidance, reduced regional reliance on imported water supplies can be demonstrated by first selecting a "Baseline" water demand, represented by total potable water demands from its sub-agencies during FY 2008-09. Table C-1 summarizes the "Baseline" water usage by the District in FY 2008-09 (assuming demand reduction efforts had not been implemented); actual water usage in 2015 and 2020; and projected water usage through 2045 in five-year increments. Table C-2 demonstrates that if water conservation measures had not been implemented by the District's sub-agencies there may have been a greater reliance on untreated and/or imported water supplies during subsequent years as compared to the Baseline year. As discussed below, and shown in Table C-1, the reduced water demands have resulted in reduced regional reliance on imported water supplies as compared to the Baseline year.

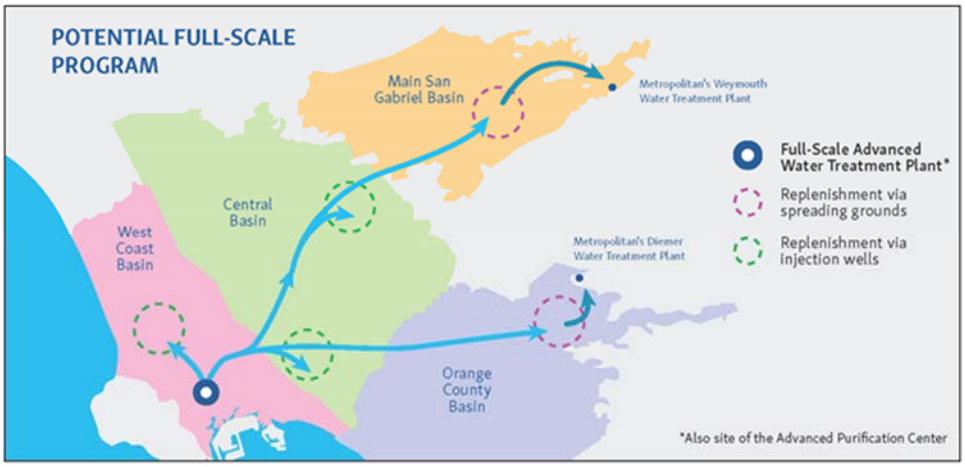
The District's potable water demand from its sub-agencies of 77,704 AF during FY 2008-09, along with the corresponding service area population of approximately 503,000, were used to determine the Baseline GPCD. Subsequently, the actual demands from its sub-agencies for FY 2014-15 and FY 2019-20 were compared to the calculated population to obtain the recent GPCD which includes the water conservations measures which have been implemented (those demand management measures are described in Chapter 9). The "Water Supplies Contributing to Regional Self-Reliance" are also provided in Table C-3. The differences between the Baseline GPCD and the FY 2014-15 and FY 2019-20

GPCDs are effectively considered a demonstration of the reduced regional reliance on imported water supplies with the understanding that any potential increased demand by the District's sub-agencies resulting from increased population could have been required from imported water supplies, absent the District's new water supplies which contribute to self-reliance. A similar methodology is used for the projected potable water demands from its sub-agencies (2020 UWMP Table 4-3) and service area populations (2020 UWMP Table 3-1).

Recycled Water for Groundwater Replenishment

In addition to the historical actions the District's sub-agencies has taken in conjunction with groundwater management agencies, the District is involved in a regional program to deliver recycled water to the San Gabriel Valley to replenish the Main San Gabriel Basin. The Metropolitan Water District of Southern California is developing its "Regional Recycled Water Program" (RRWP). MWD is partnering with the Los Angeles County Sanitation Districts (LACSD) to investigate the viability of providing up to 150 million gallons per day (MGD) (approximately 168,000 AFY) of advanced treated wastewater from LACSD's Joint Water Pollution Control Plant located in Carson, California (Carson Plant). The RRWP would deliver purified water from the Carson Plant through up to 60 miles of transmission pipelines to groundwater basins within MWD's service area, including the Main Basin. The purified water would be used in various locations within MWD's service area for groundwater recharge, groundwater storage, and industrial facilities. In addition, purified water could potentially be treated further at two of MWD's existing water treatment plants for direct potable reuse. The locations of the proposed pipeline alignments are provided in the figure below.

Regional Recycled Water Program Location



Source: http://www.mwdh2o.com/DocSvcsPubs/rrwp/index.html

MWD began construction of a $17 million small-scale demonstration plant (0.5 MGD) in late 2017 which was completed in October 2019. The results of the demonstration plant will allow MWD and others to determine whether expansion to a full-scale plant is beneficial. Once approved the full-scale plant, associated pipelines and ancillary facilities would take approximately 11 years to construct at an estimated cost of over $3 billion.

Pursuant to MWD's "*Regional Recycled Water Program Conceptual Planning Studies Report*", February 2019, the proposed RRWP would potentially provide 60,000 to 80,000 AFY to replenish the Main Basin. A portion of the replenished recycled water may be designated as Replacement Water (see Section 6.2.2) and will offset all State Water Project water (on an AF for AF basis) which historically has been used to replenish the Main Basin groundwater supplies and is essential to sound basin management. Furthermore, some of the replenished recycled water may be used for general Basin benefit which will result in higher groundwater levels and potentially enable the Operating Safe Yield to be established at a higher amount than had no deliveries occurred. For the Main Basin, MWD has entered into a letter of intent with Upper District for at least 35,000 AFY and with the District for at least 6,500 AFY, and will potentially provide up to 60,000 to 80,000 AFY, collectively.

Metropolitan Water District of Southern California

In addition, as the wholesale provider, the Metropolitan Water District of Southern California has included a detailed discussion regarding measurable reduction in Delta reliance in Appendix 11 for 2015 and 2020 as part of its 2015 Regional Urban Water Management Plan and 2020 Regional Urban Water Management Plan, respectively, and is also included in Attachment 1 below.

Reduced Reliance Calculation - Three Valleys Municipal Water District

Table C-1: Optional Calculation of Water Use Efficiency -To be completed if Water Supplier does not specifically estimate Water Use Efficiency as a supply

Service Area Water Use Efficiency Demands (Acre-Feet)	Baseline (2009)	2015	2020	2025	2030	2035	2040	2045 (Optional)
Service Area Water Demands with Water Use Efficiency Accounted For	77,704	62,357	76,723	58,016	57,901	57,761	57,525	57,265
Non-Potable Water Demands	-	-	-	-	-	-	-	-
Potable Service Area Demands with Water Use Efficiency Accounted For	77,704	62,357	76,723	58,016	57,901	57,761	57,525	57,265

Total Service Area Population	Baseline (2009)	2015	2020	2025	2030	2035	2040	2045 (Optional)
Service Area Population	503,000	525,000	513,623	523,167	532,888	542,790	552,204	561,782

Water Use Efficiency Since Baseline (Acre-Feet)	Baseline (2009)	2015	2020	2025	2030	2035	2040	2045 (Optional)
Per Capita Water Use (GPCD)	138	106	133	99	97	95	93	91
Change in Per Capita Water Use from Baseline (GPCD)		(32)	(5)	(39)	(41)	(43)	(45)	(47)
Estimated Water Use Efficiency Since Baseline		18,746	2,623	22,803	24,420	26,090	27,780	29,520

Table C-2: Calculation of Service Area Water Demands Without Water Use Efficiency

Total Service Area Water Demands (Acre-Feet)	Baseline (2009)	2015	2020	2025	2030	2035	2040	2045 (Optional)
Service Area Water Demands with Water Use Efficiency Accounted For	77,704	62,357	76,723	58,016	57,901	57,761	57,525	57,265
Reported Water Use Efficiency or Estimated Water Use Efficiency Since Baseline	-	18,746	2,623	22,803	24,420	26,090	27,780	29,520
Service Area Water Demands without Water Use Efficiency Accounted For	77,704	81,103	79,345	80,820	82,321	83,851	85,305	86,785

Table C-3: Calculation of Supplies Contributing to Regional Self-Reliance

Water Supplies Contributing to Regional Self-Reliance (Acre-Feet)	Baseline (2009)	2015	2020	2025	2030	2035	2040	2045 (Optional)
Water Use Efficiency	-	18,746	2,623	22,803	24,420	26,090	27,780	29,520
Water Recycling								
Stormwater Capture and Use								
Advanced Water Technologies								
Conjunctive Use Projects								
Local and Regional Water Supply and Storage Projects								
Other Programs and Projects the Contribute to Regional Self-Reliance								
Water Supplies Contributing to Regional Self-Reliance	-	18,746	2,623	22,803	24,420	26,090	27,780	29,520

Service Area Water Demands without Water Use Efficiency (Acre-Feet)	Baseline (2009)	2015	2020	2025	2030	2035	2040	2045 (Optional)
Service Area Water Demands without Water Use Efficiency Accounted For	77,704	81,103	79,345	80,820	82,321	83,851	85,305	86,785

Change in Regional Self Reliance (Acre-Feet)	Baseline (2009)	2015	2020	2025	2030	2035	2040	2045 (Optional)
Water Supplies Contributing to Regional Self-Reliance	-	18,746	2,623	22,803	24,420	26,090	27,780	29,520
Change in Water Supplies Contributing to Regional Self-Reliance		18,746	2,623	22,803	24,420	26,090	27,780	29,520

Percent Change in Regional Self Reliance (As Percent of Demand w/out WUE)	Baseline (2009)	2015	2020	2025	2030	2035	2040	2045 (Optional)
Percent of Water Supplies Contributing to Regional Self-Reliance	0.0%	23.1%	3.3%	28.2%	29.7%	31.1%	32.6%	34.0%
Change in Percent of Water Supplies Contributing to Regional Self-Reliance		23.1%	3.3%	28.2%	29.7%	31.1%	32.6%	34.0%

Table C-4: Calculation of Reliance on Water Supplies from the Delta Watershed

Water Supplies from the Delta Watershed (Acre-Feet)	Baseline (2009)	2015	2020	2025	2030	2035	2040	2045 (Optional)
CVP/SWP Contract Supplies								
Delta/Delta Tributary Diversions								
Transfers and Exchanges								
Other Water Supplies from the Delta Watershed[1]	77,704	62,357	76,723	58,016	57,901	57,761	57,525	57,265
Total Water Supplies from the Delta Watershed	77,704	62,357	76,723	58,016	57,901	57,761	57,525	57,265

Service Area Water Demands without Water Use Efficiency (Acre-Feet)	Baseline (2009)	2015	2020	2025	2030	2035	2040	2045 (Optional)
Service Area Water Demands without Water Use Efficiency Accounted For	77,704	81,103	79,345	80,820	82,321	83,851	85,305	86,785

Change in Supplies from the Delta Watershed (Acre-Feet)	Baseline (2009)	2015	2020	2025	2030	2035	2040	2045 (Optional)
Water Supplies from the Delta Watershed	77,704	62,357	76,723	58,016	57,901	57,761	57,525	57,265
Change in Water Supplies from the Delta Watershed		(15,348)	(982)	(19,688)	(19,803)	(19,943)	(20,179)	(20,439)

Percent Change in Supplies from the Delta Watershed (As a Percent of Demand w/out WUE)	Baseline (2009)	2015	2020	2025	2030	2035	2040	2045 (Optional)
Percent of Water Supplies from the Delta Watershed	100.0%	76.9%	96.7%	71.8%	70.3%	68.9%	67.4%	66.0%
Change in Percent of Water Supplies from the Delta Watershed		-23.1%	-3.3%	-28.2%	-29.7%	-31.1%	-32.6%	-34.0%

Baseline Year is FY 2008-09

[1] Represents imported water from Metropolitan Water District of Southern California

APPENDIX B
ATTACHMENT 1

- **Infeasibility of Accounting Supplies from the Delta Watershed for Metropolitan's Member Agencies and their Customers**

- **Appendix 11 Addendum to the Metropolitan Water District of Southern California's 2015 Urban Water Management Plan**

- **Appendix 11 "Quantifying Regional Self-Reliance and Reliance on Water Supplies from the Delta Watershed", Metropolitan Water District of Southern California's 2020 Urban Water Management Plan**

Infeasibility of Accounting Supplies from the Delta Watershed for Metropolitan's Member Agencies and their Customers

Metropolitan's service area, as a whole, reduces reliance on the Delta through investments in non-Delta water supplies, local water supplies, and regional and local demand management measures. Metropolitan's member agencies coordinate reliance on the Delta through their membership in Metropolitan, a regional cooperative providing wholesale water service to its 26 member agencies. Accordingly, regional reliance on the Delta can only be measured regionally—not by individual Metropolitan member agencies and not by the customers of those member agencies.

Metropolitan's member agencies, and those agencies' customers, indirectly reduce reliance on the Delta through their collective efforts as a cooperative. Metropolitan's member agencies do not control the amount of Delta water they receive from Metropolitan. Metropolitan manages a statewide integrated conveyance system consisting of its participation in the State Water Project (SWP), its Colorado River Aqueduct (CRA) including Colorado River water resources, programs and water exchanges, and its regional storage portfolio. Along with the SWP, CRA, storage programs, and Metropolitan's conveyance and distribution facilities, demand management programs increase the future reliability of water resources for the region. In addition, demand management programs provide system-wide benefits by decreasing the demand for imported water, which helps to decrease the burden on the district's infrastructure and reduce system costs, and free up conveyance capacity to the benefit of all member agencies.

Metropolitan's costs are funded almost entirely from its service area, with the exception of grants and other assistance from government programs. Most of Metropolitan's revenues are collected directly from its member agencies. Properties within Metropolitan's service area pay a property tax that currently provides approximately 8 percent of the fiscal year 2021 annual budgeted revenues. The rest of Metropolitan's costs are funded through rates and charges paid by Metropolitan's member agencies for the wholesale services it provides to them.[1] Thus, Metropolitan's member agencies fund nearly all operations Metropolitan undertakes to reduce reliance on the Delta, including Colorado River Programs, storage facilities, Local Resources Programs and Conservation Programs within Metropolitan's service area.

Because of the integrated nature of Metropolitan's systems and operations, and the collective nature of Metropolitan's regional efforts, it is infeasible to quantify each of Metropolitan member agencies' individual reliance on the Delta. It is infeasible to attempt to segregate an entity and a system that were designed to work as an integrated regional cooperative.

In addition to the member agencies funding Metropolitan's regional efforts, they also invest in their own local programs to reduce their reliance on any imported water. Moreover, the customers of those member agencies may also invest in their own local programs to reduce water demand. However, to the extent those efforts result in reduction of demands on Metropolitan, that reduction does not equate to a like reduction of reliance on the Delta. Demands on Metropolitan are not commensurate with demands on the Delta because most of Metropolitan member agencies receive blended resources from

[1] A standby charge is collected from properties within the service areas of 21 of Metropolitan's 26 member agencies, ranging from $5 to $14.20 per acre annually, or per parcel if smaller than an acre. Standby charges go towards those member agencies' obligations to Metropolitan for the Readiness-to-Serve Charge. The total amount collected annually is approximately $43.8 million, approximately 2 percent of Metropolitan's fiscal year 2021 annual budgeted revenues.

Metropolitan as determined by Metropolitan—not the individual member agency—and for most member agencies, the blend varies from month-to-month and year-to-year due to hydrology, operational constraints, use of storage and other factors.

Colorado River Programs

As a regional cooperative of member agencies, Metropolitan invests in programs to ensure the continued reliability and sustainability of Colorado River supplies. Metropolitan was established to obtain an allotment of Colorado River water, and its first mission was to construct and operate the CRA. The CRA consists of five pumping plants, 450 miles of high voltage power lines, one electric substation, four regulating reservoirs, and 242 miles of aqueducts, siphons, canals, conduits and pipelines terminating at Lake Mathews in Riverside County. Metropolitan owns, operates, and manages the CRA. Metropolitan is responsible for operating, maintaining, rehabilitating, and repairing the CRA, and is responsible for obtaining and scheduling energy resources adequate to power pumps at the CRA's five pumping stations.

Colorado River supplies include Metropolitan's basic Colorado River apportionment, along with supplies that result from existing and committed programs, including supplies from the Imperial Irrigation District (IID)-Metropolitan Conservation Program, the implementation of the Quantification Settlement Agreement (QSA) and related agreements, and the exchange agreement with San Diego County Water Authority (SDCWA). The QSA established the baseline water use for each of the agreement parties and facilitates the transfer of water from agricultural agencies to urban uses. Since the QSA, additional programs have been implemented to increase Metropolitan's CRA supplies. These include the PVID Land Management, Crop Rotation, and Water Supply Program, as well as the Lower Colorado River Water Supply Project. The 2007 Interim Guidelines provided for the coordinated operation of Lake Powell and Lake Mead, as well as the Intentionally Created Surplus (ICS) program that allows Metropolitan to store water in Lake Mead.

Storage Investments/Facilities

Surface and groundwater storage are critical elements of Southern California's water resources strategy and help Metropolitan reduce its reliance on the Delta. Because California experiences dramatic swings in weather and hydrology, storage is important to regulate those swings and mitigate possible supply shortages. Surface and groundwater storage provide a means of storing water during normal and wet years for later use during dry years, when imported supplies are limited. The Metropolitan system, for purposes of meeting demands during times of shortage, regulating system flows, and ensuring system reliability in the event of a system outage, provides over 1,000,000 acre-feet of system storage capacity. Diamond Valley Lake provides 810,000 acre-feet of that storage capacity, effectively doubling Southern California's previous surface water storage capacity. Other existing imported water storage available to the region consists of Metropolitan's raw water reservoirs, a share of the SWP's raw water reservoirs in and near the service area, and the portion of the groundwater basins used for conjunctive-use storage.

Since the early twentieth century, DWR and Metropolitan have constructed surface water reservoirs to meet emergency, drought/seasonal, and regulatory water needs for Southern California. These reservoirs include Pyramid Lake, Castaic Lake, Elderberry Forebay, Silverwood Lake, Lake Perris, Lake Skinner, Lake Mathews, Live Oak Reservoir, Garvey Reservoir, Palos Verdes Reservoir, Orange County Reservoir, and Metropolitan's Diamond Valley Lake (DVL). Some reservoirs such as Live Oak Reservoir, Garvey Reservoir, Palos Verdes Reservoir, and Orange County Reservoir, which have a total combined capacity of about 3,500 AF, are used solely for regulating purposes. The total gross storage capacity for

the larger remaining reservoirs is 1,757,600 AF. However, not all of the gross storage capacity is available to Metropolitan; dead storage and storage allocated to others reduce the amount of storage that is available to Metropolitan to 1,665,200 AF.

Conjunctive use of the aquifers offers another important source of dry year supplies. Unused storage in Southern California groundwater basins can be used to optimize imported water supplies, and the development of groundwater storage projects allows effective management and regulation of the region's major imported supplies from the Colorado River and SWP. Over the years, Metropolitan has implemented conjunctive use through various programs in the service area; the following table lists the groundwater conjunctive use programs that have been developed in the region.

Program	Metropolitan Agreement Partners	Program Term	Max Storage AF	Dry-Year Yield AF/Yr
Long Beach Conjunctive Use Storage Project (Central Basin)	Long Beach	June 2002-2027	13,000	4,300
Foothill Area Groundwater Storage Program (Monkhill/ Raymond Basin)	Foothill MWD	February 2003-2028	9,000	3,000
Orange County Groundwater Conjunctive Use Program	MWDOC OCWD	June 2003-2028	66,000+	22,000
Chino Basin Conjunctive Use Programs	IEUA TVMWD Watermaster	June 2003-2028	100,000	33,000
Live Oak Basin Conjunctive Use Project (Six Basins)	TVMWD City of La Verne	October 2002-2027	3,000	1,000
City of Compton Conjunctive Use Project (Central Basin)	Compton	February 2005-2030	2,289	763
Long Beach Conjunctive Use Program Expansion in Lakewood (Central Basin)	Long Beach	July 2005-2030	3,600	1,200
Upper Claremont Basin Groundwater Storage Program (Six Basins)	TVMWD	Sept. 2005- 2030	3,000	1,000
Elsinore Basin Conjunctive Use Storage Program	Western MWD Elsinore Valley MWD	May 2008- 2033	12,000	4,000
TOTAL			**211,889**	**70,263**

Metropolitan Demand Management Programs

Demand management costs are Metropolitan's expenditures for funding local water resource development programs and water conservation programs. These Demand Management Programs incentivize the development of local water supplies and the conservation of water to reduce the need to import water to deliver to Metropolitan's member agencies. These programs are implemented below the delivery points between Metropolitan's and its member agencies' distribution systems and, as such, do not add any water to Metropolitan's supplies. Rather, the effect of these downstream programs is to

produce a local supply of water for the local agencies and to reduce demands by member agencies for water imported through Metropolitan's system. The following discussions outline how Metropolitan funds local resources and conservation programs for the benefit of all of its member agencies and the entire Metropolitan service area. Notably, the history of demand management by Metropolitan's member agencies and the local agencies that purchase water from Metropolitan's members has spanned more than four decades. The significant history of the programs is another reason it would be difficult to attempt to assign a portion of such funding to any one individual member agency.

Local Resources Programs

In 1982, Metropolitan began providing financial incentives to its member agencies to develop new local supplies to assist in meeting the region's water needs. Because of Metropolitan's regional distribution system, these programs benefit all member agencies regardless of project location because they help to increase regional water supply reliability, reduce demands for imported water supplies, decrease the burden on Metropolitan's infrastructure, reduce system costs and free up conveyance capacity to the benefit of all the agencies that rely on water from Metropolitan.

For example, the Groundwater Replenishment System (GWRS) operated by the Orange County Water District is the world's largest water purification system for indirect potable reuse. It was funded, in part, by Metropolitan's member agencies through the Local Resources Program. Annually, the GWRS produces approximately 103,000 acre-feet of reliable, locally controlled, drought-proof supply of high-quality water to recharge the Orange County Groundwater Basin and protect it from seawater intrusion. The GWRS is a premier example of a regional project that significantly reduced the need to utilize imported water for groundwater replenishment in Metropolitan's service area, increasing regional and local supply reliability and reducing the region's reliance on imported supplies, including supplies from the State Water Project.

Metropolitan's local resource programs have evolved through the years to better assist Metropolitan's member agencies in increasing local supply production. The following is a description and history of the local supply incentive programs.

Local Projects Program

In 1982, Metropolitan initiated the Local Projects Program (LPP), which provided funding to member agencies to facilitate the development of recycled water projects. Under this approach, Metropolitan contributed a negotiated up-front funding amount to help finance project capital costs. Participating member agencies were obligated to reimburse Metropolitan over time. In 1986, the LPP was revised, changing the up-front funding approach to an incentive-based approach. Metropolitan contributed an amount equal to the avoided State Water Project pumping costs for each acre-foot of recycled water delivered to end-use consumers. This funding incentive was based on the premise that local projects resulted in the reduction of water imported from the Delta and the associated pumping cost. The incentive amount varied from year to year depending on the actual variable power cost paid for State Water Project imports. In 1990, Metropolitan's Board increased the LPP contribution to a fixed rate of $154 per acre-foot, which was calculated based on Metropolitan's avoided capital and operational costs to convey, treat, and distribute water, and included considerations of reliability and service area demands.

Groundwater Recovery Program

The drought of the early 1990s sparked the need to develop additional local water resources, aside from recycled water, to meet regional demand and increase regional water supply reliability. In 1991, Metropolitan conducted the Brackish Groundwater Reclamation Study which determined that large

amounts of degraded groundwater in the region were not being utilized. Subsequently, the Groundwater Recovery Program (GRP) was established to assist the recovery of otherwise unusable groundwater degraded by minerals and other contaminants, provide access to the storage assets of the degraded groundwater, and maintain the quality of groundwater resources by reducing the spread of degraded plumes.

Local Resources Program

In 1995, Metropolitan's Board adopted the Local Resources Program (LRP), which combined the LPP and GRP into one program. The Board allowed for existing LPP agreements with a fixed incentive rate to convert to the sliding scale up to $250 per acre-foot, similar to GRP incentive terms. Those agreements that were converted to LRP are known as "LRP Conversions."

Competitive Local Projects Program

In 1998, the Competitive Local Resources Program (Competitive Program) was established. The Competitive Program encouraged the development of recycled water and recovered groundwater through a process that emphasized cost-efficiency to Metropolitan, timing new production according to regional need while minimizing program administration cost. Under the Competitive Program, agencies requested an incentive rate up to $250 per acre-foot of production over 25 years under a Request for Proposals (RFP) for the development of up to 53,000 acre-feet per year of new water recycling and groundwater recovery projects. In 2003, a second RFP was issued for the development of an additional 65,000 acre-feet of new recycled water and recovered groundwater projects through the LRP.

Seawater Desalination Program

Metropolitan established the Seawater Desalination Program (SDP) in 2001 to provide financial incentives to member agencies for the development of seawater desalination projects. In 2014, seawater desalination projects became eligible for funding under the LRP, and the SDP was ended.

2007 Local Resources Program

In 2006, a task force comprised of member agency representatives was formed to identify and recommend program improvements to the LRP. As a result of the task force process, the 2007 LRP was established with a goal of 174,000 acre-feet per year of additional local water resource development. The new program allowed for an open application process and eliminated the previous competitive process. This program offered sliding scale incentives of up to $250 per acre-foot, calculated annually based on a member agency's actual local resource project costs exceeding Metropolitan's prevailing water rate.

2014 Local Resources Program

A series of workgroup meetings with member agencies was held to identify the reasons why there was a lack of new LRP applications coming into the program. The main constraint identified by the member agencies was that the $250 per acre-foot was not providing enough of an incentive for developing new projects due to higher construction costs to meet water quality requirements and to develop the infrastructure to reach end-use consumers located further from treatment plants. As a result, in 2014, the Board authorized an increase in the maximum incentive amount, provided alternative payment structures, included onsite retrofit costs and reimbursable services as part of the LRP, and added eligibility for seawater desalination projects. The current LRP incentive payment options are structured as follows:

- Option 1 – Sliding scale incentive up to $340/AF for a 25-year agreement term
- Option 2 – Sliding scale incentive up to $475/AF for a 15-year agreement term
- Option 3 – Fixed incentive up to $305/AF for a 25-year agreement term

On-site Retrofit Programs

In 2014, Metropolitan's Board also approved the On-site Retrofit Pilot Program which provided financial incentives to public or private entities toward the cost of small-scale improvements to their existing irrigation and industrial systems to allow connection to existing recycled water pipelines. The On-site Retrofit Pilot Program helped reduce recycled water retrofit costs to the end-use consumer which is a key constraint that limited recycled water LRP projects from reaching full production capacity. The program incentive was equal to the actual eligible costs of the on-site retrofit, or $975 per acre-foot of up-front cost, which equates to $195 per acre-foot for an estimated five years of water savings ($195/AF x 5 years) multiplied by the average annual water use in previous three years, whichever is less. The Pilot Program lasted two years and was successful in meeting its goal of accelerating the use of recycled water.

In 2016, Metropolitan's Board authorized the On-site Retrofit Program (ORP), with an additional budget of $10 million. This program encompassed lessons learned from the Pilot Program and feedback from member agencies to make the program more streamlined and improve its efficiency. As of fiscal year 2019/20, the ORP has successfully converted 440 sites, increasing the use of recycled water by 12,691 acre-feet per year.

Stormwater Pilot Programs

In 2019, Metropolitan's Board authorized both the Stormwater for Direct Use Pilot Program and a Stormwater for Recharge Pilot Program to study the feasibility of reusing stormwater to help meet regional demands in Southern California. These pilot programs are intended to encourage the development, monitoring, and study of new and existing stormwater projects by providing financial incentives for their construction/retrofit and monitoring/reporting costs. These pilot programs will help evaluate the potential benefits delivered by stormwater capture projects and provide a basis for potential future funding approaches. Metropolitan's Board authorized a total of $12.5 million for the stormwater pilot programs ($5 million for the District Use Pilot and $7.5 million for the Recharge Pilot).

Current Status and Results of Metropolitan's Local Resource Programs

Today, nearly one-half of the total recycled water and groundwater recovery production in the region has been developed with an incentive from one or more of Metropolitan's local resource programs. During fiscal year 2020, Metropolitan provided about $13 million for production of 71,000 acre-feet of recycled water for non-potable and indirect potable uses. Metropolitan provided about $4 million to support projects that produced about 50,000 acre-feet of recovered groundwater for municipal use. Since 1982, Metropolitan has invested $680 million to fund 85 recycled water projects and 27 groundwater recovery projects that have produced a cumulative total of about 4 million acre-feet.

Conservation Programs

Metropolitan's regional conservation programs and approaches have a long history. Decades ago, Metropolitan recognized that demand management at the consumer level would be an important part of balancing regional supplies and demands. Water conservation efforts were seen as a way to reduce the need for imported supplies and offset the need to transport or store additional water into or within the Metropolitan service area. The actual conservation of water takes place at the retail consumer level. Regional conservation approaches have proven to be effective at reaching retail consumers throughout Metropolitan's service area and successfully implementing water saving devices, programs and practices. Through the pooling of funding by Metropolitan's member agencies, Metropolitan is able to engage in regional campaigns with wide-reaching impact. Regional investments in demand management programs, of which conservation is a key part along with local supply programs, benefit all member agencies regardless of project location. These programs help to increase regional water supply

reliability, reduce demands for imported water supplies, decrease the burden on Metropolitan's infrastructure, reduce system costs, and free up conveyance capacity to the benefit of all member agencies.

Incentive-Based Conservation Programs

Conservation Credits Program

In 1988, Metropolitan's Board approved the Water Conservation Credits Program (Credits Program). The Credits Program is similar in concept to the Local Projects Program (LPP). The purpose of the Credits Program is to encourage local water agencies to implement effective water conservation projects through the use of financial incentives. The Credits Program provides financial assistance for water conservation projects that reduce demands on Metropolitan's imported water supplies and require Metropolitan's assistance to be financially feasible.

Initially, the Credits Program provided 50 percent of a member agency's program cost, up to a maximum of $75 per acre-foot of estimated water savings. The $75 Base Conservation Rate was established based Metropolitan's avoided cost of pumping SWP supplies. The Base Conservation Rate has been revisited by Metropolitan's Board and revised twice since 1988, from $75 to $154 per acre-foot in 1990 and from $154 to $195 per acre-foot in 2005.

In fiscal year 2020 Metropolitan processed more than 30,400 rebate applications totaling $18.9 million.

Member Agency Administered Program

Some member agencies also have unique programs within their service areas that provide local rebates that may differ from Metropolitan's regional program. Metropolitan continues to support these local efforts through a member agency administered funding program that adheres to the same funding guidelines as the Credits Program. The Member Agency Administered Program allows member agencies to receive funding for local conservation efforts that supplement, but do not duplicate, the rebates offered through Metropolitan's regional rebate program.

Water Savings Incentive Program

There are numerous commercial entities and industries within Metropolitan's service area that pursue unique savings opportunities that do not fall within the general rebate programs that Metropolitan provides. In 2012, Metropolitan designed the Water Savings Incentive Program (WSIP) to target these unique commercial and industrial projects. In addition to rebates for devices, under this program, Metropolitan provides financial incentives to businesses and industries that created their own custom water efficiency projects. Qualifying custom projects can receive funding for permanent water efficiency changes that result in reduced potable demand.

Non-Incentive Conservation Programs

In addition to its incentive-based conservation programs, Metropolitan also undertakes additional efforts throughout its service area that help achieve water savings without the use of rebates. Metropolitan's non-incentive conservation efforts include:

- residential and professional water efficient landscape training classes
- water audits for large landscapes
- research, development and studies of new water saving technologies
- advertising and outreach campaigns
- community outreach and education programs
- advocacy for legislation, codes, and standards that lead to increased water savings

Current Status and Results of Metropolitan's Conservation Programs

Since 1990, Metropolitan has invested $824 million in conservation rebates that have resulted in a cumulative savings of 3.27 million acre-feet of water. These investments include $450 million in turf removal and other rebates during the last drought which resulted in 175 million square feet of lawn turf removed. During fiscal year 2020, 1.06 million acre-feet of water is estimated to have been conserved. This annual total includes Metropolitan's Conservation Credits Program; code-based conservation achieved through Metropolitan-sponsored legislation; building plumbing codes and ordinances; reduced consumption resulting from changes in water pricing; and pre-1990 device retrofits.

Infeasibility of Accounting Regional Investments in Reduced Reliance Below the Regional Level

The accounting of regional investments that contribute to reduced reliance on supplies from the Delta watershed is straightforward to calculate and report at the regional aggregate level. However, any similar accounting is infeasible for the individual member agencies or their customers. As described above, the region (through Metropolitan) makes significant investments in projects, programs and other resources that reduce reliance on the Delta. In fact, all of Metropolitan's investments in Colorado River supplies, groundwater and surface storage, local resources development and demand management measures that reduce reliance on the Delta are collectively funded by revenues generated from the member agencies through rates and charges.

Metropolitan's revenues cannot be matched to the demands or supply production history of an individual agency, or consistently across the agencies within the service area. Each project or program funded by the region has a different online date, useful life, incentive rate and structure, and production schedule. It is infeasible to account for all these things over the life of each project or program and provide a nexus to each member agency's contributions to Metropolitan's revenue stream over time. Accounting at the regional level allows for the incorporation of the local supplies and water use efficiency programs done by member agencies and their customers through both the regional programs and through their own specific local programs. As shown above, despite the infeasibility of accounting reduced Delta reliance below the regional level, Metropolitan's member agencies and their customers have together made substantial contributions to the region's reduced reliance.

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Link to Metropolitan's 2020 UWMP once final

Appendix 11

Addendum to
The Metropolitan Water District of Southern California's
2015 Urban Water Management Plan

Quantifying Regional Self-Reliance and Reduced Reliance on Water Supplies from the Delta Watershed

(Draft May 2021)

Appendix 11
METROPOLITAN'S REDUCED DELTA RELIANCE REPORTING
Addendum to Metropolitan's 2015 Urban Water Management Plan

A.11.1 Background

Under the Sacramento-San Joaquin Delta Reform Act of 2009, state and local public agencies proposing a covered action in the Delta,[1] prior to initiating the implementation of that action, must prepare a written certification of consistency with detailed findings as to whether the covered action is consistent with applicable Delta Plan policies and submit that certification to the Delta Stewardship Council.[2] Anyone may appeal a certification of consistency, and if the Delta Stewardship Council grants the appeal, the covered action may not be implemented until the agency proposing the covered action submits a revised certification of consistency, and either no appeal is filed, or the Delta Stewardship Council denies the subsequent appeal.[3]

An urban water supplier that anticipates participating in or receiving water from a proposed covered action such as a multi-year water transfer, conveyance facility, or new diversion that involves transferring water through, exporting water from, or using water in the Delta should provide information in their 2015 and 2020 Urban Water Management Plans (UWMPs) that can then be used in the covered action process to demonstrate consistency with Delta Plan Policy WR P1, Reduce Reliance on the Delta Through Improved Regional Water Self-Reliance (WR P1).[4]

WR P1 details what is needed for a covered action to demonstrate consistency with reduced reliance on the Delta and improved regional self-reliance. WR P1 subsection (a) states that:

(a) Water shall not be exported from, transferred through, or used in the Delta if all of the following apply:

> *(1) One or more water suppliers that would receive water as a result of the export, transfer, or use have failed to adequately contribute to reduced reliance on the Delta and improved regional self-reliance consistent with all of the requirements listed in paragraph (1) of subsection (c);*
>
> *(2) That failure has significantly caused the need for the export, transfer, or use; and*
>
> *(3) The export, transfer, or use would have a significant adverse environmental impact in the Delta.*

WR P1 subsection (c)(1) further defines what adequately contributing to reduced reliance on the Delta means in terms of (a)(1) above.

(c)(1) Water suppliers that have done all the following are contributing to reduced reliance on the Delta and improved regional self-reliance and are therefore consistent with this policy:

> *(A) Completed a current Urban or Agricultural Water Management Plan (Plan) which has been reviewed by the California Department of Water Resources for compliance with the applicable requirements of Water Code Division 6, Parts 2.55, 2.6, and 2.8;*

[1] Water Code, § 85057.5; Cal. Code Regs. tit. 23, § 5001.
[2] Water Code, § 85225; Delta Plan, App. D.
[3] Water Code, §§ 85225.10-85225.25; Delta Plan, App. D.
[4] Cal. Code Regs., tit. 23, § 5003.

(B) Identified, evaluated, and commenced implementation, consistent with the implementation schedule set forth in the Plan, of all programs and projects included in the Plan that are locally cost effective and technically feasible which reduce reliance on the Delta; and

(C) Included in the Plan, commencing in 2015, the expected outcome for measurable reduction in Delta reliance and improvement in regional self-reliance. The expected outcome for measurable reduction in Delta reliance and improvement in regional self-reliance shall be reported in the Plan as the reduction in the amount of water used, or in the percentage of water used, from the Delta watershed. For the purposes of reporting, water efficiency is considered a new source of water supply, consistent with Water Code section 1011(a).

The analysis and documentation provided below include all of the elements described in WR P1(c)(1) that need to be included in a water supplier's UWMP to support a certification of consistency for a future covered action.

A.11.2 Summary of Expected Outcomes for Reduced Reliance on the Delta

As stated in WR P1(c)(1)(C), the policy requires that, commencing in 2015, UWMPs include expected outcomes for measurable reduction in Delta reliance and improved regional self-reliance. WR P1 further states that those outcomes shall be reported in the UWMP as the reduction in the amount of water used, or in the percentage of water used, from the Delta.

The expected outcomes for Metropolitan's Delta reliance and regional self-reliance were developed using the approach and guidance described in Appendix C of DWR's Urban Water Management Plan Guidebook 2020 (Guidebook Appendix C) issued in March 2021.

The data used in this analysis represent the total regional efforts of Metropolitan and its member agencies and their customers (many of them, retail agencies) and were developed in conjunction with Metropolitan's member agencies as part of the UWMP coordination process as described in Section 5 of Metropolitan's UWMP. In accordance with UMWP requirements, Metropolitan's member agencies and their customers (many of them, retail agencies) also report demands and supplies for their service areas in their respective UWMPs. The data reported by those agencies are not additive to the regional totals shown in Metropolitan's UWMP; rather, their reporting represents subtotals of the regional total and should be considered as such for the purposes of determining reduced reliance on the Delta.

While the demands that Metropolitan's member agencies and their customers report in their UWMPs are a good reflection of the demands in their respective service areas, they do not adequately represent each water supplier's contributions to reduced reliance on the Delta. In order to calculate and report their reliance on water supplies from the Delta watershed, water suppliers that receive water from the Delta through other regional or wholesale water suppliers would need to determine the amount of Delta water that they receive from the regional or wholesale supplier. Two specific pieces of information are needed to accomplish this: first is the quantity of demands on the regional or wholesale water supplier that accurately reflect a supplier's contributions to reduced reliance on the Delta, and second is the quantity of a supplier's demands on the regional or wholesale water supplier that are met by supplies from the Delta watershed.

For water suppliers that make investments in regional projects or programs it may be infeasible to quantify their demands on the regional or wholesale water supplier in a way that accurately reflects their individual contributions to reduced reliance on the Delta. Due to the extensive, long-standing and successful implementation of regional demand management and local resource

incentive programs in Metropolitan's service area, this infeasibility holds true for Metropolitan's members as well their customers. For Metropolitan's service area, reduced reliance on supplies from the Delta watershed can only be accurately accounted at the regional level, as is demonstrated in this analysis.

The following provides a summary of the near-term (2025) and long-term (2045) expected outcomes for Metropolitan's Delta reliance and regional self-reliance. The results show that as a region, Metropolitan and its members as well as their customers are measurably reducing reliance on the Delta and improving regional self-reliance, both as an amount of water used and as a percentage of water used.

Expected Outcomes for Regional Self-Reliance

- Near-term (2025) – Normal water year regional self-reliance is expected to increase by 813 TAF from the 2010 baseline; this represents an increase of almost 25 percent of 2025 normal water year retail demands (Table A.11-2).
- Long-term (2045) – Normal water year regional self-reliance is expected to increase by more than 1.28 MAF from the 2010 baseline, this represents an increase of more than 25 percent of 2045 normal water year retail demands (Table A.11-2).

Expected Outcomes for Reduced Reliance on Supplies from the Delta Watershed

- Near-term (2025) – Normal water year reliance on supplies from the Delta watershed decreased by 301 TAF from the 2010 baseline, this represents a decrease of 3 percent of 2025 normal water year retail demands (Table A.11-3).
- Long-term (2045) – Normal water year reliance on supplies from the Delta watershed decreased by 314 TAF from the 2010 baseline, this represents a decrease of just over 5 percent of 2045 normal water year retail demands (Table A.11-3).

A11.3 Demonstration of Reduced Reliance on the Delta

The methodology used to determine Metropolitan's reduced Delta reliance and improved regional self-reliance is consistent with the approach detailed in DWR's UWMP Guidebook Appendix C, including the use of narrative justifications for the accounting of supplies and the documentation of specific data sources. Some of the key assumptions underlying Metropolitan's demonstration of reduced reliance include:

- All data were obtained from the current 2020 UWMP or previously adopted UWMPs and represent average or normal water year conditions.
- All analyses were conducted at the service area level, and all data reflect the total contributions of Metropolitan and its members as well as their customers.
- No projects or programs that are described in the UWMPs as "Projects Under Development" were included in the accounting of supplies.

Baseline and Expected Outcomes

In order to calculate the expected outcomes for measurable reduction in Delta reliance and improved regional self-reliance, a baseline is needed to compare against. This analysis uses a normal water year representation of 2010 as the baseline, which is consistent with the approach described in the Guidebook Appendix C. Data for the 2010 baseline were taken from Metropolitan's 2005 UWMP as the UWMPs generally do not provide normal water year data for the year that they are adopted (i.e., 2005 UWMP forecasts begin in 2010, 2010 UWMP forecasts begin in 2015, and so on).

Consistent with the 2010 baseline data approach, the expected outcomes for reduced Delta reliance and improved regional self-reliance for 2015 and 2020 were taken from Metropolitan's 2010 and 2015 UWMPs respectively. Expected outcomes for 2025-2045 are from the current 2020 UWMP. Documentation of the specific data sources and assumptions are included in the discussions below.

Service Area Demands without Water Use Efficiency

In alignment with the Guidebook Appendix C, this analysis uses normal water year demands, rather than normal water year supplies to calculate expected outcomes in terms of the percentage of water used. Using normal water year demands serves as a proxy for the amount of supplies that would be used in a normal water year, which helps alleviate issues associated with how supply capability is presented to fulfill requirements of the Act versus how supplies might be accounted for to demonstrate consistency with WR P1.

Because WR P1 considers water use efficiency savings a source of water supply, water suppliers such as Metropolitan that explicitly calculate and report water use efficiency savings in their UWMP will need to make an adjustment to properly reflect normal water year demands in the calculation of reduced reliance. As explained in the Guidebook Appendix C, water use efficiency savings must be added back to the normal year demands to represent demands without water use efficiency savings accounted for; otherwise the effect of water use efficiency savings on regional self-reliance would be overestimated. Table A.11-1 shows the results of this adjustment for Metropolitan. Supporting narratives and documentation for all of the data shown in Table A.11-1 are provided below.

Table A.11-1
Demands without Water Use Efficiency Accounted For

Total Service Area Water Demands (Acre-Feet)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045
Service Area Demands with Water Use Efficiency Accounted For	4,628,000	4,563,000	4,163,000	3,763,000	3,821,000	3,893,000	3,936,000	3,985,000
Reported Water Use Efficiency	865,000	936,000	1,056,000	1,162,000	1,211,000	1,263,000	1,325,000	1,389,000
Service Area Demands without Water Use Efficiency Accounted For	**5,493,000**	**5,499,000**	**5,219,000**	**4,925,000**	**5,032,000**	**5,156,000**	**5,261,000**	**5,374,000**

Service Area Demands without Water Use Efficiency

The service area demands shown in Table A.11-1 represent the total retail water demands for Metropolitan's service area and include municipal and industrial demands, agricultural demands, seawater barrier demands, and storage replenishment demands. These demand types and the modeling methodologies used to calculate them are described in Section 2.2 and Appendix 1 of Metropolitan's UWMP.

Water Use Efficiency

The water use efficiency numbers shown in Table A.11-1 represent the total water use efficiency savings (conservation) for Metropolitan's region, including savings from active, code-based, price-effect and pre-1990 sources. These sources of water use efficiency and the methodologies used to calculate them are described in Section 2.2, Section 3.4, Section 3.7 and Appendix 1 of Metropolitan's UWMP.

The demand and water use efficiency data shown in Table A.11-1 were collected from the following sources:

- Baseline (2010) values – Metropolitan's 2005 UWMP, Table 2-6: Metropolitan Regional Water Demand Average Year
- 2015 values – Metropolitan's 2010 UWMP, Table 2-8: Metropolitan Regional Water Demands Average Year
- 2020 values – Metropolitan's 2015 UWMP, Table 2-3: Metropolitan Regional Water Demands Average Year
- 2025-2045 values – Metropolitan's 2020 UWMP, Table 2-3: Metropolitan Regional Water Demands Normal Water Year

Supplies Contributing to Regional Self-Reliance

For a covered action to demonstrate consistency with the Delta Plan, WR P1 subsection (c)(1)(C) states that water suppliers must report the expected outcomes for measurable improvement in regional self-reliance. Table A.11-2 shows expected outcomes for supplies contributing to regional self-reliance both in amount and as a percentage. The numbers shown in Table A.11-2 represent efforts to improve regional self-reliance for Metropolitan's entire service area and include the total contributions of Metropolitan and its members as well as their customers. Supporting narratives and documentation for the all of the data shown in Table A.11-2 are provided below.

The results shown in Table A.11-2 demonstrate that Metropolitan's service area is measurably improving its regional self-reliance. In the near-term (2025), the expected outcome for normal water year regional self-reliance increases by 747 TAF from the 2010 baseline; this represents an increase of about 23 percent of 2025 normal water year retail demands. In the long-term (2045), normal water year regional self-reliance is expected to increase by more than 1.2 MAF from the 2010 baseline; this represents an increase of 25 percent of 2045 normal water year retail demands.

Table A.11-2
Supplies Contributing to Regional Self-Reliance

Water Supplies Contributing to Regional Self-Reliance (Acre-Feet)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045
Water Use Efficiency	865,000	936,000	1,056,000	1,162,000	1,211,000	1,263,000	1,325,000	1,389,000
Water Recycling	316,000	348,000	436,000	550,000	613,000	687,000	698,000	706,000
Stormwater Capture and Use	100,000	103,000	110,000	80,000	82,000	82,000	82,000	82,000
Advanced Water Technologies	111,000	101,000	194,000	194,000	208,000	209,000	209,000	210,000
Conjunctive Use Projects	1,416,000	1,429,000	1,303,000	1,255,000	1,273,000	1,296,000	1,311,000	1,326,000
Local and Regional Water Supply and Storage Projects	252,000	224,000	261,000	257,000	257,000	258,000	258,000	258,000
Other Programs and Projects that Contribute to Regional Self-Reliance	875,000	1,250,000	1,200,000	1,250,000	1,250,000	1,250,000	1,250,000	1,250,000
Water Supplies Contributing to Regional Self-Reliance	**3,935,000**	**4,391,000**	**4,560,000**	**4,748,000**	**4,894,000**	**5,045,000**	**5,133,000**	**5,221,000**

Service Area Demands without Water Use Efficiency (Acre-Feet)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045
Service Area Demands without Water Use Efficiency Accounted For	5,493,000	5,499,000	5,219,000	4,925,000	5,032,000	5,156,000	5,261,000	5,374,000

Change in Regional Self Reliance (Acre-Feet)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045
Water Supplies Contributing to Regional Self-Reliance	3,935,000	4,391,000	4,560,000	4,748,000	4,894,000	5,045,000	5,133,000	5,221,000
Change in Supplies Contributing to Regional Self-Reliance	**NA**	**456,000**	**625,000**	**813,000**	**959,000**	**1,110,000**	**1,198,000**	**1,286,000**

Percent Change in Regional Self Reliance (As Percent of Demand w/out WUE)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045
Percent of Supplies Contributing to Regional Self-Reliance	71.6%	79.9%	87.4%	96.4%	97.3%	97.8%	97.6%	97.2%
Change in Percent of Supplies Contributing to Regional Self-Reliance	**NA**	**8.2%**	**15.7%**	**24.8%**	**25.6%**	**26.2%**	**25.9%**	**25.5%**

Water Use Efficiency

The water use efficiency information shown in Table A.11-2 is taken directly from Table A.11-1 above.

Water Recycling

The water recycling values shown in Table A.11-2 reflect the total recycled water production in Metropolitan's service area as described in Section 3.5 and Appendix 2 of Metropolitan's UWMP.

Stormwater Capture and Use

The stormwater capture and use data shown in Table A.11-2 include supplies from local surface water production as described in Section 1.4 and Appendix 2 of Metropolitan's UWMP.

These values do not include production from regional storage reservoirs; storage in these reservoirs is comprised of previously stored water from sources already reflected in Tables A.11-2 and A.11-3. These regional storage resources are generally used to provide additional regional self-reliance in dry years, which is not reflected in this normal water year analysis. The regional storage reservoirs and their yields are described in Section 3.6, Appendix 2 and Appendix 3 of Metropolitan's UWMP.

The stormwater capture and use values shown in Table A.11-2 also do not include stormwater capture that is used to recharge local groundwater basins. Stormwater capture for groundwater recharge supports production of groundwater in the region, and for the purposes of this analysis that production is already captured in Table A.11-2 under conjunctive use projects.

Advanced Water Technologies

The advanced water technologies data shown in Table A.11-2 include total groundwater recovery and seawater desalination production in Metropolitan's service area as described in Section 3.5 and Appendix 2 of Metropolitan's UWMP.

Conjunctive Use Projects

The values for conjunctive use projects shown in Table A.11-2 represent total groundwater production in the region as described in Section 1.4 and Appendix 2 of Metropolitan's UWMP.

The conjunctive use projects numbers shown in Table A.11-2 do not include production from regional groundwater conjunctive use programs. As described in the stormwater capture and use discussion above, these regional storage programs rely on previously stored water from sources already reflected in Tables A.11-2 and A.11-3 and are generally used to provide additional regional self-reliance in dry-years. The regional groundwater conjunctive use programs and their yields are described in Section 3.6 and Appendix 3.

Local and Regional Water Supply and Storage Programs

The data for local and regional water supply and storage programs shown in Table A.11-2 include supplies from the Los Angeles Aqueduct. This supply is described in Section 1.4 and Appendix 2 of Metropolitan's UWMP.

The local and regional supply numbers shown in Table A.11-2, except for "Other Programs and Projects that Contribute to Regional Self-Reliance" which is discussed below, were obtained from the following sources:

- Baseline (2010) values – Metropolitan's 2005 UWMP, Table 2-6: Metropolitan Regional Water Demand Average Year

- 2015 values – Metropolitan's 2010 UWMP, Table 2-8: Metropolitan Regional Water Demands Average Year
- 2020 values – Metropolitan's 2015 UWMP, Table 2-3: Metropolitan Regional Water Demands Average Year
- 2025-2045 values – Metropolitan's 2020 UWMP, Table 2-3: Metropolitan Regional Water Demands Normal Water Year

Other Programs and Projects that Contribute to Regional Self-Reliance

Other programs and projects that contribute to regional self-reliance shown in Table A.11-2 include current programs from the Colorado River Aqueduct. Colorado River supplies include Metropolitan's basic Colorado River apportionment, as well as supplies that result from existing and committed programs, including those from the IID-MWD Conservation Program, the implementation of the Quantification Settlement Agreement (QSA), related agreements, and the exchange agreement with SDCWA. Colorado River Aqueduct supplies and programs are described in Section 3.1 and Appendix 3 of Metropolitan's UWMP.

The values shown in Table A.11-2 for other programs and projects that contribute to regional self-reliance come from the following sources:

- Baseline (2010) values – Metropolitan's 2005 UWMP, Table A.3-7: Maximum Expected Colorado River Aqueduct Deliveries Year 2010 (Average Year)
- 2015 values – Metropolitan's 2010 UWMP, Table A.3-7: Maximum Expected Colorado River Aqueduct Deliveries Year 2015 (Average Year)
- 2020 values – Metropolitan's 2015 UWMP, Table A.3-7: Maximum Expected Colorado River Aqueduct Deliveries Year 2020 (Average Year)
- 2025-2045 values – Metropolitan's 2020 UWMP, Table A.3-7: Maximum Expected Colorado River Aqueduct Deliveries Years 2025, 2030, 2035, 2040, 2045 (Normal Water Year)

Reliance on Water Supplies from the Delta Watershed

In order for a covered action to demonstrate consistency with the Delta Plan, WR P1 subsection (c)(1)(C) requires that water suppliers report the expected outcomes for measurable reductions in supplies from the Delta watershed either as an amount or as a percentage. This analysis provides both calculations. Based on the methodology described in Guidebook Appendix C, and consistent with the approach of this analysis in not including projects under development, this accounting does not include any supplies from potential future covered actions. Table A.11-3 shows the expected outcomes for reliance on supplies from the Delta watershed for Metropolitan's service area. Supporting narratives and documentation for the all of the data shown in Table A.11-3 are provided below.

The results shown in Table A.11-3 demonstrate that Metropolitan's service area is measurably reducing its Delta reliance. In the near-term (2025), the expected outcome for normal water year reliance on supplies from the Delta watershed decreased by 301 TAF from the 2010 baseline; this represents a decrease of 3 percent of 2025 normal water year retail demands. In the long-term (2045), normal water year reliance on supplies from the Delta watershed decreased by 314 TAF from the 2010 baseline; this represents a decrease of just over 5 percent of 2045 normal water year retail demands.

Table A.11-3
Reliance on Water Supplies from the Delta Watershed

Water Supplies from the Delta Watershed (Acre-Feet)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045
CVP/SWP Contract Supplies	1,472,000	1,029,000	984,000	1,133,000	1,130,000	1,128,000	1,126,000	1,126,000
Delta/Delta Tributary Diversions	-	-	-	-	-	-	-	-
Transfers and Exchanges of Supplies from the Delta Watershed	20,000	44,000	91,000	58,000	52,000	52,000	52,000	52,000
Other Water Supplies from the Delta Watershed	-	-	-	-	-	-	-	-
Total Water Supplies from the Delta Watershed	**1,492,000**	**1,073,000**	**1,075,000**	**1,191,000**	**1,182,000**	**1,180,000**	**1,178,000**	**1,178,000**

Service Area Demands without Water Use Efficiency (Acre-Feet)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045
Service Area Demands without Water Use Efficiency Accounted For	5,493,000	5,499,000	5,219,000	4,925,000	5,032,000	5,156,000	5,261,000	5,374,000

Change in Supplies from the Delta Watershed (Acre-Feet)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045
Water Supplies from the Delta Watershed	1,492,000	1,073,000	1,075,000	1,191,000	1,182,000	1,180,000	1,178,000	1,178,000
Change in Supplies from the Delta Watershed	**NA**	**(419,000)**	**(417,000)**	**(301,000)**	**(310,000)**	**(312,000)**	**(314,000)**	**(314,000)**

Percent Change in Supplies from the Delta Watershed (As a Percent of Demand w/out WUE)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045
Percent of Supplies from the Delta Watershed	27.2%	19.5%	20.6%	24.2%	23.5%	22.9%	22.4%	21.9%
Change in Percent of Supplies from the Delta Watershed	**NA**	**-7.6%**	**-6.6%**	**-3.0%**	**-3.7%**	**-4.3%**	**-4.8%**	**-5.2%**

CVP/SWP Contract Supplies

The CVP/SWP contract supplies shown in Table A.11-3 include Metropolitan's SWP Table A and Article 21 supplies. These supplies are described in Section 3.2 and Appendix 3 of Metropolitan's UWMP.

The values shown in Table A.11-3 do not include Desert Water Agency/Coachella Valley Water District SWP contract supplies. These supplies are exchanged with Desert Water Agency and Coachella Valley Water District for an equal amount of Colorado River water, which is reflected in the Colorado River Aqueduct supplies shown in Table A.11-2. In addition, Desert Water Agency and Coachella Valley Water District should include their SWP contract supplies in their own accountings of reduced reliance. Additional information on these exchange agreements can be found in Section 3.2 and Appendix 3 of Metropolitan's UWMP.

These values also do not include supplies from San Luis Carryover storage or Central Valley storage programs because storage in these programs comprises previously stored water from sources already reflected in Table A.11-3. These storage programs are generally used to provide additional regional self-reliance in dry years, which is not reflected in this normal water year analysis. The Central Valley storage projects and their yields are described in Section 3.3, and Appendix 3. San Luis Carryover storage is described in Section 3.2 and Appendix 3.

Transfers and Exchanges of Supplies from the Delta Watershed

The transfers and exchanges of supplies from the Delta watershed shown in Table A.11-3 include supplies from the San Bernardino Valley MWD Program, Yuba River Accord Purchase Program, the San Gabriel Valley MWD Program, Irvine Ranch Water District Storage and Exchange Program, and other generic SWP and Central Valley transfers and exchanges. These programs are described in Section 3.2 and Appendix 3 of Metropolitan's UWMP.

Supplies from the Delta Watershed shown in Table A.11-3 are from the following sources:

- Baseline (2010) values – Metropolitan's 2005 UWMP, Table A.3-7: California Aqueduct Program Capabilities Year 2010 (Average Year)

- 2015 values – Metropolitan's 2010 UWMP, Table A.3-7: California Aqueduct Program Capabilities Year 2015 (Average Year)
- 2020 values – Metropolitan's 2015 UWMP, Table A.3-7: California Aqueduct Program Capabilities Year 2020 (Average Year)
- 2025-2045 values – Metropolitan's 2020 UWMP, Table A.3-7: California Aqueduct Program Capabilities Years 2025, 2030, 2035, 2040, 2045 (Normal Water Year)

A.11.4 UWMP Implementation

In addition to the analysis and documentation described above, WR P1 subsection (c)(1)(B) requires that all programs and projects included in the UWMP that are locally cost-effective and technically feasible, which reduce reliance on the Delta, are identified, evaluated, and implemented consistent with the implementation schedule. WR P1 (c)(1)(B) states that:

> *(B) Identified, evaluated, and commenced implementation, consistent with the implementation schedule set forth in the Plan, of all programs and projects included in the Plan that are locally cost effective and technically feasible which reduce reliance on the Delta*[.]

In accordance with Water Code Section 10631(f), water suppliers must already include in their UWMP a detailed description of expected future projects and programs that they may implement to increase the amount of water supply available to them in normal and single-dry water years and for a period of drought lasting five consecutive years. The UWMP description must also identify specific projects, include a description of the increase in water supply that is expected to be available from each project, and include an estimate regarding the implementation timeline for each project or program.

Section 3 of Metropolitan's UWMP summarizes the implementation plan and continued progress in developing a diversified water portfolio to meet the region's water needs.

Water Use Efficiency

The water use efficiency numbers used in this analysis include the total water use efficiency savings (conservation) for the service area, including savings from active, code-based, price-effect and pre-1990 savings. The specific water use efficiency programs and their implementation are described in Section 3.4 of Metropolitan's UWMP.

Water Recycling

The water recycling values used in this analysis reflect the total recycled water production in Metropolitan's service area. Water recycling programs and implementation are discussed in Section 3.5 of Metropolitan's UWMP. In addition, individual project-level details are provided in Appendix 5.

Stormwater Capture and Use

The stormwater capture and use data used in this analysis include supplies from local surface water production. Local surface water production and its implementation are discussed in Appendix 2 of Metropolitan's UWMP.

Advanced Water Technologies

The advanced water technologies data used in this analysis include total groundwater recovery and seawater desalination production in Metropolitan's service. Groundwater recovery and seawater desalination programs and implementation are described in Section 3.5 of Metropolitan's UWMP. In addition, individual project-level details are provided in Appendix 5.

Conjunctive Use Projects

The values for conjunctive use projects used in this analysis represent total groundwater production in the region. Groundwater production and its implementation are discussed in Appendix 2 of Metropolitan's UWMP.

Local and Regional Water Supply and Storage Programs

The data for local and regional water supply and storage programs shown this analysis include supplies from the Los Angeles Aqueduct. This program and its implementation are described in Appendix 2 of Metropolitan's UWMP.

Other Programs and Projects that Contribute to Regional Self-Reliance

Other programs and projects that contribute to regional self-reliance used in this analysis include current programs from the Colorado River Aqueduct. Colorado River supplies include Metropolitan's basic Colorado River apportionment, as well as supplies that result from existing and committed programs, including those from the IID-MWD Conservation Program, the implementation of the Quantification Settlement Agreement (QSA), related agreements, and the exchange agreement with SDCWA. Colorado River Aqueduct programs and their implementation are described in Section 3.1 and Appendix 3 of Metropolitan's UWMP.

CVP/SWP Contract Supplies

The CVP/SWP contract supplies shown in this analysis include Metropolitan's SWP Table A and Article 21 supplies. These supplies and their implementation are described in Section 3.2 and Appendix 3 of Metropolitan's UWMP.

Transfers and Exchanges of Supplies from the Delta Watershed

The transfers and exchanges of supplies from the Delta watershed shown in this analysis include supplies from the San Bernardino Valley MWD Program, Yuba River Accord Purchase Program, the San Gabriel Valley MWD Program, Irvine Ranch Water District Storage and Exchange Program, and other generic SWP and Central Valley transfers and exchanges. These programs and their implementation are described in Section 3.2 and Appendix 3 of Metropolitan's UWMP.

A.11.5 2015 UWMP Appendix 11

The information contained in this Appendix 11 is also intended to be a new Appendix 11 attached to Metropolitan's 2015 UWMP consistent with WR P1 subsection (c)(1)(C) (Cal. Code Regs. tit. 23, § 5003). Metropolitan provided notice of the availability of the draft 2020 UWMP (including this Appendix 11 which will also be a new Appendix 11 to its 2015 UWMP) and WSCP and the public hearing to consider adoption of both plans and Appendix 11 to the 2015 UWMP in accordance with CWC Sections 10621(b) and 10642, and Government Code Section 6066, and Chapter 17.5 (starting with Section 7290) of Division 7 of Title 1 of the Government Code. The public review drafts of the 2020 UWMP, Appendix 11 to the 2015 UWMP, and the WSCP were posted prominently on Metropolitan's website, mwdh2o.com, starting February 1, 2021, more than 60 days in advance of the public hearing on April 12, 2021. The notice of availability of the documents was sent to Metropolitan's member agencies, as well as cities and counties in Metropolitan's service area. In addition, a public notice advertising the public hearing in English and Spanish was published in 12 Southern California newspapers. The notification in English language newspapers was published on February 1 and 8, 2021. The notification was published on January 28-30, 2021 and February 1, 4-6, and 8, 2021 in Spanish language newspapers, satisfying the requirement for non-English language notification. Copies of: (1) the notification letter sent to the member agencies, cities and counties in Metropolitan's service area, and (2) the notice published in the newspapers are included in the 2020 UWMP Section 5. Thus, this Appendix 11 to Metropolitan's 2020 UWMP, which was adopted with Metropolitan's 2020 UWMP, will also be recognized and treated as Appendix 11 to Metropolitan's 2015 UWMP.

Metropolitan held the public hearing for the draft 2020 UWMP, draft Appendix 11 to the 2015 UWMP, and draft WSCP on April 12, 2021, at the Board's Water Planning and Stewardship Committee meeting, held online due to COVID-19 concerns. On May 11, 2021, Metropolitan's Board determined that the 2020 UWMP and the WSCP are consistent with the MWD Act and accurately represent the water resources plan for Metropolitan's service area. In addition, Metropolitan's Board determined that Appendix 11 to both the 2015 UWMP and the 2020 UWMP includes all of the elements described in Delta Plan Policy WR P1, Reduce Reliance on the Delta Through Improved Regional Water Self-Reliance (Cal. Code Regs. tit. 23, § 5003), which need to be included in a water supplier's UWMP to support a certification of consistency for a future covered action. As stated in Resolutions XXXX, XXXX, and XXXX, the Board adopted the 2020 UWMP, Appendix 11 to the 2015 UWMP, and the WSCP and authorized their submittal to the State of California. Copies of Resolutions XXXX, XXXX, and XXXX are included in the 2020 UWMP Section 5, and Resolution XXXX for the WSCP is attached to the WSCP as Attachment C. [NC1]

Appendix 11

Quantifying Regional Self-Reliance and Reduced Reliance on Water Supplies from the Delta

Appendix 11
METROPOLITAN'S
REDUCED DELTA RELIANCE REPORTING

A.11.1 Background

Under the Sacramento-San Joaquin Delta Reform Act of 2009, state and local public agencies proposing a covered action in the Delta,[1] prior to initiating the implementation of that action, must prepare a written certification of consistency with detailed findings as to whether the covered action is consistent with applicable Delta Plan policies and submit that certification to the Delta Stewardship Council.[2] Anyone may appeal a certification of consistency, and if the Delta Stewardship Council grants the appeal, the covered action may not be implemented until the agency proposing the covered action submits a revised certification of consistency, and either no appeal is filed, or the Delta Stewardship Council denies the subsequent appeal.[3]

An urban water supplier that anticipates participating in or receiving water from a proposed covered action such as a multi-year water transfer, conveyance facility, or new diversion that involves transferring water through, exporting water from, or using water in the Delta should provide information in their 2015 and 2020 Urban Water Management Plans (UWMPs) that can then be used in the covered action process to demonstrate consistency with Delta Plan Policy WR P1, Reduce Reliance on the Delta Through Improved Regional Water Self-Reliance (WR P1).[4]

WR P1 details what is needed for a covered action to demonstrate consistency with reduced reliance on the Delta and improved regional self-reliance. WR P1 subsection (a) states that:

(a) Water shall not be exported from, transferred through, or used in the Delta if all of the following apply:

> *(1) One or more water suppliers that would receive water as a result of the export, transfer, or use have failed to adequately contribute to reduced reliance on the Delta and improved regional self-reliance consistent with all of the requirements listed in paragraph (1) of subsection (c);*
>
> *(2) That failure has significantly caused the need for the export, transfer, or use; and*
>
> *(3) The export, transfer, or use would have a significant adverse environmental impact in the Delta.*

WR P1 subsection (c)(1) further defines what adequately contributing to reduced reliance on the Delta means in terms of (a)(1) above.

(c)(1) Water suppliers that have done all the following are contributing to reduced reliance on the Delta and improved regional self-reliance and are therefore consistent with this policy:

> *(A) Completed a current Urban or Agricultural Water Management Plan (Plan) which has been reviewed by the California Department of Water Resources for compliance with the applicable requirements of Water Code Division 6, Parts 2.55, 2.6, and 2.8;*

[1] Water Code, § 85057.5; Cal. Code Regs. tit. 23, § 5001.
[2] Water Code, § 85225; Delta Plan, App. D.
[3] Water Code, §§ 85225.10-85225.25; Delta Plan, App. D.
[4] Cal. Code Regs., tit. 23, § 5003.

(B) Identified, evaluated, and commenced implementation, consistent with the implementation schedule set forth in the Plan, of all programs and projects included in the Plan that are locally cost effective and technically feasible which reduce reliance on the Delta; and

(C) Included in the Plan, commencing in 2015, the expected outcome for measurable reduction in Delta reliance and improvement in regional self-reliance. The expected outcome for measurable reduction in Delta reliance and improvement in regional self-reliance shall be reported in the Plan as the reduction in the amount of water used, or in the percentage of water used, from the Delta watershed. For the purposes of reporting, water efficiency is considered a new source of water supply, consistent with Water Code section 1011(a).

The analysis and documentation provided below include all of the elements described in WR P1(c)(1) that need to be included in a water supplier's UWMP to support a certification of consistency for a future covered action.

A.11.2 Summary of Expected Outcomes for Reduced Reliance on the Delta

As stated in WR P1 =(c)(1)(C), the policy requires that, commencing in 2015, UWMPs include expected outcomes for measurable reduction in Delta reliance and improved regional self-reliance. WR P1 further states that those outcomes shall be reported in the UWMP as the reduction in the amount of water used, or in the percentage of water used, from the Delta.

The expected outcomes for Metropolitan's Delta reliance and regional self-reliance were developed using the approach and guidance described in Appendix C of DWR's Urban Water Management Plan Guidebook 2020 (Guidebook Appendix C) issued in December 2020. The data used in this analysis represent the total regional efforts of Metropolitan and its member agencies and subagencies and were developed in conjunction with Metropolitan's member agencies as part of the UWMP coordination process as described in Section 5 of Metropolitan's UWMP.

The following provides a summary of the near-term (2025) and long-term (2045) expected outcomes for Metropolitan's Delta reliance and regional self-reliance. The results show that as a region, Metropolitan and its member agencies are measurably reducing reliance on the Delta and improving regional self-reliance, both as an amount of water used and as a percentage of water used.

Expected Outcomes for Regional Self-Reliance

- Near-term (2025) – Normal water year regional self-reliance is expected to increase by 583 TAF from the 2010 baseline; this represents an increase of about 26 percent of 2025 normal water year retail demands (Table A.11-2).
- Long-term (2045) – Normal water year regional self-reliance is expected to increase by more than 1 MAF from the 2010 baseline, this represents an increase of about 26 percent of 2045 normal water year retail demands (Table A.11-2).

Expected Outcomes for Reduced Reliance on Supplies from the Delta Watershed

- Near-term (2025) – Normal water year reliance on supplies from the Delta watershed decreased by 375 TAF from the 2010 baseline, this represents a decrease of about 3 percent of 2025 normal water year retail demands (Table A.11-3).
- Long-term (2045) – Normal water year reliance on supplies from the Delta watershed

decreased by 490 TAF from the 2010 baseline, this represents a decrease of about 7.5 percent of 2045 normal water year retail demands (Table A.11-3).

A11.3 Demonstration of Reduced Reliance on the Delta

The methodology used to determine Metropolitan's reduced Delta reliance and improved regional self-reliance is consistent with the approach detailed in DWR's UWMP Guidebook Appendix C, including the use of narrative justifications for the accounting of supplies and the documentation of specific data sources. Some of the key assumptions underlying Metropolitan's demonstration of reduced reliance include:

- All data were obtained from the current 2020 UWMP or previously adopted UWMPs and represent average or normal water year conditions.
- All analyses were conducted at the service area level, and all data reflect the total contributions of Metropolitan and its member agencies and subagencies.
- No projects or programs that are described in the UWMPs as "Projects Under Development" were included in the accounting of supplies.

Baseline and Expected Outcomes

In order to calculate the expected outcomes for measurable reduction in Delta reliance and improved regional self-reliance, a baseline is needed to compare against. This analysis uses a normal water year representation of 2010 as the baseline, which is consistent with the approach described in the Guidebook Appendix C. Data for the 2010 baseline were taken from Metropolitan's 2005 UWMP as the UWMPs generally do not provide normal water year data for the year that they are adopted (i.e., 2005 UWMP forecasts begin in 2010, 2010 UWMP forecasts begin in 2015, and so on).

Consistent with the 2010 baseline data approach, the expected outcomes for reduced Delta reliance and improved regional self-reliance for 2015 and 2020 were taken from Metropolitan's 2010 and 2015 UWMPs respectively. Expected outcomes for 2025-2045 are from the current 2020 UWMP. Documentation of the specific data sources and assumptions are included in the discussions below.

Service Area Demands without Water Use Efficiency

In alignment with the Guidebook Appendix C, this analysis uses normal water year demands, rather than normal water year supplies to calculate expected outcomes in terms of the percentage of water used. Using normal water year demands serves as a proxy for the amount of supplies that would be used in a normal water year, which helps alleviate issues associated with how supply capability is presented to fulfill requirements of the UWMP Act versus how supplies might be accounted for to demonstrate consistency with WR P1.

Because WR P1 considers water use efficiency savings a source of water supply, water suppliers such as Metropolitan that explicitly calculate and report water use efficiency savings in their UWMP will need to make an adjustment to properly reflect normal water year demands in the calculation of reduced reliance. As explained in the Guidebook Appendix C, water use efficiency savings must be added back to the normal year demands to represent demands without water use efficiency savings accounted for; otherwise the effect of water use efficiency savings on regional self-reliance would be overestimated. Table A.11-1 shows the results of this adjustment for Metropolitan. Supporting narratives and documentation for the all of the data shown in Table A.11-1 are provided below.

Table A.11-1
Demands without Water Use Efficiency Accounted For DRAFT

Total Service Area Water Demands (Acre-Feet)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045
Service Area Demands with Water Use Efficiency Accounted For	4,628,000	4,563,000	4,163,000	3,542,000	3,610,000	3,677,000	3,718,000	3,761,000
Reported Water Use Efficiency	865,000	936,000	1,056,000	1,056,000	1,127,000	1,200,000	1,263,000	1,339,000
Service Area Demands without Water Use Efficiency Accounted For	**5,493,000**	**5,499,000**	**5,219,000**	**4,598,000**	**4,737,000**	**4,877,000**	**4,981,000**	**5,100,000**

Service Area Demands without Water Use Efficiency

The service area demands shown in Table A.11-1 represent the total retail water demands for Metropolitan's service area and include municipal and industrial demands, agricultural demands, seawater barrier demands, and storage replenishment demands. These demand types and the modeling methodologies used to calculate them are described in Section 2.2 and Appendix 1 of Metropolitan's UWMP.

Water Use Efficiency

The water use efficiency numbers shown in Table A.11-1 represent the total water use efficiency savings (conservation) for Metropolitan's region, including savings from active, code-based, price-effect and pre-1990 sources. These sources of water use efficiency and the methodologies used to calculate them are described in Section 2.2, Section 3.4, Section 3.7 and Appendix 1 of Metropolitan's UWMP.

The demand and water use efficiency data shown in Table A.11-1 were collected from the following sources:

- Baseline (2010) values – Metropolitan's 2005 UWMP, Table 2-6: Metropolitan Regional Water Demand Average Year
- 2015 values – Metropolitan's 2010 UWMP, Table 2-8: Metropolitan Regional Water Demands Average Year
- 2020 values – Metropolitan's 2015 UWMP, Table 2-3: Metropolitan Regional Water Demands Average Year
- 2025-2045 values – Metropolitan's 2020 UWMP, Table 2-3: Metropolitan Regional Water Demands Normal Water Year

Supplies Contributing to Regional Self-Reliance

For a covered action to demonstrate consistency with the Delta Plan, WR P1 subsection (c)(1)(C) states that water suppliers must report the expected outcomes for measurable improvement in regional self-reliance. Table A.11-2 shows expected outcomes for supplies contributing to regional self-reliance both in amount and as a percentage. The numbers shown in Table A.11-2 represent efforts to improve regional self-reliance for Metropolitan's entire service area and include the total contributions of Metropolitan and its member agencies and subagencies. Supporting narratives and documentation for the all of the data shown in Table A.11-2 are provided below.

The results shown in Table A.11-2 demonstrate that Metropolitan's service area is measurably improving its regional self-reliance. In the near-term (2025), the expected outcome for normal water year regional self-reliance increases by 583 TAF from the 2010 baseline; this represents an increase of about 26 percent of 2025 normal water year retail demands. In the long-term (2045), normal water year regional self-reliance is expected to increase by more than 1 MAF from the

2010 baseline; this represents an increase of about 26percent of 2045 normal water year retail demands.

Table A.11-2
Supplies Contributing to Regional Self-Reliance DRAFT

Water Supplies Contributing to Regional Self-Reliance (Acre-Feet)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045
Water Use Efficiency	865,000	936,000	1,056,000	1,056,000	1,127,000	1,200,000	1,263,000	1,339,000
Water Recycling	316,000	348,000	436,000	497,000	555,000	569,000	581,000	592,000
Stormwater Capture and Use	100,000	103,000	110,000	99,000	102,000	102,000	102,000	102,000
Advanced Water Technologies	111,000	101,000	194,000	198,000	216,000	219,000	220,000	221,000
Conjunctive Use Projects	1,416,000	1,429,000	1,303,000	1,216,000	1,222,000	1,257,000	1,261,000	1,268,000
Local and Regional Water Supply and Storage Projects	422,000	414,000	535,000	540,000	540,000	540,000	540,000	540,000
Other Programs and Projects that Contribute to Regional Self-Reliance	711,000	1,054,000	909,000	918,000	918,000	918,000	918,000	918,000
Water Supplies Contributing to Regional Self-Reliance	**3,941,000**	**4,385,000**	**4,543,000**	**4,524,000**	**4,680,000**	**4,805,000**	**4,885,000**	**4,980,000**

Service Area Demands without Water Use Efficiency (Acre-Feet)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045
Service Area Demands without Water Use Efficiency Accounted For	5,493,000	5,499,000	5,219,000	4,598,000	4,737,000	4,877,000	4,981,000	5,100,000

Change in Regional Self Reliance (Acre-Feet)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045
Water Supplies Contributing to Regional Self-Reliance	3,941,000	4,385,000	4,543,000	4,524,000	4,680,000	4,805,000	4,885,000	4,980,000
Change in Supplies Contributing to Regional Self-Reliance	**NA**	**444,000**	**602,000**	**583,000**	**739,000**	**864,000**	**944,000**	**1,039,000**

Percent Change in Regional Self Reliance (As Percent of Demand w/out WUE)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045
Percent of Supplies Contributing to Regional Self-Reliance	71.7%	79.7%	87.0%	98.4%	98.8%	98.5%	98.1%	97.6%
Change in Percent of Supplies Contributing to Regional Self-Reliance	**NA**	**8.0%**	**15.3%**	**26.6%**	**27.1%**	**26.8%**	**26.3%**	**25.9%**

Water Use Efficiency

The water use efficiency information shown in Table A.11-2 is taken directly from Table A.11-1 above.

Water Recycling

The water recycling values shown in Table A.11-2 reflect the total recycled water production in Metropolitan's service area as described in Section 3.5 and Appendix 2 of Metropolitan's UWMP.

Stormwater Capture and Use

The stormwater capture and use data shown in Table A.11-2 include supplies from local surface water production as described in Section 1.4 and Appendix 2 of Metropolitan's UWMP.

These values do not include production from regional storage reservoirs; storage in these reservoirs is comprised of previously stored water from sources already reflected in Tables A.11-2 and A.11-3. These regional storage resources are generally used to provide additional regional self-reliance in dry years, which is not reflected in this normal water year analysis. The regional storage reservoirs and their yields are described in Section 3.6, Appendix 2 and Appendix 3 of Metropolitan's UWMP.

The stormwater capture and use values shown in Table A.11-2 also do not include stormwater capture that is used to recharge local groundwater basins. Stormwater capture for groundwater recharge supports production of groundwater in the region, and for the purposes of this analysis that production is already captured in Table A.11-2 under conjunctive use projects.

Advanced Water Technologies

The advanced water technologies data shown in Table A.11-2 include total groundwater recovery and seawater desalination production in Metropolitan's service area as described in Section 3.5 and Appendix 2 of Metropolitan's UWMP.

Conjunctive Use Projects

The values for conjunctive use projects shown in Table A.11-2 represent total groundwater production in the region as described in Section 1.4 and Appendix 2 of Metropolitan's UWMP.

The conjunctive use projects numbers shown in Table A.11-2 do not include production from regional groundwater conjunctive use programs. As described in the stormwater capture and use discussion above, these regional storage programs rely on previously stored water from sources already reflected in Tables A.11-2 and A.11-3 and are generally used to provide additional regional self-reliance in dry-years. The regional groundwater conjunctive use programs and their yields are described in Section 3.6 and Appendix 3.

Local and Regional Water Supply and Storage Programs

The data for local and regional water supply and storage programs shown in Table A.11-2 include supplies from the Los Angeles Aqueduct, IID-SDCWA Transfer and Exchange, All-American Canal Lining Project and the Coachella Canal Lining Project. These supplies are described in Section 1.4, Appendix 2 and Appendix 3 of Metropolitan's UWMP.

The local and regional supply numbers shown in Table A.11-2, except for "Other Programs and Projects that Contribute to Regional Self-Reliance" which is discussed below, were obtained from the following sources:

- Baseline (2010) values – Metropolitan's 2005 UWMP, Table 2-6: Metropolitan Regional Water Demand Average Year
- 2015 values – Metropolitan's 2010 UWMP, Table 2-8: Metropolitan Regional Water Demands Average Year
- 2020 values – Metropolitan's 2015 UWMP, Table 2-3: Metropolitan Regional Water Demands Average Year
- 2025-2045 values – Metropolitan's 2020 UWMP, Table 2-3: Metropolitan Regional Water Demands Normal Water Year

Other Programs and Projects that Contribute to Regional Self-Reliance

Other programs and projects that contribute to regional self-reliance shown in Table A.11-2 include current programs from the Colorado River Aqueduct. Colorado River Aqueduct supplies and programs are described in Section 3.1 and Appendix 3 of Metropolitan's UWMP.

The other programs and projects shown in Table A.11-2 do not include supplies from the IID-SDCWA Transfer and Exchange, All-American Canal Lining Project or the Coachella Canal Lining Project. These supply programs are already reflected in Table A.11-2 under local and regional water supply and storage programs.

The values shown in Table A.11-2 for other programs and projects that contribute to regional self-reliance come from the following sources:

- Baseline (2010) values – Metropolitan's 2005 UWMP, Table A.3-7: Colorado River Aqueduct Program Capabilities Year 2010 (Average Year)

- 2015 values – Metropolitan's 2010 UWMP, Table A.3-7: Colorado River Aqueduct Program Capabilities Year 2015 (Average Year)
- 2020 values – Metropolitan's 2015 UWMP, Table A.3-7: Colorado River Aqueduct Program Capabilities Year 2020 (Average Year)
- 2025-2045 values – Metropolitan's 2020 UWMP, Table A.3-7: Colorado River Aqueduct Program Capabilities Years 2025, 2030, 2035, 2040, 2045 (Normal Water Year)

Reliance on Water Supplies from the Delta Watershed

In order for a covered action to demonstrate consistency with the Delta Plan, WR P1 subsection (c)(1)(C) requires that water suppliers report the expected outcomes for measurable reductions in supplies from the Delta watershed either as an amount or as a percentage. This analysis provides both calculations. Based on the methodology described in Guidebook Appendix C, and consistent with the approach of this analysis in not including projects under development, this accounting does not include any supplies from potential future covered actions. Table A.11-3 shows the expected outcomes for reliance on supplies from the Delta watershed for Metropolitan's service area. Supporting narratives and documentation for the all of the data shown in Table A.11-3 are provided below.

The results shown in Table A.11-3 demonstrate that Metropolitan's service area is measurably reducing its Delta reliance. In the near-term (2025), the expected outcome for normal water year reliance on supplies from the Delta watershed decreased by 375 TAF from the 2010 baseline; this represents a decrease of about 3 percent of 2025 normal water year retail demands. In the long-term (2045), normal water year reliance on supplies from the Delta watershed decreased by 490 TAF from the 2010 baseline; this represents a decrease of about 7.5 percent of 2045 normal water year retail demands.

Table A.11-3
Reliance on Water Supplies from the Delta Watershed DRAFT

Water Supplies from the Delta Watershed (Acre-Feet)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045
CVP/SWP Contract Supplies	1,472,000	1,029,000	984,000	1,108,670	1,108,670	1,108,670	993,980	993,980
Delta/Delta Tributary Diversions	-	-	-	-	-	-	-	-
Transfers and Exchanges of Supplies from the Delta Watershed	20,000	44,000	91,000	8,000	8,000	8,000	8,000	8,000
Other Water Supplies from the Delta Watershed	-	-	-	-	-	-	-	-
Total Water Supplies from the Delta Watershed	**1,492,000**	**1,073,000**	**1,075,000**	**1,116,670**	**1,116,670**	**1,116,670**	**1,001,980**	**1,001,980**

Service Area Demands without Water Use Efficiency (Acre-Feet)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045
Service Area Demands without Water Use Efficiency Accounted For	5,493,000	5,499,000	5,219,000	4,598,000	4,737,000	4,877,000	4,981,000	5,100,000

Change in Supplies from the Delta Watershed (Acre-Feet)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045
Water Supplies from the Delta Watershed	1,492,000	1,073,000	1,075,000	1,116,670	1,116,670	1,116,670	1,001,980	1,001,980
Change in Supplies from the Delta Watershed	**NA**	**(419,000)**	**(417,000)**	**(375,330)**	**(375,330)**	**(375,330)**	**(490,020)**	**(490,020)**

Percent Change in Supplies from the Delta Watershed (As a Percent of Demand w/out WUE)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045
Percent of Supplies from the Delta Watershed	27.2%	19.5%	20.6%	24.3%	23.6%	22.9%	20.1%	19.6%
Change in Percent of Supplies from the Delta Watershed	**NA**	**-7.6%**	**-6.6%**	**-2.9%**	**-3.6%**	**-4.3%**	**-7.0%**	**-7.5%**

CVP/SWP Contract Supplies

The CVP/SWP contract supplies shown in Table A.11-3 include Metropolitan's SWP Table A and Article 21 supplies. These supplies are described in Section 3.2 and Appendix 3 of Metropolitan's UWMP.

The values shown in Table A.11-3 do not include Desert Water Agency/Coachella Valley Water District SWP contract supplies. These supplies are exchanged with Desert Water Agency and Coachella Valley Water District for an equal amount of Colorado River water, which is reflected in the Colorado River Aqueduct supplies shown in Table A.11-2. In addition, Desert Water Agency and Coachella Valley Water District should include their SWP contract supplies in their own accountings of reduced reliance. Additional information on these exchange agreements can be found in Section 3.2 and Appendix 3 of Metropolitan's UWMP.

These values also do not include supplies from San Luis Carryover storage or Central Valley storage programs because storage in these programs comprises previously stored water from sources already reflected in Table A.11-3. These storage programs are generally used to provide additional regional self-reliance in dry years, which is not reflected in this normal water year analysis. The Central Valley storage projects and their yields are described in Section 3.3, and Appendix 3. San Luis Carryover storage is described in Section 3.2 and Appendix 3.

Transfers and Exchanges of Supplies from the Delta Watershed

The transfers and exchanges of supplies from the Delta watershed shown in Table A.11-3 include supplies from the San Bernardino Valley MWD Program, Yuba River Accord Purchase Program, the San Gabriel Valley MWD Program, and other generic SWP and Central Valley transfers and exchanges. These programs are described in Section 3.2 and Appendix 3 of Metropolitan's UWMP.

Supplies from the Delta Watershed shown in Table A.11-3 are from the following sources.

- Baseline (2010) values – Metropolitan's 2005 UWMP, Table A.3-7: California Aqueduct Program Capabilities Year 2010 (Average Year)
- 2015 values – Metropolitan's 2010 UWMP, Table A.3-7: California Aqueduct Program Capabilities Year 2015 (Average Year)
- 2020 values – Metropolitan's 2015 UWMP, Table A.3-7: California Aqueduct Program Capabilities Year 2020 (Average Year)
- 2025-2045 values – Metropolitan's 2020 UWMP, Table A.3-7: California Aqueduct Program Capabilities Years 2025, 2030, 2035, 2040, 2045 (Normal Water Year)

A.11.4 UWMP Implementation

In addition to the analysis and documentation described above, WR P1 subsection (c)(1)(B) requires that all programs and projects included in the UWMP that are locally cost-effective and technically feasible, which reduce reliance on the Delta, are identified, evaluated, and implemented consistent with the implementation schedule. WR P1 (c)(1)(B) states that:

> *(B) Identified, evaluated, and commenced implementation, consistent with the implementation schedule set forth in the Plan, of all programs and projects included in the Plan that are locally cost effective and technically feasible which reduce reliance on the Delta*[.]

In accordance with Water Code Section 10631(f), water suppliers must already include in their UWMP a detailed description of expected future projects and programs that they may implement to increase the amount of water supply available to them in normal and single-dry water years and for a period of drought lasting five consecutive years. The UWMP description must also identify specific projects, include a description of the increase in water supply that is expected to be available from each project, and include an estimate regarding the implementation timeline for each project or program.

Section 3 of Metropolitan's UWMP summarizes the implementation plan and continued progress in developing a diversified water portfolio to meet the region's water needs.

Water Use Efficiency

The water use efficiency numbers used in this analysis include the total water use efficiency savings (conservation) for the service area, including savings from active, code-based, price-effect and pre-1990 savings. The specific water use efficiency programs and their implementation are described in Section 3.4 of Metropolitan's UWMP.

Water Recycling

The water recycling values used in this analysis reflect the total recycled water production in Metropolitan's service area. Water recycling programs and implementation are discussed in Section 3.5 of Metropolitan's UWMP. In addition, individual project-level details are provided in Appendix 5.

Stormwater Capture and Use

The stormwater capture and use data used in this analysis include supplies from local surface water production. Local surface water production and its implementation are discussed in Appendix 2 of Metropolitan's UWMP.

Advanced Water Technologies

The advanced water technologies data used in this analysis include total groundwater recovery and seawater desalination production in Metropolitan's service. Groundwater recovery and seawater desalination programs and implementation are described in Section 3.5 of Metropolitan's UWMP. In addition, individual project-level details are provided in Appendix 5.

Conjunctive Use Projects

The values for conjunctive use projects used in this analysis represent total groundwater production in the region. Groundwater production and its implementation are discussed in Appendix 2 of Metropolitan's UWMP.

Local and Regional Water Supply and Storage Programs

The data for local and regional water supply and storage programs shown this analysis include supplies from the Los Angeles Aqueduct, IID-SDCWA Transfer and Exchange, All-American Canal Lining Project and the Coachella Canal Lining Project. These programs and their implementation are described in Appendix 2 and Appendix 3 of Metropolitan's UWMP.

Other Programs and Projects that Contribute to Regional Self-Reliance

Other programs and projects that contribute to regional self-reliance used in this analysis include current programs from the Colorado River Aqueduct. Colorado River Aqueduct programs and their implementation are described in Section 3.1 and Appendix 3 of Metropolitan's UWMP.

CVP/SWP Contract Supplies

The CVP/SWP contract supplies shown in this analysis include Metropolitan's SWP Table A and Article 21 supplies. These supplies and their implementation are described in Section 3.2 and Appendix 3 of Metropolitan's UWMP.

Transfers and Exchanges of Supplies from the Delta Watershed

The transfers and exchanges of supplies from the Delta watershed shown in this analysis include supplies from the San Bernardino Valley MWD Program, Yuba River Accord Purchase Program,

the San Gabriel Valley MWD Program and other generic SWP and Central Valley transfers and exchanges. These programs and their implementation are described in Section 3.2 and Appendix 3 of Metropolitan's UWMP.

A.11.5 2015 UWMP Appendix 11

The information contained in this Appendix 11 is also intended to be a new Appendix 11 attached to Metropolitan's 2015 UWMP consistent with WR P1 subsection (c)(1)(C) (Cal. Code Regs. tit. 23, § 5003). Metropolitan provided notice of the availability of the draft 2020 UWMP (including this Appendix 11 which will also be a new Appendix 11 to its 2015 UWMP) and 2020 WSCP and the public hearing to consider adoption of both plans in accordance with CWC Sections 10621(b) and 10642, and Government Code Section 6066, and Chapter 17.5 (starting with Section 7290) of Division 7 of Title 1 of the Government Code. The public review drafts of the 2020 UWMP, Appendix 11 to the 2015 UWMP, and the 2020 WSCP were posted prominently on Metropolitan's website, mwdh2o.com, on February 1, 2021, more than 60 days in advance of the public hearing on April 12, 2021. The notice of availability of the documents was sent to Metropolitan's member agencies, as well as cities and counties in Metropolitan's service area. In addition, a public notice advertising the public hearing in English and other non-English languages was published in XXX Southern California newspapers on February 1 and 8, 2021. Copies of: (1) the notification letter sent to the member agencies, cities and counties in Metropolitan's service area, and (2) the notice published in the newspapers are included in the 2020 UWMP Section 5. Thus, this Appendix 11 to Metropolitan's 2020 UWMP, which will be adopted with Metropolitan's 2020 UWMP, will also be recognized and treated as Appendix 11 to Metropolitan's 2015 UWMP.

APPENDIX C

COMPLETED PLAN CHECKLIST

Retail	Wholesale	2020 Guidebook Location	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Chapter 1	A plan shall describe and evaluate sources of supply, reasonable and practical efficient uses, reclamation and demand management activities.	Introduction and Overview	Chapter 1 Lay Description
x	x	Chapter 1	Each plan shall include a simple description of the supplier's plan including water availability, future requirements, a strategy for meeting needs, and other pertinent information. Additionally, a supplier may also choose to include a simple description at the beginning of each chapter.	Summary	Beginning of each Chapter
x	x	Section 2.2	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.	Plan Preparation	Section 2.2
x	x	Section 2.6	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.	Plan Preparation	Section 2.6
x	x	Section 2.6.2	Provide supporting documentation that the water supplier has encouraged 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 and contingency plan.	Plan Preparation	Section 2.6.2
x		Section 2.6, Section 6.1	Retail suppliers will include documentation that they have provided their wholesale supplier(s) - if any - with water use projections from that source.	System Supplies	Not applicable
	x	Section 2.6	Wholesale suppliers will include documentation that they have provided their urban water suppliers with identification and quantification of the existing and planned sources of water available from the wholesale to the urban supplier during various water year types.	System Supplies	Section 2.6
x	x	Section 3.1	Describe the water supplier service area.	System Description	Section 3.1
x	x	Section 3.3	Describe the climate of the service area of the supplier.	System Description	Section 3.3
x	x	Section 3.4	Provide population projections for 2025, 2030, 2035, 2040 and optionally 2045.	System Description	Section 3.4
x	x	Section 3.4.2	Describe other social, economic, and demographic factors affecting the supplier's water management planning.	System Description	Section 3.4.2
x	x	Sections 3.4 and 5.4	Indicate the current population of the service area.	System Description and Baselines and Targets	Sections 3.4 and 5.4
x	x	Section 3.5	Describe the land uses within the service area.	System Description	Section 3.5
x	x	Section 4.2	Quantify past, current, and projected water use, identifying the uses among water use sectors.	System Water Use	Section 4.2
x	x	Section 4.2.4	Retail suppliers shall provide data to show the distribution loss standards were met.	System Water Use	Not applicable
x	x	Section 4.2.6	In projected water use, include estimates of water savings from adopted codes, plans and other policies or laws.	System Water Use	Section 4.2.6
x	x	Section 4.2.6	Provide citations of codes, standards, ordinances, or plans used to make water use projections.	System Water Use	Section 4.2.6
x	optional	Section 4.3.2.4	Report the distribution system water loss for each of the 5 years preceding the plan update.	System Water Use	Not applicable
x	optional	Section 4.4	Include projected water use needed for lower income housing projected in the service area of the supplier.	System Water Use	Not applicable
x	x	Section 4.5	Demands under climate change considerations must be included as part of the drought risk assessment.	System Water Use	Section 4.5
x		Chapter 5	Retail suppliers shall provide baseline daily per capita water use, urban water use target, interim urban water use target, and compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data.	Baselines and Targets	Not applicable
x		Chapter 5	Retail suppliers shall meet their water use target by December 31, 2020.	Baselines and Targets	Not applicable
	x	Section 5.1	Wholesale suppliers shall include an assessment of present and proposed future measures, programs, and policies to help their retail water suppliers achieve targeted water use reductions.	Baselines and Targets	Section 5.1

Retail	Wholesale	2020 Guidebook Location	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x		Section 5.2	If the retail supplier adjusts its compliance GPCD using weather normalization, economic adjustment, or extraordinary events, it shall provide the basis for, and data supporting the adjustment.	Baselines and Targets	Not applicable
x		Section 5.5	Retail suppliers' per capita daily water use reduction shall be no less than 5 percent of base daily per capita water use of the 5 year baseline. This does not apply if the suppliers base GPCD is at or below 100.	Baselines and Targets	Not applicable
x		Section 5.5 and Appendix E	Retail suppliers shall report on their compliance in meeting their water use targets. The data shall be reported using a standardized form in the SBX7-7 2020 Compliance Form.	Baselines and Targets	Not applicable
x	x	Sections 6.1 and 6.2	Provide a discussion of anticipated supply availability under a normal, single dry year, and a drought lasting five years, as well as more frequent and severe periods of drought.	System Supplies	Sections 6.1, 6.2, 7.1, and 7.2
x	x	Sections 6.1	Provide a discussion of anticipated supply availability under a normal, single dry year, and a drought lasting five years, as well as more frequent and severe periods of drought, *including changes in supply due to climate change.*	System Supplies	Section 6.1
x	x	Section 6.1	When multiple sources of water supply are identified, describe the management of each supply in relationship to other identified supplies.	System Supplies	Section 6.1
x	x	Section 6.1.1	Describe measures taken to acquire and develop planned sources of water.	System Supplies	Section 6.1.1
x	x	Section 6.2.8	Identify and quantify the existing and planned sources of water available for 2020, 2025, 2030, 2035, 2040 and optionally 2045.	System Supplies	Section 6.2.8
x	x	Section 6.2	Indicate whether groundwater is an existing or planned source of water available to the supplier.	System Supplies	Section 6.2
x	x	Section 6.2.2	Indicate whether a groundwater sustainability plan or groundwater management plan has been adopted by the water supplier or if there is any other specific authorization for groundwater management. Include a copy of the plan or authorization.	System Supplies	Section 6.2.2
x	x	Section 6.2.2	Describe the groundwater basin.	System Supplies	Section 6.2.2
x	x	Section 6.2.2	Indicate if the basin has been adjudicated and include a copy of the court order or decree and a description of the amount of water the supplier has the legal right to pump.	System Supplies	Section 6.2.2
x	x	Section 6.2.2.1	For unadjudicated basins, indicate whether or not the department has identified the basin as a high or medium priority. Describe efforts by the supplier to coordinate with sustainability or groundwater agencies to achieve sustainable groundwater conditions.	System Supplies	Not applicable
x	x	Section 6.2.2.4	Provide a detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years	System Supplies	Section 6.2.2
x	x	Section 6.2.2	Provide a detailed description and analysis of the amount and location of groundwater that is projected to be pumped.	System Supplies	Section 6.2.2
x	x	Section 6.2.7	Describe the opportunities for exchanges or transfers of water on a short-term or long- term basis.	System Supplies	Section 6.2.7
x	x	Section 6.2.5	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.	System Supplies (Recycled Water)	Section 6.2.5
x	x	Section 6.2.5	Describe the recycled water currently being used in the supplier's service area.	System Supplies (Recycled Water)	Section 6.2.5
x	x	Section 6.2.5	Describe and quantify the potential uses of recycled water and provide a determination of the technical and economic feasibility of those uses.	System Supplies (Recycled Water)	Section 6.2.5
x	x	Section 6.2.5	Describe the projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years, and a description of the actual use of recycled water in comparison to uses previously projected.	System Supplies (Recycled Water)	Section 6.2.5
x	x	Section 6.2.5	Describe the actions 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.	System Supplies (Recycled Water)	Section 6.2.5
x	x	Section 6.2.5	Provide a plan for optimizing the use of recycled water in the supplier's service area.	System Supplies (Recycled Water)	Section 6.2.5
x	x	Section 6.2.6	Describe desalinated water project opportunities for long-term supply.	System Supplies	Section 6.2.6
x	x	Section 6.2.5	Describe the wastewater collection and treatment systems in the supplier's service area with quantified amount of collection and treatment and the disposal methods.	System Supplies (Recycled Water)	Section 6.2.5
x	x	Section 6.2.8, Section 6.3.7	Describe the expected future water supply projects and programs that may be undertaken by the water supplier to address water supply reliability in average, single-dry, and for a period of drought lasting 5 consecutive water years.	System Supplies	Sections 6.2.8 and 6.2.9

Retail	Wholesale	2020 Guidebook Location	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Section 6.4 and Appendix O	The UWMP must include energy information, as stated in the code, that a supplier can readily obtain.	System Suppliers, Energy Intensity	Section 6.4
x	x	Section 7.2	Provide information on the quality of existing sources of water available to the supplier and the manner in which water quality affects water management strategies and supply reliability	Water Supply Reliability Assessment	Section 7.2
x	x	Section 7.2.4	Describe water management tools and options to maximize resources and minimize the need to import water from other regions.	Water Supply Reliability Assessment	Section 7.2.4
x	x	Section 7.3	Service Reliability Assessment: Assess the water supply reliability during normal, dry, and a drought lasting five consecutive water years by comparing the total water supply sources available to the water supplier with the total projected water use over the next 20 years.	Water Supply Reliability Assessment	Section 7.3
x	x	Section 7.3	Provide a drought risk assessment as part of information considered in developing the demand management measures and water supply projects.	Water Supply Reliability Assessment	Section 7.3
x	x	Section 7.3	Include a description of the data, methodology, and basis for one or more supply shortage conditions that are necessary to conduct a drought risk assessment for a drought period that lasts 5 consecutive years.	Water Supply Reliability Assessment	Section 7.3
x	x	Section 7.3	Include a determination of the reliability of each source of supply under a variety of water shortage conditions.	Water Supply Reliability Assessment	Section 7.3
x	x	Section 7.3	Include a comparison of the total water supply sources available to the water supplier with the total projected water use for the drought period.	Water Supply Reliability Assessment	Section 7.3
x	x	Section 7.3	Include considerations of the historical drought hydrology, plausible changes on projected supplies and demands under climate change conditions, anticipated regulatory changes, and other locally applicable criteria.	Water Supply Reliability Assessment	Section 7.3
x	x	Chapter 8	Provide a water shortage contingency plan (WSCP) with specified elements below.	Water Shortage Contingency Planning	Chapter 8
x	x	Chapter 8	Provide the analysis of water supply reliability (from Chapter 7 of Guidebook) in the WSCP	Water Shortage Contingency Planning	Chapter 8
x	x	Section 8.10	Describe reevaluation and improvement procedures for monitoring and evaluation the water shortage contingency plan to ensure risk tolerance is adequate and appropriate water shortage mitigation strategies are implemented.	Water Shortage Contingency Planning	Section 8.10
x	x	Section 8.2	Provide the written decision-making process and other methods that the supplier will use each year to determine its water reliability.	Water Shortage Contingency Planning	Section 8.2
x	x	Section 8.2	Provide data and methodology to evaluate the supplier's water reliability for the current year and one dry year pursuant to factors in the code.	Water Shortage Contingency Planning	Section 8.2
x	x	Section 8.3	Define six standard water shortage levels of 10, 20, 30, 40, 50 percent shortage and greater than 50 percent shortage. These levels shall be based on supply conditions, including percent reductions in supply, changes in groundwater levels, changes in surface elevation, or other conditions. The shortage levels shall also apply to a catastrophic interruption of supply.	Water Shortage Contingency Planning	Section 8.3
x	x	Section 8.3	Suppliers with an existing water shortage contingency plan that uses different water shortage levels must cross reference their categories with the six standard categories.	Water Shortage Contingency Planning	Section 8.3
x	x	Section 8.4	Suppliers with water shortage contingency plans that align with the defined shortage levels must specify locally appropriate supply augmentation actions.	Water Shortage Contingency Planning	Section 8.4.2
x	x	Section 8.4	Specify locally appropriate demand reduction actions to adequately respond to shortages.	Water Shortage Contingency Planning	Section 8.4.1
x	x	Section 8.4	Specify locally appropriate operational changes.	Water Shortage Contingency Planning	Section 8.4.3
x	x	Section 8.4	Specify additional mandatory prohibitions against specific water use practices that are in addition to state-mandated prohibitions are appropriate to local conditions.	Water Shortage Contingency Planning	Section 8.4.4
x	x	Section 8.4	Estimate the extent to which the gap between supplies and demand will be reduced by implementation of the action.	Water Shortage Contingency Planning	Section 8.4.7
x	x	Section 8.4.6	The plan shall include a seismic risk assessment and mitigation plan.	Water Shortage Contingency Plan	Section 8.4.6
x	x	Section 8.5	Suppliers must describe that they will inform customers, the public and others regarding any current or predicted water shortages.	Water Shortage Contingency Planning	Section 8.5

Retail	Wholesale	2020 Guidebook Location	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Section 8.5 and 8.6	Suppliers must describe that they will inform customers, the public and others regarding any shortage response actions triggered or anticipated to be triggered and other relevant communications.	Water Shortage Contingency Planning	Section 8.5
x		Section 8.6	Retail supplier must describe how it will ensure compliance with and enforce provisions of the WSCP.	Water Shortage Contingency Planning	Not applicable
x		Section 8.7	Describe the legal authority that empowers the supplier to enforce shortage response actions.	Water Shortage Contingency Planning	Not applicable
x	x	Section 8.7	Provide a statement that the supplier will declare a water shortage emergency Water Code Chapter 3.	Water Shortage Contingency Planning	Section 8.7
x	x	Section 8.7	Provide a statement that the supplier will coordinate with any city or county within which it provides water for the possible proclamation of a local emergency.	Water Shortage Contingency Planning	Section 8.7
x	x	Section 8.8	Describe the potential revenue reductions and expense increases associated with activated shortage response actions.	Water Shortage Contingency Planning	Section 8.8
x	x	Section 8.8	Provide a description of mitigation actions needed to address revenue reductions and expense increases associated with activated shortage response actions.	Water Shortage Contingency Planning	Section 8.8
x		Section 8.8	Retail suppliers must describe the cost of compliance with Water Code Chapter 3.3: Excessive Residential Water Use During Drought	Water Shortage Contingency Planning	Section 8.8
x		Section 8.9	Retail suppliers must describe the monitoring and reporting requirements and procedures that ensure appropriate data is collected, tracked, and analyzed for purposes of monitoring customer compliance.	Water Shortage Contingency Planning	Section 8.9
x		Section 8.11	Analyze and define water features that are artificially supplied with water, including ponds, lakes, waterfalls, and fountains, separately from swimming pools and spas.	Water Shortage Contingency Planning	Not applicable
x	x	Sections 8.12 and 10.4	Provide supporting documentation that Water Shortage Contingency Plan has been, or will be, provided to any city or county within which it provides water, no later than 30 days after the submission of the plan to DWR.	Plan Adoption, Submittal, and Implementation	Sections 8.12 and 10.4
x	x	Section 8.12	Make available the Water Shortage Contingency Plan to customers and any city or county where it provides water within 30 after adopted the plan.	Water Shortage Contingency Planning	Section 8.12
	x	Sections 9.1 and 9.3	Wholesale suppliers shall describe specific demand management measures listed in code, their distribution system asset management program, and supplier assistance program.	Demand Management Measures	Sections 9.1 and 9.3
x		Sections 9.2 and 9.3	Retail suppliers shall provide a description of the nature and extent of each demand management measure implemented over the past five years. The description will address specific measures listed in code.	Demand Management Measures	Not applicable
x		Chapter 10	Retail suppliers shall conduct a public hearing to discuss adoption, implementation, and economic impact of water use targets (recommended to discuss compliance).	Plan Adoption, Submittal, and Implementation	Not applicable
x	x	Section 10.2.1	Notify, at least 60 days prior to the public hearing, any city or county within which the supplier provides water that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan. Reported in Table 10-1.	Plan Adoption, Submittal, and Implementation	Section 10.2.1
x	x	Section 10.4	Each urban water supplier shall update and submit its 2020 plan to the department by July 1, 2021.	Plan Adoption, Submittal, and Implementation	Section 10.4
x	x	Sections 10.2.2, 10.3, and 10.5	Provide supporting documentation that the urban water supplier made the plan and contingency plan available for public inspection, published notice of the public hearing, and held a public hearing about the plan and contingency plan.	Plan Adoption, Submittal, and Implementation	Sections 10.2, 10.3, and 10.5
x	x	Section 10.2.2	The water supplier is to provide the time and place of the hearing to any city or county within which the supplier provides water.	Plan Adoption, Submittal, and Implementation	Section 10.2.2
x	x	Section 10.3.2	Provide supporting documentation that the plan and contingency plan has been adopted as prepared or modified.	Plan Adoption, Submittal, and Implementation	Section 10.3.2
x	x	Section 10.4	Provide supporting documentation that the urban water supplier has submitted this UWMP to the California State Library.	Plan Adoption, Submittal, and Implementation	Section 10.4.3
x	x	Section 10.4	Provide supporting documentation that the urban water supplier has submitted this UWMP to any city or county within which the supplier provides water no later than 30 days after adoption.	Plan Adoption, Submittal, and Implementation	Section 10.4
x	x	Sections 10.4.1 and 10.4.2	The plan, or amendments to the plan, submitted to the department shall be submitted electronically.	Plan Adoption, Submittal, and Implementation	Sections 10.4.1 and 10.4.2
x	x	Section 10.5	Provide supporting documentation that, not later than 30 days after filing a copy of its plan with the department, the supplier has or will make the plan available for public review during normal business hours.	Plan Adoption, Submittal, and Implementation	Section 10.5

Retail	Wholesale	2020 Guidebook Location	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Section 10.5	Provide supporting documentation that, not later than 30 days after filing a copy of its water shortage contingency plan with the department, the supplier has or will make the plan available for public review during normal business hours.	Plan Adoption, Submittal, and Implementation	Section 10.5
x	x	Section 10.6	If supplier is regulated by the Public Utilities Commission, include its plan and contingency plan as part of its general rate case filings.	Plan Adoption, Submittal, and Implementation	Section 10.6
x	x	Section 10.7.2	If revised, submit a copy of the water shortage contingency plan to DWR within 30 days of adoption.	Plan Adoption, Submittal, and Implementation	Section 10.7.2

APPENDIX D

60 – DAY NOTIFICATION LETTERS AND PUBLIC HEARING NOTIFICATIONS

October 28, 2020

Cal Poly Pomona
3801 West Temple Avenue
Pomona, CA 91768

SUBJECT: 2020 Urban Water Management Plan Update

Dear Agency Representative:

The Three Valleys Municipal Water District is currently in the process of reviewing its Urban Water Management Plan (UWMP) for the upcoming 2020 Update. The Urban Water Management Planning Act requires every urban water supplier, which provides water directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually, to prepare and adopt an UWMP and periodically update that plan at least once every five years. The UWMP is a planning document and a source document to direct urban water suppliers to evaluate and compare their water supply and reliability to their existing water conservation efforts. The Three Valleys Municipal Water District is currently in the process of preparing the 2020 UWMP Update.

As an urban water supplier, the Three Valleys Municipal Water District is required pursuant to Section 10620(d)(3) of the California Water Code to coordinate with water management agencies, relevant public agencies, and other water suppliers regarding the preparation of the UWMP. Pursuant to Section 10621(b) of the California Water Code, the Three Valleys Municipal Water District will be reviewing the UWMP and will make amendments or changes, as appropriate.

The Three Valleys Municipal Water District invites you to submit comments in anticipation of the development of our 2020 UWMP Update. Please provide written comments within the next 30 days to Tim Kellett at (909) 621-5568 extension 107, Monday – Thursday, 8:00 AM – 5:00 PM or via email at tkellett@tvmwd.com.

Sincerely,

Matthew H. Litchfield, P.E.
General Manager/Chief Engineer

October 28, 2020

Chino Basin Watermaster
9641 San Bernardino Rd.
Rancho Cucamonga, CA 91730

SUBJECT: 2020 Urban Water Management Plan Update

Dear Agency Representative:

The Three Valleys Municipal Water District is currently in the process of reviewing its Urban Water Management Plan (UWMP) for the upcoming 2020 Update. The Urban Water Management Planning Act requires every urban water supplier, which provides water directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually, to prepare and adopt an UWMP and periodically update that plan at least once every five years. The UWMP is a planning document and a source document to direct urban water suppliers to evaluate and compare their water supply and reliability to their existing water conservation efforts. The Three Valleys Municipal Water District is currently in the process of preparing the 2020 UWMP Update.

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Sincerely,

Matthew H. Litchfield, P.E.
General Manager/Chief Engineer

October 28, 2020

City of Azusa
213 E. Foothill Blvd.
Azusa, CA 91702

SUBJECT: 2020 Urban Water Management Plan Update

Dear Agency Representative:

The Three Valleys Municipal Water District is currently in the process of reviewing its Urban Water Management Plan (UWMP) for the upcoming 2020 Update. The Urban Water Management Planning Act requires every urban water supplier, which provides water directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually, to prepare and adopt an UWMP and periodically update that plan at least once every five years. The UWMP is a planning document and a source document to direct urban water suppliers to evaluate and compare their water supply and reliability to their existing water conservation efforts. The Three Valleys Municipal Water District is currently in the process of preparing the 2020 UWMP Update.

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Sincerely,

Matthew H. Litchfield, P.E.
General Manager/Chief Engineer

October 28, 2020

City of Claremont
207 Harvard Avenue
Claremont, CA 91711

SUBJECT: 2020 Urban Water Management Plan Update

Dear Agency Representative:

The Three Valleys Municipal Water District is currently in the process of reviewing its Urban Water Management Plan (UWMP) for the upcoming 2020 Update. The Urban Water Management Planning Act requires every urban water supplier, which provides water directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually, to prepare and adopt an UWMP and periodically update that plan at least once every five years. The UWMP is a planning document and a source document to direct urban water suppliers to evaluate and compare their water supply and reliability to their existing water conservation efforts. The Three Valleys Municipal Water District is currently in the process of preparing the 2020 UWMP Update.

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Sincerely,

Matthew H. Litchfield, P.E.
General Manager/Chief Engineer

October 28, 2020

City of Covina
125 E. College Street
Covina, CA 91723

SUBJECT: 2020 Urban Water Management Plan Update

Dear Agency Representative:

The Three Valleys Municipal Water District is currently in the process of reviewing its Urban Water Management Plan (UWMP) for the upcoming 2020 Update. The Urban Water Management Planning Act requires every urban water supplier, which provides water directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually, to prepare and adopt an UWMP and periodically update that plan at least once every five years. The UWMP is a planning document and a source document to direct urban water suppliers to evaluate and compare their water supply and reliability to their existing water conservation efforts. The Three Valleys Municipal Water District is currently in the process of preparing the 2020 UWMP Update.

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Sincerely,

Matthew H. Litchfield, P.E.
General Manager/Chief Engineer

October 28, 2020

City of Diamond Bar
21810 Copley Drive
Diamond Bar, CA 91765

SUBJECT: 2020 Urban Water Management Plan Update

Dear Agency Representative:

The Three Valleys Municipal Water District is currently in the process of reviewing its Urban Water Management Plan (UWMP) for the upcoming 2020 Update. The Urban Water Management Planning Act requires every urban water supplier, which provides water directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually, to prepare and adopt an UWMP and periodically update that plan at least once every five years. The UWMP is a planning document and a source document to direct urban water suppliers to evaluate and compare their water supply and reliability to their existing water conservation efforts. The Three Valleys Municipal Water District is currently in the process of preparing the 2020 UWMP Update.

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Sincerely,

Matthew H. Litchfield, P.E.
General Manager/Chief Engineer

October 28, 2020

City of Glendora
116 E. Foothill Blvd.
Glendora, CA 91741-3380

SUBJECT: 2020 Urban Water Management Plan Update

Dear Agency Representative:

The Three Valleys Municipal Water District is currently in the process of reviewing its Urban Water Management Plan (UWMP) for the upcoming 2020 Update. The Urban Water Management Planning Act requires every urban water supplier, which provides water directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually, to prepare and adopt an UWMP and periodically update that plan at least once every five years. The UWMP is a planning document and a source document to direct urban water suppliers to evaluate and compare their water supply and reliability to their existing water conservation efforts. The Three Valleys Municipal Water District is currently in the process of preparing the 2020 UWMP Update.

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Sincerely,

Matthew H. Litchfield, P.E.
General Manager/Chief Engineer

October 28, 2020

City of Industry
15625 East Stafford Street
City of Industry, CA 91744

SUBJECT: 2020 Urban Water Management Plan Update

Dear Agency Representative:

The Three Valleys Municipal Water District is currently in the process of reviewing its Urban Water Management Plan (UWMP) for the upcoming 2020 Update. The Urban Water Management Planning Act requires every urban water supplier, which provides water directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually, to prepare and adopt an UWMP and periodically update that plan at least once every five years. The UWMP is a planning document and a source document to direct urban water suppliers to evaluate and compare their water supply and reliability to their existing water conservation efforts. The Three Valleys Municipal Water District is currently in the process of preparing the 2020 UWMP Update.

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Sincerely,

Matthew H. Litchfield, P.E.
General Manager/Chief Engineer

October 28, 2020

City of La Puente
15900 East Main Street
La Puente, CA 91744

SUBJECT: 2020 Urban Water Management Plan Update

Dear Agency Representative:

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Sincerely,

Matthew H. Litchfield, P.E.
General Manager/Chief Engineer

October 28, 2020

City of La Verne
3660 "D" Street
La Verne, CA 91750

SUBJECT: 2020 Urban Water Management Plan Update

Dear Agency Representative:

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Sincerely,

Matthew H. Litchfield, P.E.
General Manager/Chief Engineer

October 28, 2020

Suburban Water Systems
1325 N. Grand Avenue., Suite 100
Covina, CA 91724

SUBJECT: 2020 Urban Water Management Plan Update

Dear Agency Representative:

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Sincerely,

Matthew H. Litchfield, P.E.
General Manager/Chief Engineer

October 28, 2020

Upper San Gabriel Valley Municipal Water District
602 E. Huntington Drive, Ste. B
Monrovia, CA 91016

SUBJECT: 2020 Urban Water Management Plan Update

Dear Agency Representative:

The Three Valleys Municipal Water District is currently in the process of reviewing its Urban Water Management Plan (UWMP) for the upcoming 2020 Update. The Urban Water Management Planning Act requires every urban water supplier, which provides water directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually, to prepare and adopt an UWMP and periodically update that plan at least once every five years. The UWMP is a planning document and a source document to direct urban water suppliers to evaluate and compare their water supply and reliability to their existing water conservation efforts. The Three Valleys Municipal Water District is currently in the process of preparing the 2020 UWMP Update.

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Sincerely,

Matthew H. Litchfield, P.E.
General Manager/Chief Engineer

October 28, 2020

Valencia Heights Water Co.
3009 Virginia Avenue
West Covina, CA 91791-2252

SUBJECT: 2020 Urban Water Management Plan Update

Dear Agency Representative:

The Three Valleys Municipal Water District is currently in the process of reviewing its Urban Water Management Plan (UWMP) for the upcoming 2020 Update. The Urban Water Management Planning Act requires every urban water supplier, which provides water directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually, to prepare and adopt an UWMP and periodically update that plan at least once every five years. The UWMP is a planning document and a source document to direct urban water suppliers to evaluate and compare their water supply and reliability to their existing water conservation efforts. The Three Valleys Municipal Water District is currently in the process of preparing the 2020 UWMP Update.

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Sincerely,

Matthew H. Litchfield, P.E.
General Manager/Chief Engineer

October 28, 2020

Walnut Valley Water District
271 South Brea Canyon Road
Walnut, CA 91789

SUBJECT: 2020 Urban Water Management Plan Update

Dear Agency Representative:

The Three Valleys Municipal Water District is currently in the process of reviewing its Urban Water Management Plan (UWMP) for the upcoming 2020 Update. The Urban Water Management Planning Act requires every urban water supplier, which provides water directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually, to prepare and adopt an UWMP and periodically update that plan at least once every five years. The UWMP is a planning document and a source document to direct urban water suppliers to evaluate and compare their water supply and reliability to their existing water conservation efforts. The Three Valleys Municipal Water District is currently in the process of preparing the 2020 UWMP Update.

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Sincerely,

Matthew H. Litchfield, P.E.
General Manager/Chief Engineer

October 28, 2020

City of Pomona
505 South Garey Avenue
Pomona, CA 91766

SUBJECT: 2020 Urban Water Management Plan Update

Dear Agency Representative:

The Three Valleys Municipal Water District is currently in the process of reviewing its Urban Water Management Plan (UWMP) for the upcoming 2020 Update. The Urban Water Management Planning Act requires every urban water supplier, which provides water directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually, to prepare and adopt an UWMP and periodically update that plan at least once every five years. The UWMP is a planning document and a source document to direct urban water suppliers to evaluate and compare their water supply and reliability to their existing water conservation efforts. The Three Valleys Municipal Water District is currently in the process of preparing the 2020 UWMP Update.

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Sincerely,

Matthew H. Litchfield, P.E.
General Manager/Chief Engineer

October 28, 2020

City of Walnut
21201 La Puente Road
Walnut, CA 91789

SUBJECT: 2020 Urban Water Management Plan Update

Dear Agency Representative:

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Sincerely,

Matthew H. Litchfield, P.E.
General Manager/Chief Engineer

October 28, 2020

Covina Irrigating Company
146 E. College Street
Covina, CA 91723

SUBJECT: 2020 Urban Water Management Plan Update

Dear Agency Representative:

The Three Valleys Municipal Water District is currently in the process of reviewing its Urban Water Management Plan (UWMP) for the upcoming 2020 Update. The Urban Water Management Planning Act requires every urban water supplier, which provides water directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually, to prepare and adopt an UWMP and periodically update that plan at least once every five years. The UWMP is a planning document and a source document to direct urban water suppliers to evaluate and compare their water supply and reliability to their existing water conservation efforts. The Three Valleys Municipal Water District is currently in the process of preparing the 2020 UWMP Update.

As an urban water supplier, the Three Valleys Municipal Water District is required pursuant to Section 10620(d)(3) of the California Water Code to coordinate with water management agencies, relevant public agencies, and other water suppliers regarding the preparation of the UWMP. Pursuant to Section 10621(b) of the California Water Code, the Three Valleys Municipal Water District will be reviewing the UWMP and will make amendments or changes, as appropriate.

The Three Valleys Municipal Water District invites you to submit comments in anticipation of the development of our 2020 UWMP Update. Please provide written comments within the next 30 days to Tim Kellett at (909) 621-5568 extension 107, Monday – Thursday, 8:00 AM – 5:00 PM or via email at tkellett@tvmwd.com.

Sincerely,

Matthew H. Litchfield, P.E.
General Manager/Chief Engineer

October 28, 2020

Golden State Water Co.
401 South San Dimas Canyon Road
San Dimas, CA 91773

SUBJECT: 2020 Urban Water Management Plan Update

Dear Agency Representative:

The Three Valleys Municipal Water District is currently in the process of reviewing its Urban Water Management Plan (UWMP) for the upcoming 2020 Update. The Urban Water Management Planning Act requires every urban water supplier, which provides water directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually, to prepare and adopt an UWMP and periodically update that plan at least once every five years. The UWMP is a planning document and a source document to direct urban water suppliers to evaluate and compare their water supply and reliability to their existing water conservation efforts. The Three Valleys Municipal Water District is currently in the process of preparing the 2020 UWMP Update.

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Sincerely,

Matthew H. Litchfield, P.E.
General Manager/Chief Engineer

October 28, 2020

Inland Empire Utilities Agency
P.O. Box 9020
Chino Hills, CA 91709

SUBJECT: 2020 Urban Water Management Plan Update

Dear Agency Representative:

The Three Valleys Municipal Water District is currently in the process of reviewing its Urban Water Management Plan (UWMP) for the upcoming 2020 Update. The Urban Water Management Planning Act requires every urban water supplier, which provides water directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually, to prepare and adopt an UWMP and periodically update that plan at least once every five years. The UWMP is a planning document and a source document to direct urban water suppliers to evaluate and compare their water supply and reliability to their existing water conservation efforts. The Three Valleys Municipal Water District is currently in the process of preparing the 2020 UWMP Update.

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Sincerely,

Matthew H. Litchfield, P.E.
General Manager/Chief Engineer

October 28, 2020

Los Angeles County
900 S. Fremont Ave
Alhambra, CA 91803

SUBJECT: 2020 Urban Water Management Plan Update

Dear Agency Representative:

The Three Valleys Municipal Water District is currently in the process of reviewing its Urban Water Management Plan (UWMP) for the upcoming 2020 Update. The Urban Water Management Planning Act requires every urban water supplier, which provides water directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually, to prepare and adopt an UWMP and periodically update that plan at least once every five years. The UWMP is a planning document and a source document to direct urban water suppliers to evaluate and compare their water supply and reliability to their existing water conservation efforts. The Three Valleys Municipal Water District is currently in the process of preparing the 2020 UWMP Update.

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Sincerely,

Matthew H. Litchfield, P.E.
General Manager/Chief Engineer

October 28, 2020

Main San Gabriel Basin Watermaster
725 N. Azusa Avenue
Azusa, CA 91702

SUBJECT: 2020 Urban Water Management Plan Update

Dear Agency Representative:

The Three Valleys Municipal Water District is currently in the process of reviewing its Urban Water Management Plan (UWMP) for the upcoming 2020 Update. The Urban Water Management Planning Act requires every urban water supplier, which provides water directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually, to prepare and adopt an UWMP and periodically update that plan at least once every five years. The UWMP is a planning document and a source document to direct urban water suppliers to evaluate and compare their water supply and reliability to their existing water conservation efforts. The Three Valleys Municipal Water District is currently in the process of preparing the 2020 UWMP Update.

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Sincerely,

Matthew H. Litchfield, P.E.
General Manager/Chief Engineer

October 28, 2020

Metropolitan Water District
P.O. Box 54156
Los Angeles, CA 90054-0153

SUBJECT: 2020 Urban Water Management Plan Update

Dear Agency Representative:

The Three Valleys Municipal Water District is currently in the process of reviewing its Urban Water Management Plan (UWMP) for the upcoming 2020 Update. The Urban Water Management Planning Act requires every urban water supplier, which provides water directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually, to prepare and adopt an UWMP and periodically update that plan at least once every five years. The UWMP is a planning document and a source document to direct urban water suppliers to evaluate and compare their water supply and reliability to their existing water conservation efforts. The Three Valleys Municipal Water District is currently in the process of preparing the 2020 UWMP Update.

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Sincerely,

Matthew H. Litchfield, P.E.
General Manager/Chief Engineer

October 28, 2020

Mt. San Antonio College
1100 N. Grand Avenue
Walnut, CA 91789

SUBJECT: 2020 Urban Water Management Plan Update

Dear Agency Representative:

The Three Valleys Municipal Water District is currently in the process of reviewing its Urban Water Management Plan (UWMP) for the upcoming 2020 Update. The Urban Water Management Planning Act requires every urban water supplier, which provides water directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually, to prepare and adopt an UWMP and periodically update that plan at least once every five years. The UWMP is a planning document and a source document to direct urban water suppliers to evaluate and compare their water supply and reliability to their existing water conservation efforts. The Three Valleys Municipal Water District is currently in the process of preparing the 2020 UWMP Update.

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Sincerely,

Matthew H. Litchfield, P.E.
General Manager/Chief Engineer

October 28, 2020

Rowland Water District
3021 Fullerton Rd.
Rowland Heights, CA 91748

SUBJECT: 2020 Urban Water Management Plan Update

Dear Agency Representative:

The Three Valleys Municipal Water District is currently in the process of reviewing its Urban Water Management Plan (UWMP) for the upcoming 2020 Update. The Urban Water Management Planning Act requires every urban water supplier, which provides water directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually, to prepare and adopt an UWMP and periodically update that plan at least once every five years. The UWMP is a planning document and a source document to direct urban water suppliers to evaluate and compare their water supply and reliability to their existing water conservation efforts. The Three Valleys Municipal Water District is currently in the process of preparing the 2020 UWMP Update.

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The Three Valleys Municipal Water District invites you to submit comments in anticipation of the development of our 2020 UWMP Update. Please provide written comments within the next 30 days to Tim Kellett at (909) 621-5568 extension 107, Monday – Thursday, 8:00 AM – 5:00 PM or via email at tkellett@tvmwd.com.

Sincerely,

Matthew H. Litchfield, P.E.
General Manager/Chief Engineer

October 28, 2020

Six Basins Watermaster
c/o Wildermuth Environmental, Inc.
23692 Birtcher Drive
Lake Forest, CA 92630

SUBJECT: 2020 Urban Water Management Plan Update

Dear Agency Representative:

The Three Valleys Municipal Water District is currently in the process of reviewing its Urban Water Management Plan (UWMP) for the upcoming 2020 Update. The Urban Water Management Planning Act requires every urban water supplier, which provides water directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually, to prepare and adopt an UWMP and periodically update that plan at least once every five years. The UWMP is a planning document and a source document to direct urban water suppliers to evaluate and compare their water supply and reliability to their existing water conservation efforts. The Three Valleys Municipal Water District is currently in the process of preparing the 2020 UWMP Update.

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Sincerely,

Matthew H. Litchfield, P.E.
General Manager/Chief Engineer

NOTICE OF PUBLIC HEARING
ON PROPOSED ADOPTION OF THE
2020 URBAN WATER MANAGEMENT PLAN AND
WATER SHORTAGE CONTINGENCY PLAN
BY THREE VALLEYS MUNICIPAL WATER DISTRICT

NOTICE IS HEREBY GIVEN that the Board of Directors (Board) of Three Valleys Municipal Water District (TVMWD) will meet during a regular meeting held via teleconference:

Wednesday, June 16, 2021, 8:00 a.m.
at Three Valleys Municipal Water District
1021 East Miramar Avenue, Claremont, CA 91711
(909) 621-5568

The Three Valley's Municipal Water (District) will conduct a PUBLIC HEARING for the purposes of adopting its 2020 Urban Water Management Plan and its Water Shortage Contingency Plan. The District's 2020 Urban Water Management Plan incorporates the District's Water Shortage Contingency Plan.

The 2020 Urban Water Management Plan and Water Shortage Contingency Plan were prepared pursuant to the "Urban Water Management Planning Act" and the California Water Code. The California Department of Water Resources requires every urban water supplier to prepare and adopt an Urban Water Management Plan, including the Water Shortage Contingency Plan, and periodically update the Urban Water Management Plan at least once every five years, in years ending in six and one.

TVMWD welcomes and encourages your participation at the public meeting. If you have any questions regarding the 2020 Urban Water Management Plan or Water Shortage Contingency Plan or would like additional information, please contact the Chief Water Resources Officer Timothy Kellett, at (909) 621-5568 or by email, tkellett@tvmwd.com, Monday through Thursday from 8:00 A.M. to 5:00 P.M.

Published: June 2, 2021
June 9, 2021

Para información en Español, llame (909) 621-5568

_____
/s/ Matthew Litchfield
General Manager / Chief Engineer

Boy Scouts of America
Attention: Matt Bear
2333 Scout Way
Los Angeles, CA 90026

SUBJECT: Notice of Public Hearing for 2020 Urban Water Management Plan and Water Shortage Contingency Plan

Dear Mr. Bear:

The Three Valley's Municipal Water (District) will hold a PUBLIC HEARING on June 16, 2021, for the purposes of adopting its 2020 Urban Water Management Plan and its Water Shortage Contingency Plan. The District's 2020 Urban Water Management Plan incorporates the District's Water Shortage Contingency Plan.

The 2020 Urban Water Management Plan and Water Shortage Contingency Plan were prepared pursuant to the "Urban Water Management Planning Act" and the California Water Code. The California Department of Water Resources requires every urban water supplier to prepare and adopt an Urban Water Management Plan, including the Water Shortage Contingency Plan, and periodically update the Urban Water Management Plan at least once every five years, in years ending in six and one.

Information regarding the District's PUBLIC HEARING follows:

Date: June 16, 2021

Time: 8:00 AM

Place: Remote video conference via GoToWebinar

The meeting registration link will be posted on the District's website at the following address:

https://www.threevalleys.com/calendar/

The District invites all interested entities to attend and present their comments. A copy of the draft 2020 Urban Water Management Plan and Water Shortage Contingency Plan will be available on the District's website. Please provide written comments no later than June 15, 2021, to the Chief Water Resources Officer Timothy Kellett, at (909) 621-5568 or by email, tkellett@tvmwd.com, Monday through Thursday, from 8:00 A.M. to 5:00 P.M.

Cal Poly Pomona
3801 West Temple Avenue
Pomona, CA 91768

SUBJECT: Notice of Public Hearing for 2020 Urban Water Management Plan and Water Shortage Contingency Plan

Dear Agency Representative:

The Three Valley's Municipal Water (District) will hold a PUBLIC HEARING on June 16, 2021, for the purposes of adopting its 2020 Urban Water Management Plan and its Water Shortage Contingency Plan. The District's 2020 Urban Water Management Plan incorporates the District's Water Shortage Contingency Plan.

The 2020 Urban Water Management Plan and Water Shortage Contingency Plan were prepared pursuant to the "Urban Water Management Planning Act" and the California Water Code. The California Department of Water Resources requires every urban water supplier to prepare and adopt an Urban Water Management Plan, including the Water Shortage Contingency Plan, and periodically update the Urban Water Management Plan at least once every five years, in years ending in six and one.

Information regarding the District's PUBLIC HEARING follows:

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Chino Basin Watermaster
9641 San Bernardino Rd.
Rancho Cucamonga, CA 91730

SUBJECT: Notice of Public Hearing for 2020 Urban Water Management Plan and Water Shortage Contingency Plan

Dear Agency Representative:

The Three Valley's Municipal Water (District) will hold a PUBLIC HEARING on June 16, 2021, for the purposes of adopting its 2020 Urban Water Management Plan and its Water Shortage Contingency Plan. The District's 2020 Urban Water Management Plan incorporates the District's Water Shortage Contingency Plan.

The 2020 Urban Water Management Plan and Water Shortage Contingency Plan were prepared pursuant to the "Urban Water Management Planning Act" and the California Water Code. The California Department of Water Resources requires every urban water supplier to prepare and adopt an Urban Water Management Plan, including the Water Shortage Contingency Plan, and periodically update the Urban Water Management Plan at least once every five years, in years ending in six and one.

Information regarding the District's PUBLIC HEARING follows:

Date: June 16, 2021

Time: 8:00 AM

Place: Remote video conference via GoToWebinar

The meeting registration link will be posted on the District's website at the following address:

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City of Azusa
213 E. Foothill Blvd.
Azusa, CA 91702

SUBJECT: Notice of Public Hearing for 2020 Urban Water Management Plan and Water Shortage Contingency Plan

Dear Agency Representative:

The Three Valley's Municipal Water (District) will hold a PUBLIC HEARING on June 16, 2021, for the purposes of adopting its 2020 Urban Water Management Plan and its Water Shortage Contingency Plan. The District's 2020 Urban Water Management Plan incorporates the District's Water Shortage Contingency Plan.

The 2020 Urban Water Management Plan and Water Shortage Contingency Plan were prepared pursuant to the "Urban Water Management Planning Act" and the California Water Code. The California Department of Water Resources requires every urban water supplier to prepare and adopt an Urban Water Management Plan, including the Water Shortage Contingency Plan, and periodically update the Urban Water Management Plan at least once every five years, in years ending in six and one.

Information regarding the District's PUBLIC HEARING follows:

Date: June 16, 2021

Time: 8:00 AM

Place: Remote video conference via GoToWebinar

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City of Claremont
207 Harvard Avenue
Claremont, CA 91711

SUBJECT: Notice of Public Hearing for 2020 Urban Water Management Plan and Water Shortage Contingency Plan

Dear Agency Representative:

The Three Valley's Municipal Water (District) will hold a PUBLIC HEARING on June 16, 2021, for the purposes of adopting its 2020 Urban Water Management Plan and its Water Shortage Contingency Plan. The District's 2020 Urban Water Management Plan incorporates the District's Water Shortage Contingency Plan.

The 2020 Urban Water Management Plan and Water Shortage Contingency Plan were prepared pursuant to the "Urban Water Management Planning Act" and the California Water Code. The California Department of Water Resources requires every urban water supplier to prepare and adopt an Urban Water Management Plan, including the Water Shortage Contingency Plan, and periodically update the Urban Water Management Plan at least once every five years, in years ending in six and one.

Information regarding the District's PUBLIC HEARING follows:

Date: June 16, 2021

Time: 8:00 AM

Place: Remote video conference via GoToWebinar

The meeting registration link will be posted on the District's website at the following address:

https://www.threevalleys.com/calendar/

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City of Covina
125 E. College Street
Covina, CA 91723

SUBJECT: Notice of Public Hearing for 2020 Urban Water Management Plan and Water Shortage Contingency Plan

Dear Agency Representative:

The Three Valley's Municipal Water (District) will hold a PUBLIC HEARING on June 16, 2021, for the purposes of adopting its 2020 Urban Water Management Plan and its Water Shortage Contingency Plan. The District's 2020 Urban Water Management Plan incorporates the District's Water Shortage Contingency Plan.

The 2020 Urban Water Management Plan and Water Shortage Contingency Plan were prepared pursuant to the "Urban Water Management Planning Act" and the California Water Code. The California Department of Water Resources requires every urban water supplier to prepare and adopt an Urban Water Management Plan, including the Water Shortage Contingency Plan, and periodically update the Urban Water Management Plan at least once every five years, in years ending in six and one.

Information regarding the District's PUBLIC HEARING follows:

Date: June 16, 2021

Time: 8:00 AM

Place: Remote video conference via GoToWebinar

The meeting registration link will be posted on the District's website at the following address:

https://www.threevalleys.com/calendar/

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City of Diamond Bar
21810 Copley Drive
Diamond Bar, CA 91765

SUBJECT: Notice of Public Hearing for 2020 Urban Water Management Plan and Water Shortage Contingency Plan

Dear Agency Representative:

The Three Valley's Municipal Water (District) will hold a PUBLIC HEARING on June 16, 2021, for the purposes of adopting its 2020 Urban Water Management Plan and its Water Shortage Contingency Plan. The District's 2020 Urban Water Management Plan incorporates the District's Water Shortage Contingency Plan.

The 2020 Urban Water Management Plan and Water Shortage Contingency Plan were prepared pursuant to the "Urban Water Management Planning Act" and the California Water Code. The California Department of Water Resources requires every urban water supplier to prepare and adopt an Urban Water Management Plan, including the Water Shortage Contingency Plan, and periodically update the Urban Water Management Plan at least once every five years, in years ending in six and one.

Information regarding the District's PUBLIC HEARING follows:

Date: June 16, 2021

Time: 8:00 AM

Place: Remote video conference via GoToWebinar

The meeting registration link will be posted on the District's website at the following address:

https://www.threevalleys.com/calendar/

The District invites all interested entities to attend and present their comments. A copy of the draft 2020 Urban Water Management Plan and Water Shortage Contingency Plan will be available on the District's website. Please provide written comments no later than June 15, 2021, to the Chief Water Resources Officer Timothy Kellett, at (909) 621-5568 or by email, tkellett@tvmwd.com, Monday through Thursday, from 8:00 A.M. to 5:00 P.M.

City of Glendora
116 E. Foothill Blvd.
Glendora, CA 91741-3380

SUBJECT: Notice of Public Hearing for 2020 Urban Water Management Plan and Water Shortage Contingency Plan

Dear Agency Representative:

The Three Valley's Municipal Water (District) will hold a PUBLIC HEARING on June 16, 2021, for the purposes of adopting its 2020 Urban Water Management Plan and its Water Shortage Contingency Plan. The District's 2020 Urban Water Management Plan incorporates the District's Water Shortage Contingency Plan.

The 2020 Urban Water Management Plan and Water Shortage Contingency Plan were prepared pursuant to the "Urban Water Management Planning Act" and the California Water Code. The California Department of Water Resources requires every urban water supplier to prepare and adopt an Urban Water Management Plan, including the Water Shortage Contingency Plan, and periodically update the Urban Water Management Plan at least once every five years, in years ending in six and one.

Information regarding the District's PUBLIC HEARING follows:

Date: June 16, 2021

Time: 8:00 AM

Place: Remote video conference via GoToWebinar

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https://www.threevalleys.com/calendar/

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City of Industry
15625 East Stafford Street
City of Industry, CA 91744

SUBJECT: Notice of Public Hearing for 2020 Urban Water Management Plan and Water Shortage Contingency Plan

Dear Agency Representative:

The Three Valley's Municipal Water (District) will hold a PUBLIC HEARING on June 16, 2021, for the purposes of adopting its 2020 Urban Water Management Plan and its Water Shortage Contingency Plan. The District's 2020 Urban Water Management Plan incorporates the District's Water Shortage Contingency Plan.

The 2020 Urban Water Management Plan and Water Shortage Contingency Plan were prepared pursuant to the "Urban Water Management Planning Act" and the California Water Code. The California Department of Water Resources requires every urban water supplier to prepare and adopt an Urban Water Management Plan, including the Water Shortage Contingency Plan, and periodically update the Urban Water Management Plan at least once every five years, in years ending in six and one.

Information regarding the District's PUBLIC HEARING follows:

Date: June 16, 2021

Time: 8:00 AM

Place: Remote video conference via GoToWebinar

The meeting registration link will be posted on the District's website at the following address:

https://www.threevalleys.com/calendar/

The District invites all interested entities to attend and present their comments. A copy of the draft 2020 Urban Water Management Plan and Water Shortage Contingency Plan will be available on the District's website. Please provide written comments no later than June 15, 2021, to the Chief Water Resources Officer Timothy Kellett, at (909) 621-5568 or by email, tkellett@tvmwd.com, Monday through Thursday, from 8:00 A.M. to 5:00 P.M.

City of La Puente
15900 East Main Street
La Puente, CA 91744

SUBJECT: Notice of Public Hearing for 2020 Urban Water Management Plan and Water Shortage Contingency Plan

Dear Agency Representative:

The Three Valley's Municipal Water (District) will hold a PUBLIC HEARING on June 16, 2021, for the purposes of adopting its 2020 Urban Water Management Plan and its Water Shortage Contingency Plan. The District's 2020 Urban Water Management Plan incorporates the District's Water Shortage Contingency Plan.

The 2020 Urban Water Management Plan and Water Shortage Contingency Plan were prepared pursuant to the "Urban Water Management Planning Act" and the California Water Code. The California Department of Water Resources requires every urban water supplier to prepare and adopt an Urban Water Management Plan, including the Water Shortage Contingency Plan, and periodically update the Urban Water Management Plan at least once every five years, in years ending in six and one.

Information regarding the District's PUBLIC HEARING follows:

Date: June 16, 2021

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Place: Remote video conference via GoToWebinar

The meeting registration link will be posted on the District's website at the following address:

https://www.threevalleys.com/calendar/

The District invites all interested entities to attend and present their comments. A copy of the draft 2020 Urban Water Management Plan and Water Shortage Contingency Plan will be available on the District's website. Please provide written comments no later than June 15, 2021, to the Chief Water Resources Officer Timothy Kellett, at (909) 621-5568 or by email, tkellett@tvmwd.com, Monday through Thursday, from 8:00 A.M. to 5:00 P.M.

City of La Verne
3660 "D" Street
La Verne, CA 91750

SUBJECT: Notice of Public Hearing for 2020 Urban Water Management Plan and Water Shortage Contingency Plan

Dear Agency Representative:

The Three Valley's Municipal Water (District) will hold a PUBLIC HEARING on June 16, 2021, for the purposes of adopting its 2020 Urban Water Management Plan and its Water Shortage Contingency Plan. The District's 2020 Urban Water Management Plan incorporates the District's Water Shortage Contingency Plan.

The 2020 Urban Water Management Plan and Water Shortage Contingency Plan were prepared pursuant to the "Urban Water Management Planning Act" and the California Water Code. The California Department of Water Resources requires every urban water supplier to prepare and adopt an Urban Water Management Plan, including the Water Shortage Contingency Plan, and periodically update the Urban Water Management Plan at least once every five years, in years ending in six and one.

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The meeting registration link will be posted on the District's website at the following address:

https://www.threevalleys.com/calendar/

The District invites all interested entities to attend and present their comments. A copy of the draft 2020 Urban Water Management Plan and Water Shortage Contingency Plan will be available on the District's website. Please provide written comments no later than June 15, 2021, to the Chief Water Resources Officer Timothy Kellett, at (909) 621-5568 or by email, tkellett@tvmwd.com, Monday through Thursday, from 8:00 A.M. to 5:00 P.M.

Six Basins Watermaster
c/o Wildermuth Environmental, Inc.
23692 Birtcher Drive
Lake Forest, CA 92630

SUBJECT: Notice of Public Hearing for 2020 Urban Water Management Plan and Water Shortage Contingency Plan

Dear Agency Representative:

The Three Valley's Municipal Water (District) will hold a PUBLIC HEARING on June 16, 2021, for the purposes of adopting its 2020 Urban Water Management Plan and its Water Shortage Contingency Plan. The District's 2020 Urban Water Management Plan incorporates the District's Water Shortage Contingency Plan.

The 2020 Urban Water Management Plan and Water Shortage Contingency Plan were prepared pursuant to the "Urban Water Management Planning Act" and the California Water Code. The California Department of Water Resources requires every urban water supplier to prepare and adopt an Urban Water Management Plan, including the Water Shortage Contingency Plan, and periodically update the Urban Water Management Plan at least once every five years, in years ending in six and one.

Information regarding the District's PUBLIC HEARING follows:

Date: June 16, 2021

Time: 8:00 AM

Place: Remote video conference via GoToWebinar

The meeting registration link will be posted on the District's website at the following address:

https://www.threevalleys.com/calendar/

The District invites all interested entities to attend and present their comments. A copy of the draft 2020 Urban Water Management Plan and Water Shortage Contingency Plan will be available on the District's website. Please provide written comments no later than June 15, 2021, to the Chief Water Resources Officer Timothy Kellett, at (909) 621-5568 or by email, tkellett@tvmwd.com, Monday through Thursday, from 8:00 A.M. to 5:00 P.M.

Suburban Water Systems
1325 N. Grand Avenue., Suite 100
Covina, CA 91724

SUBJECT: Notice of Public Hearing for 2020 Urban Water Management Plan and Water Shortage Contingency Plan

Dear Agency Representative:

The Three Valley's Municipal Water (District) will hold a PUBLIC HEARING on June 16, 2021, for the purposes of adopting its 2020 Urban Water Management Plan and its Water Shortage Contingency Plan. The District's 2020 Urban Water Management Plan incorporates the District's Water Shortage Contingency Plan.

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Information regarding the District's PUBLIC HEARING follows:

Date: June 16, 2021

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Upper San Gabriel Valley Municipal Water District
602 E. Huntington Drive., Ste B
Monrovia, CA 91016

SUBJECT: Notice of Public Hearing for 2020 Urban Water Management Plan and Water Shortage Contingency Plan

Dear Agency Representative:

The Three Valley's Municipal Water (District) will hold a PUBLIC HEARING on June 16, 2021, for the purposes of adopting its 2020 Urban Water Management Plan and its Water Shortage Contingency Plan. The District's 2020 Urban Water Management Plan incorporates the District's Water Shortage Contingency Plan.

The 2020 Urban Water Management Plan and Water Shortage Contingency Plan were prepared pursuant to the "Urban Water Management Planning Act" and the California Water Code. The California Department of Water Resources requires every urban water supplier to prepare and adopt an Urban Water Management Plan, including the Water Shortage Contingency Plan, and periodically update the Urban Water Management Plan at least once every five years, in years ending in six and one.

Information regarding the District's PUBLIC HEARING follows:

Date: June 16, 2021

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Valencia Heights Water Co.
3009 Virginia Avenue
West Covina, CA 91791-2252

SUBJECT: Notice of Public Hearing for 2020 Urban Water Management Plan and Water Shortage Contingency Plan

Dear Agency Representative:

The Three Valley's Municipal Water (District) will hold a PUBLIC HEARING on June 16, 2021, for the purposes of adopting its 2020 Urban Water Management Plan and its Water Shortage Contingency Plan. The District's 2020 Urban Water Management Plan incorporates the District's Water Shortage Contingency Plan.

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Walnut Valley Water District
271 South Brea Canyon Road
Walnut, CA 91789

SUBJECT: Notice of Public Hearing for 2020 Urban Water Management Plan and Water Shortage Contingency Plan

Dear Agency Representative:

The Three Valley's Municipal Water (District) will hold a PUBLIC HEARING on June 16, 2021, for the purposes of adopting its 2020 Urban Water Management Plan and its Water Shortage Contingency Plan. The District's 2020 Urban Water Management Plan incorporates the District's Water Shortage Contingency Plan.

The 2020 Urban Water Management Plan and Water Shortage Contingency Plan were prepared pursuant to the "Urban Water Management Planning Act" and the California Water Code. The California Department of Water Resources requires every urban water supplier to prepare and adopt an Urban Water Management Plan, including the Water Shortage Contingency Plan, and periodically update the Urban Water Management Plan at least once every five years, in years ending in six and one.

Information regarding the District's PUBLIC HEARING follows:

Date: June 16, 2021

Time: 8:00 AM

Place: Remote video conference via GoToWebinar

The meeting registration link will be posted on the District's website at the following address:

https://www.threevalleys.com/calendar/

The District invites all interested entities to attend and present their comments. A copy of the draft 2020 Urban Water Management Plan and Water Shortage Contingency Plan will be available on the District's website. Please provide written comments no later than June 15, 2021, to the Chief Water Resources Officer Timothy Kellett, at (909) 621-5568 or by email, tkellett@tvmwd.com, Monday through Thursday, from 8:00 A.M. to 5:00 P.M.

City of Pomona
505 South Garey Avenue
Pomona, CA 91766

SUBJECT: Notice of Public Hearing for 2020 Urban Water Management Plan and Water Shortage Contingency Plan

Dear Agency Representative:

The Three Valley's Municipal Water (District) will hold a PUBLIC HEARING on June 16, 2021, for the purposes of adopting its 2020 Urban Water Management Plan and its Water Shortage Contingency Plan. The District's 2020 Urban Water Management Plan incorporates the District's Water Shortage Contingency Plan.

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Information regarding the District's PUBLIC HEARING follows:

Date: June 16, 2021

Time: 8:00 AM

Place: Remote video conference via GoToWebinar

The meeting registration link will be posted on the District's website at the following address:

https://www.threevalleys.com/calendar/

The District invites all interested entities to attend and present their comments. A copy of the draft 2020 Urban Water Management Plan and Water Shortage Contingency Plan will be available on the District's website. Please provide written comments no later than June 15, 2021, to the Chief Water Resources Officer Timothy Kellett, at (909) 621-5568 or by email, tkellett@tvmwd.com, Monday through Thursday, from 8:00 A.M. to 5:00 P.M.

City of Walnut
21201 La Puente Road
Walnut, CA 91789

SUBJECT: Notice of Public Hearing for 2020 Urban Water Management Plan and Water Shortage Contingency Plan

Dear Agency Representative:

The Three Valley's Municipal Water (District) will hold a PUBLIC HEARING on June 16, 2021, for the purposes of adopting its 2020 Urban Water Management Plan and its Water Shortage Contingency Plan. The District's 2020 Urban Water Management Plan incorporates the District's Water Shortage Contingency Plan.

The 2020 Urban Water Management Plan and Water Shortage Contingency Plan were prepared pursuant to the "Urban Water Management Planning Act" and the California Water Code. The California Department of Water Resources requires every urban water supplier to prepare and adopt an Urban Water Management Plan, including the Water Shortage Contingency Plan, and periodically update the Urban Water Management Plan at least once every five years, in years ending in six and one.

Information regarding the District's PUBLIC HEARING follows:

Date: June 16, 2021

Time: 8:00 AM

Place: Remote video conference via GoToWebinar

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https://www.threevalleys.com/calendar/

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Covina Irrigating Company
146 E. College Street
Covina, CA 91723

SUBJECT: Notice of Public Hearing for 2020 Urban Water Management Plan and Water Shortage Contingency Plan

Dear Agency Representative:

The Three Valley's Municipal Water (District) will hold a PUBLIC HEARING on June 16, 2021, for the purposes of adopting its 2020 Urban Water Management Plan and its Water Shortage Contingency Plan. The District's 2020 Urban Water Management Plan incorporates the District's Water Shortage Contingency Plan.

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Information regarding the District's PUBLIC HEARING follows:

Date: June 16, 2021

Time: 8:00 AM

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The District invites all interested entities to attend and present their comments. A copy of the draft 2020 Urban Water Management Plan and Water Shortage Contingency Plan will be available on the District's website. Please provide written comments no later than June 15, 2021, to the Chief Water Resources Officer Timothy Kellett, at (909) 621-5568 or by email, tkellett@tvmwd.com, Monday through Thursday, from 8:00 A.M. to 5:00 P.M.

Golden State Water Co.
401 South San Dimas Canyon Road,
San Dimas, CA 91773

SUBJECT: Notice of Public Hearing for 2020 Urban Water Management Plan and Water Shortage Contingency Plan

Dear Agency Representative:

The Three Valley's Municipal Water (District) will hold a PUBLIC HEARING on June 16, 2021, for the purposes of adopting its 2020 Urban Water Management Plan and its Water Shortage Contingency Plan. The District's 2020 Urban Water Management Plan incorporates the District's Water Shortage Contingency Plan.

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Inland Empire Utilities Agency
P.O. Box 9020
Chino Hills, CA 91709

SUBJECT: Notice of Public Hearing for 2020 Urban Water Management Plan and Water Shortage Contingency Plan

Dear Agency Representative:

The Three Valley's Municipal Water (District) will hold a PUBLIC HEARING on June 16, 2021, for the purposes of adopting its 2020 Urban Water Management Plan and its Water Shortage Contingency Plan. The District's 2020 Urban Water Management Plan incorporates the District's Water Shortage Contingency Plan.

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Los Angeles County
900 S Fremont Ave
Alhambra, CA 91803

SUBJECT: Notice of Public Hearing for 2020 Urban Water Management Plan and Water Shortage Contingency Plan

Dear Agency Representative:

The Three Valley's Municipal Water (District) will hold a PUBLIC HEARING on June 16, 2021, for the purposes of adopting its 2020 Urban Water Management Plan and its Water Shortage Contingency Plan. The District's 2020 Urban Water Management Plan incorporates the District's Water Shortage Contingency Plan.

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Main San Gabriel Basin Watermaster
725 N. Azusa Avenue
Azusa, CA 91702

SUBJECT: Notice of Public Hearing for 2020 Urban Water Management Plan and Water Shortage Contingency Plan

Dear Agency Representative:

The Three Valley's Municipal Water (District) will hold a PUBLIC HEARING on June 16, 2021, for the purposes of adopting its 2020 Urban Water Management Plan and its Water Shortage Contingency Plan. The District's 2020 Urban Water Management Plan incorporates the District's Water Shortage Contingency Plan.

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Metropolitan Water District
P.O. Box 54156
Los Angeles, CA 90054-0153

SUBJECT: Notice of Public Hearing for 2020 Urban Water Management Plan and Water Shortage Contingency Plan

Dear Agency Representative:

The Three Valley's Municipal Water (District) will hold a PUBLIC HEARING on June 16, 2021, for the purposes of adopting its 2020 Urban Water Management Plan and its Water Shortage Contingency Plan. The District's 2020 Urban Water Management Plan incorporates the District's Water Shortage Contingency Plan.

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Mt. San Antonio College
1100 N. Grand Avenue
Walnut, CA 91789

SUBJECT: Notice of Public Hearing for 2020 Urban Water Management Plan and Water Shortage Contingency Plan

Dear Agency Representative:

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Rowland Water District
3021 Fullerton Rd.
Rowland Heights, CA 91748

SUBJECT: Notice of Public Hearing for 2020 Urban Water Management Plan and Water Shortage Contingency Plan

Dear Agency Representative:

The Three Valley's Municipal Water (District) will hold a PUBLIC HEARING on June 16, 2021, for the purposes of adopting its 2020 Urban Water Management Plan and its Water Shortage Contingency Plan. The District's 2020 Urban Water Management Plan incorporates the District's Water Shortage Contingency Plan.

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APPENDIX E

CLIMATE CHANGE CONSIDERATIONS (CAL- ADAPT DATA)

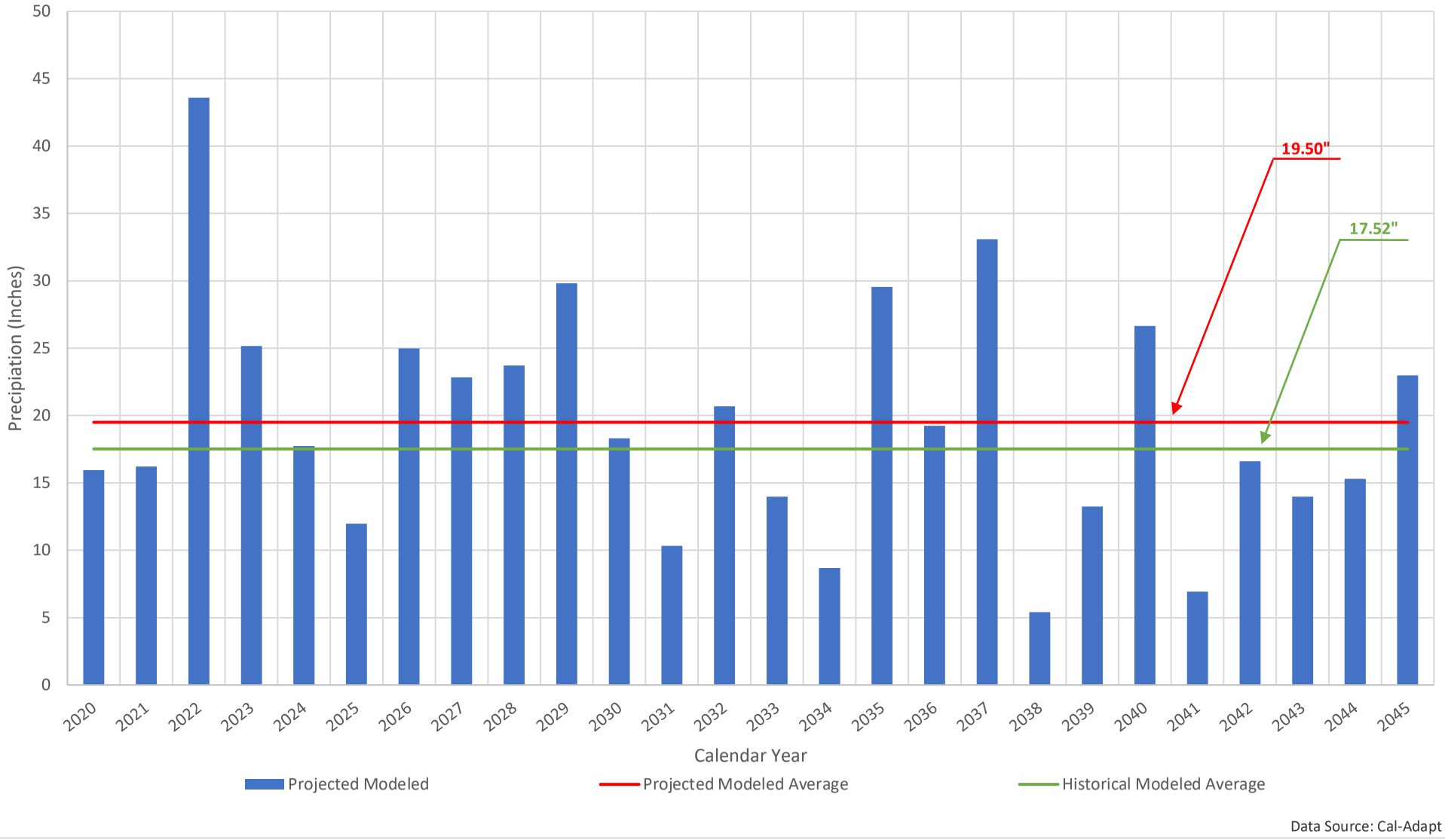
SIX BASINS

MODELED ANNUAL AVERAGE PRECIPITATION

CAL-ADAPT METHOD: RCP 4.5 (CANESM2)

CAL-ADAPT DATA

Six Basins
Modeled Annual Average Precipitation
Cal-Adapt Method: RCP 4.5 (CanESM2)



Data Source: Cal-Adapt

Notes:
Projected Modeled Average includes modeled years 2020 through 2045
Historical Modeled Average includes modeled years 1950 through 2019
Cal-Adapt defines the general circulation model (GCM) CanESM2 as an "average simulation"
Cal-Adapt defines RCP 4.5 as a scenario in which emissions peak around 2040, then decline

Item 8.E - Exhibit D

Cal-Adapt
Annual Averages Tool - Precipitation
Six Basins

location	User Defined Boundary - Six Basins
climate variable	Precipitation
units	inches
scenario	rcp45

Projected Modeled Average: **19.49755 [inches]**
Historical Modeled Average: **17.51762 [inches]**

name	date	Year	Historical Average	Modeled Average	value
CanESM2	Sun Jan 01 1950 00:00:00 GMT-0800 (Pacific Standard Time)	1950			4.201079
CanESM2	Mon Jan 01 1951 00:00:00 GMT-0800 (Pacific Standard Time)	1951			20.40083
CanESM2	Tue Jan 01 1952 00:00:00 GMT-0800 (Pacific Standard Time)	1952			18.94996
CanESM2	Thu Jan 01 1953 00:00:00 GMT-0800 (Pacific Standard Time)	1953			12.36318
CanESM2	Fri Jan 01 1954 00:00:00 GMT-0800 (Pacific Standard Time)	1954			19.69992
CanESM2	Sat Jan 01 1955 00:00:00 GMT-0800 (Pacific Standard Time)	1955			33.50637
CanESM2	Sun Jan 01 1956 00:00:00 GMT-0800 (Pacific Standard Time)	1956			7.10446
CanESM2	Tue Jan 01 1957 00:00:00 GMT-0800 (Pacific Standard Time)	1957			15.42141
CanESM2	Wed Jan 01 1958 00:00:00 GMT-0800 (Pacific Standard Time)	1958			7.379376
CanESM2	Thu Jan 01 1959 00:00:00 GMT-0800 (Pacific Standard Time)	1959			12.52233
CanESM2	Fri Jan 01 1960 00:00:00 GMT-0800 (Pacific Standard Time)	1960			16.48885
CanESM2	Sun Jan 01 1961 00:00:00 GMT-0800 (Pacific Standard Time)	1961			13.97585
CanESM2	Mon Jan 01 1962 00:00:00 GMT-0800 (Pacific Standard Time)	1962			27.92705
CanESM2	Tue Jan 01 1963 00:00:00 GMT-0800 (Pacific Standard Time)	1963			4.294066
CanESM2	Wed Jan 01 1964 00:00:00 GMT-0800 (Pacific Standard Time)	1964			33.00839
CanESM2	Fri Jan 01 1965 00:00:00 GMT-0800 (Pacific Standard Time)	1965			40.65964
CanESM2	Sat Jan 01 1966 00:00:00 GMT-0800 (Pacific Standard Time)	1966			15.50102
CanESM2	Sun Jan 01 1967 00:00:00 GMT-0800 (Pacific Standard Time)	1967			23.19079
CanESM2	Mon Jan 01 1968 00:00:00 GMT-0800 (Pacific Standard Time)	1968			18.24462
CanESM2	Wed Jan 01 1969 00:00:00 GMT-0800 (Pacific Standard Time)	1969			32.56126
CanESM2	Thu Jan 01 1970 00:00:00 GMT-0800 (Pacific Standard Time)	1970			15.2493
CanESM2	Fri Jan 01 1971 00:00:00 GMT-0800 (Pacific Standard Time)	1971			4.800886
CanESM2	Sat Jan 01 1972 00:00:00 GMT-0800 (Pacific Standard Time)	1972			20.27085
CanESM2	Mon Jan 01 1973 00:00:00 GMT-0800 (Pacific Standard Time)	1973			14.67815
CanESM2	Tue Jan 01 1974 00:00:00 GMT-0800 (Pacific Standard Time)	1974			39.64759
CanESM2	Wed Jan 01 1975 00:00:00 GMT-0800 (Pacific Standard Time)	1975			7.567862
CanESM2	Thu Jan 01 1976 00:00:00 GMT-0800 (Pacific Standard Time)	1976			16.29076
CanESM2	Sat Jan 01 1977 00:00:00 GMT-0800 (Pacific Standard Time)	1977			20.43862
CanESM2	Sun Jan 01 1978 00:00:00 GMT-0800 (Pacific Standard Time)	1978			14.85783
CanESM2	Mon Jan 01 1979 00:00:00 GMT-0800 (Pacific Standard Time)	1979			11.86421
CanESM2	Tue Jan 01 1980 00:00:00 GMT-0800 (Pacific Standard Time)	1980			7.27368
CanESM2	Thu Jan 01 1981 00:00:00 GMT-0800 (Pacific Standard Time)	1981			18.50218
CanESM2	Fri Jan 01 1982 00:00:00 GMT-0800 (Pacific Standard Time)	1982			26.57242
CanESM2	Sat Jan 01 1983 00:00:00 GMT-0800 (Pacific Standard Time)	1983			14.61697
CanESM2	Sun Jan 01 1984 00:00:00 GMT-0800 (Pacific Standard Time)	1984			16.37223
CanESM2	Tue Jan 01 1985 00:00:00 GMT-0800 (Pacific Standard Time)	1985			46.17095
CanESM2	Wed Jan 01 1986 00:00:00 GMT-0800 (Pacific Standard Time)	1986			10.72648
CanESM2	Thu Jan 01 1987 00:00:00 GMT-0800 (Pacific Standard Time)	1987			20.2851
CanESM2	Fri Jan 01 1988 00:00:00 GMT-0800 (Pacific Standard Time)	1988			11.26469
CanESM2	Sun Jan 01 1989 00:00:00 GMT-0800 (Pacific Standard Time)	1989			19.30683
CanESM2	Mon Jan 01 1990 00:00:00 GMT-0800 (Pacific Standard Time)	1990			22.14656
CanESM2	Tue Jan 01 1991 00:00:00 GMT-0800 (Pacific Standard Time)	1991			18.22413
CanESM2	Wed Jan 01 1992 00:00:00 GMT-0800 (Pacific Standard Time)	1992			18.05999
CanESM2	Fri Jan 01 1993 00:00:00 GMT-0800 (Pacific Standard Time)	1993			18.18666
CanESM2	Sat Jan 01 1994 00:00:00 GMT-0800 (Pacific Standard Time)	1994			18.30345
CanESM2	Sun Jan 01 1995 00:00:00 GMT-0800 (Pacific Standard Time)	1995			15.2176
CanESM2	Mon Jan 01 1996 00:00:00 GMT-0800 (Pacific Standard Time)	1996			11.5379

Cal-Adapt
Annual Averages Tool - Precipitation
Six Basins

location	User Defined Boundary - Six Basins
climate variable	Precipitation
units	inches
scenario	rcp45

Projected Modeled Average: **19.49755 [inches]**
Historical Modeled Average: **17.51762 [inches]**

name	date	Year	Historical Average	Modeled Average	value
CanESM2	Wed Jan 01 1997 00:00:00 GMT-0800 (Pacific Standard Time)	1997			46.25409
CanESM2	Thu Jan 01 1998 00:00:00 GMT-0800 (Pacific Standard Time)	1998			10.89383
CanESM2	Fri Jan 01 1999 00:00:00 GMT-0800 (Pacific Standard Time)	1999			9.330063
CanESM2	Sat Jan 01 2000 00:00:00 GMT-0800 (Pacific Standard Time)	2000			8.404417
CanESM2	Mon Jan 01 2001 00:00:00 GMT-0800 (Pacific Standard Time)	2001			11.25403
CanESM2	Tue Jan 01 2002 00:00:00 GMT-0800 (Pacific Standard Time)	2002			10.98351
CanESM2	Wed Jan 01 2003 00:00:00 GMT-0800 (Pacific Standard Time)	2003			16.14313
CanESM2	Thu Jan 01 2004 00:00:00 GMT-0800 (Pacific Standard Time)	2004			19.6381
CanESM2	Sat Jan 01 2005 00:00:00 GMT-0800 (Pacific Standard Time)	2005			26.81206
CanESM2	Sun Jan 01 2006 00:00:00 GMT-0800 (Pacific Standard Time)	2006			15.97155
CanESM2	Mon Jan 01 2007 00:00:00 GMT-0800 (Pacific Standard Time)	2007			4.729528
CanESM2	Tue Jan 01 2008 00:00:00 GMT-0800 (Pacific Standard Time)	2008			15.40752
CanESM2	Thu Jan 01 2009 00:00:00 GMT-0800 (Pacific Standard Time)	2009			13.18498
CanESM2	Fri Jan 01 2010 00:00:00 GMT-0800 (Pacific Standard Time)	2010			14.39873
CanESM2	Sat Jan 01 2011 00:00:00 GMT-0800 (Pacific Standard Time)	2011			23.51785
CanESM2	Sun Jan 01 2012 00:00:00 GMT-0800 (Pacific Standard Time)	2012			6.940584
CanESM2	Tue Jan 01 2013 00:00:00 GMT-0800 (Pacific Standard Time)	2013			9.914925
CanESM2	Wed Jan 01 2014 00:00:00 GMT-0800 (Pacific Standard Time)	2014			9.41394
CanESM2	Thu Jan 01 2015 00:00:00 GMT-0800 (Pacific Standard Time)	2015			26.53089
CanESM2	Fri Jan 01 2016 00:00:00 GMT-0800 (Pacific Standard Time)	2016			38.64468
CanESM2	Sun Jan 01 2017 00:00:00 GMT-0800 (Pacific Standard Time)	2017			13.08106
CanESM2	Mon Jan 01 2018 00:00:00 GMT-0800 (Pacific Standard Time)	2018			6.37771
CanESM2	Tue Jan 01 2019 00:00:00 GMT-0800 (Pacific Standard Time)	2019	17.51762435		12.5722
CanESM2	Wed Jan 01 2020 00:00:00 GMT-0800 (Pacific Standard Time)	2020	17.51762435	19.49754959	15.94143
CanESM2	Fri Jan 01 2021 00:00:00 GMT-0800 (Pacific Standard Time)	2021	17.51762435	19.49754959	16.22121
CanESM2	Sat Jan 01 2022 00:00:00 GMT-0800 (Pacific Standard Time)	2022	17.51762435	19.49754959	43.5898
CanESM2	Sun Jan 01 2023 00:00:00 GMT-0800 (Pacific Standard Time)	2023	17.51762435	19.49754959	25.16923
CanESM2	Mon Jan 01 2024 00:00:00 GMT-0800 (Pacific Standard Time)	2024	17.51762435	19.49754959	17.73811
CanESM2	Wed Jan 01 2025 00:00:00 GMT-0800 (Pacific Standard Time)	2025	17.51762435	19.49754959	11.96425
CanESM2	Thu Jan 01 2026 00:00:00 GMT-0800 (Pacific Standard Time)	2026	17.51762435	19.49754959	24.97445
CanESM2	Fri Jan 01 2027 00:00:00 GMT-0800 (Pacific Standard Time)	2027	17.51762435	19.49754959	22.82727
CanESM2	Sat Jan 01 2028 00:00:00 GMT-0800 (Pacific Standard Time)	2028	17.51762435	19.49754959	23.72014
CanESM2	Mon Jan 01 2029 00:00:00 GMT-0800 (Pacific Standard Time)	2029	17.51762435	19.49754959	29.82127
CanESM2	Tue Jan 01 2030 00:00:00 GMT-0800 (Pacific Standard Time)	2030	17.51762435	19.49754959	18.30723
CanESM2	Wed Jan 01 2031 00:00:00 GMT-0800 (Pacific Standard Time)	2031	17.51762435	19.49754959	10.32195
CanESM2	Thu Jan 01 2032 00:00:00 GMT-0800 (Pacific Standard Time)	2032	17.51762435	19.49754959	20.69384
CanESM2	Sat Jan 01 2033 00:00:00 GMT-0800 (Pacific Standard Time)	2033	17.51762435	19.49754959	13.9828
CanESM2	Sun Jan 01 2034 00:00:00 GMT-0800 (Pacific Standard Time)	2034	17.51762435	19.49754959	8.676262
CanESM2	Mon Jan 01 2035 00:00:00 GMT-0800 (Pacific Standard Time)	2035	17.51762435	19.49754959	29.55344
CanESM2	Tue Jan 01 2036 00:00:00 GMT-0800 (Pacific Standard Time)	2036	17.51762435	19.49754959	19.24372
CanESM2	Thu Jan 01 2037 00:00:00 GMT-0800 (Pacific Standard Time)	2037	17.51762435	19.49754959	33.09027
CanESM2	Fri Jan 01 2038 00:00:00 GMT-0800 (Pacific Standard Time)	2038	17.51762435	19.49754959	5.411287
CanESM2	Sat Jan 01 2039 00:00:00 GMT-0800 (Pacific Standard Time)	2039	17.51762435	19.49754959	13.24884
CanESM2	Sun Jan 01 2040 00:00:00 GMT-0800 (Pacific Standard Time)	2040	17.51762435	19.49754959	26.64721
CanESM2	Tue Jan 01 2041 00:00:00 GMT-0800 (Pacific Standard Time)	2041	17.51762435	19.49754959	6.930396
CanESM2	Wed Jan 01 2042 00:00:00 GMT-0800 (Pacific Standard Time)	2042	17.51762435	19.49754959	16.59915
CanESM2	Thu Jan 01 2043 00:00:00 GMT-0800 (Pacific Standard Time)	2043	17.51762435	19.49754959	13.97844

Cal-Adapt
Annual Averages Tool - Precipitation
Six Basins

location	User Defined Boundary - Six Basins
climate variable	Precipitation
units	inches
scenario	rcp45

Projected Modeled Average: **19.49755 [inches]**
Historical Modeled Average: **17.51762 [inches]**

name	date	Year	Historical Average	Modeled Average	value
CanESM2	Fri Jan 01 2044 00:00:00 GMT-0800 (Pacific Standard Time)	2044	17.51762435	19.49754959	15.29868
CanESM2	Sun Jan 01 2045 00:00:00 GMT-0800 (Pacific Standard Time)	2045	17.51762435	19.49754959	22.98559
CanESM2	Mon Jan 01 2046 00:00:00 GMT-0800 (Pacific Standard Time)	2046	17.51762435		30.46249
CanESM2	Tue Jan 01 2047 00:00:00 GMT-0800 (Pacific Standard Time)	2047	17.51762435		26.68258
CanESM2	Wed Jan 01 2048 00:00:00 GMT-0800 (Pacific Standard Time)	2048	17.51762435		23.36843
CanESM2	Fri Jan 01 2049 00:00:00 GMT-0800 (Pacific Standard Time)	2049	17.51762435		12.27969
CanESM2	Sat Jan 01 2050 00:00:00 GMT-0800 (Pacific Standard Time)	2050	17.51762435		14.16423
CanESM2	Sun Jan 01 2051 00:00:00 GMT-0800 (Pacific Standard Time)	2051	17.51762435		9.334493
CanESM2	Mon Jan 01 2052 00:00:00 GMT-0800 (Pacific Standard Time)	2052	17.51762435		29.99803
CanESM2	Wed Jan 01 2053 00:00:00 GMT-0800 (Pacific Standard Time)	2053	17.51762435		12.3322
CanESM2	Thu Jan 01 2054 00:00:00 GMT-0800 (Pacific Standard Time)	2054	17.51762435		15.12671
CanESM2	Fri Jan 01 2055 00:00:00 GMT-0800 (Pacific Standard Time)	2055	17.51762435		11.98962
CanESM2	Sat Jan 01 2056 00:00:00 GMT-0800 (Pacific Standard Time)	2056	17.51762435		22.28885
CanESM2	Mon Jan 01 2057 00:00:00 GMT-0800 (Pacific Standard Time)	2057	17.51762435		20.76345
CanESM2	Tue Jan 01 2058 00:00:00 GMT-0800 (Pacific Standard Time)	2058	17.51762435		7.562494
CanESM2	Wed Jan 01 2059 00:00:00 GMT-0800 (Pacific Standard Time)	2059	17.51762435		30.7944
CanESM2	Thu Jan 01 2060 00:00:00 GMT-0800 (Pacific Standard Time)	2060	17.51762435		31.8781
CanESM2	Sat Jan 01 2061 00:00:00 GMT-0800 (Pacific Standard Time)	2061	17.51762435		8.705806
CanESM2	Sun Jan 01 2062 00:00:00 GMT-0800 (Pacific Standard Time)	2062	17.51762435		13.89782
CanESM2	Mon Jan 01 2063 00:00:00 GMT-0800 (Pacific Standard Time)	2063	17.51762435		5.24434
CanESM2	Tue Jan 01 2064 00:00:00 GMT-0800 (Pacific Standard Time)	2064	17.51762435		10.16327
CanESM2	Thu Jan 01 2065 00:00:00 GMT-0800 (Pacific Standard Time)	2065	17.51762435		15.80949
CanESM2	Fri Jan 01 2066 00:00:00 GMT-0800 (Pacific Standard Time)	2066	17.51762435		17.53488
CanESM2	Sat Jan 01 2067 00:00:00 GMT-0800 (Pacific Standard Time)	2067	17.51762435		23.51852
CanESM2	Sun Jan 01 2068 00:00:00 GMT-0800 (Pacific Standard Time)	2068	17.51762435		20.86315
CanESM2	Tue Jan 01 2069 00:00:00 GMT-0800 (Pacific Standard Time)	2069	17.51762435		29.16424
CanESM2	Wed Jan 01 2070 00:00:00 GMT-0800 (Pacific Standard Time)	2070	17.51762435		28.18645
CanESM2	Thu Jan 01 2071 00:00:00 GMT-0800 (Pacific Standard Time)	2071	17.51762435		25.28678
CanESM2	Fri Jan 01 2072 00:00:00 GMT-0800 (Pacific Standard Time)	2072	17.51762435		7.867403
CanESM2	Sun Jan 01 2073 00:00:00 GMT-0800 (Pacific Standard Time)	2073	17.51762435		26.28262
CanESM2	Mon Jan 01 2074 00:00:00 GMT-0800 (Pacific Standard Time)	2074	17.51762435		22.35348
CanESM2	Tue Jan 01 2075 00:00:00 GMT-0800 (Pacific Standard Time)	2075	17.51762435		24.61107
CanESM2	Wed Jan 01 2076 00:00:00 GMT-0800 (Pacific Standard Time)	2076	17.51762435		13.65847
CanESM2	Fri Jan 01 2077 00:00:00 GMT-0800 (Pacific Standard Time)	2077	17.51762435		27.9814
CanESM2	Sat Jan 01 2078 00:00:00 GMT-0800 (Pacific Standard Time)	2078	17.51762435		23.12027
CanESM2	Sun Jan 01 2079 00:00:00 GMT-0800 (Pacific Standard Time)	2079	17.51762435		22.79568
CanESM2	Mon Jan 01 2080 00:00:00 GMT-0800 (Pacific Standard Time)	2080	17.51762435		54.87732
CanESM2	Wed Jan 01 2081 00:00:00 GMT-0800 (Pacific Standard Time)	2081	17.51762435		19.47233
CanESM2	Thu Jan 01 2082 00:00:00 GMT-0800 (Pacific Standard Time)	2082	17.51762435		17.02028
CanESM2	Fri Jan 01 2083 00:00:00 GMT-0800 (Pacific Standard Time)	2083	17.51762435		18.40046
CanESM2	Sat Jan 01 2084 00:00:00 GMT-0800 (Pacific Standard Time)	2084	17.51762435		26.26691
CanESM2	Mon Jan 01 2085 00:00:00 GMT-0800 (Pacific Standard Time)	2085	17.51762435		8.721385
CanESM2	Tue Jan 01 2086 00:00:00 GMT-0800 (Pacific Standard Time)	2086	17.51762435		32.41551
CanESM2	Wed Jan 01 2087 00:00:00 GMT-0800 (Pacific Standard Time)	2087	17.51762435		10.16026
CanESM2	Thu Jan 01 2088 00:00:00 GMT-0800 (Pacific Standard Time)	2088	17.51762435		39.8021
CanESM2	Sat Jan 01 2089 00:00:00 GMT-0800 (Pacific Standard Time)	2089	17.51762435		19.51205
CanESM2	Sun Jan 01 2090 00:00:00 GMT-0800 (Pacific Standard Time)	2090	17.51762435		13.88488

Cal-Adapt
Annual Averages Tool - Precipitation
Six Basins

location	User Defined Boundary - Six Basins
climate variable	Precipitation
units	inches
scenario	rcp45

Projected Modeled Average: **19.49755 [inches]**
Historical Modeled Average: **17.51762 [inches]**

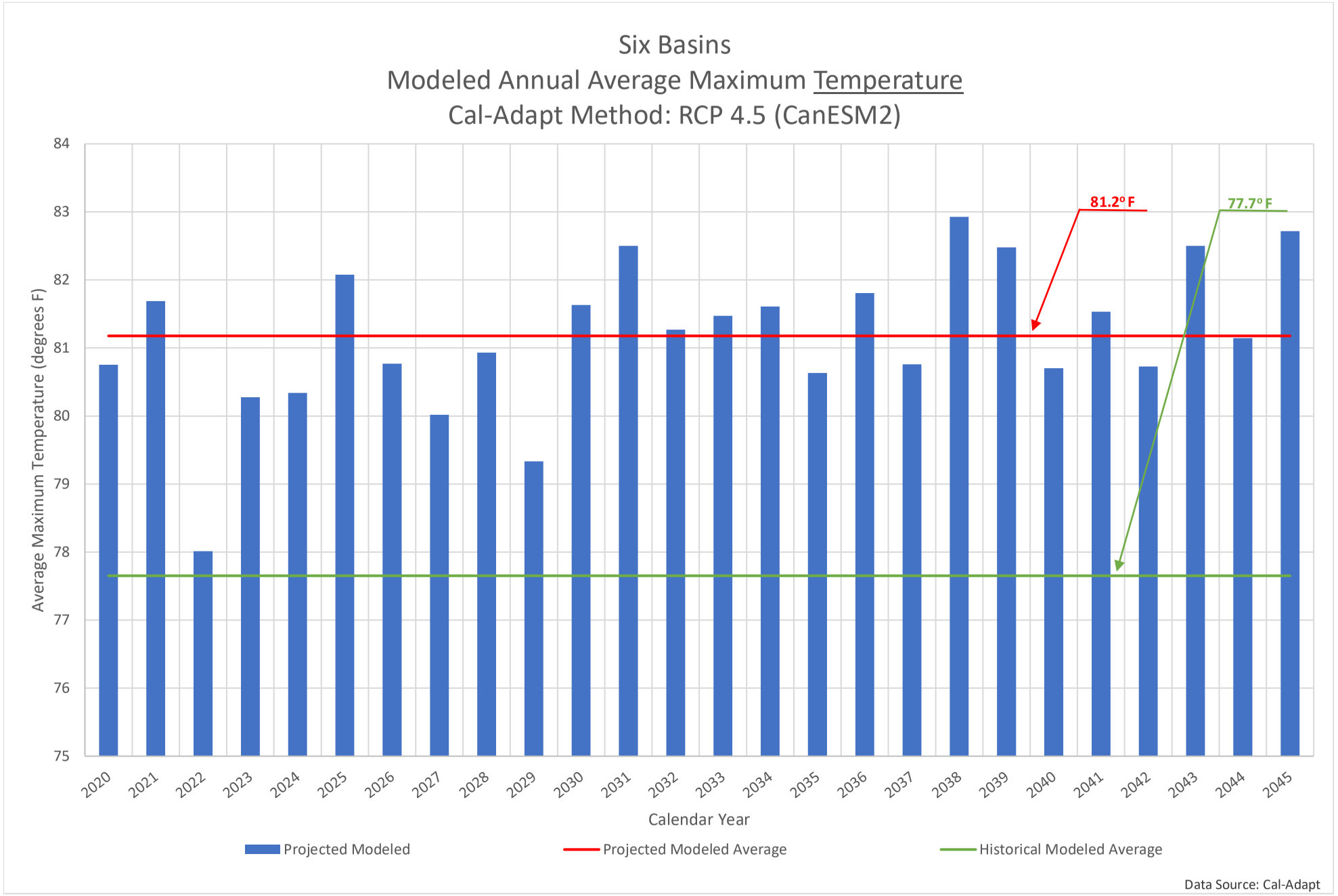
name	date	Year	Historical Average	Modeled Average	value
CanESM2	Mon Jan 01 2091 00:00:00 GMT-0800 (Pacific Standard Time)	2091	17.51762435		10.17292
CanESM2	Tue Jan 01 2092 00:00:00 GMT-0800 (Pacific Standard Time)	2092	17.51762435		6.335564
CanESM2	Thu Jan 01 2093 00:00:00 GMT-0800 (Pacific Standard Time)	2093	17.51762435		35.78071
CanESM2	Fri Jan 01 2094 00:00:00 GMT-0800 (Pacific Standard Time)	2094	17.51762435		20.5925
CanESM2	Sat Jan 01 2095 00:00:00 GMT-0800 (Pacific Standard Time)	2095	17.51762435		8.348426
CanESM2	Sun Jan 01 2096 00:00:00 GMT-0800 (Pacific Standard Time)	2096	17.51762435		13.60034
CanESM2	Tue Jan 01 2097 00:00:00 GMT-0800 (Pacific Standard Time)	2097	17.51762435		21.29803
CanESM2	Wed Jan 01 2098 00:00:00 GMT-0800 (Pacific Standard Time)	2098	17.51762435		26.0433
CanESM2	Thu Jan 01 2099 00:00:00 GMT-0800 (Pacific Standard Time)	2099	17.51762435		13.88598
CanESM2	Fri Jan 01 2100 00:00:00 GMT-0800 (Pacific Standard Time)	2100	17.51762435		19.36153

SIX BASINS

MODELED ANNUAL AVERAGE TEMPERATURE

CAL-ADAPT METHOD: RCP 4.5 (CANESM2)

CAL-ADAPT DATA



Notes:
Projected Modeled Average includes modeled years 2020 through 2045
Historical Modeled Average includes modeled years 1950 through 2019
Cal-Adapt defines the general circulation model (GCM) CanESM2 as an "average simulation"
Cal-Adapt defines RCP 4.5 as a scenario in which emissions peak around 2040, then decline

Item 8.E - Exhibit D

Cal-Adapt
Annual Averages Tool - Maximum Temperature
Six Basins

location	User Defined Boundary - Six Basins
climate variable	Maximum Temperature
units	°F
scenario	rcp45

Projected Modeled Average: **81.17734 °F**
Historical Modeled Average: **77.6521 °F**

name	date	Year	Historical Average	Modeled Average	value
CanESM2	Sun Jan 01 1950 00:00:00 GMT-0800 (Pacific Standard Time)	1950			79.11843
CanESM2	Mon Jan 01 1951 00:00:00 GMT-0800 (Pacific Standard Time)	1951			77.21186
CanESM2	Tue Jan 01 1952 00:00:00 GMT-0800 (Pacific Standard Time)	1952			76.16514
CanESM2	Thu Jan 01 1953 00:00:00 GMT-0800 (Pacific Standard Time)	1953			76.99082
CanESM2	Fri Jan 01 1954 00:00:00 GMT-0800 (Pacific Standard Time)	1954			76.0918
CanESM2	Sat Jan 01 1955 00:00:00 GMT-0800 (Pacific Standard Time)	1955			75.30013
CanESM2	Sun Jan 01 1956 00:00:00 GMT-0800 (Pacific Standard Time)	1956			77.08365
CanESM2	Tue Jan 01 1957 00:00:00 GMT-0800 (Pacific Standard Time)	1957			77.05849
CanESM2	Wed Jan 01 1958 00:00:00 GMT-0800 (Pacific Standard Time)	1958			77.18396
CanESM2	Thu Jan 01 1959 00:00:00 GMT-0800 (Pacific Standard Time)	1959			78.19288
CanESM2	Fri Jan 01 1960 00:00:00 GMT-0800 (Pacific Standard Time)	1960			77.56661
CanESM2	Sun Jan 01 1961 00:00:00 GMT-0800 (Pacific Standard Time)	1961			75.85142
CanESM2	Mon Jan 01 1962 00:00:00 GMT-0800 (Pacific Standard Time)	1962			76.96335
CanESM2	Tue Jan 01 1963 00:00:00 GMT-0800 (Pacific Standard Time)	1963			79.77442
CanESM2	Wed Jan 01 1964 00:00:00 GMT-0800 (Pacific Standard Time)	1964			75.2569
CanESM2	Fri Jan 01 1965 00:00:00 GMT-0800 (Pacific Standard Time)	1965			73.80181
CanESM2	Sat Jan 01 1966 00:00:00 GMT-0800 (Pacific Standard Time)	1966			75.74799
CanESM2	Sun Jan 01 1967 00:00:00 GMT-0800 (Pacific Standard Time)	1967			76.96972
CanESM2	Mon Jan 01 1968 00:00:00 GMT-0800 (Pacific Standard Time)	1968			76.51379
CanESM2	Wed Jan 01 1969 00:00:00 GMT-0800 (Pacific Standard Time)	1969			75.89427
CanESM2	Thu Jan 01 1970 00:00:00 GMT-0800 (Pacific Standard Time)	1970			75.39115
CanESM2	Fri Jan 01 1971 00:00:00 GMT-0800 (Pacific Standard Time)	1971			76.74011
CanESM2	Sat Jan 01 1972 00:00:00 GMT-0800 (Pacific Standard Time)	1972			77.33749
CanESM2	Mon Jan 01 1973 00:00:00 GMT-0800 (Pacific Standard Time)	1973			76.15047
CanESM2	Tue Jan 01 1974 00:00:00 GMT-0800 (Pacific Standard Time)	1974			76.81119
CanESM2	Wed Jan 01 1975 00:00:00 GMT-0800 (Pacific Standard Time)	1975			78.71127
CanESM2	Thu Jan 01 1976 00:00:00 GMT-0800 (Pacific Standard Time)	1976			76.97933
CanESM2	Sat Jan 01 1977 00:00:00 GMT-0800 (Pacific Standard Time)	1977			76.01441
CanESM2	Sun Jan 01 1978 00:00:00 GMT-0800 (Pacific Standard Time)	1978			78.06616
CanESM2	Mon Jan 01 1979 00:00:00 GMT-0800 (Pacific Standard Time)	1979			78.12768
CanESM2	Tue Jan 01 1980 00:00:00 GMT-0800 (Pacific Standard Time)	1980			79.6728
CanESM2	Thu Jan 01 1981 00:00:00 GMT-0800 (Pacific Standard Time)	1981			79.11189
CanESM2	Fri Jan 01 1982 00:00:00 GMT-0800 (Pacific Standard Time)	1982			75.72931
CanESM2	Sat Jan 01 1983 00:00:00 GMT-0800 (Pacific Standard Time)	1983			76.80042
CanESM2	Sun Jan 01 1984 00:00:00 GMT-0800 (Pacific Standard Time)	1984			76.16464
CanESM2	Tue Jan 01 1985 00:00:00 GMT-0800 (Pacific Standard Time)	1985			75.38417
CanESM2	Wed Jan 01 1986 00:00:00 GMT-0800 (Pacific Standard Time)	1986			77.23801
CanESM2	Thu Jan 01 1987 00:00:00 GMT-0800 (Pacific Standard Time)	1987			75.92047
CanESM2	Fri Jan 01 1988 00:00:00 GMT-0800 (Pacific Standard Time)	1988			76.79108
CanESM2	Sun Jan 01 1989 00:00:00 GMT-0800 (Pacific Standard Time)	1989			76.02232
CanESM2	Mon Jan 01 1990 00:00:00 GMT-0800 (Pacific Standard Time)	1990			76.97521
CanESM2	Tue Jan 01 1991 00:00:00 GMT-0800 (Pacific Standard Time)	1991			77.65027
CanESM2	Wed Jan 01 1992 00:00:00 GMT-0800 (Pacific Standard Time)	1992			74.94648
CanESM2	Fri Jan 01 1993 00:00:00 GMT-0800 (Pacific Standard Time)	1993			78.63558
CanESM2	Sat Jan 01 1994 00:00:00 GMT-0800 (Pacific Standard Time)	1994			75.45031
CanESM2	Sun Jan 01 1995 00:00:00 GMT-0800 (Pacific Standard Time)	1995			78.52709
CanESM2	Mon Jan 01 1996 00:00:00 GMT-0800 (Pacific Standard Time)	1996			78.87376
CanESM2	Wed Jan 01 1997 00:00:00 GMT-0800 (Pacific Standard Time)	1997			76.52142

Cal-Adapt
Annual Averages Tool - Maximum Temperature
Six Basins

location	User Defined Boundary - Six Basins
climate variable	Maximum Temperature
units	°F
scenario	rcp45

Projected Modeled Average: **81.17734 °F**
Historical Modeled Average: **77.6521 °F**

name	date	Year	Historical Average	Modeled Average	value
CanESM2	Thu Jan 01 1998 00:00:00 GMT-0800 (Pacific Standard Time)	1998			78.24408
CanESM2	Fri Jan 01 1999 00:00:00 GMT-0800 (Pacific Standard Time)	1999			78.96154
CanESM2	Sat Jan 01 2000 00:00:00 GMT-0800 (Pacific Standard Time)	2000			79.13018
CanESM2	Mon Jan 01 2001 00:00:00 GMT-0800 (Pacific Standard Time)	2001			79.16611
CanESM2	Tue Jan 01 2002 00:00:00 GMT-0800 (Pacific Standard Time)	2002			79.26389
CanESM2	Wed Jan 01 2003 00:00:00 GMT-0800 (Pacific Standard Time)	2003			77.20318
CanESM2	Thu Jan 01 2004 00:00:00 GMT-0800 (Pacific Standard Time)	2004			78.61284
CanESM2	Sat Jan 01 2005 00:00:00 GMT-0800 (Pacific Standard Time)	2005			78.3317
CanESM2	Sun Jan 01 2006 00:00:00 GMT-0800 (Pacific Standard Time)	2006			78.07231
CanESM2	Mon Jan 01 2007 00:00:00 GMT-0800 (Pacific Standard Time)	2007			79.80595
CanESM2	Tue Jan 01 2008 00:00:00 GMT-0800 (Pacific Standard Time)	2008			79.53404
CanESM2	Thu Jan 01 2009 00:00:00 GMT-0800 (Pacific Standard Time)	2009			80.11214
CanESM2	Fri Jan 01 2010 00:00:00 GMT-0800 (Pacific Standard Time)	2010			79.27762
CanESM2	Sat Jan 01 2011 00:00:00 GMT-0800 (Pacific Standard Time)	2011			79.95471
CanESM2	Sun Jan 01 2012 00:00:00 GMT-0800 (Pacific Standard Time)	2012			80.43091
CanESM2	Tue Jan 01 2013 00:00:00 GMT-0800 (Pacific Standard Time)	2013			81.51729
CanESM2	Wed Jan 01 2014 00:00:00 GMT-0800 (Pacific Standard Time)	2014			78.55626
CanESM2	Thu Jan 01 2015 00:00:00 GMT-0800 (Pacific Standard Time)	2015			78.62981
CanESM2	Fri Jan 01 2016 00:00:00 GMT-0800 (Pacific Standard Time)	2016			77.94388
CanESM2	Sun Jan 01 2017 00:00:00 GMT-0800 (Pacific Standard Time)	2017			79.30042
CanESM2	Mon Jan 01 2018 00:00:00 GMT-0800 (Pacific Standard Time)	2018			81.95817
CanESM2	Tue Jan 01 2019 00:00:00 GMT-0800 (Pacific Standard Time)	2019	77.65210214		80.15817
CanESM2	Wed Jan 01 2020 00:00:00 GMT-0800 (Pacific Standard Time)	2020	77.65210214	81.17733535	80.75182
CanESM2	Fri Jan 01 2021 00:00:00 GMT-0800 (Pacific Standard Time)	2021	77.65210214	81.17733535	81.68764
CanESM2	Sat Jan 01 2022 00:00:00 GMT-0800 (Pacific Standard Time)	2022	77.65210214	81.17733535	78.01282
CanESM2	Sun Jan 01 2023 00:00:00 GMT-0800 (Pacific Standard Time)	2023	77.65210214	81.17733535	80.27457
CanESM2	Mon Jan 01 2024 00:00:00 GMT-0800 (Pacific Standard Time)	2024	77.65210214	81.17733535	80.33972
CanESM2	Wed Jan 01 2025 00:00:00 GMT-0800 (Pacific Standard Time)	2025	77.65210214	81.17733535	82.07694
CanESM2	Thu Jan 01 2026 00:00:00 GMT-0800 (Pacific Standard Time)	2026	77.65210214	81.17733535	80.77044
CanESM2	Fri Jan 01 2027 00:00:00 GMT-0800 (Pacific Standard Time)	2027	77.65210214	81.17733535	80.01854
CanESM2	Sat Jan 01 2028 00:00:00 GMT-0800 (Pacific Standard Time)	2028	77.65210214	81.17733535	80.93172
CanESM2	Mon Jan 01 2029 00:00:00 GMT-0800 (Pacific Standard Time)	2029	77.65210214	81.17733535	79.33206
CanESM2	Tue Jan 01 2030 00:00:00 GMT-0800 (Pacific Standard Time)	2030	77.65210214	81.17733535	81.63078
CanESM2	Wed Jan 01 2031 00:00:00 GMT-0800 (Pacific Standard Time)	2031	77.65210214	81.17733535	82.50117
CanESM2	Thu Jan 01 2032 00:00:00 GMT-0800 (Pacific Standard Time)	2032	77.65210214	81.17733535	81.26966
CanESM2	Sat Jan 01 2033 00:00:00 GMT-0800 (Pacific Standard Time)	2033	77.65210214	81.17733535	81.47313
CanESM2	Sun Jan 01 2034 00:00:00 GMT-0800 (Pacific Standard Time)	2034	77.65210214	81.17733535	81.60914
CanESM2	Mon Jan 01 2035 00:00:00 GMT-0800 (Pacific Standard Time)	2035	77.65210214	81.17733535	80.63267
CanESM2	Tue Jan 01 2036 00:00:00 GMT-0800 (Pacific Standard Time)	2036	77.65210214	81.17733535	81.80695
CanESM2	Thu Jan 01 2037 00:00:00 GMT-0800 (Pacific Standard Time)	2037	77.65210214	81.17733535	80.76033
CanESM2	Fri Jan 01 2038 00:00:00 GMT-0800 (Pacific Standard Time)	2038	77.65210214	81.17733535	82.92805
CanESM2	Sat Jan 01 2039 00:00:00 GMT-0800 (Pacific Standard Time)	2039	77.65210214	81.17733535	82.47948
CanESM2	Sun Jan 01 2040 00:00:00 GMT-0800 (Pacific Standard Time)	2040	77.65210214	81.17733535	80.702
CanESM2	Tue Jan 01 2041 00:00:00 GMT-0800 (Pacific Standard Time)	2041	77.65210214	81.17733535	81.5319
CanESM2	Wed Jan 01 2042 00:00:00 GMT-0800 (Pacific Standard Time)	2042	77.65210214	81.17733535	80.72924
CanESM2	Thu Jan 01 2043 00:00:00 GMT-0800 (Pacific Standard Time)	2043	77.65210214	81.17733535	82.4998
CanESM2	Fri Jan 01 2044 00:00:00 GMT-0800 (Pacific Standard Time)	2044	77.65210214	81.17733535	81.14464
CanESM2	Sun Jan 01 2045 00:00:00 GMT-0800 (Pacific Standard Time)	2045	77.65210214	81.17733535	82.71552

Cal-Adapt
Annual Averages Tool - Maximum Temperature
Six Basins

location	User Defined Boundary - Six Basins
climate variable	Maximum Temperature
units	°F
scenario	rcp45

Projected Modeled Average: **81.17734 °F**
Historical Modeled Average: **77.6521 °F**

name	date	Year	Historical Average	Modeled Average	value
CanESM2	Mon Jan 01 2046 00:00:00 GMT-0800 (Pacific Standard Time)	2046			81.4082
CanESM2	Tue Jan 01 2047 00:00:00 GMT-0800 (Pacific Standard Time)	2047			80.99226
CanESM2	Wed Jan 01 2048 00:00:00 GMT-0800 (Pacific Standard Time)	2048			81.58156
CanESM2	Fri Jan 01 2049 00:00:00 GMT-0800 (Pacific Standard Time)	2049			81.49949
CanESM2	Sat Jan 01 2050 00:00:00 GMT-0800 (Pacific Standard Time)	2050			82.41422
CanESM2	Sun Jan 01 2051 00:00:00 GMT-0800 (Pacific Standard Time)	2051			82.49519
CanESM2	Mon Jan 01 2052 00:00:00 GMT-0800 (Pacific Standard Time)	2052			81.14502
CanESM2	Wed Jan 01 2053 00:00:00 GMT-0800 (Pacific Standard Time)	2053			82.52161
CanESM2	Thu Jan 01 2054 00:00:00 GMT-0800 (Pacific Standard Time)	2054			83.74257
CanESM2	Fri Jan 01 2055 00:00:00 GMT-0800 (Pacific Standard Time)	2055			84.49997
CanESM2	Sat Jan 01 2056 00:00:00 GMT-0800 (Pacific Standard Time)	2056			82.3945
CanESM2	Mon Jan 01 2057 00:00:00 GMT-0800 (Pacific Standard Time)	2057			81.98059
CanESM2	Tue Jan 01 2058 00:00:00 GMT-0800 (Pacific Standard Time)	2058			84.85472
CanESM2	Wed Jan 01 2059 00:00:00 GMT-0800 (Pacific Standard Time)	2059			82.18087
CanESM2	Thu Jan 01 2060 00:00:00 GMT-0800 (Pacific Standard Time)	2060			81.14321
CanESM2	Sat Jan 01 2061 00:00:00 GMT-0800 (Pacific Standard Time)	2061			84.00196
CanESM2	Sun Jan 01 2062 00:00:00 GMT-0800 (Pacific Standard Time)	2062			84.03195
CanESM2	Mon Jan 01 2063 00:00:00 GMT-0800 (Pacific Standard Time)	2063			84.51447
CanESM2	Tue Jan 01 2064 00:00:00 GMT-0800 (Pacific Standard Time)	2064			84.59566
CanESM2	Thu Jan 01 2065 00:00:00 GMT-0800 (Pacific Standard Time)	2065			82.6541
CanESM2	Fri Jan 01 2066 00:00:00 GMT-0800 (Pacific Standard Time)	2066			82.07968
CanESM2	Sat Jan 01 2067 00:00:00 GMT-0800 (Pacific Standard Time)	2067			80.55055
CanESM2	Sun Jan 01 2068 00:00:00 GMT-0800 (Pacific Standard Time)	2068			81.78151
CanESM2	Tue Jan 01 2069 00:00:00 GMT-0800 (Pacific Standard Time)	2069			82.90388
CanESM2	Wed Jan 01 2070 00:00:00 GMT-0800 (Pacific Standard Time)	2070			81.9434
CanESM2	Thu Jan 01 2071 00:00:00 GMT-0800 (Pacific Standard Time)	2071			82.59351
CanESM2	Fri Jan 01 2072 00:00:00 GMT-0800 (Pacific Standard Time)	2072			84.91525
CanESM2	Sun Jan 01 2073 00:00:00 GMT-0800 (Pacific Standard Time)	2073			82.06628
CanESM2	Mon Jan 01 2074 00:00:00 GMT-0800 (Pacific Standard Time)	2074			85.02094
CanESM2	Tue Jan 01 2075 00:00:00 GMT-0800 (Pacific Standard Time)	2075			83.11915
CanESM2	Wed Jan 01 2076 00:00:00 GMT-0800 (Pacific Standard Time)	2076			83.45704
CanESM2	Fri Jan 01 2077 00:00:00 GMT-0800 (Pacific Standard Time)	2077			83.7601
CanESM2	Sat Jan 01 2078 00:00:00 GMT-0800 (Pacific Standard Time)	2078			82.65548
CanESM2	Sun Jan 01 2079 00:00:00 GMT-0800 (Pacific Standard Time)	2079			83.93417
CanESM2	Mon Jan 01 2080 00:00:00 GMT-0800 (Pacific Standard Time)	2080			82.41152
CanESM2	Wed Jan 01 2081 00:00:00 GMT-0800 (Pacific Standard Time)	2081			82.67388
CanESM2	Thu Jan 01 2082 00:00:00 GMT-0800 (Pacific Standard Time)	2082			84.10952
CanESM2	Fri Jan 01 2083 00:00:00 GMT-0800 (Pacific Standard Time)	2083			82.22003
CanESM2	Sat Jan 01 2084 00:00:00 GMT-0800 (Pacific Standard Time)	2084			82.45695
CanESM2	Mon Jan 01 2085 00:00:00 GMT-0800 (Pacific Standard Time)	2085			83.29296
CanESM2	Tue Jan 01 2086 00:00:00 GMT-0800 (Pacific Standard Time)	2086			82.81176
CanESM2	Wed Jan 01 2087 00:00:00 GMT-0800 (Pacific Standard Time)	2087			84.6908
CanESM2	Thu Jan 01 2088 00:00:00 GMT-0800 (Pacific Standard Time)	2088			83.01923
CanESM2	Sat Jan 01 2089 00:00:00 GMT-0800 (Pacific Standard Time)	2089			83.10526
CanESM2	Sun Jan 01 2090 00:00:00 GMT-0800 (Pacific Standard Time)	2090			82.85554
CanESM2	Mon Jan 01 2091 00:00:00 GMT-0800 (Pacific Standard Time)	2091			82.54144
CanESM2	Tue Jan 01 2092 00:00:00 GMT-0800 (Pacific Standard Time)	2092			84.29156
CanESM2	Thu Jan 01 2093 00:00:00 GMT-0800 (Pacific Standard Time)	2093			82.85828

Cal-Adapt
Annual Averages Tool - Maximum Temperature
Six Basins

location	User Defined Boundary - Six Basins
climate variable	Maximum Temperature
units	°F
scenario	rcp45

Projected Modeled Average: **81.17734 °F**
Historical Modeled Average: **77.6521 °F**

name	date	Year	Historical Average	Modeled Average	value
CanESM2	Fri Jan 01 2094 00:00:00 GMT-0800 (Pacific Standard Time)	2094			81.32196
CanESM2	Sat Jan 01 2095 00:00:00 GMT-0800 (Pacific Standard Time)	2095			83.76718
CanESM2	Sun Jan 01 2096 00:00:00 GMT-0800 (Pacific Standard Time)	2096			83.06625
CanESM2	Tue Jan 01 2097 00:00:00 GMT-0800 (Pacific Standard Time)	2097			83.63205
CanESM2	Wed Jan 01 2098 00:00:00 GMT-0800 (Pacific Standard Time)	2098			82.17735
CanESM2	Thu Jan 01 2099 00:00:00 GMT-0800 (Pacific Standard Time)	2099			83.99185
CanESM2	Fri Jan 01 2100 00:00:00 GMT-0800 (Pacific Standard Time)	2100			84.48942

APPENDIX F

HISTORICAL SOURCES OF WATER SUPPLY AVAILABLE TO MWD

Table A.2-1
Sources of Water Supply to the Metropolitan Service Area

(Acre-Feet)[1]

Calendar Year	Local Supplies[4]	L.A. Aqueduct	Colorado River Aqueduct[2]	State Water Project[3]	Total
1976	1,424,000	430,000	778,000	638,000	3,270,000
1977	1,432,000	275,000	1,277,000	209,000	3,193,000
1978	1,339,000	472,000	710,000	576,000	3,096,000
1979	1,512,000	493,000	784,000	532,000	3,321,000
1980	1,467,000	515,000	791,000	560,000	3,416,000
1981	1,518,000	465,000	791,000	827,000	3,676,000
1982	1,422,000	483,000	686,000	737,000	3,410,000
1983	1,431,000	519,000	850,000	410,000	3,329,000
1984	1,653,000	516,000	1,150,000	498,000	3,926,000
1985	1,569,000	496,000	1,018,000	728,000	3,939,000
1986	1,554,000	515,000	1,001,000	756,000	3,952,000
1987	1,488,000	428,000	1,175,000	763,000	3,974,000
1988	1,532,000	360,000	1,199,000	957,000	4,175,000
1989	1,557,000	274,000	1,189,000	1,215,000	4,355,000
1990	1,480,000	107,000	1,183,000	1,458,000	4,343,000
1991	1,439,000	181,000	1,252,000	625,000	3,605,000
1992	1,519,000	177,000	1,153,000	744,000	3,704,000
1993	1,419,000	289,000	1,144,000	663,000	3,642,000
1994	1,537,000	133,000	1,263,000	845,000	3,890,000
1995	1,591,000	444,000	933,000	451,000	3,546,000
1996	1,707,000	422,000	1,089,000	663,000	4,016,000
1997	1,766,000	436,000	1,125,000	724,000	4,187,000
1998	1,740,000	467,000	941,000	521,000	3,830,000
1999	1,880,000	309,000	1,072,000	792,000	4,206,000
2000	1,748,000	255,000	1,217,000	1,473,000	4,845,000
2001	1,690,000	267,000	1,245,000	1,119,000	4,477,000
2002	1,703,000	179,000	1,198,000	1,415,000	4,636,000
2003	1,642,000	252,000	676,000	1,561,000	4,278,000
2004	1,617,000	203,000	741,000	1,802,000	4,506,000
2005	1,599,000	369,000	707,000	1,525,000	4,358,000
2006	1,719,000	379,000	514,000	1,695,000	4,448,000
2007	1,855,000	129,000	696,000	1,648,000	4,457,000
2008	1,832,000	147,000	896,000	1,037,000	4,023,000
2009	1,857,000	137,000	1,044,000	908,000	4,048,000
2010	1,766,000	251,000	837,000	1,129,000	4,071,000
2011	1,705,000	355,000	445,000	1,379,000	3,991,000
2012	1,919,000	167,000	455,000	1,252,000	3,794,000
2013	1,914,000	65,000	986,000	974,000	4,019,000
2014	1,889,000	64,000	1,168,000	607,000	3,729,000
2015	1,676,000	33,000	1,178,000	593,000	3,480,000
2016	1,746,000	96,000	961,000	1,009,000	3,812,000
2017	1,698,000	380,000	282,000	1,473,000	3,833,000
2018	1,785,000	246,000	757,000	845,000	3,633,000
2019	1,737,000	345,000	298,000	1,232,000	3,611,000

1. Not including system losses.
2. Colorado River Aqueduct supplies are gross Havasu diversions, minus return flows and deliveries Mexico, DWCV, and storage.
3. State Water Project Supplies include Table A, Art. 21, Art. 14(b), Art. 12(d), Art. 12(e), Art. 55, draws from storage & carryover, DWCV & other exchanges, transfers, Drought Water Bank and Dry Year Pool Purchases, Pools A&B, Flood Water, wheeling, Port Hueneme lease, and SBVMWD Purchases.
4. Local Supplies includes local groundwater, surface water, recycled water, groundwater recovery, and seawater desalination used for MI, AG, SW or GW recharge in MWD service area. Include Santa Ana River Baseflow at Prado Dam for groundwater recharge. Based on best available data at the time of publication, subject to updates without notice.

Table A.2-2 Historical Metropolitan Water Deliveries to Member Agencies

(Acre-feet) Calendar Year

Member Agency	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
City of Anaheim	23,000	23,000	29,000	20,000	20,000	18,000	14,000	13,000	26,000	15,000	13,000
City of Beverly Hills	11,000	10,000	10,000	11,000	11,000	12,000	10,000	9,000	10,000	10,000	10,000
City of Burbank	12,000	10,000	18,000	15,000	15,000	16,000	12,000	12,000	19,000	12,000	18,000
Calleguas Municipal Water District	112,000	96,000	97,000	106,000	112,000	96,000	77,000	86,000	92,000	93,000	90,000
Central Basin Municipal Water District	53,000	63,000	67,000	38,000	36,000	30,000	58,000	61,000	24,000	24,000	17,000
City of Compton	3,000	2,000	2,000	2,000	1,000	0	0	0	0	0	0
Eastern Municipal Water District	99,000	89,000	90,000	99,000	98,000	102,000	76,000	84,000	89,000	93,000	94,000
Foothill Municipal Water District	11,000	9,000	8,000	8,000	9,000	10,000	7,000	7,000	9,000	8,000	7,000
City of Fullerton	11,000	10,000	10,000	10,000	9,000	9,000	7,000	5,000	9,000	7,000	5,000
City of Glendale	19,000	16,000	18,000	18,000	19,000	19,000	15,000	15,000	15,000	16,000	14,000
Inland Empire Utilities Agency	68,000	61,000	76,000	57,000	64,000	68,000	38,000	44,000	62,000	67,000	66,000
Las Virgenes Municipal Water District	21,000	20,000	20,000	21,000	24,000	20,000	17,000	18,000	18,000	20,000	17,000
City of Long Beach	33,000	27,000	43,000	30,000	35,000	37,000	35,000	28,000	24,000	26,000	25,000
City of Los Angeles	352,000	206,000	120,000	328,000	439,000	403,000	384,000	318,000	115,000	218,000	103,000
Municipal Water District of Orange County	227,000	208,000	262,000	207,000	216,000	263,000	178,000	196,000	237,000	213,000	143,000
City of Pasadena	20,000	20,000	18,000	18,000	21,000	21,000	17,000	17,000	18,000	20,000	20,000
San Diego County Water Authority	540,000	447,000	407,000	455,000	492,000	571,000	501,000	436,000	358,000	374,000	319,000
City of San Fernando	0	0	0	0	0	0	0	0	0	0	0
City of San Marino	1,000	1,000	0	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
City of Santa Ana	14,000	13,000	16,000	12,000	15,000	11,000	10,000	4,000	14,000	9,000	7,000
City of Santa Monica	12,000	10,000	6,000	7,000	6,000	5,000	3,000	3,000	4,000	4,000	3,000
Three Valleys Municipal Water District	60,000	62,000	65,000	64,000	69,000	67,000	53,000	67,000	60,000	67,000	71,000
City of Torrance	18,000	17,000	17,000	17,000	17,000	17,000	14,000	16,000	16,000	15,000	14,000
Upper San Gabriel Valley Municipal Water District	6,000	46,000	35,000	16,000	30,000	22,000	50,000	46,000	46,000	56,000	103,000
West Basin Municipal Water District	120,000	120,000	112,000	117,000	121,000	118,000	109,000	109,000	113,000	117,000	113,000
Western Municipal Water District of Riverside County	87,000	75,000	72,000	79,000	76,000	82,000	58,000	65,000	71,000	73,000	54,000
Total of All Agencies	1,933,000	1,661000	1,618,000	1,756,000	1,956,000	2,018,000	1,744,000	1,660,000	1,450,000	1,558,000	1,327,000

APPENDIX G

SIX BASINS JUDGMENT

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Special Counsel for Southern California Water Company

SUPERIOR COURT OF THE STATE OF CALIFORNIA

FOR THE COUNTY OF LOS ANGELES

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

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CODES

HATCH AND PARENT
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PRELIMINARY FINDINGS

A. Complaint.

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

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

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

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

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

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

D. **Parties.**

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

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

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

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

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

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

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

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

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

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

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

E. **Settlement Negotiations.**

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

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

3. **Overdraft.**

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

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

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

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

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

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JUDGMENT

IT IS HEREBY ORDERED, ADJUDGED AND DECREED:

I. INTRODUCTION

A. Definitions.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Exhibit A: Six Basin Map

Exhibit B: General Description of the Six Basins Area

Exhibit C: Memorandum of Agreement between Watermaster and PVPA

Exhibit D: Base Annual Production Rights of Parties

Exhibit E: Description of Replenishment Programs

Exhibit F: City of Pomona Storage and Recovery Agreement

Exhibit G: Initial Operating Plan

II. FINDINGS AND HYDROLOGIC CONDITIONS

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

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

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

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

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

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

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

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

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

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

III. DECLARATION OF RIGHTS AND RESPONSIBILITIES

A. General Provisions.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

a. Highest priority shall be given to Replenishment Water.

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

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

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

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

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

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

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

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

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

D. Rights and Responsibilities of PVPA.

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

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

E. Non-parties.

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

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

IV. REMEDIES

A. Injunctions.

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

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

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

B. Continuing Jurisdiction

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

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

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

C. **Reservation of Other Remedies.**

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

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

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

V. WATERMASTER

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

City of La Verne	5 votes

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

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

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

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

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

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

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

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

1. Developing, Maintaining and Implementing the Operating Plan.

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

3. Acquiring or Investing in Facilities or Facility Improvements.

4. Acquiring or Investing in Monitoring Facilities.

5. Inspecting and Testing Measuring Devices.

6. Levying Assessments

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

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

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

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

11. Managing Watermaster Funds.

12. Cooperating with Federal, State and Local Agencies.

13. Entering and Administering Storage and Recovery Agreements.

14. Maintaining a Notice List.

15. Reporting Annually to the Court.

16. Engaging in Dispute Resolution.

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

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

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

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

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

VI. PHYSICAL SOLUTION FOR THE SIX BASINS AREA

A. General Purposes and Objectives.

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

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

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

B. Guidelines for Operation of Four Basins Area.

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

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

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

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

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

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

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

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

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

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

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

a. Establishing and adjusting the Operating Safe Yield.

b. Replenishment.

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

d. Acquisition and delivery of Replacement Water.

e. Standard terms and conditions of Storage Agreements.

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

g. Remediation of water quality problems.

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

i. Monitoring, reporting and verification programs.

j. Transfers.

k. Annual budgets.

l. Financial management.

m. Reporting to the Court.

n. Levying Assessments.

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

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

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

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

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

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

d. Although Pomona has no continuing obligation to spread or replenish, all waters spread in excess of its "historical replenishment" shall not be considered Replenishment and a part of the Operating Safe Yield of the Four Basins Area. The "historical replenishment" of Pomona shall be equal to a twelve (12) year annual average for the twelve (12) years immediately preceding the filing of the complaint

(1985-1996), which is determined to be one-hundred and thirty) acre feet. All water Pomona spreads, sinks or injects, or causes to be spread, sunk or injected (collectively augmentation) in excess of the historical replenishment shall not be considered a portion of the Operating Safe Yield, and shall not be allocated among the Parties pursuant to their Base Annual Production Rights. Pomona shall be entitled to produce such excess quantity in addition to its Base Annual Production Right under a pre-approved Storage and Recovery Agreement as provided in Article VIA, Section 10 in a form substantially similar to Exhibit F hereto, which is ordered to be executed by Watermaster and Pomona within sixty (60) days from the Effective Date. Measurement of Pomona's rights to recover water under any Storage and Recovery Agreement shall be administered as follows:

i. Pomona shall be entitled to recover the amount by which its augmentation of water over the twelve (12) year period ending with the current year exceeds 1,560 acre feet.

ii. If less than twelve (12) years have elapsed since the effective date of this Judgment, Pomona shall have the right to recover the amount by which the total number of acre feet of groundwater augmented by Pomona exceeds one hundred thirty (130) acre feet times the number of years elapsed.

iii. The amount in excess of Pomona's historical replenishment may be recovered by Pomona as provided in the Storage and Recovery Agreement.

10. **Storage and Recovery Pursuant to Storage and Recovery Agreements.** Watermaster may enter a Storage and Recovery Agreement with any Party holding a Base Annual Production Right or TVMWD so long as the Storage and Recovery of groundwater will not cause an unreasonably high groundwater table and physical damage. A Storage and Recovery Agreement shall contain uniform terms and conditions as set forth in the Operating Plan and may also contain

special terms and conditions as deemed appropriate by Watermaster. Water that may be stored pursuant to a Storage Agreement includes any water other than Replenishment Water including augmentation in excess of historical replenishment as expressly set forth under Article VIB, Section 9.

11. **Special Projects.** Any Party may propose for Watermaster approval, special projects including projects for controlling water levels or for remediation of water quality problems. Any such proposal shall be accompanied by an analysis that identifies the benefits of the project as well as any potential adverse impacts on any Party and any proposed mitigation measures. After notice to all Parties, if any Party files a written objection to the proposed project, Watermaster shall hold a hearing to determine whether the objections to the proposed project can be resolved. If there are no objections or if objections are resolved to the satisfaction of the Parties or if Watermaster determines that the objections are without merit, then Watermaster shall approve the proposed project. Groundwater produced under authorization as a Special Project shall not be eligible for the accrual of Carryover Rights unless authorized by Watermaster.

12. **Temporary Surplus Groundwater.** From time to time it may be in the best interest of the Parties, for the control of high groundwater, water quality remediation or other reasons, to produce groundwater over and above the then declared Operating Safe Yield. Therefore, from time to time, the Watermaster may declare a Temporary Surplus of groundwater to be available for production. The Parties' rights to the Temporary Surplus shall be in the same percentages as the Base Annual Production Right bears to the Operating Safe Yield. A Party's rights to temporary surplus shall not be eligible for the accrual of Carryover Rights set forth in Article IIIB, Section 2.

C. **Guidelines for Operation of the Two Basins Area.** All Production, Replenishment and Storage and Recovery rights for groundwater in the Two Basins Area are reserved to La Verne. However, La Verne's Production, Replenishment and Storage and Recovery of groundwater must not substantially injure other Parties.

1. **Replenishment.** La Verne shall have sole and complete discretion in the operation of Replenishment programs in the Two Basins Area provided that no other Party is substantially

injured by the program. La Verne shall provide written notice to Watermaster sixty (60) days in advance of any Replenishment program being undertaken.

2. **Storage and Recovery.** La Verne shall have sole and complete discretion in the operation of a Storage and Recovery program in the Two Basins Area provided that no other Party is substantially injured by the program. La Verne shall provide written notice to Watermaster sixty (60) days in advance of any Storage and Recovery program being undertaken. La Verne shall annually report the quantity of groundwater stored pursuant to a Storage and Recovery Program in the Two Basins Area.

3. **Production**. La Verne shall have sole and complete discretion to produce groundwater from the Two Basins Area provided that no other Party is substantially injured by such production. La Verne shall report its groundwater production to the Watermaster on a monthly basis.

VII. ASSESSMENTS

A. Ground Rules

1. **Authorization.** Subject to the continuing supervision of the Court and the limitations set forth in the Judgment, Watermaster is authorized to levy assessments to fund Replacement Water acquisition costs, administrative costs and other costs determined by Watermaster to be necessary for the implementation of the physical solution.

2. **Assessment Spread.** Excluding Replacement Water Assessments, all assessments levied by the Watermaster shall be spread such that Claremont, Pomona College and TVMWD (collectively, the "Minor Parties") shall each individually be assessed three and one half (3.5) percent of the total assessment , and eighty-nine and one half (89.5) percent of the total assessment is spread among La Verne, Pomona, Upland, San Antonio, West End, ~~Simpson~~ and SCWC (collectively, the "Major Parties") in proportion to their then-current holdings of Base Annual Production Rights, provided that for assessments other than for Replacement Water or administration (a) the total amount spread among Minor Parties shall not exceed sixty-thousand $60,000, escalated, in any year without their unanimous consent and (b) the total amount spread among the Major Parties in any year shall not exceed ten dollars ($10.00), escalated, per acre foot of their Base Annual Production Rights

without their unanimous consent. "Escalated" shall mean an annual adjustment in the specified dollar value based upon the Consumer Price Index for Southern California in the immediately preceding Year. No escalation adjustment shall be made until the Judgment has been in effect for twelve consecutive calendar months. PVPA shall not have any obligation to pay any assessments.

3. **Administrative Assessment.** Watermaster is authorized to levy an annual assessment that is sufficient to fund the costs of administering the Judgment. The administrative assessment shall not exceed the cost of Watermaster's administrative budget and shall be due and payable according to a schedule established by Watermaster. The administrative assessment for the first Year following entry of Judgment shall be $8.00 per AF and shall be due and payable on January 15, 1999. Late payment shall bear an interest penalty to be established annually by Watermaster. (escalated?)

4. **Replacement Water Assessments.** To the extent Watermaster must acquire and recharge the groundwater with Replacement Water pursuant to the terms of this Judgment, in order to fund the costs thereof, Watermaster is authorized to levy Replacement Water Assessments. Replacement Water Assessments levied against any Party shall be sufficient to pay the costs to replace such Party's production in excess of the sum of such Party's share of the Operating Safe Yield, any Carryover Right or Transfers and any storage recovery, Production of Temporary Surplus or pursuant to Special Project authorization, during the prior Year, minus any Replacement Water provided to Watermaster by the Party. Any Replacement Water Assessment shall be paid within sixty (60) days from the date of the written invoice from Watermaster.

VIII. DISPUTE RESOLUTION

A. **Entity for Resolution of Dispute.** All disputes arising under this Judgment initially shall be submitted to Watermaster for resolution in accordance with the provisions of this Article.

B. **Determination Regarding Substantial Injury.** Any Party having a right to be protected against "substantial injury" caused by any other Party; the right to proceed so long as not causing substantial injury to another party; or any other claim, right or remedy against any other Party arising under the provisions of this Judgment may file a written request with the Watermaster to hold a hearing.

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93101-2782

C. **Notice and Hearing.** Upon receipt of the written request, Watermaster shall provide written notice to each Party which generally describes the nature of the dispute. Thereafter, Watermaster shall cause an item to be placed on the agenda for the next regularly scheduled meeting of the Watermaster or if requested by the moving Party, call a special meeting for the purpose of providing a full hearing of the dispute and providing the interested Parties with notice and opportunity to be heard. No later than 30 days following the conclusion of the hearing(s) Watermaster shall issue a written decision which is dispositive of the dispute and which is supported by written findings. Any Party may seek review of an adverse decision of the Watermaster in accordance with the provisions of Article IX.

IX. ADDITIONAL PROVISIONS

A. Procedure

1. **Designation of Address for Notice and Service.** Each Party shall designate the name and address to be used for purposes of all subsequent notices and service herein, either by its endorsement on the Stipulation for Judgment or by a separate designation to be filed within thirty (30) days after Judgment has been entered. Said designation may be changed from time to time by filing a written notice of such change with Watermaster. Any Party desiring to be relieved of receiving notices of Watermaster activity may file a waiver of notice on a form to be provided by Watermaster. Watermaster shall maintain at all times a current list of Parties to whom notices are to be sent and their address for purposes of service. Watermaster shall also maintain a full current list of names and addresses of all Parties or their successors, as filed herein. Copies of such lists shall be available to any person. If no designation is made, a Party's designee shall be deemed to be, in order of priority: (i) the Party's attorney of record; (ii) if the Party does not have an attorney of record, the Party itself at the address on the Watermaster list.

2. **Service of Documents.** Delivery to or service upon any Party by Watermaster, by any other Party, or by the Court, of any document required to be served upon or delivered to a Party under or pursuant to this Judgment shall be deemed made if made by deposit thereof (or by copy thereof)

in the mail, first class postage prepaid, addressed to the designee of the Party and at the address shown in the latest designation filed by that Party.

3. **Recordation of Notice.** Within sixty (60) days following entry of this Judgment, Watermaster shall record in the office of the County Recorder of the Los Angeles and San Bernardino Counties a notice substantially complying with the notice content requirements set forth in *Section 2529 of the California Water Code* as it exists on the Effective Date.

4. **Judgment Binding on Successors.** Subject to specific provisions hereinbefore contained, this Judgment and all provisions thereof are applicable to and binding upon and inure to the benefit of not only the Parties to this action, but also to their respective heirs, executors, administrators, successors, assigns, lessees, licensees and to the agents, employees and attorneys in fact of any such Persons.

5. **Costs.** No Party stipulating to this Judgment shall recover any costs or attorneys fees in this proceeding from another stipulating Party. In any future proceedings, the costs of notice or service, shall be levied in accordance with the provisions of Article XIA, Section 6.

6. **Review Procedures.** Any action, decision, rule or procedure of Watermaster pursuant to this Judgment shall be subject to review by the Court on its own motion or on timely motion by any Party, as follows:

a. **Effective Date of Watermaster Action.** Any order, decision or action of Watermaster pursuant to this Judgment on noticed specific agenda items shall be deemed to have occurred on the date of the order, decision or action.

b. **Notice of Motion.** Any Party may, by a regularly noticed motion, petition the Court for review of Watermaster's action or decision pursuant to this Judgment. The motion shall be deemed to be filed when a copy, conformed as filed with the Court, has been delivered to Watermaster together with the service fee established by Watermaster sufficient to cover the cost to photocopy and mail the motion to each Party. Watermaster shall prepare copies and mail a copy of the motion to each Party or its designee according to the official service list which shall be maintained by Watermaster according to Article XIA, Section 1, a Party's obligation to serve notice

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of a motion upon the Parties is deemed to be satisfied by filing the motion as provided herein. Unless ordered by the Court, any such petition shall not operate to stay the effect of any Watermaster action or decision which is challenged.

c. **Time for Motion.** A motion to review any Watermaster action or decision shall be filed within ninety (90) days after such Watermaster action or decision, except that motions to review Watermaster Assessments hereunder shall be filed within thirty (30) days of mailing of notice of the Assessment.

d. **De Novo Nature of Proceeding.** Upon filing of a petition to review Watermaster action, the Watermaster shall notify the Parties of a date when the Court will take evidence and hear argument. The Court's review shall be de novo and the Watermaster decision or action shall have no evidentiary weight in such proceeding.

e. **Payment of Assessments.** Payment of Assessments levied by Watermaster hereunder shall be made when due, notwithstanding any motion for review of Watermaster action, decision, rules or procedures, including review of Watermaster Assessments.

B. **Entry of Judgment.** The Clerk shall enter this Judgment.

Dated: DEC 18 1998 1998.

Judge of the Superior Court

WILLIAM J. McVITTIE

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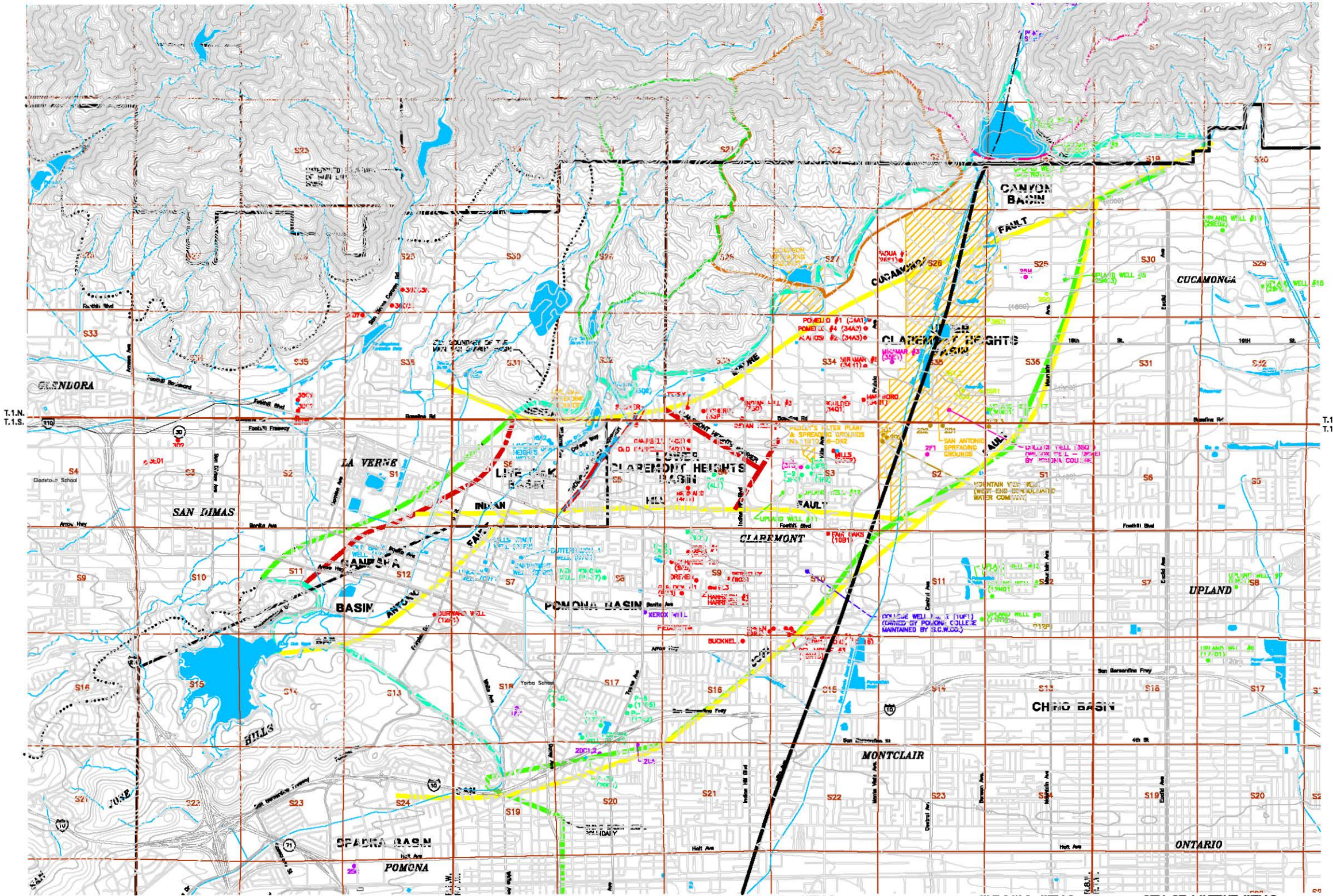

LEGEND

- THOMPSON CREEK WATERSHED BOUNDARY
- LIVE OAK WATERSHED BOUNDARY
- SAN ANTONIO WATERSHED BOUNDARY
- FAULT LINE
- LEGAL BOUNDARY OF ADJACENT BASIN
- GEOLOGIC FEATURE
- ALLUVIUM BOUNDARY
- MAIN SAN GABRIEL BASIN WATERSHED BOUNDARY
- MAIN SAN GABRIEL BASIN
- GROUNDWATER RECHARGE FACILITY

SCALE: 1" = 2000'

CITY OF UPLAND WELLS

18J02 — WELL AND NUMBER

STATE ID #	CITY ID #
24L1	UPLAND WELL #1 (DESTROYED)
24CD2	UPLAND WELL #1A
24ED1	UPLAND WELL #2
12M01	UPLAND WELL #3 (INACTIVE)
25DK3	UPLAND WELL #5
8N01	UPLAND WELL #7
11R1	UPLAND WELL #8 (INACTIVE)
17E01	UPLAND WELL #9
2N3	UPLAND WELL #11 (DESTROYED)
3M	UPLAND WELL #12 (DESTROYED)
11J01	UPLAND WELL #13 (INACTIVE)
25P01	UPLAND WELL #15
25EE2	UPLAND WELL #16
36N01	UPLAND WELL #17

CITY OF POMONA WELLS

18J02 — WELL AND NUMBER

STATE ID #	CITY ID #
17P7	P-1
18J2	P-3
17K2	P-7
17P5	P-8
9H2	P-9
8D1	P-15
4L1	P-20
17P3	P-32
20C1	P-33
8F1	P-37
3F2	T-1
3F4	T-2
3F3	T-3
3F5	T-4

S.G.W.Co. WELLS

18J02 — WELL AND NUMBER

STATE ID #	COMPANY ID #
34A3	ALAMOSA #2
9G3	BERKELEY
4N1	BERNARD
34Q1	BOULDER
9H2	CAMPBELL
35Q1	COLLEGE WELL
10N1	DEL MONTE #1
10N3	DEL MONTE #2
10N15	DEL MONTE #3
10N16	DEL MONTE #4
9F	DREHER
15R1	DURWARD WELL
10R1	FAIR OAKS
9E2	FORD #1
BM3	GARLOCK #1
8R1	GREEN
8L3	HARRISON #1
8L2	HARRISON #2
33Q	INDIAN HILL #3
34R1	MARLBORO
3G2	MILLS #1
35E1	MIRAMAR #3
34H1	MIRAMAR #5
28E1	PADUA #1
34A1	POMELLO #1
34A2	POMELLO #4
33P	POMEROY
8E5	RICHARDS 180

W.E.G.W.C. WELLS

18J02 — WELL AND NUMBER

STATE ID #	COMPANY ID #
25Q2	CANYON RIDGE WELL (DESTROYED)
1D2,3	LEMON HEIGHTS #4
2D1	MT. VIEW #1
2D2	MT. VIEW #2 (DESTROYED)
2F1	MT. VIEW #4
12P1	WEST END WELL #1 (INACTIVE)
2B1	WEST END WELL #3
2B2	WEST END WELL #4
25M1	UPLAND--FOOTHILL #1 (DESTROYED)
25L1,2	UPLAND--FOOTHILL #3

CITY OF LAVERNE WELLS

18J02 — WELL AND NUMBER

STATE ID #	CITY ID #
07D2	CARTWRIGHT
07F1	LINCOLN
05D2	MALONE 2 (INACTIVE)
07F2	MILLS TRACT
12A	OLD BALDY
08A2	LAVERNE HEIGHTS 1
08A1	LAVERNE HEIGHTS 2
05D3	LAVERNE HEIGHTS 3
07G1	BUTTERBAUGH 1 (DESTROYED)

S.A.W.C. WELLS

18J02 — WELL AND NUMBER

STATE ID #	COMPANY ID #
25G1	SAWC WELL #17 (INACTIVE)
30R1	SAWC WELL #25 (INACTIVE)
35J3	SAWC WELL #26
3K1,2	SAWC WELL #27 (INACTIVE)
36D1	SAWC WELL #28 (INACTIVE)

SIMPSON PAPER CO.

18J02 — WELL AND NUMBER

STATE ID #	COMPANY ID #
18K	WELL 6
20A	WELL 1
20C1	WELL 2A
20C2	WELL 2B
20C	WELL 3

KEY MONITORING WELLS

18J02 — WELL AND NUMBER

STATE ID #	COMPANY ID #
12M01	UPLAND WELL #3
2F1	MT. VIEW #4
35E1	MIRAMAR #3
35D1	COLLEGE WELL No. 1
3F3	T-3

POMONA COLLEGE

18J02 — WELL AND NUMBER

STATE ID #	COMPANY ID #
35Q1	COLLEGE WELL No. 1
10F1	COLLEGE WELL No. 2

PREPARED BY:

CIVILTEC Engineering Inc.
(626) 357-0686

SIX BASINS AREA
FINAL BOUNDARY MAP

DESIGN: JM/MR	CHECKED: WDB	SCALE: 1" = 2000'
DRAWN: PWH	J.N. 97106	SHEET 1 OF 1

Item 8.E - Exhibit D

EXHIBIT B

DESCRIPTION OF SIX BASINS AREA

The Six Basins Area lies between the San Jose Hills on the south, the Chino Basin on the east, the San Gabriel Mountains on the north and the Main San Gabriel Basin on the west. The boundaries of the Main San Gabriel Basin are set forth in the Judgment in the case of the *Upper San Gabriel Valley Municipal Water District vs. City of Alhambra, et al.*, Superior Court of the State of California, Los Angeles County, Case No. 924128, and the boundaries of the Chino Basin are set forth in the Judgment in the case of *Chino Basin Municipal Water District vs. City of Chino, et al, Superior Court for the State of California*, San Bernardino County, Case No. 164327. The Area consists of six interconnected groundwater basins. Each basin consists of all alluvium or other water-bearing formations lying beneath the surface of the basin. The approximate boundaries of the surface of each basin are shown on EXHIBIT A and are described generally as follows:

Canyon Basin. The surface of the Canyon Basin is bounded on the south and east by the surface trace of the Sierra Madre/Cucamonga Fault and on the north and west by the surface trace of the bedrock/alluvium interface between(a) the point of intersection in Township 1 North, Range 8 West, Section 31, SBB&M, of the Sierra Madre/Cucamonga Fault with easterly boundary of the Main San Gabriel Basin and (b) the point of intersection in Township 1 North, Range 8 West, Section 20, SBB&M, of the Sierra Madre/Cucamonga Fault with the San Gabriel Mountains. The northernmost extent of the bedrock/alluvium interface is assumed to be at the southern boundary of Township 1 North, Range 8 West, Section 13, SBB&M in San Antonio Canyon.

Upper Claremont Heights Basin. The surface of the Upper Claremont Heights Basin is bounded on the south by the surface trace of the Indian Hill Fault, on the east by the westerly boundary of the Chino Basin, on the north by the surface trace of the Sierra Madre/Cucamonga Fault and on the west by the surface trace of the Claremont Heights Barrier.

Lower Claremont Heights Basin. The surface of the Lower Claremont Heights Basin is bounded on the south by the surface trace of the Indian Hill Fault, on the east by the surface trace of the Claremont Heights Barrier, on the north by the surface trace of the Sierra Madre/Cucamonga Fault on the west by the surface trace of the Thompson Wash Barrier.

Live Oak Basin. The surface of the Live Oak Basin is bounded on the south by the surface trace of the Indian Hill Fault, on the east by the surface trace of the Thompson Wash Barrier, on the north by the surface trace of the Sierra Madre/Cucamonga Fault and on the west by the easterly boundary of the Main San Gabriel Basin.

Ganesha Basin. The surface of the Ganesha Basin is bounded on the south and east by the surface of the San Antonio Fault, on the north surface trace of the Indian Hill Fault, and on the west by easterly boundary of the Main San Gabriel Basin and by the surface trace of the bedrock/alluvium interface between (a) the point of intersection in Township 1 South, Range 9 West, Section 11, SBB&M, of the easterly boundary of the Main San Gabriel Basin with the San Jose Hills and (b)

the point of intersection in Township 1 South, Range 9 West, Section 14, SBB&M, of the surface trace of the San Antonio Fault with the San Jose Hills.

Pomona Basin. The surface of the Pomona Basin is bounded on the south by the surface trace of the bedrock/alluvium boundary between (a) the intersection in Township 1 South, Range 9 West, Section 14, SBB&M, of the surface trace of the San Antonio Fault with the San Jose Hills and (b) the intersection in Township 1 South, Range 8 West, Section 19, SBB&M, of the boundary of the Chino Basin, on the north by the surface trace of the Indian Hill Fault on the west by the surface of the San Antonio Fault.

MEMORANDUM OF AGREEMENT
BETWEEN THE POMONA VALLEY PROTECTIVE ASSOCIATION
AND WATERMASTER OF THE SIX BASINS RELATING TO
WATER SPREADING AND RELATED ACTIVITIES

THE AGREEMENT, made, entered into, and executed as of this ___ day of _____, 1999, by and between the Pomona Valley Protective Association ("PVPA"), and Watermaster of the Six Basins ("Watermaster"), relating to water spreading and related activities in connection with the Canyon Basin, the Upper Claremont Height Basin, the Lower Claremont Heights Basin, the Live Oak Basin, the Ganesha Basin and the Pomona Basin (collectively, the "Six Basins").

RECITALS

WHEREAS, the rights to groundwater in connection with the Six Basins were adjudicated by the court in an action entitled "*Southern California Water Company v. City of La Verne, et al,*" Case No. KC029152 in the Superior Court of the State of California, County of Los Angeles, (the "Judgment"); and

WHEREAS, the Judgment requires the Watermaster to determine annually an Operating Safe Yield of the Six Basins and to develop an Operating Plan, which will include the monitoring and direction of all production, replenishment, replacement and storage of groundwater in the Six Basins; and

WHEREAS, PVPA, a California corporation, formed in 1910 by various water interests in Pomona Valley, engages in water conservation activities for the benefit of its shareholders, which include the City of Upland, Southern California Water Company, the City of Pomona, Simpson Paper Co., Pomona College, the San Antonio Water Company, and the West End Water Company; and

WHEREAS, PVPA owns certain real property in and around the Six Basins area primarily consisting of two spreading grounds: the San Antonio Spreading Grounds and the Thompson Creek Spreading Grounds together with appurtenant diversion and conveyance facilities (the "Spreading Grounds" herein); and

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WHEREAS, in connection with its water conservation activities, PVPA has conducted several technical studies of the Six Basins including the development of a numerical groundwater model which assists in the prediction of the Six Basins' response to PVPA's spreading activities, and is used to control the groundwater resources for the Six Basins and to mitigate high groundwater in the Six Basins; and

WHEREAS, the parties to the Judgment have conducted additional studies including the enhancement and refinement of the PVPA groundwater model.

NOW, THEREFORE, in consideration of mutual promises, agreements, and covenants of Watermaster and PVPA collectively referred to herein as "the Parties" agree as follows:

I. DEFINITIONS

A. The Judgment defines certain important terms. Except as to the definitions provided in this Agreement, the terms used in this Agreement which have been defined in the Judgment shall have the meaning set forth in the Judgment and the definitions set forth in the Judgment are incorporated herein by this reference

B. "Emergency" shall mean a sudden event which threatens life or property.

C. "Models" shall mean the spreadsheet and the basin wide models used by PVPA in development of an Operating Plan and any subsequent version or improvement thereof.

D. "Parties" written with an upper case P, refer to the Watermaster and to PVPA. Parties written with a lower case p, refer to the parties to the Judgment as defined therein.

II. SPREADING GROUNDS AND SPREADING OPERATIONS

A. Watermaster Direction and PVPA Reservation. PVPA shall use and operate the Spreading Grounds primarily for the spreading of replenishment, replacement and storage water under the direction of the Watermaster Plan. PVPA reserves the right to use the Spreading Grounds for other lawful activities consistent with its water spreading activities so long as doing so does not impair PVPA's ability to spread replenishment water in quantities substantially comparable to historic quantities.

B. Impossibility and related defenses. PVPA shall not be liable, in breach or in default of the Agreement if PVPA is unable, either temporarily or permanently, to perform its obligations

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under the Agreement for reasons beyond PVPA's reasonable control, including but not limited to, acts of God, eminent domain, impossibility or impracticability of performance, interference of a third party and natural disasters, including without limitation, floods, earthquakes, and fires.

C. PVPA Discretion. PVPA shall have discretion to make operational decisions in discharging its obligation hereunder within the scope of Watermaster direction.

D. Common conditions of spreading. In addition to the direction of Watermaster PVPA shall spread replenishment, replacement or storage waters subject to the following conditions.

1. Cessation of Spreading for Emergencies. PVPA reserves the right to cease spreading at any time, without prior notice to Watermaster if, in the discretion of PVPA, such action shall be warranted by, and in connection with, any emergency condition. PVPA will give Watermaster immediate notice of any such cessation.

2. Water Quality. PVPA bears no responsibility for the quality of replenishment, replacement or storage water or the impacts of spreading such water upon water quality of the Six Basins.

3. High Groundwater. PVPA bears no responsibility for high groundwater due to any spreading of replenishment, replacement or storage water.

4. Rejected water. PVPA bears no responsibility for loss of replenishment, replacement or storage water which is rejected or otherwise lost.

5. Measurement and Reporting. Watermaster shall provide adequate measuring devices to measure the spreading of replenishment, replacement and storage waters and any such water rejected or lost. PVPA will keep, maintain and furnish to Watermaster on a monthly basis, records of the quantities of replenishment waters spread and rejected.

6. Record of Deliveries and Spreading. Watermaster shall keep, maintain and furnish to PVPA records of the quantities and quality of replacement or storage waters delivered within 30 days following delivery of such waters. PVPA shall keep, maintain, and furnish to Watermaster the quantities of replacement and storage waters spread within 30 days following delivery of such water together with an estimate of the quantities of water bypassing the spreading facilities, if any.

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7. Compensation. Subject to review by the court under its continuing jurisdiction in Case No. KC029152, Watermaster shall pay PVPA's actual, reasonable and necessary costs incurred by PVPA in spreading replenishment, replacement and storage water. PVPA will bill Watermaster such costs on a quarterly basis and such bill will include a reasonably detailed accounting of such costs under generally accepted accounting principles (GAAP). Payment is due upon billing. PVPA's costs may be subject to review or audit by an outside accounting firm selected and paid by Watermaster (within thirty days following billing). Within thirty (30) days following billing, Watermaster shall either contest the billing or accept said billing.

E. Replenishment water. In addition to the above, PVPA shall spread replenishment water as it becomes available. PVPA has no control over the availability of replenishment waters and is under no obligation to spread any specific quantity of replenishment water.

F. Replacement Water. In addition to the above, PVPA shall spread Replacement Water on the Spreading Grounds under the following terms and conditions. Pursuant to the Judgment, only qualified parties under the Judgment may store water in the Six Basins upon entry into a Storage and Recovery Agreement with Watermaster. Upon request, PVPA shall spread storage water under the following terms and conditions:

1. Terms of Delivery. Watermaster shall deliver and PVPA shall spread storage water under the same terms and conditions as replacement waters.

2. Replacement Water Flows. PVPA will assist Watermaster in determining the allowable daily rates and the duration of replacement water deliveries, based upon conditions existing from time to time, including any unused capacity available at and in PVPA spreading facilities.

3. Notice of New or Changed Replacement Water Flows. Watermaster, at least seven (7) days prior to any anticipated delivery of replacement water, shall notify PVPA that water will be available for transport and spreading and shall give PVPA at least forty-eight (48) hours notice of any anticipated change in previously established flow rates of delivery for such water.

4. Spreading Grounds Limitations. PVPA may require changes in delivery flow rates when, in PVPA's opinion, continued spreading (in whole or in part) cannot be carried out

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hereunder due to operational and/or maintenance problems, including, but not limited to, trespassing, insect infestations, scarification, weed abatement, and/or construction in or at PVPA's conveyance and spreading facilities. When it is reasonable to do so, PVPA will give Watermaster at least twenty-four (24) hours' notice of any such changes.

III. OWNERSHIP AND IMPROVEMENTS OF SPREADING GROUNDS

A. No Dedication. Nothing in this Agreement shall be construed as a dedication of the PVPA Spreading Grounds or its facilities to Watermaster, the other parties to the Judgment, or to the public use or benefit. The spreading grounds and appurtenant facilities are, and remain, the sole property of PVPA. PVPA may sell, lease, or otherwise dispose of portions of its spreading grounds at its own discretion but not inconsistent with this Agreement.

B. Spreading Grounds Improvements. Nothing in this Agreement obligates or otherwise requires PVPA to construct new or additional facilities in connection with its spreading operations. PVPA may at its discretion construct new or additional facilities. Watermaster may propose improvements to PVPA's spreading grounds and facilities at its own expense.

C. Condemnation. Watermaster agrees to and does waive and disclaim any interest in any award or settlement which may be made in any proceeding in eminent domain concerning all or part of the Spreading Grounds whether the taking be total or partial, or for easement purposes. If the taking be such as to render the Spreading Grounds totally unfit and unsuitable for the above use, then, pursuant to Paragraph II, B, PVPA is not in default or breach.

IV. GROUNDWATER MODEL

A. License for use. PVPA grants Watermaster a license to use its Spreadsheet Models pursuant to the terms and conditions of this agreement for the development of an Operating Plan. In developing the initial operating plan, Watermaster has used PVPA's Groundwater Models. In developing subsequent operating plans or revising such plans, Watermaster shall use PVPA's Groundwater Models and any subsequent version or improvement thereof, or other criteria at Watermaster's discretion.

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1. Custody of the PVPA's Groundwater Models. Watermaster shall have physical custody of a copy of the model. However, PVPA shall have the right to access the Models for any purpose which is not inconsistent with the Judgment or the direction of the Watermaster.

2. Updates to Model.

Said license shall include, following consultation with PVPA, the right to make changes, modifications, improvements, updates, or refinements in or to PVPA's Groundwater Model at the sole expense of Watermaster and without any contribution from PVPA.

B. Terms and Conditions. For daily operations, Watermaster shall be responsible for keeping, maintaining and reporting on the data base necessary for use of PVPA's Groundwater Models. Watermaster shall collect water level and quality data necessary, including key well levels and rainfall data, to use the Groundwater Models to implement the Physical Solution. Watermaster shall provide this data to PVPA by the fifteenth day of each month. PVPA shall provide Watermaster readings of replenishment water spread, on a daily basis. PVPA then shall provide Watermaster with a monthly report on available storage and water levels of monitoring wells.

1. Compensation. PVPA grants Watermaster this license at no cost other than the continuing costs which may be incurred by PVPA as a result of Watermaster operating the Models.

2. No Warranty. PVPA makes no warranty and disclaims all warranties regarding PVPA's Groundwater Model and its subsequent updates or improvements.

3. Field Conditions. PVPA shall report to Watermaster any field conditions that may have an impact on Spreading Operations.

V. INDEMNIFICATION

A. Watermaster Obligations. To the extent which is allowed by law, Watermaster shall indemnify and hold harmless, PVPA, its officers, directors, employees, agents, and representatives against any and all claims, demands, costs, and/or liabilities due to, or arising from any act or omission by PVPA, its officers, directors, employees, or agents arising from any activities not connected with the spreading of water under the direction of Watermaster.

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VI. INSURANCE

A. Subject to the above, PVPA shall obtain and maintain during the term of this Agreement the following insurance policies:

1. General Liability Insurance: PVPA shall maintain general liability insurance for bodily injury, property damage, personal injury, errors and omissions, and if practicable, flooding. The insurance shall be on an occurrence basis. The policy limits shall be at least $1,000,000.

2. Property: PVPA shall obtain insurance to provide for replacement of real and personal property owned by PVPA in the event of loss by fire, flood or vandalism. This insurance shall be provided on an occurrence basis and the policy limits shall be at least $1,000,000.

VII. MISCELLANEOUS PROVISIONS

A. Effective Date. This Agreement shall not be effective until executed by the Parties and approved by the court upon motion of Watermaster in said action in Case No. KC029152.

B. Written Amendments. This Agreement may only be modified, amended, or supplemented by a subsequent writing executed by each Party hereto and approved by the Court with jurisdiction in Case No. KC029152.

C. Choice of Law. This Agreement shall be governed by and interpreted under the laws of the State of California.

D. Delivery of Notices. All notices permitted or required under this Agreement shall be addressed to the representative Parties at the following address, or such other address as the respective Parties may provide in writing for this purpose:

PVPA:	President Pomona Valley Protective Association 414 Yale Avenue, Suite H Claremont, California 91711
Six Basins Watermaster	As may be designated by Watermaster

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Such Notices shall be deemed made when personally delivered or, when mailed, forty-eight (48) hours after deposit in the U.S. mail, first class postage pre-paid and addressed to the Party at its applicable address.

E. Successors and Assigns. This Agreement is binding on and shall inure to the benefit of the Parties, their respective successors in interest and assigns.

F. Assignment. No Party shall have the right to assign it rights or delegate any of its obligations hereunder without the express written consent of the other Party.

G. Construction. Each Party and/or its respective counsel has taken part in the negotiation, drafting, and preparation of this Agreement, and, therefore, any ambiguity or uncertainty in this Agreement shall not be construed against any Party. To ensure that this Agreement is not construed against any Party, the Parties expressly agree that any common law or statutory provision providing that an ambiguous or uncertain term will be construed against the drafter of an Agreement is waived and shall not apply to the construction of this Agreement.

H. Entire Agreement. This Agreement embodies the entire and final Agreement and understanding of the Parties pertaining to the subject matter of this Agreement, and supersedes all prior Agreements, understandings, negotiations, representations, and discussions pertaining to that subject matter, whether verbal or written, of the Parties. The Parties acknowledge that there are no representations, promises, warrantees, conditions, or obligations of any Party, or counsel (or any Party), pertaining to that subject matter other than is contained in this Agreement, and that no Party has executed this agreement in reliance on any representation, promise, warranty, condition, or obligation, other than is contained in this Agreement.

I. Execution. The Parties to this Agreement acknowledge that they have executed this Agreement voluntarily and without any duress or undue influence. The Parties further acknowledge that they (1) have been represented by counsel of their own choice in connection with the negotiation and execution of this Agreement, or have been advised to seek independent counsel of their own choice prior to executing this agreement; (2) have read this Agreement in its entirety; and (3) have entered into this Agreement of their own volition and not as a result of any representations or advice by other Party or counsel for any other Party.

J. Counter Parts. This Agreement may be executed in one or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument. This agreement shall become effective and binding immediately upon its execution by both Parties. This Agreement consists of nine (9) pages, including the signature page.

K. Termination. Upon motion made by either Party to this Agreement in accordance with the procedures set forth in Article IX, Section A of the Judgment and approval of the Court, this Agreement shall be terminated.

DATED: _____ WATERMASTER

_____

By:

DATED: _____ POMONA VALLEY PROTECTIVE ASSOCIATION

_____

By:

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EXHIBIT D

BASE ANNUAL GROUNDWATER PRODUCTION IN EACH BASIN, 1985- 1996
AND TOTAL BASE ANNUAL GROUNDWATER PRODUCTION, 1985- 1996
FOR EACH PARTY, AND EACH PARTY'S PERCENTAGE OF THE AGGREGATE OPERATING SAFE
YIELD FOR THE CANYON, UPPER CLAREMONT HEIGHTS, LOWER CLAREMONT HEIGHTS AND POMONA BASINS

Party	Base Annual Production, Acre Feet per Year					Percentage of Aggregate Operating Safe Yield
	Canyon Basin Basin	Upper Claremont Heights Basin	Lower Claremont Heights Basin	Pomona Basin	Total	
City of La Verne	0	0	0	1,492	1,492	7.731
City of Pomona*	0	1,234	961	1,128	3,323	17.218
Simpson Paper	0	0	0	691	691	3.580
Southern Cal. Water Co.	56	2,895	107	3,647	6,705	34.741
City of Claremont	0	267	0	268	535	2.772
Pomona College	0	357	0	0	357	1.850
City of Upland	408	1,434	0	0	1,842	9.544
West End Consolidated Water Company	0	2,972	0	0	2,972	15.399
San Antonio Water Company	0	1,383	0	0	1,383	7.166
TOTAL	464	10,542	1,068	7,226	19,300	100.000%

* Pomona shall have the right to produce an additional 109 acre feet of groundwater per year subject to the following:

(a) Pomona shall provide at least 436 acre feet of recycled water to the property presently designated by the Los Angeles County Assessor as Assessor's Parcel Nos. 834-800-8001, 834-800-8002, 834-800-8009, 834-800-5013 and 834-800-6001.

(b) Pomona's additional production right shall be added to its Base Annual Production Right and shall be subject to all provisions of the Judgment relating to Base Annual Production Rights; provided however, such additional right shall not be subject to transfer or the water produced delivered for use outside the Pomona service area.

(c) To the extent in any year Pomona provides less than 436 acre feet of recycled water to the above described property, the additional right of Pomona shall be reduced to an amount equal to one fourth (1/4) of the amount of recycled water provided. However, no reduction shall occur to the extent the failure to deliver recycled water is the result of sudden occurrences such as storms, floods, fires, earthquakes, accidents or unexpected equipment outage) or acts or omissions of the Los Angeles County Sanitation District which impair the ability of Pomona to make recycled water deliveries.

EXHIBIT E

DESCRIPTION OF REPLENISHMENT PROGRAMS

San Antonio Spreading Grounds

Owned and operated by the Pomona Valley Protective Association (PVPA), this private facility is comprised of 600 acres of spreading grounds on both the east and west sides of San Antonio channel. The grounds consist of ditches, check levees, gates, metering stations, shallow basins and deep basins. The primary source of water for this facility is from San Antonio Creek by way of controlled releases from San Antonio Dam which is owned and operated by the U.S. Army Corps of Engineers. Water is released from the dam directly into San Antonio Flood Control Channel. Upon entering the channel, water is diverted into an underground basin where control gates allow regulated flow onto the spreading grounds. Additional sources of water include uncontrolled surface flows from adjacent properties in San Bernardino and Los Angeles Counties. The Corps coordinates its releases with PVPA. Four metering stations are used for flow measurements, and a series of ditches, check levees, gates and appurtenances allow the water to be directed into shallow and deep basins. Since 1896, PVPA has regularly spread water at its facility.

Thompson Creek Spreading Grounds

Owned and maintained by PVPA, this private facility is comprised of approximately 53 acres of spreading grounds south of Thompson Creek Dam and east of Thompson Creek. PVPA operates this facility with the cooperation of the Los Angeles County Flood Control District. The grounds consist of ditches, check levees, gates, shallow and deep basins. The sources of water for this facility are Cobal, Williams, Palmer, and Padua Creeks which are diverted to the grounds by PVPA with the cooperation of the Los Angeles County Department of Public Works through the Palmer Diversion. Surface runoff is diverted onto the grounds by way of Chicken Creek through a diversion located directly north of the grounds. PVPA's facility can also receive water from Thompson Creek Dam when the reservoir exceeds the elevation of 1625 feet above sea level. Since 1918, PVPA has spread water at this facility.

Pomona Spreading Grounds

Owned and operated by the City of Pomona, this facility is comprised of 8 acres of spreading grounds adjacent to the City's Pedley Water Treatment Plant. The City acquired this property in October 1926. The present deep basin configuration of the facility was completed in 1957. The source of water for this facility is San Antonio Creek water delivered through the Loop Merserve Canyon Water Company pipeline and Evey Canyon water. This facility also receives some local runoff. Water has been spread in this vicinity on and off since about 1897.

Live Oak Spreading Grounds

Owned and operated by the Los Angeles County Department of Public Works, this facility consists of approximately 5 acres of spreading grounds. Approximately 1.5 acres north of Baseline Road and 3.5 acres south of route 30 freeway extension. The source of water for this facility is controlled releases from Live Oak Dam and Live Oak Debris Basin. This facility was first used in the 1961-62 water year.

WATER STORAGE AND RECOVERY AGREEMENT

1. IDENTIFICATION

THIS AGREEMENT dated _____ by and between the CITY OF POMONA, a chartered municipal corporation (Pomona), and the SIX BASINS WATERMASTER, a court appointed entity established by the Los Angeles County Superior Court (Watermaster), and is based upon the following recitals.

2. RECITALS

2.1 Water rights have been adjudicated in the Six Basins Area according to the Judgment in Los Angeles County Superior Court Case No. KC 029152, entitled Southern California Water Company v. the City of La Verne.

2.2 Said Judgment establishes the Watermaster as the court empowered entity responsible for managing the Six Basins Area. Under the provisions of Paragraph VI.B.10 of the Judgment, Watermaster is authorized to enter into Storage and Recovery Agreements with any party holding a base annual production right.

2.3 Pomona is a party holding a base annual production right. In addition, Pomona has historically replenished the Six Basins Area. While Pomona is under no obligation to replenish the Six Basins Area, to the extent that it does augment groundwater supplies in excess of its historical replenishment as provided in Paragraph VI.B.9 of the Judgment, Pomona is authorized to recover such water.

2.4 Spreading and injecting or otherwise recharging groundwater in the Six Basins Area is restricted according to Paragraph IV.B of the Judgment; however, pursuant to Paragraph VI.B.10,

Watermaster is authorized to enter into storage and recovery agreements for the utilization of groundwater storage capacity and for subsequent recovery use or credit by the storing entity.

2.5 Pomona and Water master desire to enter into an agreement for the storage and recovery of water.

3. AGREEMENTS

In consideration for the mutual promises and conditions contained herein and for other valuable consideration, the parties agree as follows:

3.1 Pomona may, subject to the conditions hereinafter set forth, spread and cause to be spread water which would be stored for Pomona's account. The amount of water stored and recovered shall be all amounts it has spread or caused to be spread in the Six Basins Area in excess of 130 acre feet annually as specifically provided in Paragraph VI.B.9 of the Judgment. Without limitation on accumulations, Pomona shall acquire and retain ownership of all such storage in excess of the historical replenishment of 130 acre feet per year until such water is produced by Pomona or transferred as a credit toward any Replacement Water obligation.

3.2 Pomona shall issue a report to Watermaster on a quarterly basis indicating the amount of water which Pomona has spread. The report shall be due the last day of the month next following the end of the relevant quarter.

3.3 Recovery of water by Pomona shall be accounted for as follows:

3.3.1 The first water Pomona produces in a calendar year shall be the carryover of unused rights in accordance with Paragraph III.B.2.

3.3.2 The next such water produced shall be Pomona's Base Annual Production Right.

3.3.3 The next such water produced shall be water stored pursuant to this storage and Recovery Agreement.

3.4 This Agreement shall be effective upon court approval of the Judgment in the above-referenced case.

3.5 Any notices required hereunder may be given by mail postage prepaid and addressed as follows:

TO WATERMASTER:

TO CITY OF POMONA:

Henry Pepper, Director of Utilities
Public Works Department
City of Pomona
505 S. Garey Avenue
Pomona, CA 91769-0660

EXECUTED this _____ day of _____, 1998, at _____, CA.

CITY OF POMONA

By: _____

WATERMASTER

By: _____

EXHIBIT G

INITIAL OPERATING PLAN

1. **Replenishment.** PVPA shall continue to replenish the basin as it has historically done. PVPA shall curtail replenishment when the Index Water Level is at 1455 or higher, where the Index Water Level is the average of the water level elevations above Mean Sea Level for the following five Key Wells:

Upland-Foothill No. 3 (Owner: WECWC)
Mountain View No. 4 (Owner: WECWC)
Miramar No. 3 (Owner: SCWC)
College No. 1 (Owner: Pomona College)
Tunnel Well No. 3 (Owner: Pomona)

On the second Monday of each month owners of the Key Wells shall measure and report to Watermaster and to PVPA the water level elevations in the Key Wells. Water level elevations shall be measured using protocols specified by Watermaster.

2. **Production Measurement and Reporting.** Within 180 days following Entry of Judgment each producer shall have installed on all of its producing wells a calibrated device to measure production. Such devices shall conform to, and be regularly calibrated in accordance with, specifications developed by Watermaster. Each producer shall record the monthly production from each well in acre feet and shall report such monthly production for each well and the total for all wells for the month and for the year to date to Watermaster by not later than the third working day following the end of the month.

3. **Operating Safe Yield.** The initial Operating Safe Yield of the Four Basins is 24,000 acre feet per year.

PROOF OF SERVICE

I am a resident of the State of California, over the age of eighteen years, and not a party to the within action. My business address is 21 East Carrillo Street, Santa Barbara, California 93101-2782. On December 21, 1998, I served the within document:

NOTICE OF ENTRY OF JUDGMENT

☐ by transmitting via facsimile the document(s) listed above to the fax number(s) set forth below on this date before 5:00 p.m.

☒ by placing the document listed above in a sealed envelope with postage thereon fully prepaid, in the United States mail at Santa Barbara, California as set forth below.

☐ by causing personal delivery by _____ of the document(s) listed above to the person(s) at the address(es) set forth below.

☐ by personally delivering the document(s) listed above to the person(s) at the address(es) set forth below.

SEE ATTACHED LIST

I am readily familiar with the firm's practice of collection and processing correspondence for mailing. Under that practice it would be deposited with the U.S. Postal Service on that same day with postage thereon fully prepaid in the ordinary course of business. I am aware that on motion of the party served, service is presumed invalid if postal cancellation date or postage meter date is more than one day after date of deposit for mailing in affidavit.

☒ *(State)* I declare under penalty of perjury under the laws of the State of California that the above is true and correct.

Executed on December 21, 1998, at Santa Barbara, California.

Gina Lane

GINA M. LANE

Jess Senecal, Esq.
Lagerlof, Senecal, Bradley and Swift
301 North Lake Ave., 10th Floor
Pasadena, CA 91101

Art Littleworth, Esq.
Best, Best & Krieger
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Los Angeles, CA 90013-1024

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Three Valleys Mutual Water District
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Riverside, CA 92412

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Boyd Hill, Esq.
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Los Angeles, CA 90013

Keith Johnson
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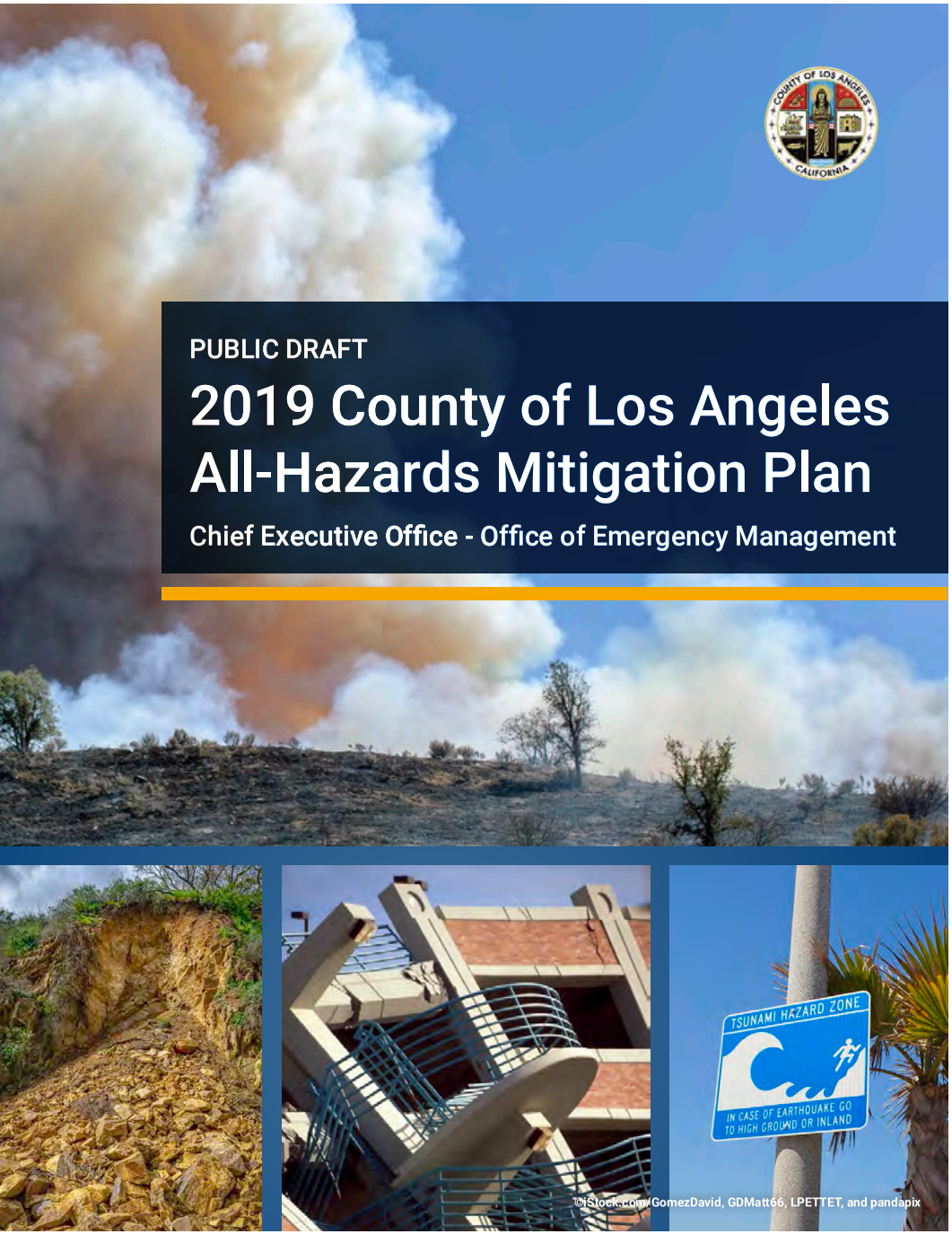
Claremont, CA 91711

Tom McPeters, Esq.
San Antonio Water Company
Home Savings of Am. Building, 2nd Floor
4 West Redlands Blvd.
Redlands, CA 92378

Jeanne Verville, Esq.
Simpson Paper Company
1301 Fifth Ave., Suite 2800
Seattle, Washington 98101-2613

APPENDIX H

LOS ANGELES COUNTY ALL-HAZARD MITIGATION PLAN


PUBLIC DRAFT
2019 County of Los Angeles
All-Hazards Mitigation Plan
Chief Executive Office - Office of Emergency Management
TSUNAMI HAZARD ZONE
IN CASE OF EARTHQUAKE GO
TO HIGH GROUND OR INLAND
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LIST OF ACRONYMS AND ABBREVIATIONS

°F	degrees Fahrenheit
AECOM	AECOM Technical Services, Inc.
AB	Assembly Bill
AHMP	All-Hazards Mitigation Plan
Cal FIRE	California Department of Forestry and Fire Protection
Cal OES	California Office of Emergency Services
CFR	Code of Federal Regulations
CGS	California Geological Survey
CWPP	Community Wildfire Protection Plans
CPG	Comprehensive Preparedness Guide
CRS	Community Rating System
DFIRM	Digital Flood Insurance Rate Map
DHS	Department of Homeland Security
DMA	Disaster Mitigation Act
DR	Disaster Declaration Number
DSOD	Division of Safety of Dams
EAP	Emergency Action Plan
EPA	Environmental Protection Agency
EQ	Earthquake
FEMA	Federal Emergency Management Agency
FHSZ	Fire Hazard Severity Zones
GIS	Geographic Information System
IPCC	Intergovernmental Panel on Climate Change
LACMA	Los Angeles County Museum of Art
LRA	Local Responsibility Area
M	Magnitude
MARAC	Mutual Aid Regional Advisory Committee
NFIP	National Flood Insurance Program
NHM	Los Angeles County Natural History Museum
OEM	Office of Emergency Management
PGA	Peak Ground Acceleration

RL	Repetitive Loss
SFHA	Special Flood Hazard Area
SRA	State Responsibility Area
U.S.	United States
USACE	United States Army Corps of Engineers
USGS	U.S. Geological Survey
WUI	wildland-urban interface

1 INTRODUCTION

1.1 HAZARD MITIGATION PLANNING

As defined in Title 44 of the Code of Federal Regulations (CFR), Subpart M, Section 206.401, hazard mitigation is "any action taken to reduce or eliminate the long-term risk to human life and property from natural hazards." As such, hazard mitigation is any work to minimize the impacts of any type of hazard event before it occurs. Hazard mitigation aims to reduce losses from future disasters. It is a process that identifies and profiles hazards, analyzes the people and facilities at risk, and develops mitigation actions to reduce or eliminate hazard risk. The implementation of the mitigation actions, which include short- and long-term strategies that may involve planning, policy changes, programs, projects, and other activities, is the end result of this process.

In recent years, local hazard mitigation planning has been driven by a federal law, known as the Disaster Mitigation Act of 2000 (DMA 2000). On October 30, 2000, Congress passed the DMA 2000 (Public Law 106-390), which amended the Robert T. Stafford Disaster Relief and Emergency Assistance Act of 1988 (Stafford Act) (Title 42 of the United States Code Section 5121 et seq.) by repealing the act's previous mitigation planning section (409) and replacing it with a new mitigation planning section (322). This new section emphasized the need for state, tribal, and local entities to closely coordinate mitigation planning and implementation efforts. This new section also provided the legal basis for the Federal Emergency Management Agency's (FEMA's) mitigation plan requirements for the Hazard Mitigation Assistance grant programs.

1.2 2019 ALL-HAZARDS MITIGATION PLAN SYNOPSIS

To meet the requirements of the DMA 2000, the Los Angeles County Office of Emergency Management (OEM) has prepared an All- Hazards Mitigation Plan (AHMP) (hereinafter referred to as the 2019 AHMP) to assess risks posed by natural hazards and to develop a mitigation action plan for reducing the risks in Unincorporated Los Angeles County. The 2019 AHMP replaces the AHMP that was approved in 2014.

The 2019 AHMP is organized to follow FEMA's Local Mitigation Plan Review Tool, which demonstrates how local AHMPs meet the DMA 2000 regulations. As such, specific planning elements of this review tool are in their appropriate plan sections.

The 2019 AHMP structure has been updated to including the following sections:

- **Section 2 Planning Process** provides an overview of the 2019 planning process, starting with a plan update timeline. It identifies advisory committee members and describes their involvement with the plan update process. It also details stakeholder outreach, public involvement and continued public involvement. It provides an overview of the existing plans and reports and how they were incorporated into the 2019 AHMP and lastly lays out a plan update method and schedule. Supporting planning process documentation is listed in **Appendix A**.
- **Section 3 Community Profile** describes the planning area for the 2019 AHMP, which includes the unincorporated areas of the county. It touches on the current population and development trends in the county and discusses vulnerable populations in the county, including the growing homeless crisis. Finally, this section lists the county-owned and

county-related critical facilities included in this plan. Supporting community profile information can be found in **Appendix B**.

- **Section 4 Hazard Identification and Risk Assessment** describes each of the eight hazards addressed in this plan. Additionally, it includes impact (i.e., risk assessment) tables for the planning area, vulnerable populations and critical facilities within each hazard area. An overall summary description is also provided for each hazard. **Appendix C** contains supporting hazard identification and risk assessment information.
- **Section 5 Mitigation Strategy** details Los Angeles County's capabilities (authorities, policies, programs and resources) available for hazard mitigation. It also discusses the county's participation in the National Flood Insurance Program (NFIP). Finally, it describes the mitigation strategy, which is the blueprint for how the County will reduce its risks to hazards. The mitigation strategy is made up of three main components: mitigation goal(s); potential mitigation actions and projects; and a mitigation action plan.
- **Section 6 Plan Review, Evaluation and Implementation** discusses the revisions made to the 2019 AHMP to address changes in development, progress made in local mitigation efforts and changes to priorities.
- **Section 7 Plan Adoption** contains a scanned copy of the adoption resolution.

2 PLANNING PROCESS

Section 2 – Planning Process addresses Element A of the Local Mitigation Plan Regulation Checklist.

Regulation Checklist – 44 CFR 201.6 Local Mitigation Plans
Element A: Planning Process
A1. Does the Plan document the planning process, including how it was prepared and who was involved in the process for each jurisdiction? (Requirement §201.6(c)(1))
A2. Does the Plan document an opportunity for neighboring communities, local and regional agencies involved in hazard mitigation activities, agencies that have the authority to regulate development as well as other interests to be involved in the planning process? (Requirement §201.6(b)(2))
A3. Does the Plan document how the public was involved in the planning process during the drafting stage? (Requirement §201.6(b)(1))
A4. Does the Plan describe the review and incorporation of existing plans, studies, reports, and technical information? (Requirement §201.6(b)(3))
A5. Is there discussion of how the community(ies) will continue public participation in the plan maintenance process? (Requirement §201.6(c)(4)(iii))
A6. Is there a description of the method and schedule for keeping the plan current (monitoring, evaluating and updating the mitigation plan within a 5-year cycle)? (Requirement §201.6(c)(4)(i))

2.1 OVERVIEW OF 2019 AHMP PLANNING PROCESS

The development of the 2019 AHMP was collaborative effort between Los Angeles County OEM, AECOM Technical Services, Inc. (AECOM), an advisory committee, and various county departments and agencies. **Table 2-1** provides a timeline of the major plan update tasks and milestones by month over a 9-month period. **Table 2-2** lists the advisory committee members and how they contributed to the development of the plan.

Table 2-1. AHMP Timeline

Date	Tasks	People Involved
March 2019	Reviewed the 2014 AHMP and decided to continue efforts to streamline the plan Held 2019 AHMP advisory committee kick-off meeting (March 15)	AHMP project manager, advisory committee
April 2019	Determined the hazards to be profiled, including climate change (new to the 2019 AHMP), drought, dam failure, earthquake, flood, landslide, tsunami and wildfire (all addressed in the 2014 AHMP)	AHMP project manager, AECOM
May 2019	Collected local and regional existing plans and reports	AECOM
June 2019	Determined the Geographic Information System (GIS) strategy for risk assessment including land area/geographical boundaries and critical facilities and discussed how to incorporate people experiencing homelessness	AHMP project manager, AECOM, Los Angeles County Office of Emergency Management

Table 2-1. AHMP Timeline

Date	Tasks	People Involved
July 2019	Identified initial list of stakeholders Crafted public outreach messages for the Twitter handle @ReadyLACounty Created draft hazard figures Developed homeless people risk assessment tables Developed land area/geographic boundaries risk assessment tables Rewrote/updated the hazard profiles into a streamlined tabular format Began developing/updating/collecting draft mitigation actions Streamlined and updated the community profile section to only address the planning area, population and development trends and county critical facilities (deleted general County information)	AHMP project manager, AECOM
August 2019	Tweeted public outreach messages about the 2019 AHMP Emailed stakeholders about the 2019 AHMP Conducted conference call with Los Angeles County Regional Planning (August 5) to discuss joint public outreach efforts as well as mitigation strategies Conducted meeting with Los Angeles County Public Works (August 7) to discuss 2019 AHMP, progress made to date, and existing and new mitigation strategies Developed critical facilities risk assessment tables Created draft risk assessment tables Revised plan maintenance approach from quarterly meetings to annual review questionnaires	AHMP project manager, AECOM, Los Angeles County Department of Regional Planning, Los Angeles County Public Works, advisory committee
September 2019	Updated the capability assessment tables Developed a list of potential mitigation actions and prioritized actions based on a new tiered approach Created public outreach flyers in English and Spanish and placed on the Los Angeles County OEM website Documented progress in local mitigation efforts Addressed changes in development since the 2014 AHMP Created Initial Draft AHMP Created Public Draft AHMP	AHMP project manager, AECOM, advisory committee
October 2019	Created Final Draft AHMP	AECOM

Table 2-2. Hazard Mitigation Advisory Committee

Name	Department / Agency, Title	Contribution
Emily Montanez	Office of Emergency Management, AHMP project manager, Senior Program Manager	Led kick-off meeting, reviewed draft hazard figures and risk assessment tables, draft mitigation actions and initial draft plan.
Margaret Carlin	Office of Emergency Management, GIS Project Supervisor	Provided input on GIS, reviewed draft hazard figures and risk assessment tables, draft mitigation actions and initial draft plan.
Stephanie Kim	Office of Emergency Management, Academic Intern	Reviewed and updated the community profile, provided input on people experiencing homelessness, participated on conference calls, attended department meetings, and reviewed the initial draft plan.
Caroline Chen	Los Angeles County Department of Regional Planning, Regional Planner	Attended kick-off meeting, participated on conference call, reviewed draft hazard figures and risk assessment tables, draft mitigation actions, and initial draft plan.
Iris Chi	Los Angeles County Department of Regional Planning, Regional Planner	Attended kick-off meeting, participated on conference call, reviewed draft hazard figures and risk assessment tables, draft mitigation actions and initial draft plan.
Loni Eazell	Los Angeles County Public Works, Disaster Services Specialist	Coordinated August 7 department meeting, reviewed draft hazard figures and risk assessment tables, draft mitigation actions, and initial draft plan.
Frank Forman	Los Angeles County Fire Department, Battalion Chief	Reviewed draft hazard figures and risk assessment tables, draft mitigation actions and initial draft plan.
Andrew Gano	City of Glendale Fire Department, Captain	Attended kick-off meeting, reviewed draft hazard figures and risk assessment tables, draft mitigation actions, and initial draft plan.
Angine Geragoosian	Los Angeles County Public Works, Disaster Services Analyst	Attended kick-off meeting, reviewed draft hazard figures and risk assessment tables, draft mitigation actions, and initial draft plan.
Patricia Hachiya	Regional Planning, Supervising Regional Planner	Attended kick-off meeting, participated on conference call, reviewed draft hazard figures and risk assessment tables, draft mitigation actions, and initial draft plan.
Jack Husted	Department of Public Works, Senior Civil Engineer	Attended August 7 meeting, reviewed draft hazard figures and risk assessment tables, draft mitigation actions, and initial draft plan.
Sheryll Jones	Emergency Services Coordinator, Southern Region Cal OES	Advised Los Angeles County OEM about initial update process and reviewed initial draft plan.
Sinan Khan	Office of Emergency Management, Associate Director	Reviewed draft hazard figures and risk assessment tables, draft mitigation actions and initial draft plan.

Table 2-2. Hazard Mitigation Advisory Committee

Name	Department / Agency, Title	Contribution
Diana Manzano	Area D Disaster Management, Coordinator	Attended kick-off meeting, reviewed draft hazard figures and risk assessment tables, draft mitigation actions, and initial draft plan.
John Eric Pearce	Fire Department, Captain	Reviewed draft hazard figures and risk assessment tables, draft mitigation actions, and initial draft plan.
Christine Shaffer	Sheriff's Department, Deputy	Reviewed draft hazard figures and risk assessment tables, draft mitigation actions, and initial draft plan.
Nathaniel VerGow	Los Angeles Homeless Services Authority, Director of Access and Engagement	Reviewed draft hazard figures and risk assessment tables, draft mitigation actions, and initial draft plan.
Steven Wallace	San Gabriel Fire Department, Interim Fire Chief	Reviewed draft hazard figures and risk assessment tables, draft mitigation actions, and initial draft plan.
Iain Watt	Office of Emergency Management, Emergency Management Coordinator	Participated on conference call, reviewed draft hazard figures and risk assessment tables, draft mitigation actions, and initial draft plan.

2.2 OPPORTUNITIES FOR STAKEHOLDERS

On August 20, 2019, the AHMP project manager reached out to stakeholders about the 2019 AHMP to invite them to participate in the plan update process. The stakeholders were also notified on October 4, 2019, that a copy of the public draft plan was available for review on the Los Angeles County OEM website. Stakeholders include members of the Mutual Aid Regional Advisory Committee (MARAC) for the Southern Region. The MARAC consists of: the California Office of Emergency Services (Cal OES) regional administrator, or deputy, for the Administrative Region encompassing the mutual aid region(s); regional mutual aid coordinators (fire, law enforcement, disaster medical and other established mutual aid systems); a representative from each operational area located in the mutual aid region; representatives from two municipalities (small/large and rotates bi-annually); regional public utility representative; private utility representative; special district representative; and other designee as appointed by an individual MARAC. Stakeholder documentation is located in **Appendix A**.

2.3 PUBLIC INVOLVEMENT

The Los Angeles County OEM engaged the public in the plan update process through various media formats. A flyer about the 2019 AHMP was created in both English and Spanish and placed on the Los Angeles County OEM website. The website also includes a copy of the public draft plan for public comment on October 4, 2019.

https://www.lacounty.gov/emergency/county-of-los-angeles-all-hazards-mitigation-plan/

Additionally, the Los Angeles County OEM used Twitter, @ReadyLACounty, to engage the public through a series of tweets about the 2019 AHMP, hazards in Los Angeles County, hazard mitigation planning, and the public draft plan.

2.4 REVIEW AND INCORPORATION OF EXISTING PLANS AND REPORTS

The consultant reviewed existing relevant information to include in the 2019 AHMP. **Table 2-3** lists the plans and reports reviewed as well as information to be incorporated into the 2019 AHMP.

Table 2-3. Existing Plans and Reports

Plans and Reports	Information to be Incorporated into the 2019 AHMP
Los Angeles County Operational Area Emergency Response Plan (2012)	Appendix K Hazards-Specific to the operational area into Section 4 Hazard Identification and Risk Assessment
Los Angeles County 2035 General Plan (2015)	Safety element mitigation policies into Section 5 Mitigation Strategy
Los Angeles County Floodplain Management Plan (2016)	Flood hazard profile, non-implemented flood mitigation initiatives into Section 4 Hazard Identification and Risk Assessment
County of Los Angeles Floodplain Management Plan Progress Report 2017 – 2018	Non-implemented flood mitigation initiatives into Section 5 Mitigation Strategy, implemented flood mitigation initiatives into Section 6 Plan Review, Evaluation, and Implementation
County of Los Angeles Repetitive Loss Area Analysis Progress Report 2017 – 2018	Non-implemented flood mitigation initiatives into Section 5 Mitigation Strategy, implemented flood mitigation initiatives into Section 6 Plan Review, Evaluation, and Implementation
Unincorporated Los Angeles County Community Climate Action Plan 2020	Climate change mitigation objectives into Section 5 Mitigation Strategy
2019 Greater Los Angeles Homeless Count Results	People experiencing homelessness count into Section 4 Hazard Identification and Risk Assessment
Los Angeles County Fire Department 2018 Strategic Fire Plan	Vegetation management programs into Section 5 Mitigation Strategy
Southern California Earthquake Data Center's Earthquake Catalogs	Historic seismic data into Section 4 Hazard Identification and Risk Assessment
Maritime Tsunami Response Playbooks: Background Information and Guidance for Response and Hazard Mitigation Use (2016)	Historical tsunami information and evaluation data into Section 4 Hazard Identification and Risk Assessment
FEMA Flood Insurance Study, Los Angeles County, California (2018)	Historical flood information and flood hazard areas into Section 4 Hazard Identification and Risk Assessment
U.S. Geological Survey (USGS): Rainfall and Landslides in Southern California (active)	Landslide nature, location, historical and extent information into Section 4 Hazard Identification and Risk Assessment

2.5 CONTINUED PUBLIC PARTICIPATION

A copy of the 2019 AHMP will be kept on the Los Angeles County OEM website along with contact information. The Los Angeles County OEM will also notify residents of any changes or

updates to the 2019 AHMP, including mitigation projects identified in the plan as they are implemented, via @ReadyLACounty on Twitter.

2.6 PLAN UPDATE METHOD AND SCHEDULE

The 2014 AHMP recommended quarterly meetings to discuss and track mitigation projects implemented during the lifespan of the 2014 AHMP. It is unknown how often specific departments/agencies met to track the status of their mitigation actions. For the 2019 AHMP, the plan update method and schedule has been revised to include an annual review and an advisory committee roundtable prior to the 5-year update. Mitigation projects will be monitored via a progress project report. Details are as follows:

- **Annual Review Worksheets**: Every 12 months from plan adoption, the AHMP project manager will email each member of the advisory committee an Annual Review Worksheet to complete. As shown in Appendix A, the Annual Review Worksheet reflects the Local Mitigation Plan Review Tool and includes the following: planning process, hazard profile, risk assessment, and mitigation strategy. Each member of the advisory committee will email completed worksheets back to the AHMP project manager to review. The AHMP project manager will summarize these findings and email them out to the committee. If the AHMP project manager believes that the 2019 AHMP needs to be updated based on the findings, then an invitation will be sent to advisory committee members to attend a formal AHMP update meeting.
- **Mitigation Progress Project Reports**: Mitigation actions will be monitored and updated using the Mitigation Project Progress Report. During each annual review, each department or agency currently administering a mitigation project will submit a progress report to the AHMP project manager. For projects that are being funded by a FEMA mitigation grant, FEMA quarterly reports may be used as the preferred reporting tool. As shown in Appendix A, the progress report will discuss the current status of the mitigation project, including any changes made to the project, identify implementation problems, and describe appropriate strategies to overcome them.
- **Advisory Committee Roundtable**: On the fourth year of the update, the AHMP project manager will reconvene the advisory committee updating membership, if necessary) and lead a tabletop exercise with the advisory committee to: collect the Annual Review Worksheet and any Mitigation Project Progress Reports and FEMA quarterly reports; determine hazards to be included in the 2024 AHMP; develop a new work plan; and begin the plan update process.

3 COMMUNITY PROFILE

3.1 PLANNING AREA

With approximately 4,760.72 square miles, Los Angeles County is geographically one of the largest counties in the country. As shown in **Figure 3-1**, the county stretches along 75 miles of the Pacific coast of Southern California and is bordered to the east by Orange County and San Bernardino County, to the north by Kern County, and to the west by Ventura County. Los Angeles County has two islands, Santa Catalina (75.00 square miles) and San Clemente (60.69 square miles), which are part of an eight-island group called the Channel Islands.

As shown in **Tables 3-1 – 3-6** and **Figures 3-2 – 3-6**, the county is divided into five supervisorial districts, each representing approximately 2 million people in 88 cities and approximately 140 communities or 122 county-wide statistical areas. The five supervisorial districts consist of 4,150 square miles, with 3,014.17 square miles located in the unincorporated areas. The remaining area of Los Angeles County is federal land, including the Los Padres National Forest and Angeles National Forest.

For the 2019 AHMP, the planning area is defined as Unincorporated Los Angeles County. However, the plan's risk assessment includes: Los Angeles County, Unincorporated Los Angeles County, and supervisorial districts 1-5. In addition, specific county-wide statistical area risk assessment information is provided in **Appendix C**.

Table 3-1. Los Angeles County Land Area

Entity	Square Miles
Los Angeles County	4,760.72
Unincorporated Los Angeles County	3,041.17
Supervisorial District 1	246.19
Supervisorial District 2	161.83
Supervisorial District 3	431.21
Supervisorial District 4	439.95
Supervisorial District 5	2,807.00

Table 3-2. Supervisorial District 1

City	County-wide Statistical Area
Azusa	Arcadia
Baldwin Park	Angeles National Forest
Bell	Avocado Heights
Bell Gardens	Azusa
Claremont	Bandini Islands

Table 3-2. Supervisorial District 1

City	County-wide Statistical Area
Commerce	Bassett
Cudahy	Charter Oak
El Monte	Claremont
Huntington Park	Covina
Industry	Covina (Charter Oak)
Irwindale	Duarte
La Puente	East Los Angeles
Maywood	El Monte
Montebello	Florence – Firestone
Monterey Park	Glendora
Pico Rivera	Hacienda Heights
Pomona	La Verne
Rosemead	Lynwood
South El Monte	North Whittier
South Gate	Padua Hills
Vernon	Pellissier Village
Walnut	Pomona
West Covina	Rowland Heights
	San Jose Hills
	South El Monte
	South San Gabriel
	Sunrise Village
	Valinda
	Walnut
	Walnut Park
	West Puente Valley
	West Whittier / Los Nietos
	Whittier
	Whittier Narrows

Table 3-3. Supervisorial District 2

City	County-wide Statistical Area
Carson	Athens Village
Compton	Athens-Westmont
Culver City	Del Aire
Gardena	Del Rey
Hawthorne	East Rancho Dominguez
Inglewood	El Camino Village
Lawndale	Florence – Firestone
Los Angeles (portion)	Hawthorne
Lynwood	Ladera Heights
	Lennox
	Lynwood
	Marina del Rey
	Rancho Dominguez
	Rosewood
	Rosewood/East Gardena
	Rosewood/West Rancho Dominguez
	View Park/Windsor Hills
	Walnut Park
	West Carsen
	West Rancho Dominguez
	Willowbrook
	Wiseburn

Table 3-4. Supervisorial District 3

City	County-wide Statistical Area
Agoura Hills	Angeles National Forest
Beverly Hills	Franklin Canyon
Calabasas	Marina del Rey
Hidden Hills	Miracle Mile
Malibu	Kagel/Lopez Canyons
San Fernando	Santa Monica Mountains
Santa Monica	Universal City
West Hollywood	West LA
Westlake Village	Westhills

Table 3-5. Supervisorial District 4

City	County-wide Statistical Area
Artesia	Cerritos
Avalon	Del Aire
Bellflower	East La Mirada
Cerritos	East Rancho Dominguez
Diamond Bar	East Whittier
Downey	El Camino Village
El Segundo	Hacienda Heights
Hawaiian Gardens	Harbor Gateway
Hermosa Beach	La Habra Heights
La Habra Heights	La Rambla
La Mirada	Lakewood
Lakewood	Lennox
Lomita	Long Beach
Long Beach	Lynwood
Los Angeles (portion)	Marina del Rey
Manhattan Beach	Palos Verdes Peninsula
Norwalk	Rancho Dominguez
Palos Verdes Estates	Rowland Heights
Paramount	San Clemente Island
Rancho Palos Verdes	Santa Catalina Island

Table 3-5. Supervisorial District 4

City	County-wide Statistical Area
Redondo Beach	South Whittier
Rolling Hills	Sunrise Village
Rolling Hills Estates	West Carson
Santa Fe Springs	West Whittier / Los Nietos
Signal Hill	Westfield/Academy Hills
Torrance	Whittier
Whittier	

Table 3-6. Supervisorial District 5

City	County-wide Statistical Area
Alhambra	Acton
Arcadia	Agua Dulce
Bradbury	Altadena
Covina	Anaverde
Duarte	Angeles National Forest
Glendale	Arcadia
Glendora	Azusa
La Canada – Flintridge	Bouquet Canyon
La Verne	Bradbury
Lancaster	Canyon Country
Monrovia	Castaic
Palmdale	Claremont
Pasadena	Covina
San Dimas	Covina (Charter Oak)
San Gabriel	Del Sur
San Marino	Desert View Highlands
Santa Clarita	Duarte
Sierra Madre	East Covina
South Pasadena	East Lancaster
Temple City	East Pasadena
Los Angeles City	Elizabeth Lake
Canoga Park (portion)	Glendora

Table 3-6. Supervisorial District 5

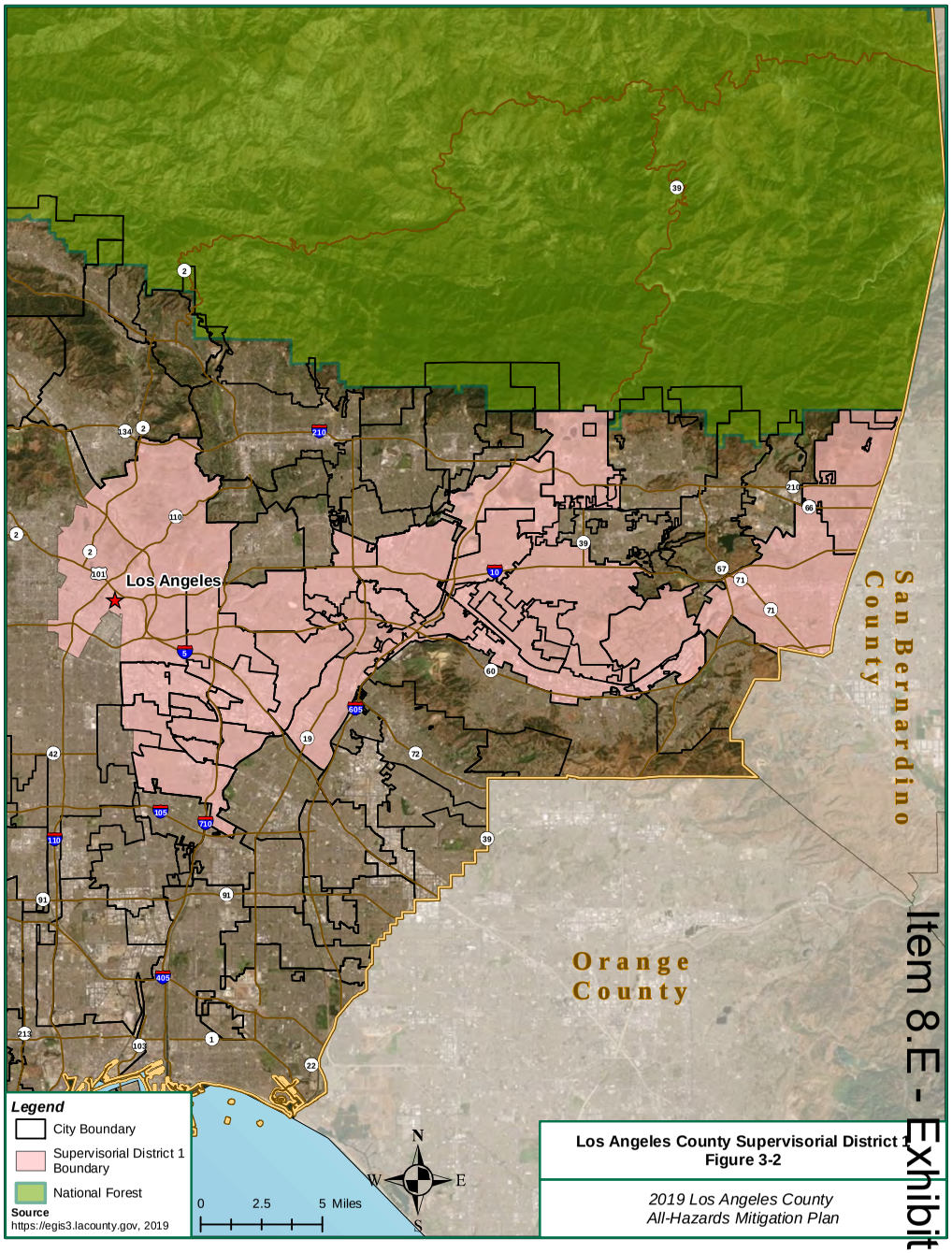
City	County-wide Statistical Area
Chatsworth (portion)	Hi Vista
Granada Hills (portion)	Kagel / Lopez Canyons
Hansen Dam (portion)	La Crescenta-Montrose
Lake View Terrace (portion)	La Verne
Mission Hills (portion)	Lake Hughes
Northridge (portion)	Lake Los Angeles
Olive View Hospital (Sylmar)	Lake Manor
Porter Ranch	Leona Valley
Shadow Hills	Littlerock
Sun Valley (portion)	Littlerock/Juniper Hills
Sunland	Littlerock/Pearblossom
Sylmar (portion)	Llano
Tujunga	Monrovia
West Hills (portion)	Newhall
	North Lancaster
	Northeast San Gabriel
	Palmdale
	Pearblossom/Llano
	Placerita Canyon
	Pomona
	Quartz Hill
	Roosevelt
	San Francisquito Canyon/Bouquet Canyon
	San Pasqual
	Sand Canyon
	Saugus
	Saugus/Canyon Country
	South Antelope Valley
	South Edwards
	Southeast Antelope Valley
	Stevenson Ranch
	Sun Village
	Twin Lakes/Oat Mountain

Table 3-6. Supervisorial District 5

City	County-wide Statistical Area
	Val Verde
	Valencia
	West Antelope Valley
	West Chatsworth
	White Fence Farms

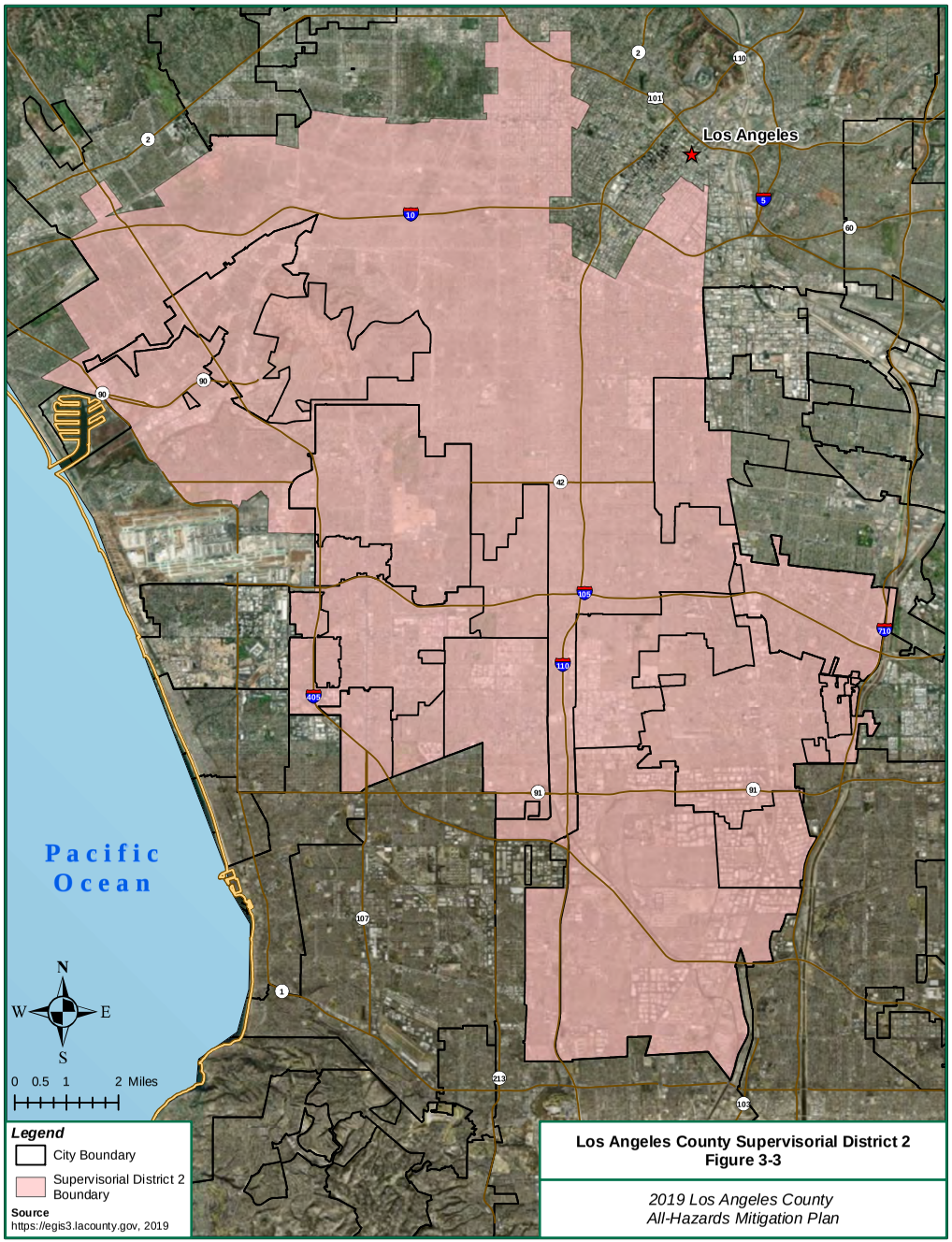
Los Angeles County
Figure 3-1

2019 Los Angeles County
All-Hazards Mitigation Plan



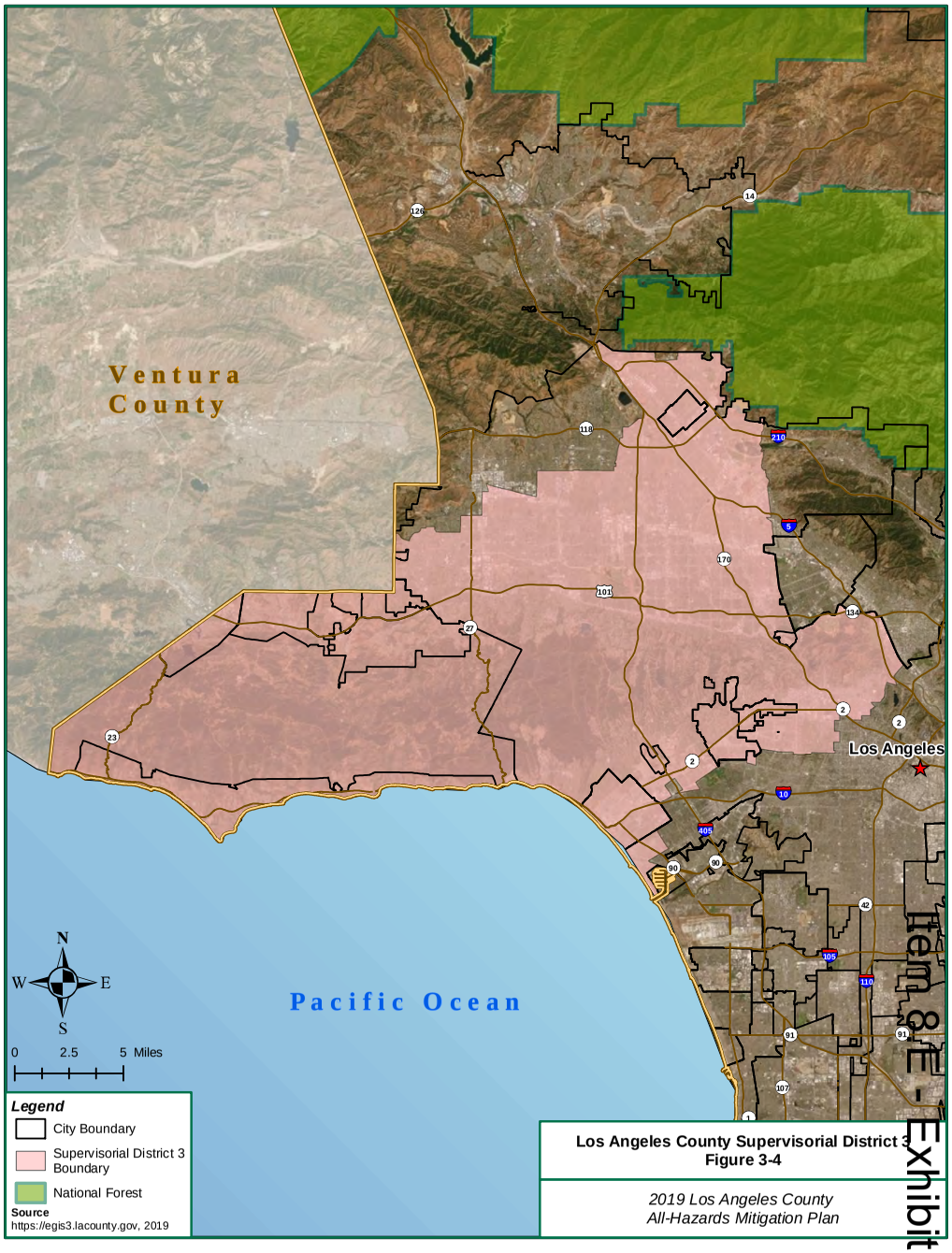
Los Angeles County Supervisorial District 1
Figure 3-2

2019 Los Angeles County
All-Hazards Mitigation Plan



Los Angeles County Supervisorial District 2
Figure 3-3

2019 Los Angeles County
All-Hazards Mitigation Plan



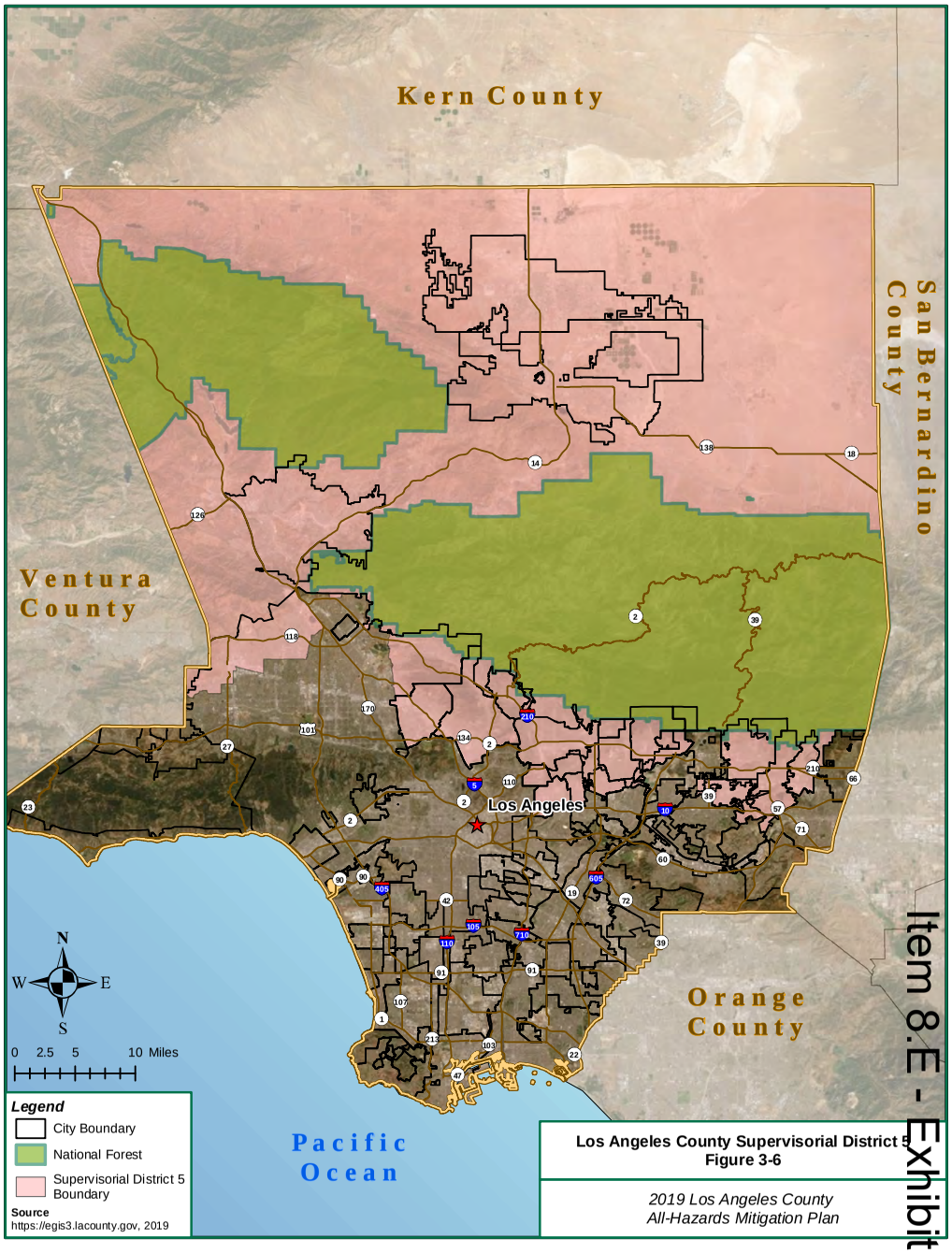
Los Angeles County Supervisorial District 3
Figure 3-4

2019 Los Angeles County
All-Hazards Mitigation Plan

Item 8-E - Exhibit D

Los Angeles County Supervisorial District 4
Figure 3-5

2019 Los Angeles County
All-Hazards Mitigation Plan



Los Angeles County Supervisorial District 5
Figure 3-6

2019 Los Angeles County
All-Hazards Mitigation Plan

3.2 POPULATION AND DEVELOPMENT TRENDS

Since the drafting of the 2014 AHMP, United States (U.S.) Census Bureau Intercensal Estimates from July 1, 2015, to July 1, 2018, show the number of people residing in Los Angeles County only grew from 10,097,037 to 10,105,518. While the county experienced population growth of 0.50 percent in 2015 and 0.23 percent in 2016, the county population fell by 0.02 percent in 2017 and 0.13 percent in 2018.

The California Department of Finance noted that the decline in population can be linked in part to a decline in birthrate. Researchers at the University of Southern California Lusk Center for Real Estate also suggest that one of the biggest reasons behind Los Angeles County's growth rate slip is due the lack of housing. Despite the city of Los Angeles adding between 15,000 and 17,000 units of housing each year from 2014 to 2018, housing has become prohibitively unaffordable, which has led many young Los Angeles County residents to move out-of-state or put down roots in nearby Inland Empire counties, where thousands of new jobs in distribution hubs and fulfillment centers have fueled more affordable housing development.

For the 2019 AHMP, population and residential buildings are not included in the risk assessment. As 2020 U.S. Census data become available, this information may be included in plan updates.

3.3 VULNERABLE POPULATIONS

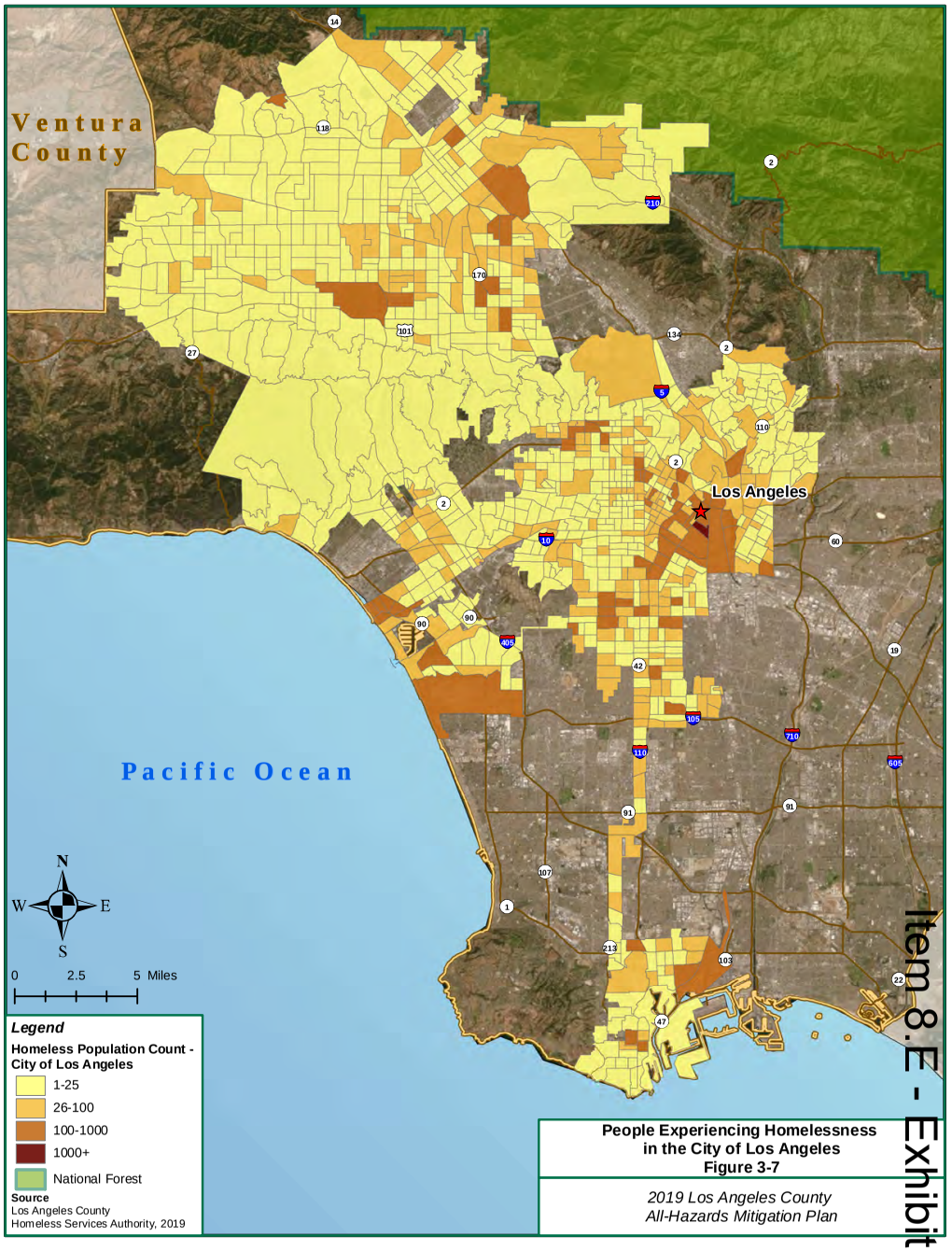
As noted by the Center for Disease Control (CDC), "Everyone must remain safe in an emergency. But for some, it's more difficult." Vulnerable or at-risk groups include people that may have difficulty communicating or accessing medical care, need help maintaining independence, require supervision, and need help accessing transportation.

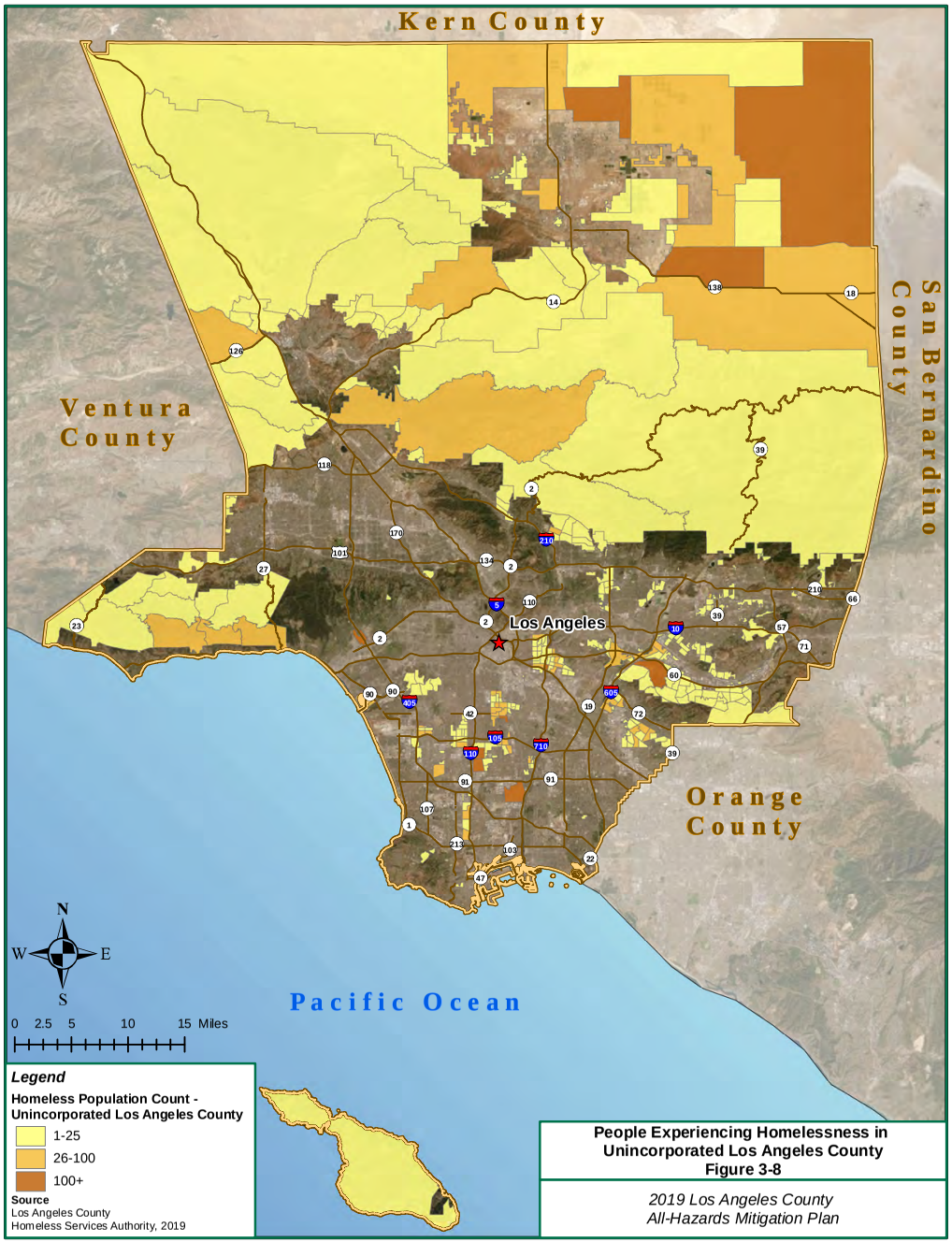
For the 2019 AHMP, vulnerable population groups addressed in the risk assessment include people experiencing homelessness. People experiencing homelessness have become a regional crisis as the number of this vulnerable population group has risen to nearly 60,000 in Los Angeles County alone. **Table 3-7** and **Figures 3-7 and 3-8** show the total point-in-time number of people experiencing homelessness in the city of Los Angeles and Unincorporated Los Angeles County, as captured for the 2019 Greater Los Angeles Homeless Count.

There are several other vulnerable groups at-risk to hazards in Los Angeles County; future updates of the AHMP will expand vulnerable population categories as the 2020 U.S. Census socioeconomic status, household composition and disability, minority status and language, and housing and transportation date becomes available.

Table 3-7. People Experiencing Homelessness

Entity	Total # of People Experiencing Homelessness (Sheltered and Unsheltered)
City of Los Angeles	32,931
Unincorporated Los Angeles County	5,881





3.4 CRITICAL FACILITIES

A critical facility provides services and functions essential to a community, especially during and after a disaster. Common types of critical facilities include: fire stations, police stations, hospitals, schools, water and waste water systems, and utilities. Critical facilities may also include places that can be used for sheltering or staging purposes, such as community centers and libraries. Critical facilities may also include large public gathering spots.

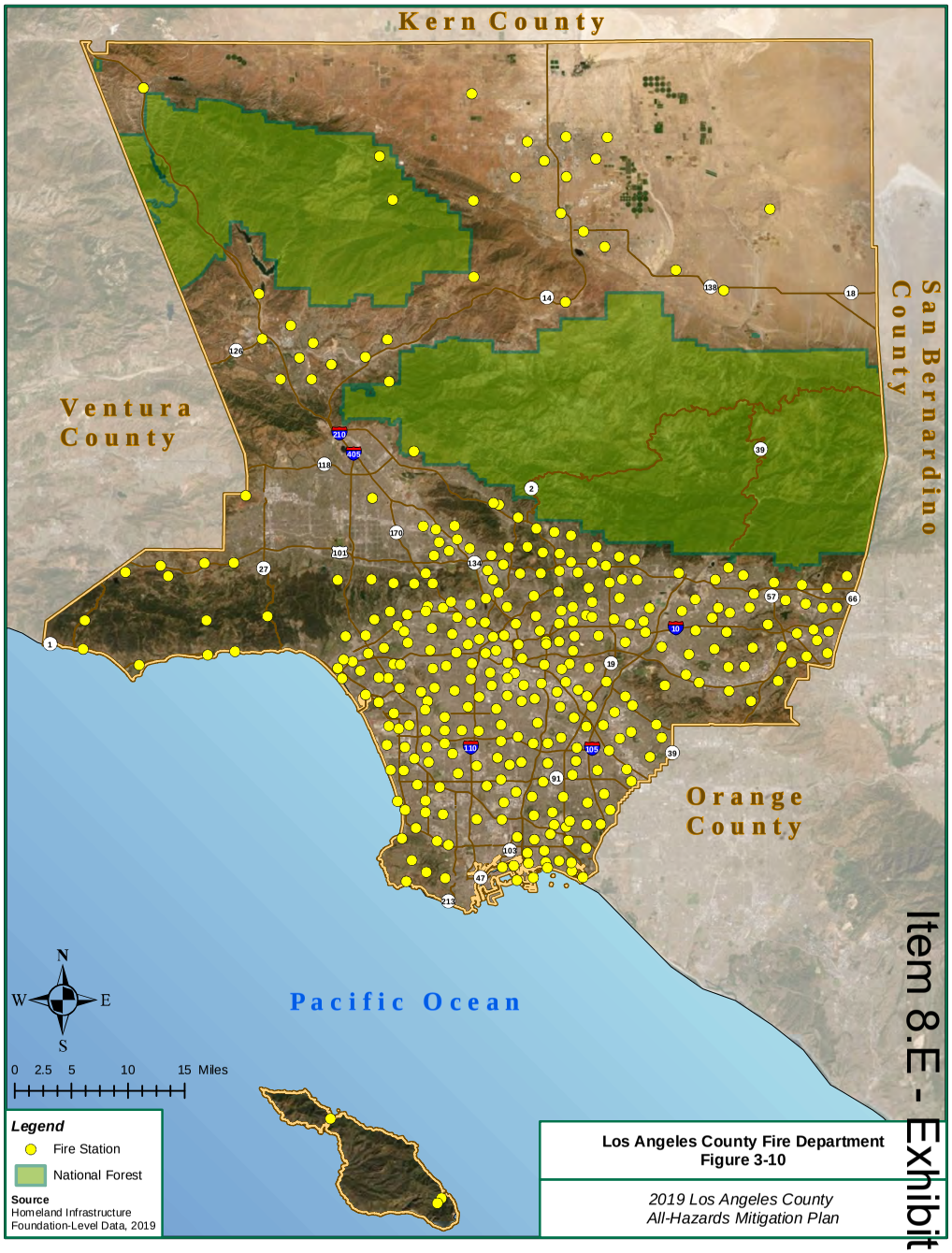
Los Angeles County does not currently maintain a centralized critical facilities database. For the 2019 AHMP, 915 major county-owned and county-related critical facilities were collected from various county department and agencies and also from the U.S. Department of Homeland Security's (DHS) Homeland Infrastructure-Foundation-Level Data site. Critical facility names and addresses were then geocoded to a location and the resulting geographic features were used for the risk assessment. The results of this process are shown in **Table 3-8** and **Figure 3-9** through **Figure 3-19**. Facility-specific information is provided in **Appendix B**. Some departments and agencies have multiple facilities at the same location; hence there are duplications of facility sites.

The County hopes to implement a coordinated data collection and database system for critical facilities; as such, future updates to this plan will likely include an expanded critical facilities list.

Table 3-8. Los Angeles County-Owned and County-Related Critical Facilities

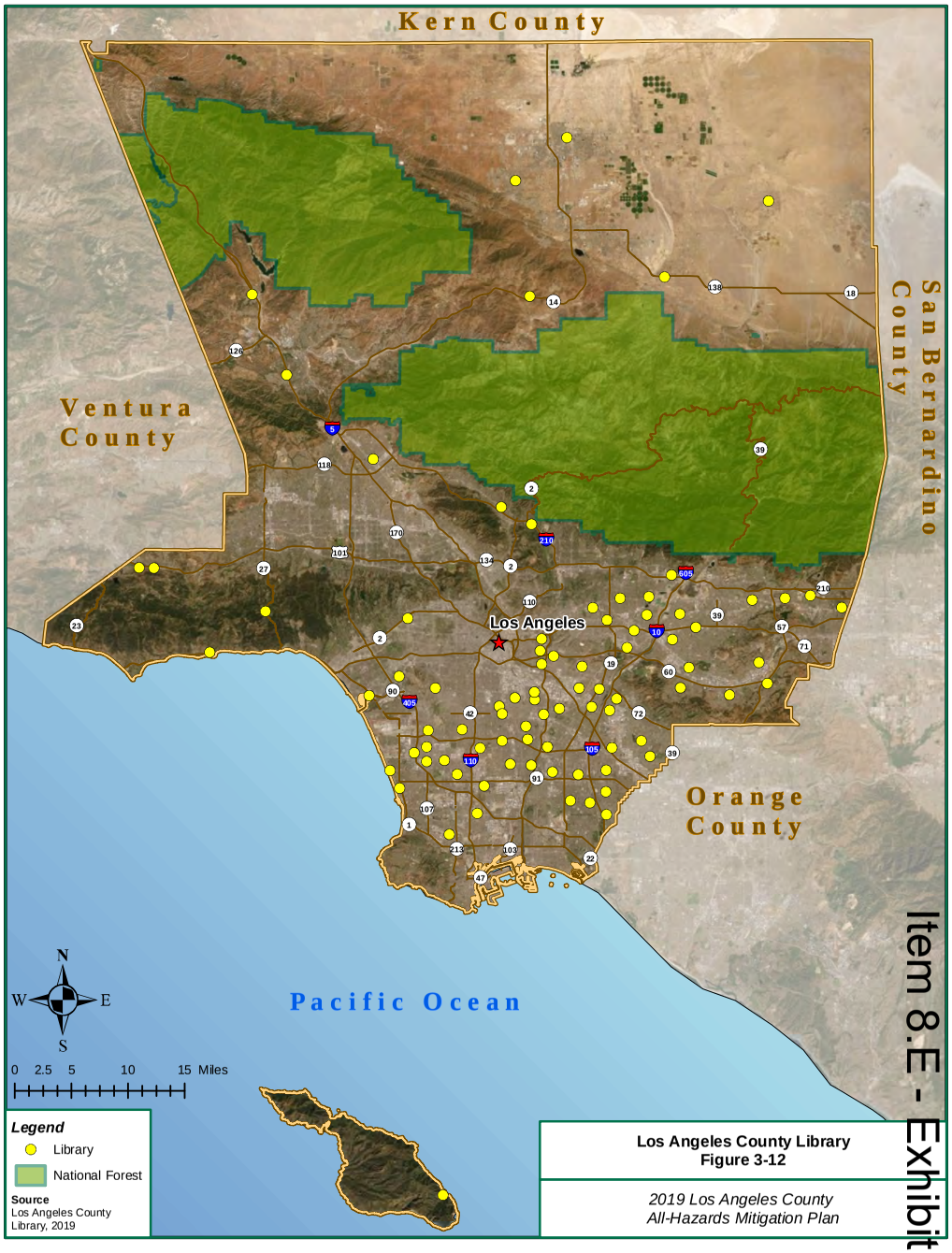
Department / Agency	# of Facilities
Los Angeles County Animal Care & Control	7
Los Angeles County Fire Department	337*
Los Angeles County Health Services	29
Los Angeles County Library	85
LACMA & NHM	4
Los Angeles County Office of Education	37
Los Angeles County - Other (offices)	24
Los Angeles County Parks & Recreation	117
Los Angeles County Public Health	14
Los Angeles County Public Works	230
Los Angeles County Sheriff's Department	31

Note: The fire stations identified for this plan include those located within the 59 cities and all the unincorporated areas that the Los Angeles County Fire Department serves.



Los Angeles County Department of Health Services
Figure 3-11

2019 Los Angeles County All-Hazards Mitigation Plan

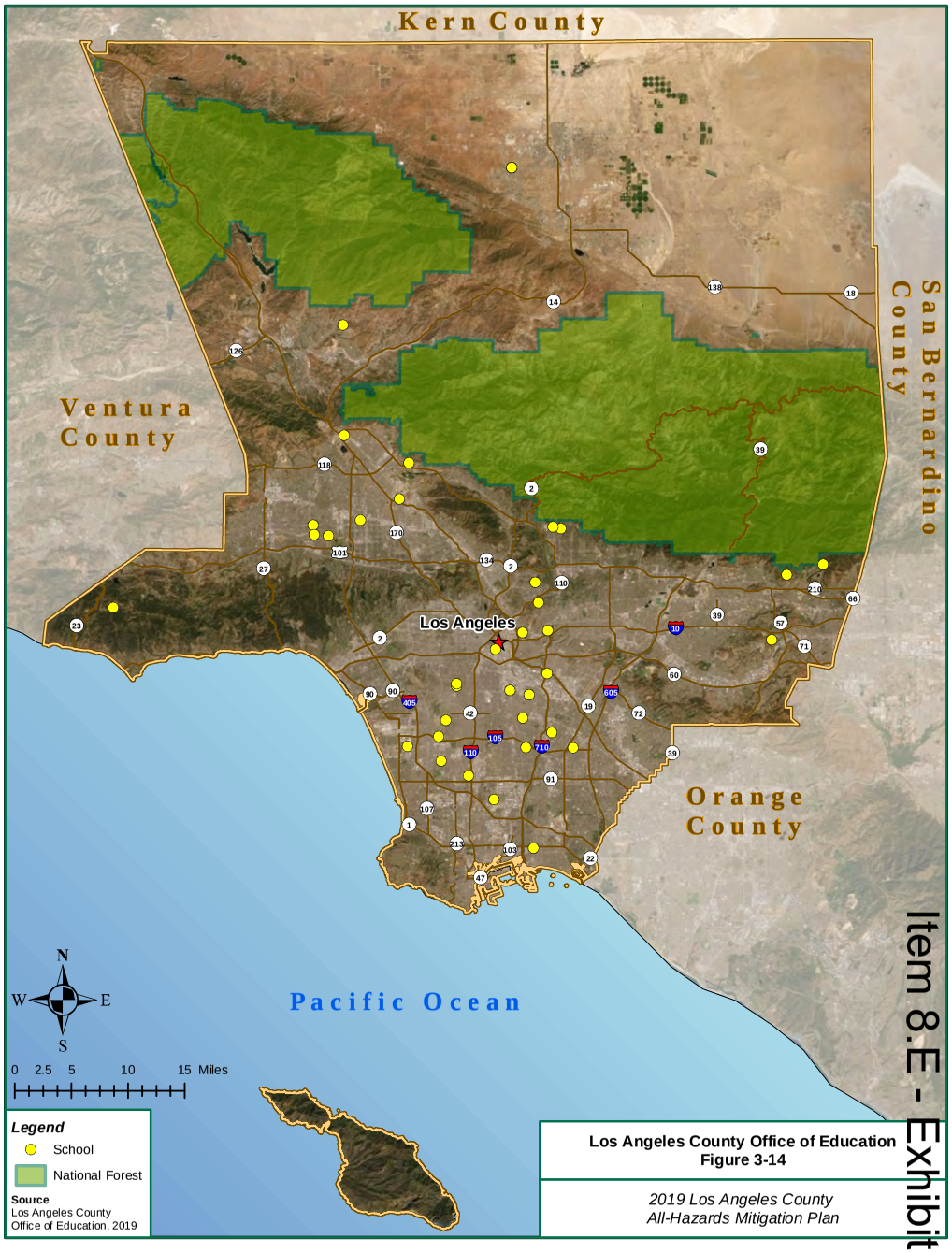


Los Angeles County Library
Figure 3-12

2019 Los Angeles County All-Hazards Mitigation Plan

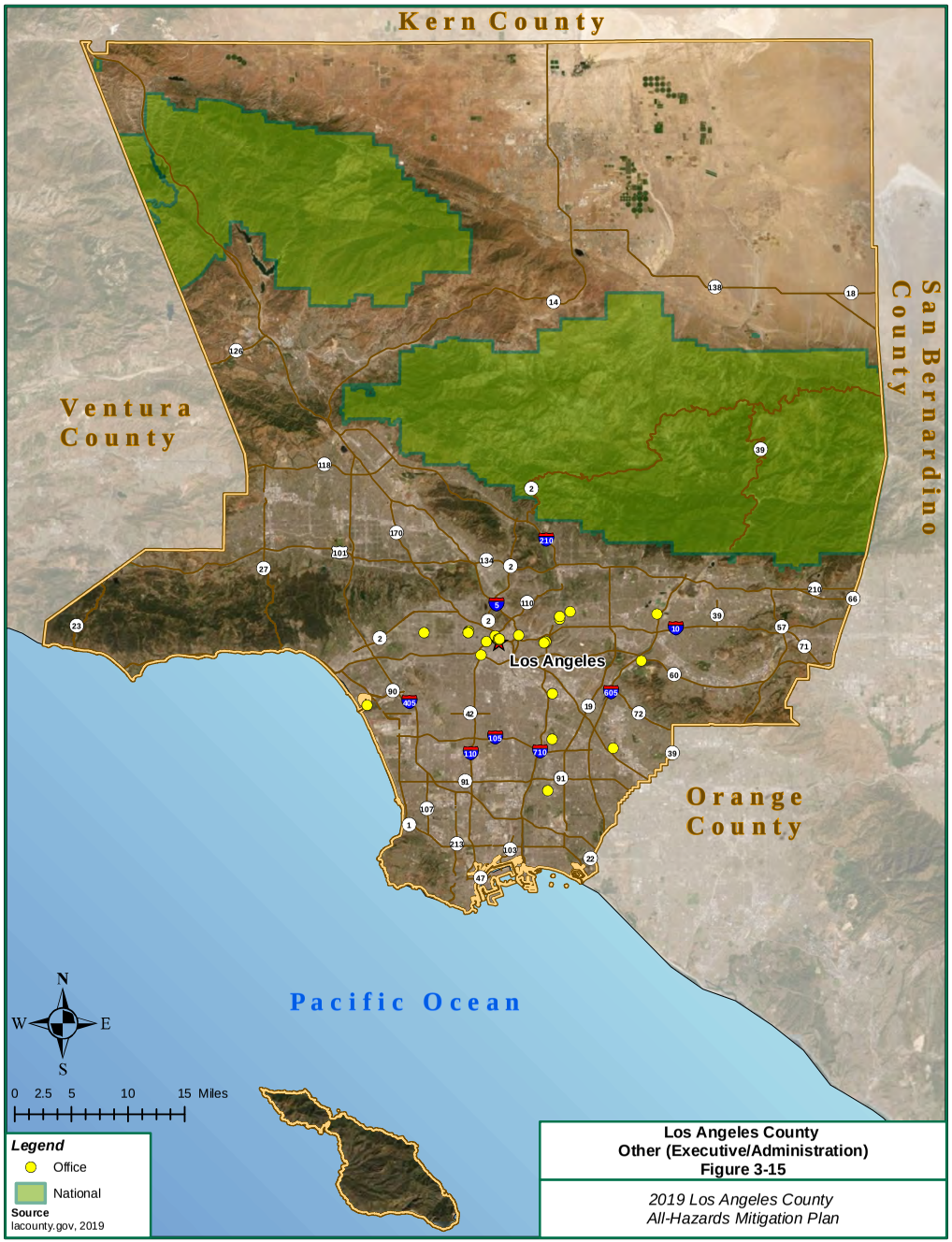
Los Angeles County Museum of Art and Museum of Natural History
Figure 3-13

2019 Los Angeles County All-Hazards Mitigation Plan



Los Angeles County Office of Education
Figure 3-14

2019 Los Angeles County All-Hazards Mitigation Plan



Los Angeles County
Other (Executive/Administration)
Figure 3-15

2019 Los Angeles County
All-Hazards Mitigation Plan

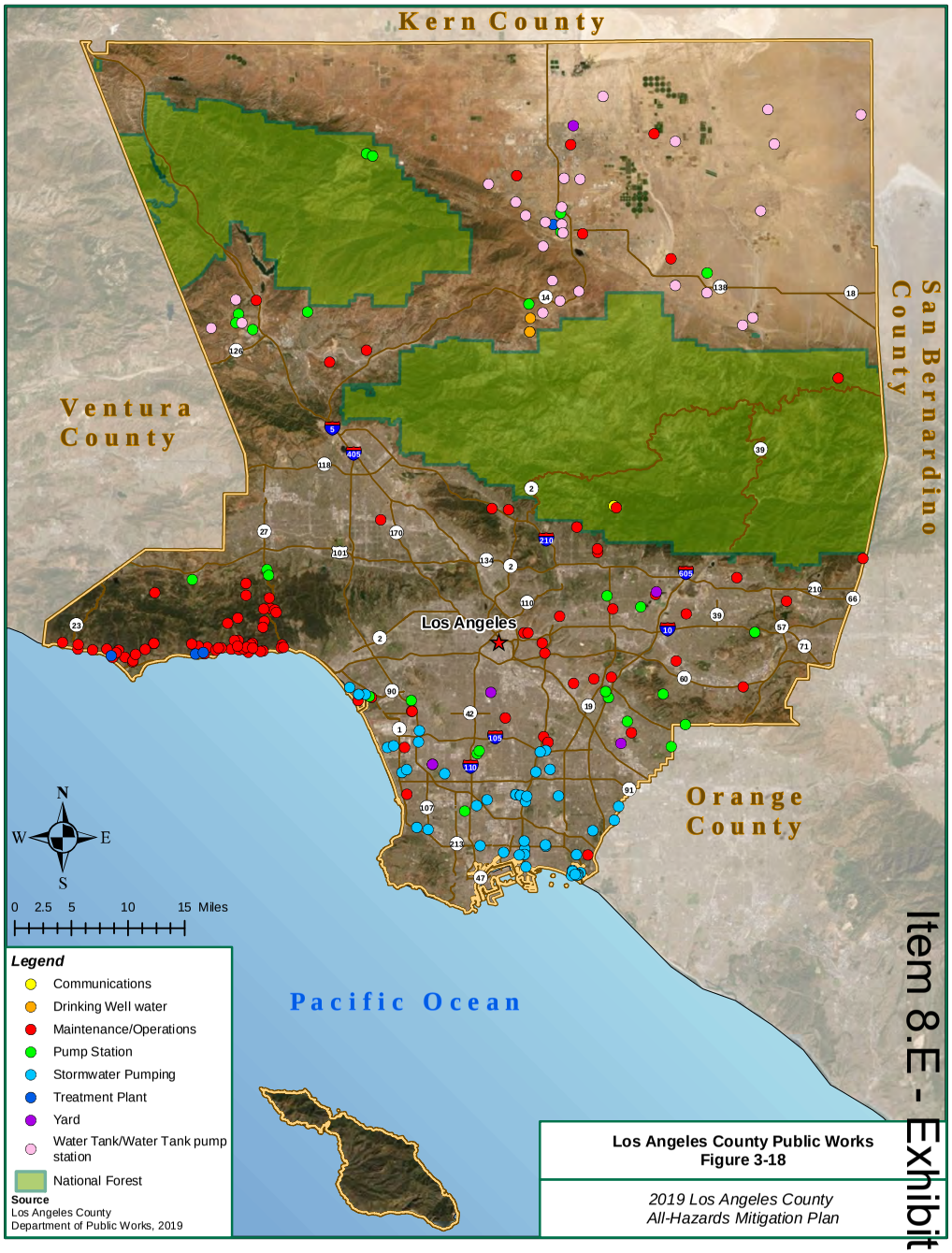
Los Angeles County Parks & Recreation
Figure 3-16

2019 Los Angeles County
All-Hazards Mitigation Plan

Item 8.E - Exhibit D

Department of Public Health
Figure 3-17

2019 Los Angeles County
All-Hazards Mitigation Plan



Los Angeles County Public Works
Figure 3-18

2019 Los Angeles County
All-Hazards Mitigation Plan

4 HAZARD IDENTIFICATION AND RISK ASSESSMENT

Section 4 – Hazard Identification and Risk Assessment addresses Element B of the Local Mitigation Plan Regulation Checklist.

Regulation Checklist – 44 CFR 201.6 Local Mitigation Plans
Element B: Hazard Identification and Risk Assessment
B1. Does the Plan include a description of the type, location, and extent of all natural hazards that can affect each jurisdiction(s)? (Requirement § 201.6(c)(2)(ii))
B2. Does the Plan include information on previous occurrences of hazard events and on the probability of future hazard events for each jurisdiction? (Requirement § 201.6(c)(2)(i))
B3. Is there a description of each identified hazard's impact on the community as well as an overall summary of the community's vulnerability for each jurisdiction? (Requirement §201.6(c)(2)(ii))
B4. Does the Plan address NFIP insured structures within the jurisdiction that have been repetitively damaged by floods? (Requirement §201.6(c)(2)(ii))

For the 2019 AHMP, the AHMP project manager and consultant revisited the hazards addressed in the 2014 AHMP. It was determined that the primary focus of the 2019 AHMP should be natural hazards and secondary hazards, as a result of a natural hazard. In addition, it was decided that climate change should be included in the plan, as increasing surface temperatures will likely result in more droughts and subsequently the risk of wildfires. Therefore, climate change, dam failure, drought, earthquake, flood, landslide, tsunami, and wildfire are profiled in the 2019 AHMP.

Hazard identification consists of describing the nature of the hazard, disaster history, location, extent/severity, and probability of future events. Hazard identification profiles have been developed for each of the eight hazards addressed in **Section 4.1** through **Section 4.8**. Additionally, impact (i.e., risk assessment) tables have been created for each hazard. Quantitative impact tables were prepared using GIS analysis for climate change (sea level rise), dam failure, earthquake, flood, landslide, tsunami, and wildfire, while a qualitative impact table was prepared for drought. Impacts considered include: land area, vulnerable populations and critical facilities. Overall summary descriptions have been developed as well. NFIP insured structures are discussed in **Table 4-23**. **Appendix C** contains unincorporated area-specific and critical facility-specific impact tables.

According to the *Comprehensive Preparedness Guide* (CPG) *201: Threat and Hazard Identification and Risk Assessment Guide—Second Edition* (CPG 201) drought, earthquake, flood, landslide, tsunami, and wildfire are classified natural hazards, while dam failure is classified as a technological hazard (but is often a secondary hazard of other natural hazards). CPG 201 does not classify climate change. As such, the hazards profiled for this AHMP are discussed in alphabetical order and not by CPG 201 classification. **The order does not signify level of risk.**

4.1 CLIMATE CHANGE

Table 4-1. Climate Change Identification Profile

Profile	Description
Nature	Climate change is defined as the average statistics of weather, which includes temperature, precipitation, and seasonal patterns in a particular region. Climate change refers to the long-term and irrevocable shift in these weather-related patterns, either regionally or globally. The Earth and its natural ecosystem are very closely tied to the climate and any permanent climate change will lead to an imbalance in the existing ecosystem, impacting the way people live, the food they grow, their health, the wildlife, the availability of water, and much more. Research indicates that much of this warming is due to human activities, primarily burning fossil fuels and clearing forests, that release carbon dioxide (CO_2) and other gases into the atmosphere, trapping in heat that would otherwise escape into space. Once in the atmosphere, these heat-trapping emissions remain there for many years (for example, CO_2 lasts about 100 years. If left unchecked, by the end of the century, CO_2 concentrations could reach levels three times higher than pre-industrial times. According to most climatologists, the planet is starting to experience shifts in climate patterns and increased frequency of extreme weather events at both the global and local levels. Over the next century, increasing atmospheric greenhouse gas concentrations are expected to cause a variety of changes to local climate conditions, including sea level rise and storm surge in coastal areas, reduced mountain snow pack, increased riverine flooding, and more frequent, higher temperatures (leading to extreme heat events and wildfires), particularly inland, decreasing air quality, and extended periods of drought. These effects of climate change are expected to negatively impact water and electricity demand and supplies in Los Angeles County. Decreasing air quality and extreme heat days will degrade public health, as well as and increase wildfire risk. And low-lying water front areas may flood or be underwater from sea level rise.
Location	According to the National Climate Assessment, the entire Pacific coastal region, including Los Angeles County, has been affected by climate change.
History	The history of the scientific discovery of climate change began in the early 19th century, when ice ages and other natural changes in paleoclimate were first suspected and the natural greenhouse effect first identified. In the late 19th century, scientists first argued that human emissions of greenhouse gases could change the climate. Many other theories of climate change were advanced, involving forces from volcanism to solar variation. In the 1960s, the warming effect of carbon dioxide gas became increasingly convincing, although some scientists also pointed out that human activities, in the form of atmospheric aerosols (e.g., "pollution"), could have cooling effects as well. During the 1970s, scientific opinion increasingly favored the warming viewpoint. By the 1990s, as a result of improving fidelity of computer models and observational work confirming the Milankovitch theory of the ice ages, a consensus position formed: greenhouse gases were deeply involved in most climate changes, and human emissions were bringing serious global warming. Since the 1990s, scientific research on climate change has included multiple disciplines and has expanded, significantly increasing our understanding of causal relations, links with historic data, and ability to numerically model climate change. The most recent work has been summarized in the Assessment Reports by the Intergovernmental Panel on Climate Change (IPCC). Climate change is a significant and lasting change in the statistical distribution of weather patterns over periods ranging from decades to millions of years. It may be a change in average weather conditions, or in the distribution of weather around the average conditions (i.e., more or fewer extreme weather events). Climate change is caused by factors that include oceanic processes (such as oceanic circulation), biotic processes, variations in solar radiation received by Earth, plate

Table 4-1. Climate Change Identification Profile

Profile	Description
	tectonics and volcanic eruptions, and human-induced alterations of the natural world; these latter effects are currently causing global warming, and "climate change" is often used to describe human-specific impacts.
Extent / Severity	Over the next century, weather patterns that are considered extreme today are expected to become the norm. The average summer temperature will rise, and in inland areas 100-plus degree Fahrenheit (°F) days will occur more frequently. A temperature change map (**Figure 4-1**) produced by the California Nevada Climate Applications Program predict that the average temperature in the region is expected to rise between 2.5 and 8°F. Drier conditions will also make wildfires more frequent and intense. The National Oceanic and Atmospheric Administration has produced a sea level rise view that shows the impacts of predicted sea level rise. As shown in **Figure 4-2**, a sea level rise of just 3 feet above mean higher high tide (approximate year 2050 – 2060) will result in coastal flooding of 2.25 square miles of Los Angeles County and 0.03 square miles of unincorporated areas of Los Angeles County, while a sea level rise of 6 feet above mean higher high tide (approximate year 2100) will result in coastal flooding of 6.13 square miles of Los Angeles County and 0.15 square miles of unincorporated areas of Los Angeles County.
Recurrence Probability	The specific probability of the extent and frequency climate change induced impacts is uncertain and depends on various climate modeling assumptions. While there is some uncertainty about the rate of climate of change and the severity and frequency of extreme weather events, the IPCC, in its Fifth Assessment of Climate Change (2014), concluded that: …warming of the climate system is unequivocal, and since the 1950s, many of the observed changes are unprecedented over decades to millennia. The atmosphere and ocean have warmed, the amounts of snow and ice have diminished, sea level has risen, and the concentrations of greenhouse gases have increased…It is extremely likely that human influence has been the dominant cause of the observed warming since the mid-20th century.

Table 4-2. Climate Change Impact on Land Area

Entity	3 Ft. Sea Level Rise		6 Ft. Sea Level Rise	
	# of Sq. Miles	% of Sq. Miles	# of Sq. Miles	% of Sq. Miles
Los Angeles County	2.25	0.05	6.13	0.13
Unincorporated Los Angeles County	0.03	0.00	0.15	0.00
Supervisorial District 1	0.00	0.00	0.00	0.00
Supervisorial District 2	0.03	0.02	0.07	0.04
Supervisorial District 3	0.14	0.03	0.34	0.08
Supervisorial District 4	1.98	0.45	5.58	1.27
Supervisorial District 5	0.00	0.00	0.00	0.00

Table 4-3. Climate Change Impact on Vulnerable Populations – People Experiencing Homelessness

Entity	3 Ft. Sea Level Rise		6 Ft. Sea Level Rise	
	# of Homeless	% of Homeless	# of Homeless	% of Homeless
City of Los Angeles	51	0.15	126	0.38
Unincorporated Los Angeles County	0	0.00	2	0.04

Table 4-4. Climate Change Impact on County Critical Facilities

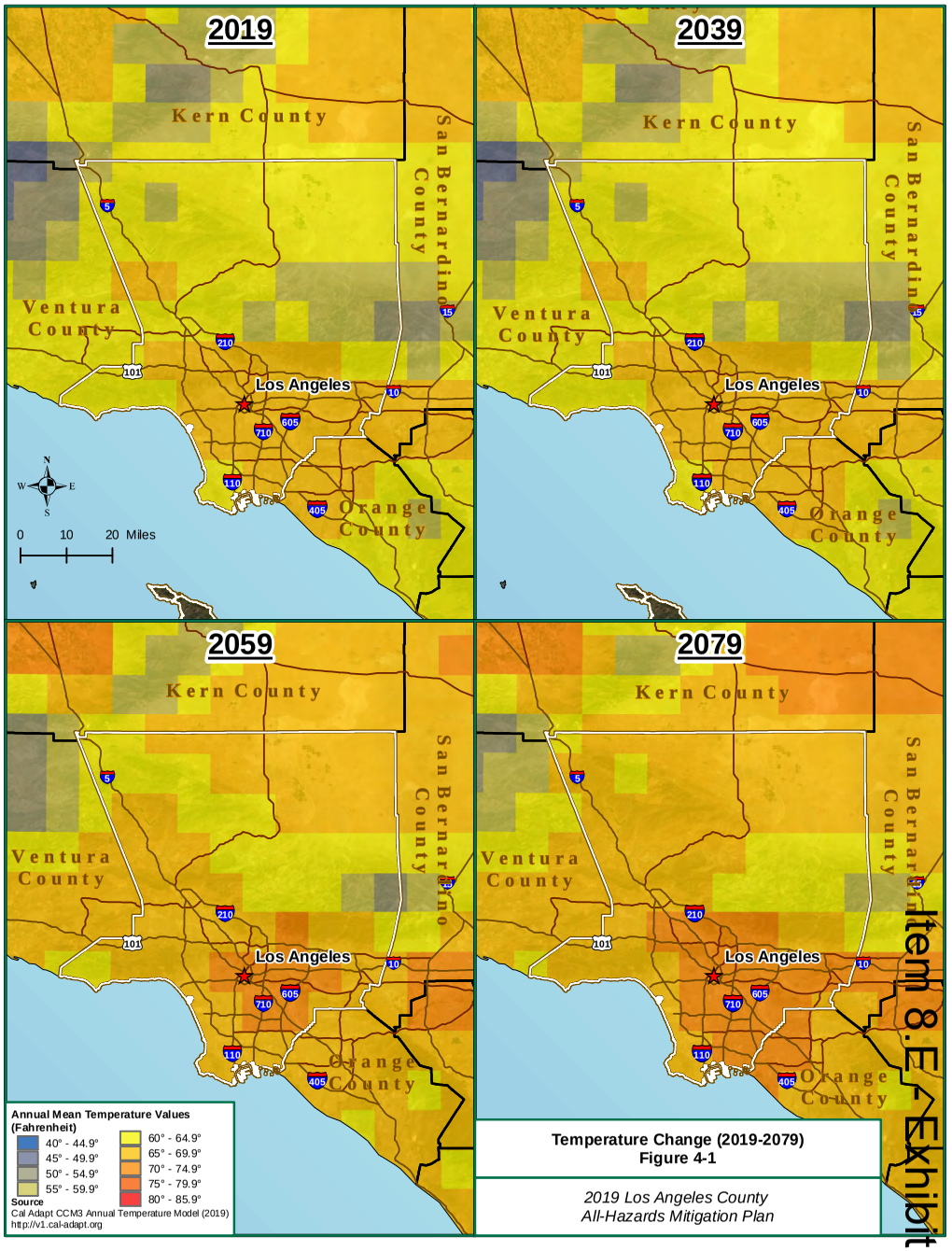
Department/ Agency	3 Ft. Sea Level Rise		6 Ft. Sea Level Rise	
	# of Facilities	% of Facilities	# of Facilities	% of Facilities
Los Angeles County Animal Care & Control	0	0.00	0	0.00
Los Angeles County Fire Department	1	0.00	5	1.4
Los Angeles County Health Services	0	0.00	0	0.00
Los Angeles County Library	0	0.00	0	0.00
LACMA & NHM	0	0.00	0	0.00
Los Angeles County Office of Education	0	0.00	0	0.00
Los Angeles County - Other (offices)	0	0.00	0	0.00
Los Angeles County Parks & Recreation	0	0.00	0	0.00
Los Angeles County Public Health	0	0.00	0	0.00
Los Angeles County Public Works	3	1.30	6	2.61
Los Angeles County Sheriff's Department	1	3.23	0	0.00

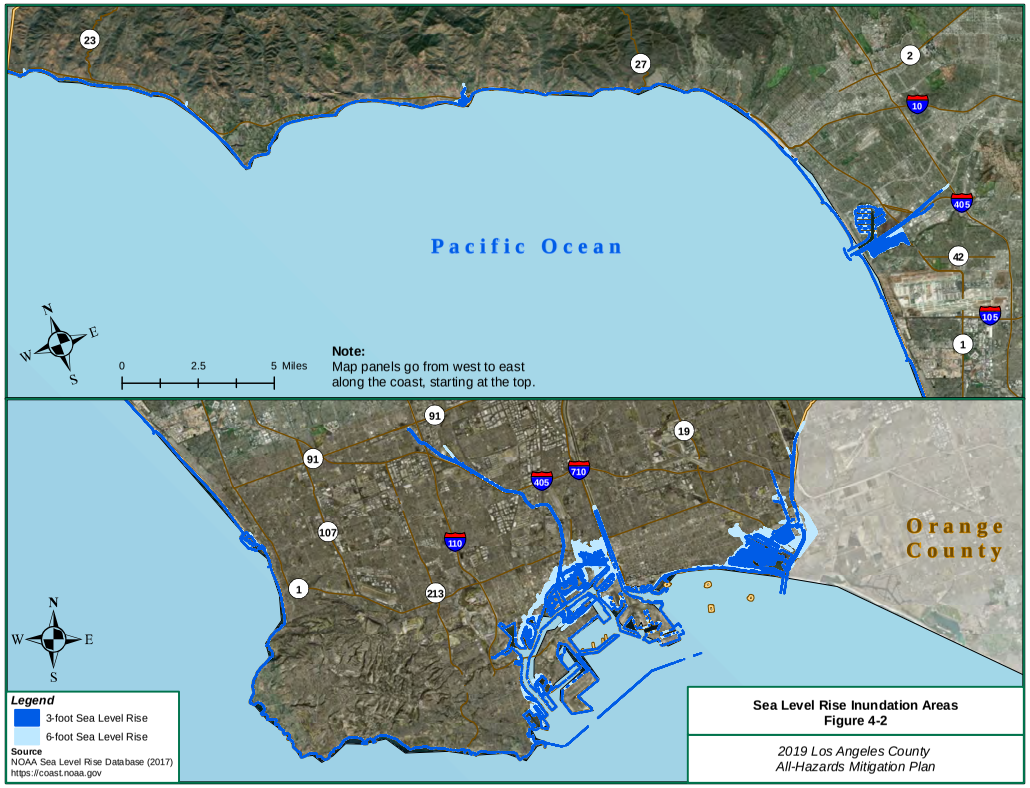
LACMA = Los Angeles County Museum of Art

NHM = Natural History Museum

Table 4-5. Overall Summary of Vulnerability to Climate Change

	Climate Change
Summary	Climate change will affect every person and every area of Los Angeles County. As noted above, the number of extreme heat days will rise, and inland county areas will experience days with temperatures in excess of 100°F more frequently. Extreme heat can trigger a variety of heat stress conditions, such as heat stroke. Higher temperatures can also contribute to the build-up of harmful pollutants and cause respiratory issues. Drier, hotter conditions will also make wildfires more frequent and intense, particularly in the High and Very High Fire Hazard Severity Zones (FHSZ). Wildfires can: burn homes, businesses, and critical facilities; interrupt transportation and utilities; and cause death to people and animals. In addition, mega storms that are linked to climate change will cause severe flooding in cities and form lakes in the Central Valley and Mojave Desert. Along the coast, deadly and destructive storm surges will push farther inland than they once did, which means more frequent nuisance flooding. Los Angeles County is addressing climate change through the implementation of the 2015 Community Climate Action Plan. The plan describes how the County will address the impacts of climate change by reducing greenhouse gas emissions from community activities in the unincorporated areas of Los Angeles County by at least 11% below 2010 levels by 2020. Additionally, in April 2019 the mayor of Los Angeles released the city's Green New Deal, which "sets aggressive goals for the city's sustainable future, tackles the climate emergency with accelerated targets… and sets L.A. on course to be carbon neutral by 2050."





4.2 DAM FAILURE

Table 4-6. Dam Failure Identification Profile

Profile	Description
Nature	Dam failure is the structural collapse of a dam that releases the water stored in the reservoir behind the dam. A dam failure is usually the result of the age of the structure, inadequate spillway capacity used in construction, or structural damage caused by an earthquake or flood. When a dam fails, a large quantity of water is suddenly released with a great potential to cause human casualties, economic loss, and environmental damage. This type of disaster is especially dangerous because it can occur suddenly, providing little warning and evacuation time for the people living downstream. The flows resulting from dam failure generally are much larger than the capacity of the downstream channels and therefore lead to extensive flooding. Flood damage occurs as a result of the momentum of the flood caused by the sediment-laden water flooding over the channel banks and impact debris carried by the flow.
Location	According to the California Department of Water Resource's Division of Safety of Dams (DSOD), there are 90 dams under State jurisdiction in Los Angeles County. A dam breach inundation map shows flooding that could result from a hypothetical failure of a dam or its critical appurtenant structure. In 2017, the California Legislature passed a law requiring all State jurisdictional dam owners, except for owners of low-hazard dams, to develop inundation maps approved by DSOD and emergency action plans approved by Cal OES. At the time of the drafting of this plan in early July 2019, 12 State jurisdictional dams in Los Angeles County had approved dam breach inundation maps, including: • Castaic Lake Dam: an earthen dam with a storage capacity of 323,700 acre-feet in Warm Springs Mountain • Pyramid Dam: an earthen and rock dam with a storage capacity of 178,700 acre-feet in Black Mountain • Chevy Chase 1290: an earthen dam with a storage capacity 17 acre-feet of in Pasadena • Elysian Dam: and earthen dam with a storage capacity of 167 acre-feet in Los Angeles • Lower San Fernando Dam: hydraulic fill dam with a storage capacity of 9,843 acre-feet in San Fernando • Eagle Rock Dam: an earthen dam with a storage capacity of 254 acre-feet in Pasadena • Santa Ynez Canyon Dam: an earthen dam with a storage capacity 356 acre-feet in Topanga • Devils Gate Dam: a gravity dam with a storage capacity of 2,600 acre-feet Pasadena • Palos Verdes Reservoir: an earthen dam with a storage capacity of 1,100 acre-feet in Torrance • Littlerock – Palmdale Dam: a roller-compacted concrete dam with a storage capacity of 4,600 acre-feet in Pacifico Mountain • Harold Reservoir: an earthen dam with a storage capacity of 3,870 acre-feet in Palmdale • Westlake Reservoir: an earthen dam with a storage capacity of 9,200 acre-feet in Westlake Village

Table 4-6. Dam Failure Identification Profile

Profile	Description
History	Los Angeles County was the scene of the worst dam failure in United States history. The St. Francis Dam was built in San Francisquito Canyon, approximately 40 miles northwest of downtown Los Angeles, in 1924. On the night of March 12-13, 1928, the dam catastrophically failed, releasing approximately 12.4 billion gallons of water. At least 411 people were killed. Subsequent investigations determined that the dam failed as a result of defective foundations that had been built upon an unstable rock formation. As a result of the disaster, the State of California increased dam safety legislation and oversight, and created a state Board of Registration for civil engineers to regulate the industry.
Extent / Severity	The Federal Guidelines for Inundation Mapping of Flood Risks Associated with Dam Incidents and Failures (FEMA P-946, July 2013) defines downstream hazards for dam incidents. Downstream hazards are based "solely on the potential downstream impacts to life and property should the dam fail when operating with a full reservoir." FEMA has developed three categories in increasing severity for downstream hazards: Low, Significant, and High. DSOD adds a fourth category of Extremely High. In Los Angeles County there are 40 dams that are classified as High, with the potential impact expected to cause loss of at least one human life, and 30 dams classified as Extremely High, with the potential impact expected to cause considerable loss of human life or result in an inundation area with a population of 1,000 or more. As noted in **Figure 4-3**, nine Extremely High hazard dams and three High hazard dams in the county have approved dam breach inundation maps for a total of 45.70 square miles (0.96 %) in Los Angeles County, and a total of 13.37 square miles (0.44 %) in the unincorporated areas of Los Angeles County.
Recurrence Probability	Dams fail for a variety of reasons, including Sub-standard construction materials/techniques, spillway design error, geological instability, poor maintenance, and earthquakes, and therefore recurrence probabilities are unknown. State jurisdiction dams are regulated by the DSOD and each dam undergoes inspection on an annual basis to ensure it is safe, performing as intended, and is not developing issues. However, in 2017, the United States Army Corps of Engineers (USACE) discovered that the Whittier Narrows Dam was structurally unsafe and that an intense storm could prematurely open the dam's massive spillway and flood the area below from Pico Rivera to Long Beach. The USACE has reclassified the dam as the agency's highest dam priority nationally because of the risk of "very significant loss of life and economic impacts." Construction on the dam is expected to start in 2021 and conclude by 2025.

Table 4-7. Dam Failure Impact on Land Area

Entity	Dam Breach Inundation	
	# of Sq. Miles	% of Sq. Miles
Los Angeles County	45.70	0.96
Unincorporated Los Angeles County	13.37	0.44
Supervisorial District 1	1.40	0.57
Supervisorial District 2	0.00	0.00
Supervisorial District 3	24.84	5.76
Supervisorial District 4	0.67	0.15
Supervisorial District 5	18.00	0.64

Table 4-8. Dam Failure Impact on Vulnerable Populations – People Experiencing Homelessness

Entity	Dam Breach Inundation	
	# of Homeless	% of Homeless
City of Los Angeles	1,193	3.62
Unincorporated Los Angeles County	13	0.22

Table 4-9. Dam Failure Impact on County Critical Facilities

Department / Agency	Dam Breach Inundation	
	# of Facilities	% of Facilities
Los Angeles County Animal Care & Control	1	14.29
Los Angeles County Fire Department	3	0.89
Los Angeles County Health Services	2	6.90
Los Angeles County Library	1	1.18
LACMA & NHM	0	0.00
Los Angeles County Office of Education	2	5.41
Los Angeles County - Other (offices)	0	0.00
Los Angeles County Parks & Recreation	2	1.71
Los Angeles County Public Health	0	0.00
Los Angeles County Public Works	1	0.43
Los Angeles County Sheriff's Department	3	9.68

Table 4-10. Overall Summary of Vulnerability to Dam Failure

	Dam Failure
Summary	There are 90 dams in Los Angeles County under State jurisdiction. Seventy dams are classified as High and Extremely High hazard and failure of these types of dams will cause loss of human life and/or result in an inundation area with a population of 1,000 or more. As of June 2017, all dams except those classified as Low hazard are required by the DSOD to have an Emergency Action Plan (EAP). An EAP identifies incidents that can lead to potential emergency conditions at a dam, identifies the areas that could be affected by the loss of a reservoir and specifies pre-planned actions to be followed to minimize property damage, potential loss of infrastructure and water resources, and potential loss of life due to failure or misoperation of a dam. EAPs also require dam breach inundation maps to be prepared. While the State regulates dams to prevent failure, safeguard life, and protect property, some researchers doubt that the "overall safety of aging federal flood control systems that were not designed with climate change in mind." They argue that as California experiences more intense storms, the aging dams in the area could fail and/or prematurely open and flood homes, schools, businesses, and roads. In 2016, Climate-Safe Infrastructure Bill (Assembly Bill [AB] 2800) became law and "established the Climate-Safe Infrastructure Working Group to develop recommendations to the California legislature on how to build and design our infrastructure to be safer for Californians in the face of growing climate extremes." The Working Group's 2018 report identified nearly 700 High hazard dams in California needing repairs and upgrades.

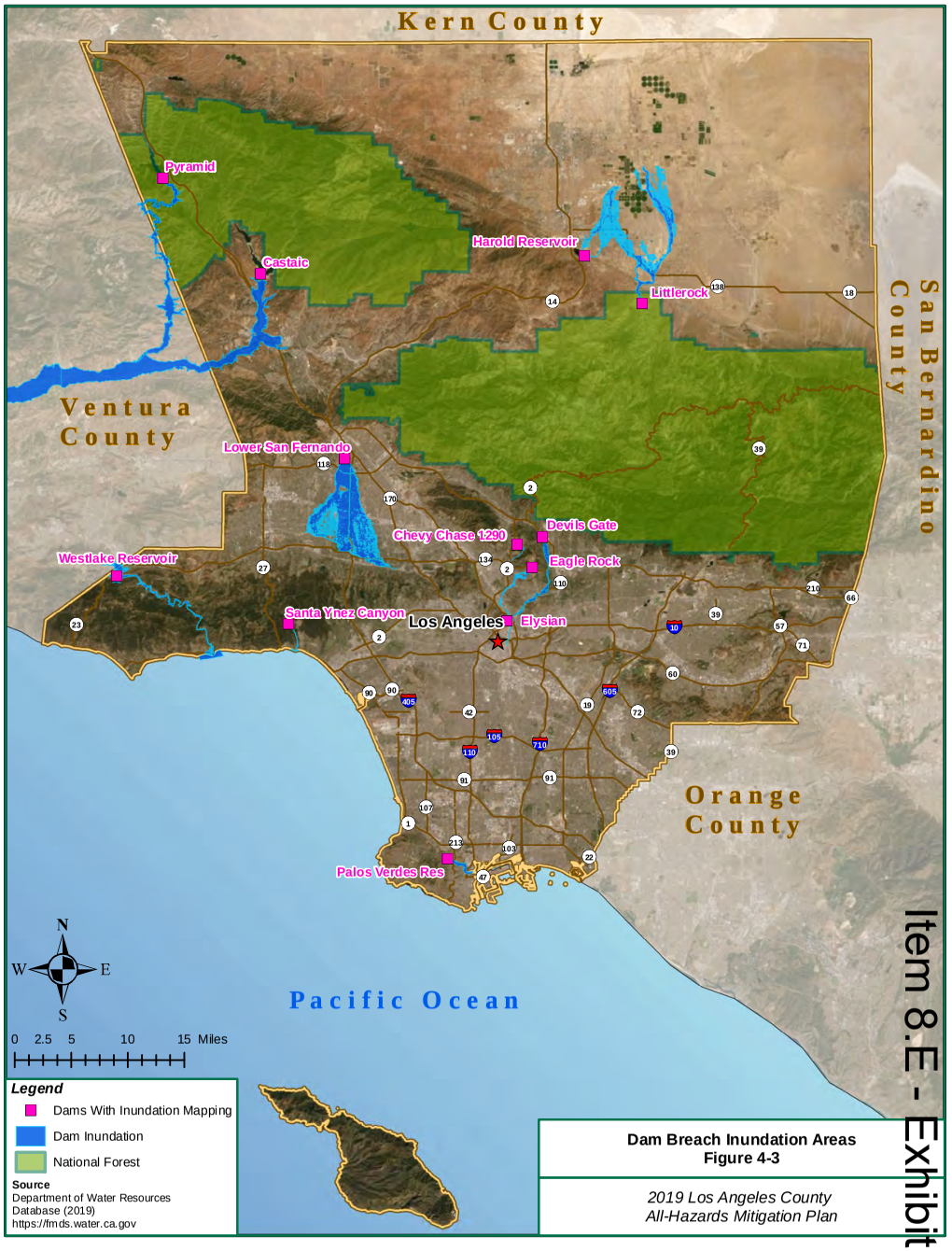


Table 4-11. Drought Identification Profile

Profile	Description
Nature	Drought is a normal, recurrent feature of virtually all climatic zones, including areas of both high and low rainfall, although characteristics will vary significantly from one region to another. Drought differs from normal aridity, which is a permanent feature of the climate in areas of low rainfall. Drought is the result of a natural decline in the expected precipitation over an extended period of time, typically one or more seasons in length. Other climatic characteristics, such as high temperature, high wind, and low relative humidity, impact the severity of drought conditions. Four common definitions for drought are provided as follows: • **Meteorological drought** is defined solely on the degree of dryness, expressed as a departure of actual precipitation from an expected average or normal amount based on monthly, seasonal, or annual time scales. • **Hydrological drought** is related to the effects of precipitation shortfalls on stream flows and reservoir, lake, and groundwater levels. • **Agricultural drought** is defined principally in terms of soil moisture deficiencies relative to water demands of plant life, usually crops. • **Socioeconomic drought** associates the supply and demand of economic goods or services with elements of meteorological, hydrologic, and agricultural drought. Socioeconomic drought occurs when the demand for water exceeds the supply as a result of weather-related supply shortfall. It may also be referred to as a water management drought. A drought's severity depends on numerous factors, including duration, intensity, and geographic extent, as well as regional water supply demands by humans and vegetation. Due to its multi-dimensional nature, drought is difficult to define in exact terms and poses difficulties in terms of comprehensive risk assessments. Drought differs from other natural hazards in three ways. First, the onset and end of a drought are difficult to determine due to the slow accumulation and lingering of effects of an event after its apparent end. Second, the lack of an exact and universally accepted definition adds to the confusion of its existence and severity. Third, in contrast with other natural hazards, the impact of drought is less obvious and may be spread over a larger geographic area. These characteristics have hindered the preparation of drought contingency or mitigation plans by many governments.
Location	The occurrence of drought is regional in nature and scope, which holds true for Los Angeles County. As such, when drought occurs it typically affects the entire county.
History	Drought is a cyclic part of the climate of California, occurring in both summer and winter, with an average recurrence interval between 3 and 10 years. Droughts in California over the past 100 years are listed as follows. The most recent drought from 2011 to 2015 was the driest 4-year period on record in California since recordkeeping began in 1895. • 1917-1921, Statewide except for central Sierra Nevada and north coast • 1922-1926, Statewide except for central Sierra Nevada • 1928-1937, Statewide • 1943-1951, Statewide • 1959-1962, Statewide • 1976-1977, Statewide, except for southwestern deserts • 1987-1992, Statewide • 2007-2009, Statewide, particularly the central coast • 2011-2015, Statewide

Table 4-11. Drought Identification Profile

Profile	Description
Extent / Severity	The National Drought Mitigation Center produces drought monitor maps for the United States. It classifies droughts into five categories: D0 is the least severe, with abnormally dry conditions; and D4 is the most severe, with exceptional drought conditions. California, including Los Angeles County, was in some form of drought for 376 consecutive weeks from December 20, 2011 until March 14, 2019. As of August 13, 2019, Los Angeles County remains free of drought.
Recurrence Probability	Researchers for California's Fourth Climate Change Assessment have noted that California has a "highly variable climate" with wet or dry periods that can span years and that are "heavily affected by extreme precipitation events." Furthermore, climate scientists also suggest the possibility of longer and more destructive droughts with climate change. As such, California is likely to experience long-term droughts at least every decade.

Table 4-12. Drought Impact

	Drought
Summary	Severe droughts can impact the region's agriculture, forests, hydropower, groundwater supply, recreation, aquatic ecosystems, as well as isolated communities that have limited water supply.

Table 4-13. Overall Summary of Vulnerability to Drought

	Drought
Summary	Climate scientists predict that Los Angeles County and the rest of southern California will get drier and northern California will get hotter. The resulting loss of snowpack in the Sierra Nevada will mean less water for all Californians – farmers, residents, utilities, and even hatchery fish. However, while drought cannot be controlled, according to the USGS, drought can be managed in two ways: through drought planning and in helping communities make the best day-to-day management decisions while the drought is taking place. During the drafting of this plan update, the Governor of California signed an executive order directing specific State agencies to develop a Water Resilience Portfolio to "ensure safe and dependable water supplies, flood protection and healthy waterways for the state's communities, economy and environment."

4.3 EARTHQUAKE

Table 4-14. Earthquake Identification Profile

Profile	Description
Nature	An earthquake is a sudden motion or trembling caused by a release of strain accumulated in or along the edge of Earth's tectonic plates. The effects of an earthquake can be felt far beyond the site of its occurrence. Earthquakes usually occur without warning and can cause massive damage and extensive casualties in a few seconds. Common effects of earthquakes are ground motion and shaking, surface fault ruptures, and ground failure. Ground motion is the vibration or shaking of the ground during an earthquake. When a fault ruptures, seismic waves radiate, causing the ground to vibrate. The severity of the vibration increases with the amount of energy released and decreases with distance from the causative fault or epicenter. Soft soils can amplify ground motions. In addition to ground motion, several secondary natural hazards can occur from earthquakes, such as the following: • **Surface Faulting**: Surface faulting is the differential movement of two sides of a fault at the Earth's surface. Displacement along faults, both in terms of length and width, varies but can be significant (e.g., up to 20 feet), as can the length of the surface rupture (e.g., up to 200 miles). Surface faulting can cause severe damage to linear structures, including railways, highways, pipelines, tunnels and dams. • **Liquefaction**: Liquefaction occurs when seismic waves pass through saturated granular soil, distorting its granular structure, and causing some of the empty spaces between granules to collapse. Liquefaction causes lateral spreads (i.e., horizontal movements of commonly 10 to 15 feet, but up to 100 feet), flow failures (i.e., massive flows of soil, typically hundreds of feet, but up to 12 miles), and loss of bearing strength (i.e., soil deformations causing structures to settle or tip). Liquefaction can cause severe damage to property. • **Landslides/Debris Flows**: Landslides/debris flows occur as a result of horizontal seismic inertia forces induced in the slopes by the ground shaking. The most common earthquake-induced landslides include shallow, disrupted landslides such as rock falls, rockslides, and soil slides. Debris flows are created when surface soil on steep slopes becomes totally saturated with water. Once the soil liquefies, it loses the ability to hold together and can flow downhill at very high speeds, taking vegetation and/or structures with it. Slide risks increase after an earthquake during a wet winter. The two most common measures of earthquake intensity used in the United States are the Modified Mercalli Intensity Scale, which measures felt intensity, and peak ground acceleration (PGA), which measures instrumental intensity by quantifying how hard the earth shakes in a given location. Magnitude (M) is measured by the amplitude of the earthquake waves recorded on a seismograph using a logarithmic scale.

Table 4-14. Earthquake Identification Profile

Profile	Description
Location	As in most of southern and coastal California, the potential for earthquake damage exists throughout Los Angeles County because of the number of active faults in and near the county. These faults are shown on the California Geological Survey (CGS) Fault Activity Map of California. Descriptions of the active faults are provided below. The locations of the active and potentially active faults are shown on **Figure 4-4.** Some of the more significant faults are described below: • **Malibu Coast fault system:** The Malibu Coast fault system includes the Malibu Coast, Santa Monica, and Hollywood faults. The system begins in the Hollywood area, extends along the southern base of the Santa Monica Mountains, and passes offshore a few miles west of Point Dume. The 1973 Point Mugu earthquake is believed to have originated on this fault system. • **Oak Ridge fault system:** The Oak Ridge fault system is a steep (65 degrees) southerly dipping reverse fault that extends from the Santa Susana Mountains westward along the southerly side of the Santa Clara River Valley and into the Oxnard Plain. The system is more than 50 miles long on the mainland and may extend an equal or greater distance offshore. Several recorded earthquake epicenters on land and offshore may have been associated with the Oak Ridge fault system. Portions of the system are zoned by the state as active. • **Pine Mountain thrust fault and Big Pine fault:** These two large faults occur in the mountainous portion of Ventura County north of the Santa Ynez fault; the faults are located 9 and 16 miles north of the city of Ojai, respectively. The Pine Mountain thrust fault is reported to have ruptured the ground surface for 30 miles along its length during the northern Ventura County earthquakes of November 1852. • **San Andreas fault:** San Andreas is the longest and most significant fault in California. Because of clearly established historical earthquake activity, this fault has been designated as active by the State of California. The last major earthquake on this fault near Ventura County was the Fort Tejon earthquake of 1857, which was estimated at magnitude (M) 8.0 and would have caused considerable damage if there had been structures in the southern part of the county. There is a 59 % chance that an M 6.7 quake or larger will occur on this fault in the next 30 years. • **San Cayetano–Red Mountain–Santa Susana fault system:** This fault system consists of a major series of north-dipping reverse faults that extend over 150 miles from Santa Barbara County into Los Angeles County. In this system, the San Cayetano fault is the greatest hazard to Ventura County; it is a major, north-dipping reverse fault that extends for 25 miles along the northern portion of the Ventura Basin. The San Fernando earthquake of 1971, described in the previous section, was caused by activity along this fault. • **Simi–Santa Rosa fault system:** This fault system extends from the Santa Susana Mountains westward along the northern margin of the Simi and Tierra Rejada valleys and along the southern slope and crest of the Las Posas Hills to their westerly termination. • **Ventura-Pitas Point fault:** The western half of this fault is known as the Pitas Point fault, and the eastern half is known as the Ventura fault. The Pitas Point fault extends offshore into the Pacific Ocean and is roughly 14 miles long. The Ventura fault extends into the communities of Ventura and Sea Cliff and runs roughly parallel to portions of U.S. 101 and State Route 126. The fault is roughly 12 miles long and is a left-reverse fault.

Table 4-14. Earthquake Identification Profile

Profile	Description
History	As shown in **Figure 4-5**, according to the USGS, 163 earthquakes M 5.0> have been recorded in southern California since 1769. Four of these earthquakes have been larger than M 7.0 including: • San Juan Capistrano Earthquake (M 7.5), December 8, 1812 • Kern County Earthquake (M 7.5), July 21, 1952 • West Ventura Earthquake (M 7.1), December 21, 1812 • Ridgecrest, (M 7.1), July 6, 2019 In Los Angeles County, significant earthquakes over the past 50 years include: • La Habra (M 5.1), March 28, 2014, resulting in a few injuries and $10 million dollars in damages • Chino Hills (M 5.5), July 29, 2008, resulting in 8 injuries and limited damages • Northridge (M 6.7), January 17, 1994, resulting in 57 deaths, 8,700 injuries and up to $40 billion dollars in damages. • Sierra Madre (M 5.6), June 28, 199, resulting in 1 death, 100+ injuries and up to $40 million dollars in damages. • Upland (M 5.7), February 28, 1990, resulting in 30 injuries and $12.7 million dollars in damages • Whitter (M 5.9), October 1, 1987, resulting in 8 deaths, 200 injuries and $358 million in damages • San Fernando (M 6.6), February 9, 1971, resulting in 58 – 65 deaths, 200 – 2,000 injuries and up to $553 million in damages
Extent / Severity	The strength of an earthquake's ground movement can be measured by PGA. PGA measures the rate in change of motion relative to the established rate of acceleration due to gravity (g = 980 centimeters per second, per second). PGA is used to project the risk of damage from future earthquakes by showing earthquake ground motions that have a specified probability (e.g., 10%, 5%, or 2%) of being exceeded in 50 years. The ground motion values are used for reference in construction design for earthquake resistance and can also be used to assess relative hazard between sites when making economic and safety decisions. In 2008, CGS developed an updated map of earthquake shaking potential for California. The map shows the relative intensity of ground shaking and damage in California from anticipated future earthquakes. Regions near major, active faults are shown in red and pink and experience stronger earthquake shaking more frequently. Regions that are distant from known, active faults are shown in orange and yellow and experience lower levels of shaking less frequently. **Figure 4-6** indicates the level of low-frequency shaking potential in Los Angeles County (in which local soil conditions have greater effect on low frequency). In Los Angeles County there are 3,041.91 (63.90%) square miles with violent low frequency shaking potential; and 711.01 square miles (14.93%) with extreme low frequency shaking potential. In unincorporated areas of Los Angeles County, there are 1,783.57 (58.65%) square miles with violent low frequency shaking potential; and 527.60 square miles (17.35%) with extreme low frequency shaking potential.

Table 4-14. Earthquake Identification Profile

Profile	Description
Recurrence Probability	Ongoing field and laboratory studies suggest the likely maximum magnitudes and recurrence intervals for the major local faults are as follows: • Chatsworth fault: M 6.0-6.8, unknown recurrence interval • Hollywood fault: M 5.8-6.5, recurrence interval approximately every 1600 years • Malibu Coast fault: M 6.7, recurrence interval 2,908 years • Newport-Inglewood fault: M 6.0-7.4, unknown recurrence interval • Oak Ridge fault: M 6.9, recurrence interval 299 years • Palos Verdes fault: M 6.0-7.0 or greater, unknown recurrence interval • Red Hill fault (aka Etiwanda Avenue fault): M 6.0-7.0, unknown recurrence interval • Raymond fault: M 6.0-7.0, recurrence interval approximately 4500 years • San Andreas fault: M 6.8-8.0, recurrence interval of 140 years on Mojave segment to 300 years • San Cayetano fault: M. 6.5-7.3, unknown recurrence interval • San Fernando fault: M 6.0-6.8, recurrence interval approximately every 200 years • San Jose fault: M 6.0-6.5, unknown recurrence interval • Santa Susana fault system: M 6.6, recurrence interval 138 years • Santa Monica fault: M 6.0-7.0, unknown recurrence interval • Sierra Madre fault: M 6.0-7.0, recurrence interval several thousand years • Simi–Santa Rosa fault: M 6.7, recurrence interval 933 years • Verdugo fault: M 6.0-6.8, unknown recurrence interval • Whittier fault: M 6.0-7.2, unknown recurrence interval

Table 4-15. Seismic Hazard Impact on Land Area

	Violent EQ Shaking		Extreme EQ Shaking	
Entity	# of Sq. Miles	% of Sq. Miles	# of Sq. Miles	% of Sq. Miles
Los Angeles County	3,041.91	63.90	711.01	14.93
Unincorporated Los Angeles County	1,783.57	58.65	527.60	17.35
Supervisorial District 1	244.34	99.25	0.00	0.00
Supervisorial District 2	161.74	99.94	0.00	0.00
Supervisorial District 3	379.41	87.99	41.73	9.68
Supervisorial District 4	305.40	69.42	0.00	0.00
Supervisorial District 5	1,950.78	69.50	669.26	23.84

EQ = earthquake

Table 4-16. Seismic Hazard Impact on Vulnerable Populations – People Experiencing Homelessness

	Violent EQ Shaking		Extreme EQ Shaking	
Entity	# of Homeless	% of Homeless	# of Homeless	% of Homeless
City of Los Angeles	31,037	94.25	1,827	5.55
Unincorporated Los Angeles County	5,328	90.60	361	6.14

EQ = earthquake

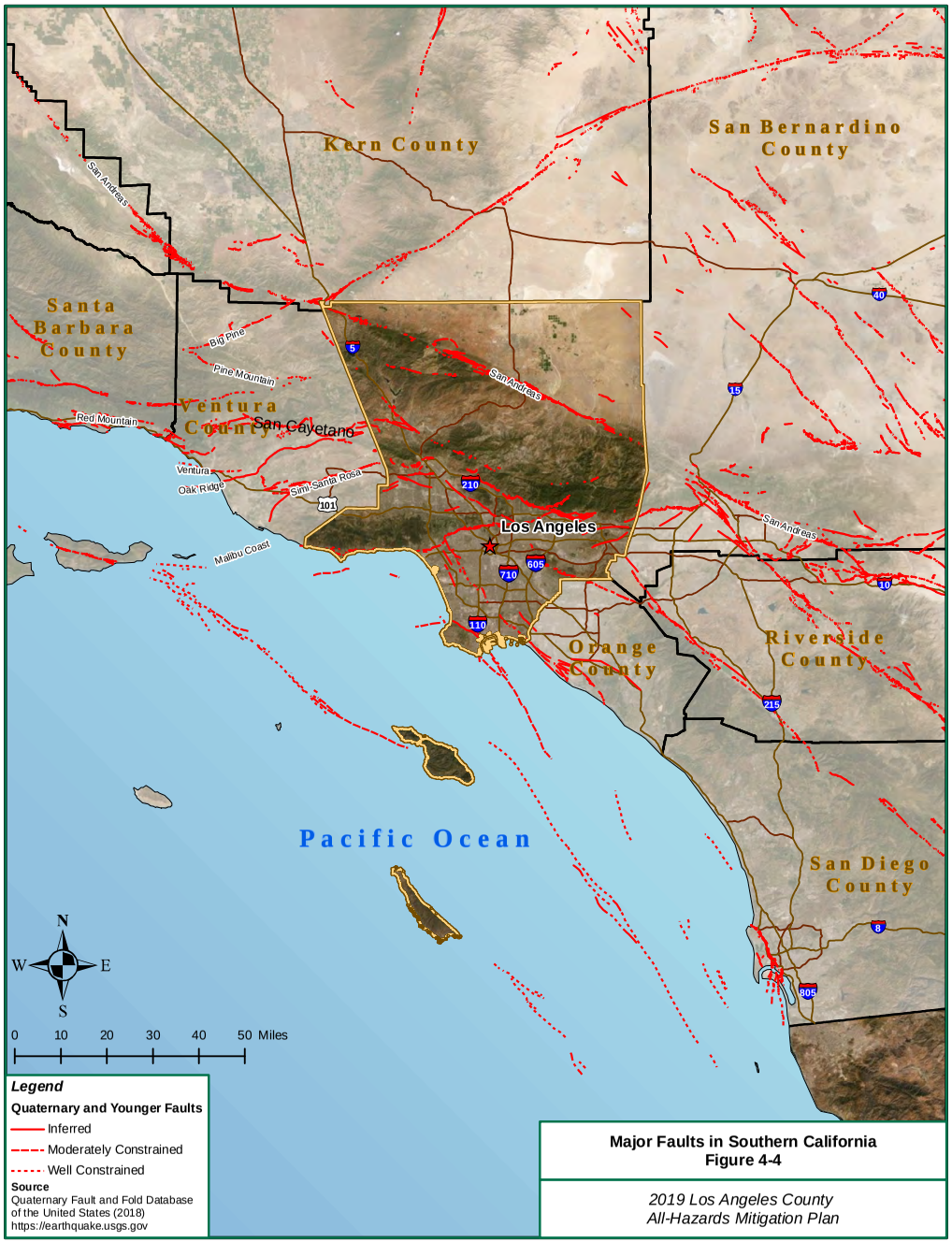
Table 4-17. Seismic Hazard Impact on County Critical Facilities

	Violent EQ Shaking		Extreme EQ Shaking	
Department / Agency	# of Facilities	% of Facilities	# of Facilities	% of Facilities
Los Angeles County Animal Care & Control	6	85.71	1	14.29
Los Angeles County Fire Department	314	93.18	19	5.64
Los Angeles County Health Services	24	82.76	5	17.24
Los Angeles County Library	79	92.94	5	5.88
LACMA & NHM	3	75.00	1	25.00
Los Angeles County Office of Education	32	86.49	5	13.51
Los Angeles County - Other (offices)	24	100.00	0	0.00
Los Angeles County Parks & Recreation	103	88.03	14	11.97
Los Angeles County Public Health	13	92.86	1	7.14
Los Angeles County Public Works	201	87.39	21	9.13
Los Angeles County Sheriff's Department	28	90.32	2	6.45

EQ = earthquake

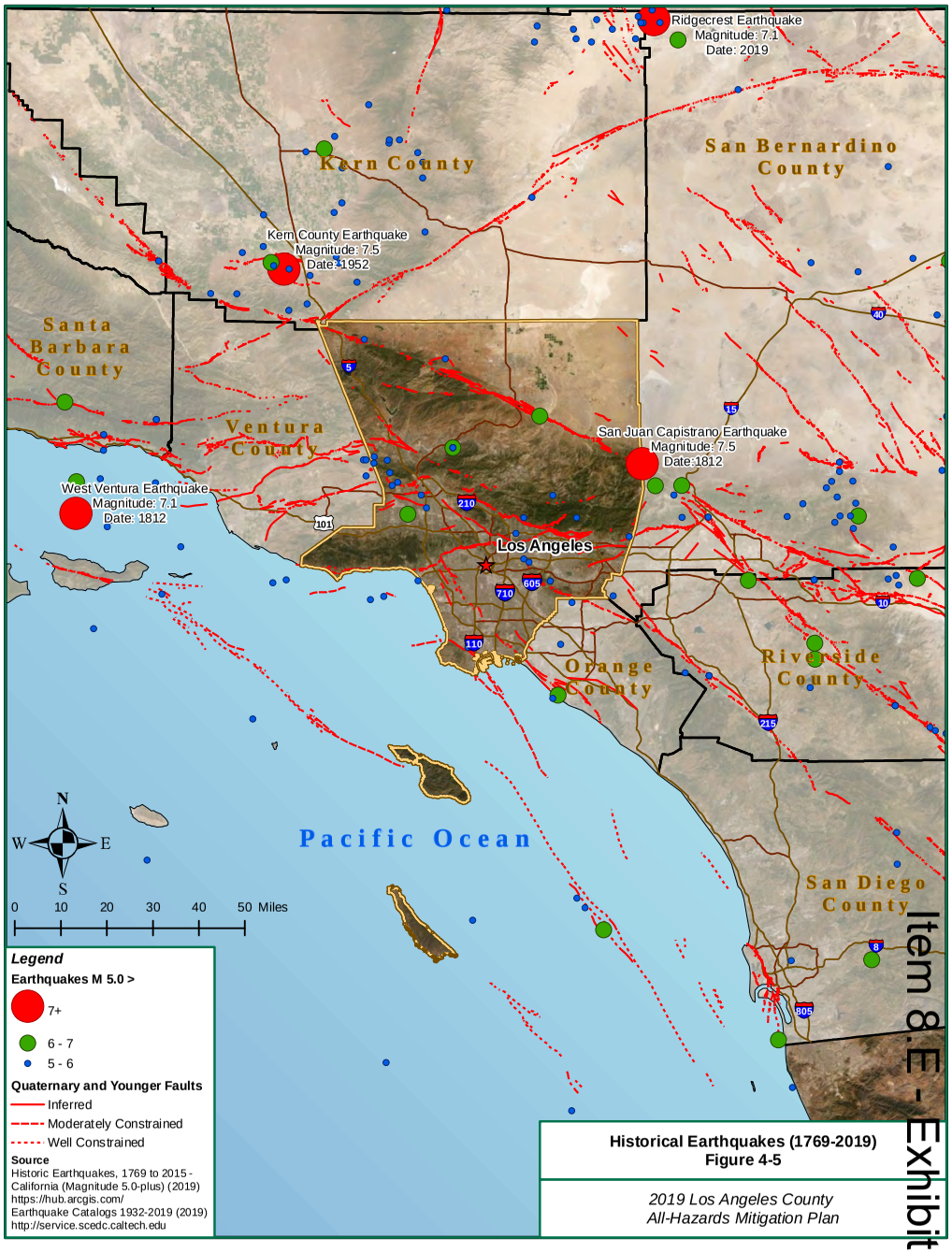
Table 4-18. Overall Summary of Vulnerability to Earthquakes

	Earthquake
Summary	Over 75% of unincorporated Los Angeles County is at risk to violent and extreme perceived shaking from future earthquakes. Violent perceived shaking can produce the potential for heavy damage. According to the USGS, this could mean that well-designed framed structures could be thrown out of plumb and substantial buildings could experience partial building collapse. In extreme shaking, the USGS notes that some well-built wooden structures could be destroyed, and most masonry and frame structures with foundations could be destroyed. Many people in California are looking to boost seismic regulations through the implementation of Assembly Bill (AB) 1857 and AB 2681. AB 1857 will instruct the California Building Standards Commission to increase minimum mandatory standards for most types of buildings in the state, such as apartments, office buildings, and commercial spaces, but would exempt single-family houses and duplexes, while AB 2681 will require cities and counties to create an inventory of potentially vulnerable buildings.



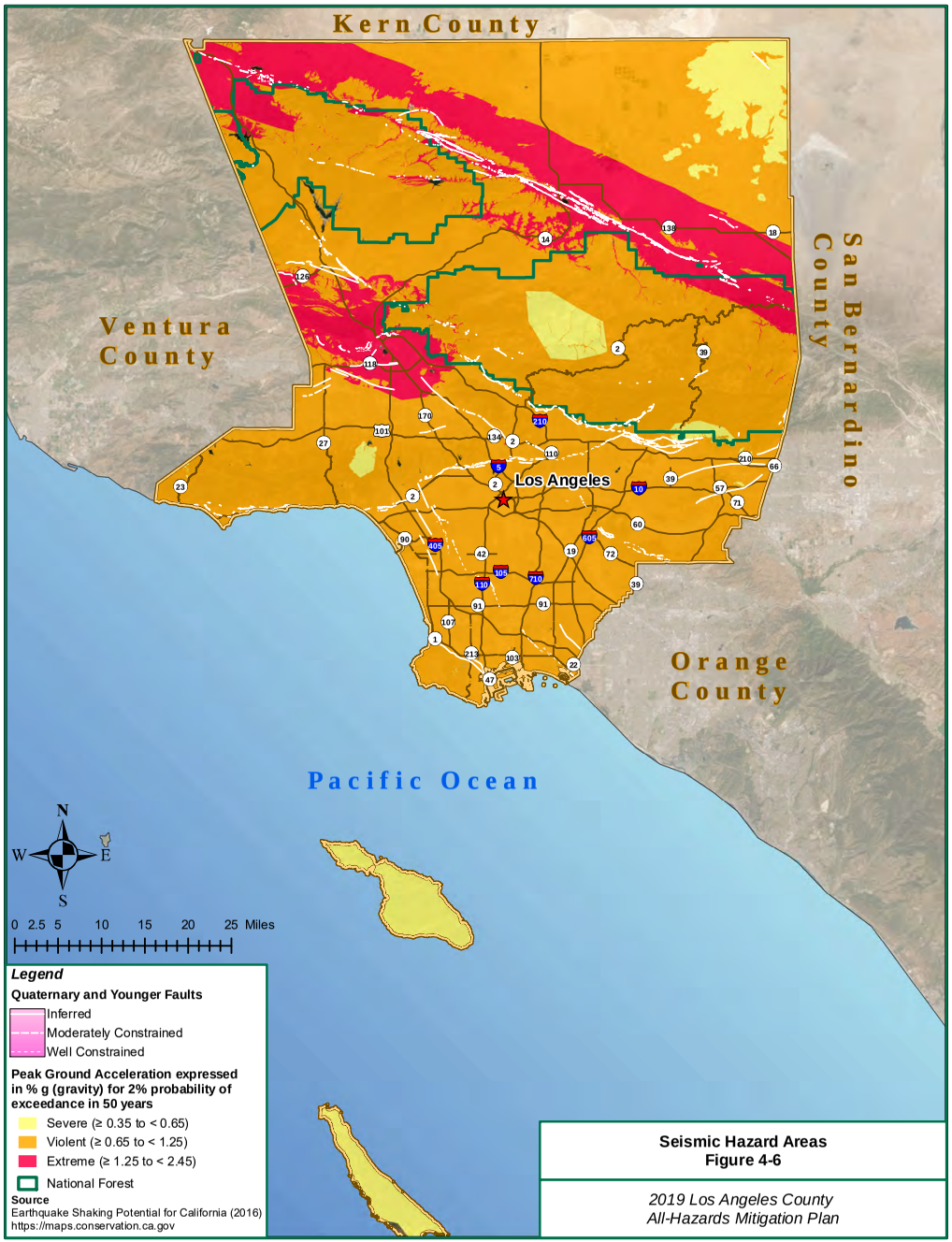
Major Faults in Southern California
Figure 4-4

2019 Los Angeles County
All-Hazards Mitigation Plan



Historical Earthquakes (1769-2019)
Figure 4-5

2019 Los Angeles County
All-Hazards Mitigation Plan



Seismic Hazard Areas
Figure 4-6

2019 Los Angeles County
All-Hazards Mitigation Plan

4.4 FLOOD

Table 4-19. Flood Identification Profile

Profile	Description
Nature	A flood occurs when the existing channel of a stream, river, canyon, or other watercourse cannot contain excess runoff from rainfall or snowmelt, resulting in overflow onto adjacent lands. In coastal areas, flooding may occur when high winds or tides result in a surge of seawater into areas that are above the normal high tide line. Secondary hazards from floods can include: • Erosion or scouring of stream banks, roadway embankments, foundations, footings for bridge piers, and other features. • Impact damage to structures, roads, bridges, culverts, and other features from high-velocity flow and from debris carried by floodwaters. Such debris may also accumulate on bridge piers and in culverts, increasing loads on these features or causing overtopping or backwater effects. • Destruction of crops, erosion of topsoil, and deposition of debris and sediment on croplands. • Release of sewage and hazardous or toxic materials when wastewater treatment plants are inundated, storage tanks are damaged, and pipelines are severed. In areas such as Los Angeles County that do not have extended periods of below-freezing temperatures or significant snowfall, floods usually occur during the season of highest precipitation or during heavy rainfalls after prolonged dry periods. Los Angeles County is dry during the late spring, summer, and early fall, and receives most of its rain during the winter months. The rainfall season extends from November through April, with approximately 95% of the annual rainfall occurring during this period. Los Angeles County averages only 15 inches of precipitation per year; less in along the coast and the dessert, and more in the foothills and mountains.
Location	Los Angeles County has an extensive flood control system (**Figure 4-7**) that has eliminated much of their flood hazards. However, major flood sources in Los Angeles County still include Ballona Creek, Los Angeles River, Malibu Creek, Pacific Ocean, Rio Hondo River, San Gabriel River and its tributaries, Santa Clara River, Topanga Canyon, and the Pacific Ocean. In the unincorporated areas of Los Angeles County, flooding sources include: • Little Rock and Big Rock Washes: Flooding occurs when the flows reach the valley floor where the channels flatten out. This allows the flows to spread over great distances, inundating the surrounding areas. • Antelope Valley: Flooding occurs when flows from the mountains reach the broad alluvial plan in the Antelope Valley are northerly from the mountains across the broad alluvial plain. During minor storms, much of the flow percolates into the ground. In major storms, flows reach the lake at the northern county limits, where flood flows pond until evaporated. • Foothills of Santa Clarita: Flooding and mudflows occur in the foothill areas during intense rainfall, usually following fires in the upstream watershed. • Coastline: Flooding is caused by waves generated by winter storms. The occurrence of such a storm event in combination with high astronomical tides and strong winds can cause a significant wave runup and allow storm waves to reach higher than normal elevations along the coastline.

Table 4-19. Flood Identification Profile

Profile	Description
History	The federal government has declared 13 flooding emergencies affecting Los Angeles County, including: • California Flood and Erosion (Disaster Declaration Number [DR]-15), February 5, 1954 • California Flooding (DR-47), December 23, 1955 • California Heavy Rainstorms, Flood (DR-82), April 4, 1958 • California Floods (DR-122), March 6, 1962 • California Severe Storms, Flooding (DR-138), October 24, 1962 • California Severe Storms, Heavy Rains, Flooding (DR-145), February 25, 1963 • California Flooding (DR-270), August 15, 1969 • California Winter Storms Flooding (DR-547), February 15, 1978 • Southern California Winter Storms (DR-615), February 7 and 21, 1980 • Coastal Storms (DR-812), December 21, 1988 • California Winter Storms (DR-935), February 12 and 19, 1992 • California Winter Storms (DR-979), January 7, 1993-February 19, 1993 • California Severe Winter Storms, Flooding, and Mudslides (DR-4305), January 18, 2017-January 23, 2017
Extent / Severity	The magnitude of flooding that is used as the standard for floodplain management in the United States is a flood with a probability of occurrence of 1% in any given year. This flood is also known as the 100-year flood (i.e., base flood). The 100-year flood, as well as the 500-year flood (0.2%), are considered Special Flood Hazard Areas (SFHA) and identified on FEMA's Digit Flood Insurance Rate Maps (DIFRM). The Los Angeles County DFIRM (**Figure 4-8)** identifies 4.19 square miles (0.09%) with a 1% annual chance of flooding, and 243.32 square miles (5.11%) with a 0.2% annual chance of flooding. In the unincorporated areas of Los Angeles County, there are 1.23 square miles (0.04%) with a 1% annual chance of flooding, and an additional 64.77 square miles (2.13 %) with a 0.2% annual chance of flooding.
Recurrence Probability	Floods can occur at any time but are most common with winter storms packed with subtropical moisture.

Table 4-20. Flood Impact on Land Area

	0.2% Annual Chance of Flooding		1% Annual Chance of Flooding	
Entity	# of Sq. Miles	% of Sq. Miles	# of Sq. Miles	% of Sq. Miles
Los Angeles County	243.32	5.11	4.19	0.09
Unincorporated Los Angeles County	64.77	2.13	1.23	0.04
Supervisorial District 1	27.14	11.02	0.90	0.37
Supervisorial District 2	19.32	11.94	0.20	0.12
Supervisorial District 3	4.38	1.01	1.31	0.30
Supervisorial District 4	80.06	18.20	0.32	0.07
Supervisorial District 5	112.39	4.00	1.45	0.05

Table 4-21. Flood Impact on Vulnerable Populations – People Experiencing Homelessness

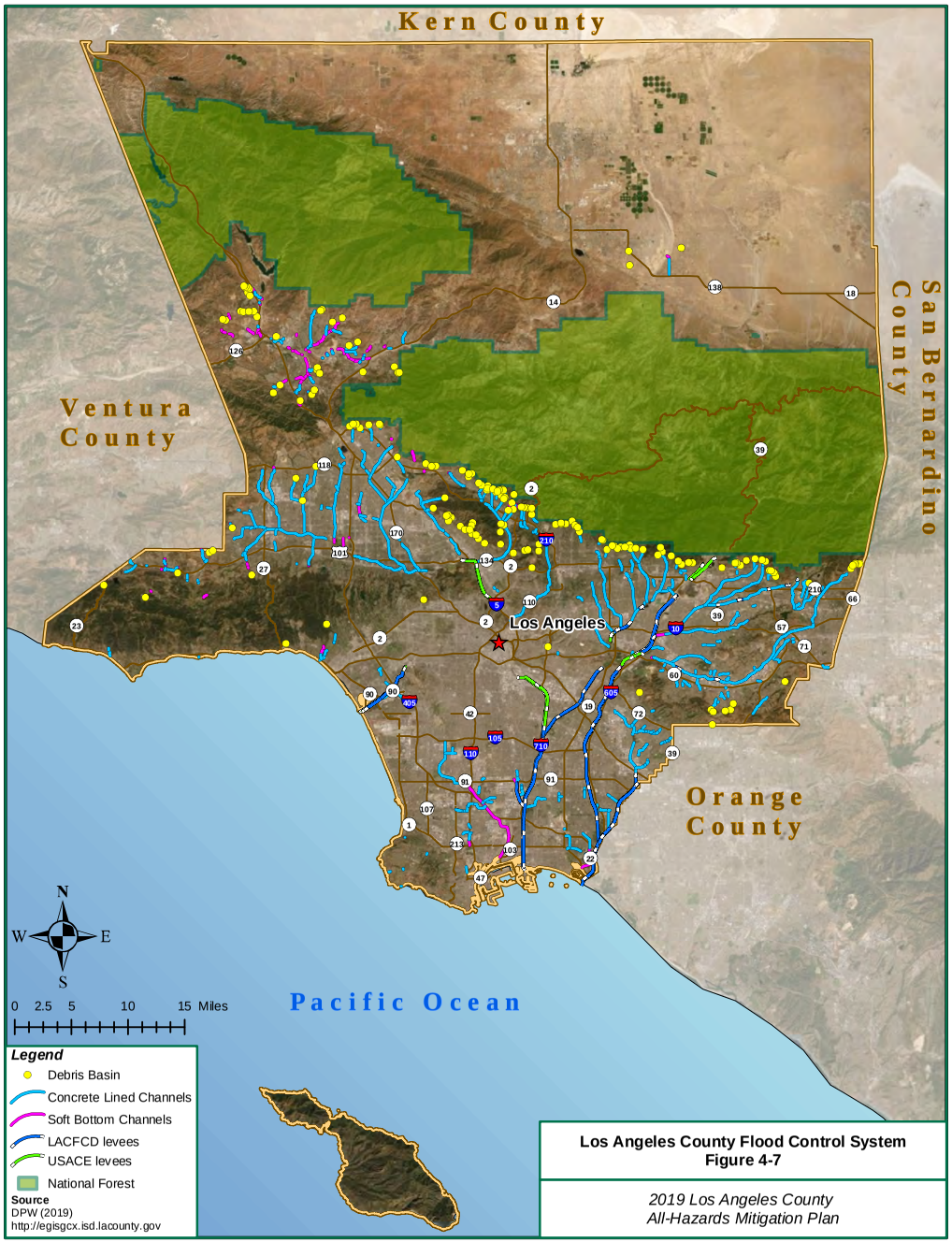
	0.2% Annual Chance of Flooding		1% Annual Chance of Flooding	
Entity	# of Homeless	% of Homeless	# of Homeless	% of Homeless
City of Los Angeles	1,601	4.86	87	0.26
Unincorporated Los Angeles County	170	2.88	0	0.00

Table 4-22. Flood Impact on County Critical Facilities

Department / Agency	0.2% Annual Chance of Flooding		1% Annual Chance of Flooding	
	# of Facilities	% of Facilities	# of Facilities	% of Facilities
Los Angeles County Animal Care & Control	2	28.57	0	0.00
Los Angeles County Fire Department	46	13.65	0	0.00
Los Angeles County Health Services	5	17.24	0	0.00
Los Angeles County Library	15	17.65	0	0.00
LACMA & NHM	0	0.00	0	0.00
Los Angeles County Office of Education	5	13.51	0	0.00
Los Angeles County - Other (offices)	2	8.33	0	0.00
Los Angeles County Parks & Recreation	8	6.84	0	0.00
Los Angeles County Public Health	0	0	0	0.00
Los Angeles County Public Works	41	17.38	1	0.43
Los Angeles County Sheriff's Department	5	16.13	0	0.000

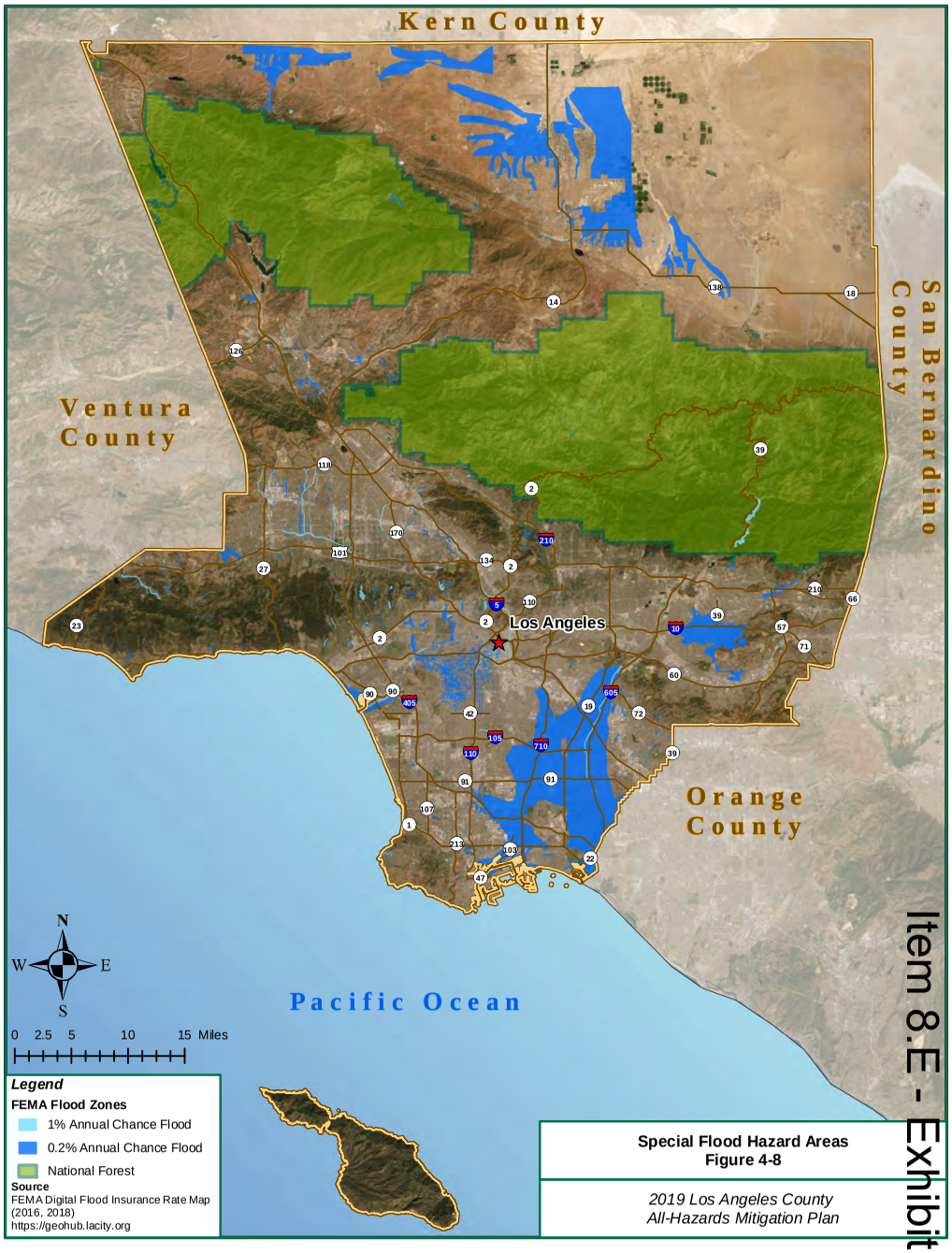
Table 4-23. Overall Summary of Vulnerability to Floods

	Flood
Summary	Los Angeles County has a long history of moderate to severe flooding during major storms. In the Los Angeles basin area, an extensive flood control system has eliminated much of this problem. However, in the less densely populated areas where relatively few flood controls have been constructed, flooding remains a problem. In areas with alluvial fans, flood flows discharge from the mountainous canyons in an uncontrolled manner onto the desert floor, thereby resulting in widespread damage to agricultural land, buildings, and infrastructure. In the foothill areas that experience intense rainfall, mudflows pose a risk to those downstream. Finally, along the coast, waves generated by winter storms in combination with high astronomical tides and strong winds can cause a significant wave runup, resulting in erosion and coastal flooding to low-lying portions of the shoreline. According to the Los Angeles County Public Works, there are 55 Repetitive Loss (RL) properties in 22 RL areas of unincorporated Los Angeles County as of the last submitted 2019 Community Rating System (CRS) Recertification. A Repetitive Loss (RL) property is any insurable building for which two or more claims of more than $1,000 were paid by the National Flood Insurance Program (NFIP) in any rolling 10-year period, since 1978. Updated location information about RL properties in the unincorporated areas of Los Angeles County were not available during the drafting of this plan. Data from 2011 showed that 26 RL properties were located in the SFHA. At the time, Los Angeles County Public Works stated, "the majority of the repetitive losses are associated with localized urban drainage flood problems, even for properties within a FEMA-designated flood zone." Los Angeles County Public Works oversees RL mitigation projects.



Los Angeles County Flood Control System
Figure 4-7

2019 Los Angeles County
All-Hazards Mitigation Plan



Special Flood Hazard Areas
Figure 4-8

2019 Los Angeles County
All-Hazards Mitigation Plan

4.5 LANDSLIDE

Table 4-24. Landslide Identification Profile

Profile	Description
Nature	Landslide is a general term for the dislodging and fall of a mass of soil or rocks along a sloped surface, or for the dislodged mass itself. The term is used for varying phenomena, including mudflows, mudslides, debris flows, rock falls, rockslides, debris avalanches, debris slides, and slump-earth flows. Landslides may result from a wide range of combinations of natural rock, soil, or artificial fill. The susceptibility of hillside and mountainous areas to landslides depends on variations in geology, topography, vegetation, and weather. Landslides may also occur because of indiscriminate development of sloping ground or the creation of cut-and-fill slopes in areas of unstable or inadequately stable geologic conditions. Additionally, landslides often occur together with other natural hazards, thereby exacerbating conditions, as described below: • Shaking due to earthquakes can trigger events ranging from rock falls and topples to massive slides. • Intense or prolonged precipitation that causes flooding can also saturate slopes and cause failures leading to landslides. • Wildfires can remove vegetation from hillsides, significantly increasing runoff and landslide potential. • Landslides into a reservoir can indirectly compromise dam safety; a landslide can even affect the dam itself. • Another type of landslide occurs in areas cut by perennial streams. As floodwaters erode channel banks, rivers have undercut clay-rich sedimentary rocks along their south bank, thereby destabilizing the ground and causing the ground above it to slide.
Location	In 2011, CGS created a deep-seated landslide grip map to show the relative likelihood of deep landslides in California. The map combines landslide inventory, geology, rock strength, slope, average annual rainfall and earthquake shaking potential layers to create classes of landslide susceptibility. As shown in **Figure 4-9**, the map shows areas of low landslide susceptibility, mainly, the Los Angeles Basin, to areas of high susceptibility, including the Santa Monica Mountains, the San Gabriel Mountains, the Sierra Pelona Mountains, the Baldwin Hills, the Puente Hills, and the Palos Verdes Hills.

Table 4-24. Landslide Identification Profile

Profile	Description
History	Like much of California, Los Angeles County has experienced landslides. Landslides in Los Angeles are generally trigged by intense and/or prolonged rainfall but can also occur after an earthquake. Notable recent landslides in Los Angeles County include: • January 1994, the Northridge earthquake triggered more than 11,000 landslides, with the majority concentrated in the Santa Susana Mountains and the mountains north of the Santa Clara River valley. Most of the triggered landslides were shallow highly disrupted falls and slides. However, the larger disrupted slides were reactivations of previously existing landslides. • March 1995, heavy rains weakened the geologically unstable Pacific Palisades bluffs. A 300-foot section gave way and buried part of Pacific Coast Highway under up to 30 feet of rain-soaked earth, rock, and debris. • March 2005, a slide near Sunset Mesa caused 20,000 cubic yards of debris to cover the Pacific Coast Highway. • January 2018, a hillside in Malibu gave way leaving a house uninhabitable. • December 2018, heavy rain on the Woolsey Fire burned hillsides created debris flows and mudslides in and around Malibu causing several road closures. • January 2019, sections of the Pacific Coast Highway near the Ventura County line were closed due to mudslides.
Extent / Severity	**Figure 4-9** shows deep seated landslide susceptibility areas in Los Angeles County. According to the Susceptibility to Deep-Seated Landslides grip map, there are 750.02 square miles (15.75%) of land in Los Angeles County located in the Classes IX and X. In the unincorporated areas of Los Angeles County, there are 577.63 square miles (18.99%) in this hazard area.
Recurrence Probability	Shallow landslides can occur at any time during the winter but are more likely happen when the ground is nearly saturated. According to the USGS, in Southern California "at least 10 inches of rainfall during the winter is needed to nearly saturate the ground. After this point, a rain burst of 0.2 to 0.25 in in one hour has been observed to trigger abundant shallow landslides." However, deep-seated landslides generally need deep infiltration of rainfall (which can take weeks or months to occur) to be triggered.

Table 4-25. Landslide Impact on Land Area

Entity	Deep Seated Landslide Class IX and X	
	# of Sq. Miles	% of Sq. Miles
Los Angeles County	750.02	15.75
Unincorporated Los Angeles County	577.63	18.99
Supervisorial District 1	17.29	7.02
Supervisorial District 2	2.73	1.68
Supervisorial District 3	114.61	26.58
Supervisorial District 4	105.12	23.89
Supervisorial District 5	509.31	18.14

Table 4-26. Landslide Impact on Vulnerable Populations – People Experiencing Homelessness

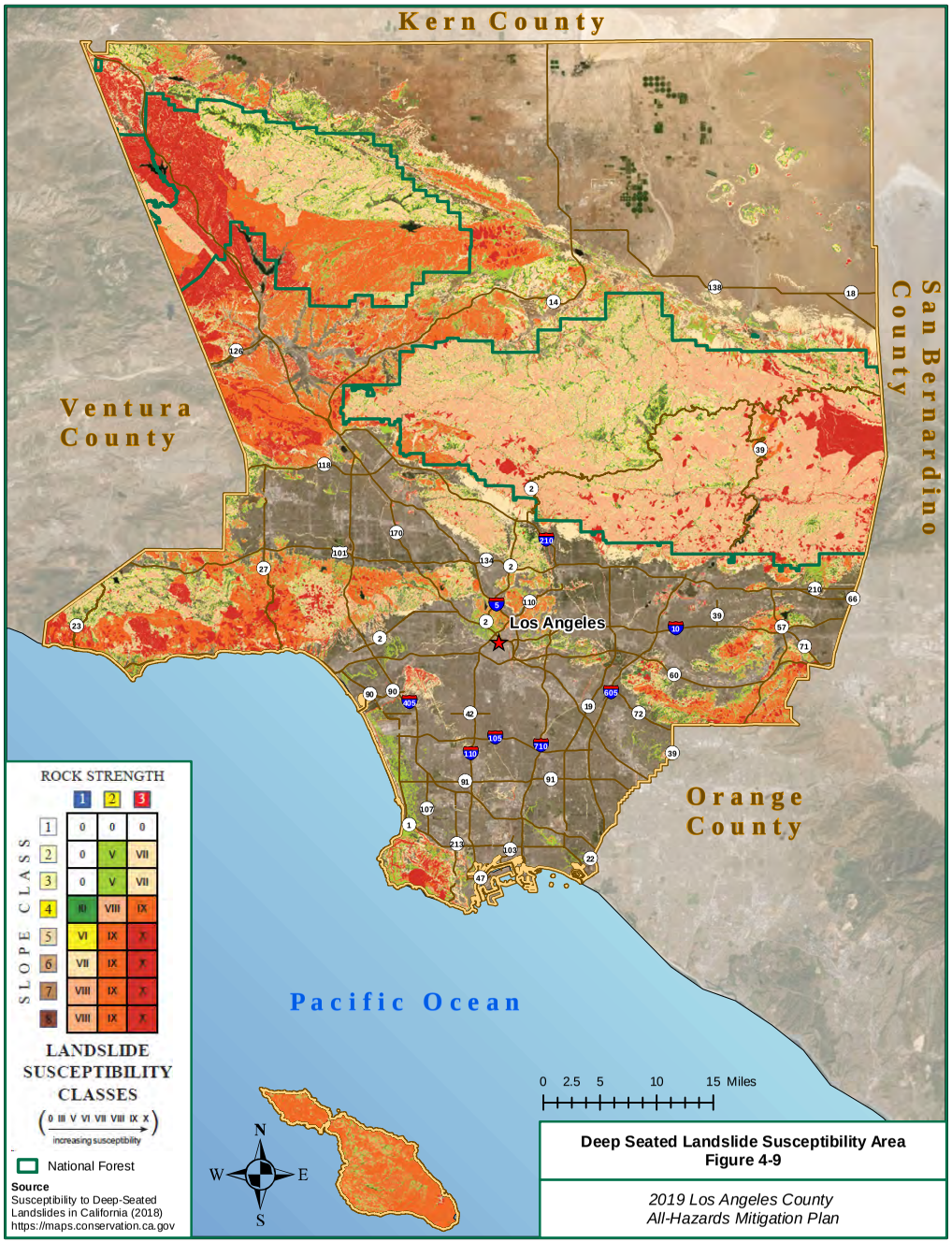
Entity	Deep Seated Landslide Class IX and X	
	# of Homeless	% of Homeless
City of Los Angeles	234	0.71
Unincorporated Los Angeles County	325	5.55

Table 4-27. Landslide Impact on County Critical Facilities

Department / Agency	Deep Seated Landslide Class IX and X	
	# of Facilities	% of Facilities
Los Angeles County Animal Care & Control	0	0.00
Los Angeles County Fire Department	7	2.08
Los Angeles County Health Services	0	0.00
Los Angeles County Library	0	0.00
LACMA & NHM	0	0.00
Los Angeles County Office of Education	1	2.70
Los Angeles County - Other (offices)	0	0.00
Los Angeles County Parks & Recreation	2	1.71
Los Angeles County Public Health	0	0.00
Los Angeles County Public Works	37	16.09
Los Angeles County Sheriff's Department	1	3.23

Table 4-28. Overall Summary of Vulnerability to Landslides

	Landslide
Summary	Areas prone to landslide include existing old landslides, base of slopes, base of minor drainage hollows, base or top of an old fill slope, base or top of a steep cut slope, and developed hillsides where leach field septic systems are used. In Los Angeles County, the majority of landslide-prone areas include the Santa Monica Mountains, the San Gabriel Mountains, the Sierra Pelona Mountains, the Baldwin Hills, the Puente Hills, and the Palos Verdes Hills. Landslides may: cause injury or death to those trapped; break utility lines; block/damage roadways; damage foundations, chimneys, or surrounding land; and lead to flash flooding and additional landsliding. In Los Angeles County, landslide risks are mitigated through the Hillside Management Area Ordinance & Hillside Design Guidelines (**Table 5-3**).



4.6 TSUNAMI

Table 4-29. Tsunami Identification Profile

Profile	Description
Nature	A tsunami is a series of traveling ocean waves of extremely long length, generated by disturbances associated primarily with earthquakes occurring below or near the ocean floor. Subduction zone earthquakes at plate boundaries often cause tsunamis. However, tsunamis can also be generated by underwater landslides or volcanic eruptions, the collapse of volcanic edifices, and—in very rare instances—large meteorite impacts in the ocean. In the deep ocean, a tsunami may have a length from wave crest to wave crest of 100 miles or more, but a wave height of only a few feet or less. Thus, the wave period can be up to several hours, and wavelengths can exceed several hundred miles. Therefore, tsunamis are unlike typical wind-generated swells on the ocean, which might have a period of about 10 seconds and a wavelength of up to 300 feet Tsunamis cannot be felt aboard ships and they cannot be seen from the air or the open ocean. In deep water, the waves may reach speeds exceeding 700 miles per hour. Tsunamis arrive as a series of successive crests (high water levels) and troughs (low water levels). These successive crests and troughs can occur anywhere from 5 to 90 minutes apart; however, they usually occur 10 to 45 minutes apart. Tsunamis not only affect beaches that are open to the ocean, but also bay mouths, tidal flats, and the shores of large coastal rivers. Tsunami waves can also diffract around land masses. Because tsunamis are asymmetrical, the waves may be much stronger in one direction than another, depending on the nature of the source and the surrounding geography. However, tsunamis do propagate outward from their source, so coasts in the shadow of affected land masses are safer.
Location	**Figure 4-10** shows tsunami evacuation area based on Maximum Phase as described in the California Tsunami Evacuation Playbook. This map illustrates coastal land areas that can become submerged due to tsunami run-up. The area of land subject to inundation is a factor of: • Distance of shoreline from the tsunami-generating event • Magnitude of the earthquake causing the event; duration and period of waves • Run-up elevations • Tidal level at time of occurrence • Location along shore and direction of shore in respect to propagated waves • Topography of the seabed In Los Angeles County, areas at risk to the maximum tsunami run up include the ports of Long Beach and Los Angeles, Catalina Island, and areas in the cities of Los Angeles, Long Beach, Manhattan Beach, Redondo Beach, Hermosa Beach, El Segundo, Palos Verdes, Santa Monica, and Malibu. In the unincorporated areas of Los Angeles County, the five coastal zones (i.e., Marin Del Rey, Santa Catalina Island, Santa Monica Mountains, San Clemente Island, and Ballona Wetlands Area A) are subject to inundation.

Table 4-29. Tsunami Identification Profile

Profile	Description
History	Between 1923 and 2011, 11 major tsunami events occurred in Los Angeles County, including: • April 13, 1923, a M 7.2 earthquake in Kamchatka caused a tsunami in Los Angeles. • August 30, 1930, a probable meteotsunami (i.e., a tsunami of meteorological origin) with a 10-foot run-up amplitude hit Santa Monica. • April 1, 1946, a M 8.8 earthquake in the Aleutian Islands caused tsunamis with run-up amplitudes ranging from 1 to 6 feet in Catalina Island, Los Angeles, and Long Beach, breaking ships from their moorings. • November 4, 1952, a M 9.0 earthquake in Kamchatka caused tsunamis with run-up amplitudes ranging from 1 to 2 feet in Santa Monica, Los Angeles, and Long Beach. • March 9, 1957, a M 8.6 earthquake in the Aleutian Islands caused tsunamis with run-up amplitudes ranging from 1 to 2 feet in Santa Monica, Los Angeles, and Long Beach. • May 22, 1960, a M 9.5 earthquake in Chile caused tsunamis with run-up amplitudes ranging from 2 to 5 feet in Catalina Island, Los Angeles, Long Beach, and Santa Monica. One person died, 800 small craft were unmoored, 200 boats were damaged, and 40 boats were sunk. The tsunamis resulting in $1 million dollars in damages. • March 28, 1964, a M 9.2 earthquake in Alaska caused tsunamis with run-up amplitudes ranging from 2 to 3 feet in Catalina Island, Los Angeles, Long Beach, and Santa Monica. One longshoreman was killed, 100 boats were unmoored, and 7 boats were sunk. The tsunamis caused approximately $350 thousand dollars in damages. • November 29, 1975, a M 7.1 earthquake in Hawaii caused a tsunami with a run-up amplitude of 4 feet in Catalina Island, damaging docks and boats. • September 29, 2009, a M 8.0 earthquake in Samoa caused a tsunami with a 1-foot run-up amplitude in Los Angeles. • February 27, 2010, a M 8.8 earthquake in Chile caused tsunamis with run-up amplitudes ranging from 1 to 3 feet in Catalina Island, Los Angeles, Long Beach, and Santa Monica, causing minor damage to docks and boats. • March 11, 2011, a M 9.0 earthquake in Japan caused tsunamis with run-up amplitudes ranging from 2 to 3 feet in Catalina Island, Los Angeles, Long Beach, Redondo Beach, and Santa Monica, damaging docks and boats.
Extent / Severity	**Figure 4-10** shows the maximum considered tsunami runup from a number of extreme tsunami sources. There are 43.35 square miles (0.91%) in Los Angeles County located in this hazard area. In the unincorporated areas of Los Angeles County there are 2.07 square miles (0.07%) at risk to a maximum tsunami runup.
Recurrence Probability	Based on the history of tsunami run-ups in the region and the history of earthquakes in the Pacific Rim, another tsunami event is likely to occur, although the extent and probability is unknown.

Table 4-30. Tsunami Impact on Land Area

Entity	Maximum Tsunami Inundation Area	
	# of Sq. Miles	% of Sq. Miles
Los Angeles County	43.35	0.91
Unincorporated Los Angeles County	2.07	0.07
Supervisorial District 1	0.00	0.00
Supervisorial District 2	0.12	0.08
Supervisorial District 3	2.65	0.61
Supervisorial District 4	18.00	4.09
Supervisorial District 5	0.00	0.00

Table 4-31. Tsunami Impact on Vulnerable Populations – People Experiencing Homelessness

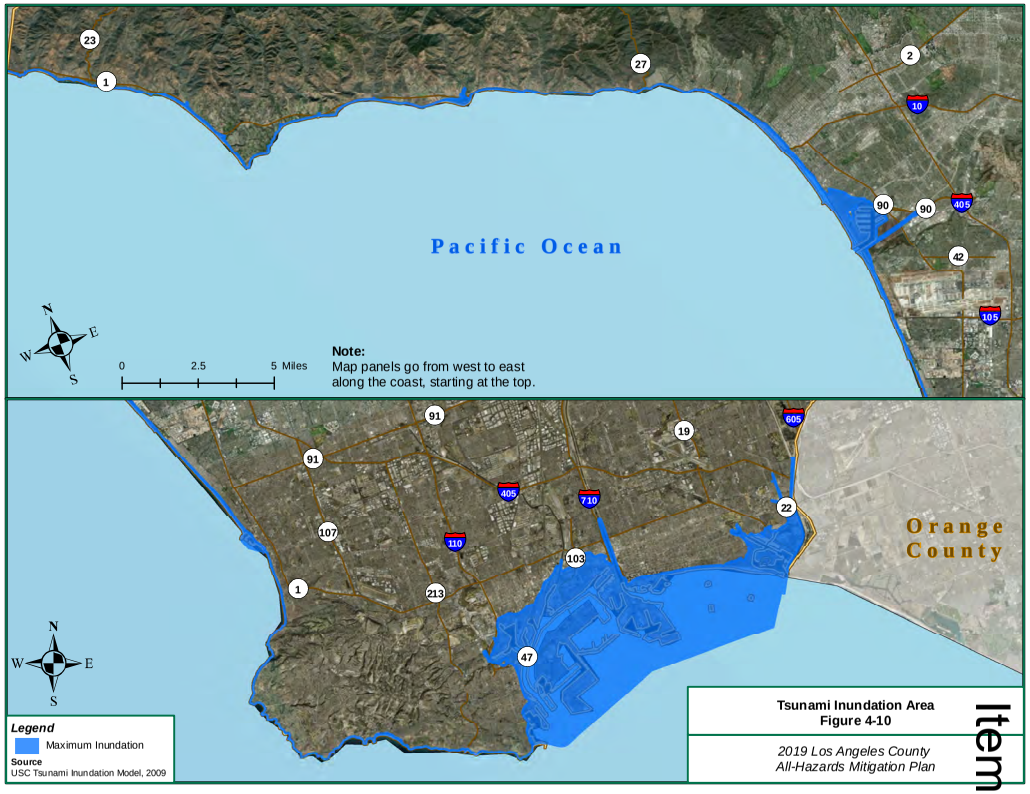
Entity	Maximum Tsunami Inundation Area	
	# of Homeless	% of Homeless
City of Los Angeles	622	1.89
Unincorporated Los Angeles County	20	0.34

Table 4-32. Tsunami Impact on County Critical Facilities

Department / Agency	Maximum Tsunami Inundation Area	
	# of Facilities	% of Square Facilities
Los Angeles County Animal Care & Control	0	0.00
Los Angeles County Fire Department	14	4.15
Los Angeles County Health Services	0	0.00
Los Angeles County Library	1	1.18
LACMA & NHM	0	0.00
Los Angeles County Office of Education	0	0.00
Los Angeles County - Other (offices)	1	4.17
Los Angeles County Parks & Recreation	0	0.00
Los Angeles County Public Health	0	0.00
Los Angeles County Public Works	15	6.52
Los Angeles County Sheriff's Department	1	3.23

Table 4-33. Overall Summary of Vulnerability to Tsunamis

	Tsunami
Summary	In Southern California, an earthquake could trigger an underwater avalanche or submarine landslide in the Santa Monica Bay and produce a tsunami that could inundate low-lying areas of Los Angeles County. In fact, according to researchers a locally generated tsunami could bring water as high as 5 feet in Marina del Rey, 7 feet in Manhattan Beach, 8 feet at the ports, and 11 feet in Redondo Beach. Such a tsunami could flood homes and destroy many small boats in nearby harbors, thereby creating dangerous debris. Researchers warn that California needs to be better prepared for tsunamis and while new deep-sea sensors have helped in tsunami detection, they are better suited for far-away tsunamis rather than local tsunamis. California OES and CGS lead Tsunami Preparedness Week in California annually. During this week, governmental agencies, such as Los Angeles County OEM, and community organizations, participate in exercises, test warning systems and response plans, and host community events to promote tsunami awareness.



4.7 WILDFIRE

Table 4-34. Wildfire Identification Profile

Profile	Description
Nature	Wildfires spread by consuming flammable vegetation. This fire type often begins unnoticed, spreads quickly, and is usually signaled by dense smoke that may be visible from miles around. Wildfires can be caused by human activities (e.g., unattended burns, campfires, or off-road vehicles without spark arresting muffles) or by natural events such as lightning. Wildfires often occur in forests or other highly vegetated areas. In addition, wildfires can be classified as forest, urban, interface or intermix fires, and prescribed burns. The following three factors contribute significantly to wildfire behavior and can be used to identify wildfire hazard areas: • Topography describes slope increases, which influences wildfire spread rate increases. South-facing slopes are also subject to more solar radiation, making them drier and thereby intensifying wildfire behavior. However, ridge tops may mark the end of wildfire spread since fire spreads more slowly or may even be unable to spread downhill. • Fuel is the type and condition of vegetation that plays a significant role in wildfire spread occurrence. Certain plant types are more susceptible to burning or will burn with greater intensity. Dense or overgrown vegetation increases the amount of combustible material available as fire fuel (referred to as the "fuel load"). The living-to-dead plant matter ratio is also important. Certain climate changes may increase wildfire risk significantly during prolonged drought periods, as both living and dead plant matter moisture content decreases. Both the horizontal and vertical fuel load continuity is also an important factor. • Weather is the most variable factor affecting wildfire behavior. Temperature, humidity, wind, and lightning can affect ignition opportunities and fire spread rate. Extreme weather, such as high temperatures and low humidity, can lead to extreme wildfire activity. Climate change increases fire to vegetation ignition susceptibility due to longer dry seasons. By contrast, cooling and higher humidity often signal reduced wildfire occurrence and easier containment. Wildfire frequency and severity sometimes result from other hazard impacts, such as lightning, drought, and infestations (e.g., damage caused by spruce-bark beetle infestations). If not promptly controlled, wildfires may grow into an emergency or disaster. Even small fires can threaten lives and resources and destroy improved properties. In addition to affecting people, wildfires may severely affect livestock and pets. Such events may require emergency water/food, evacuation, and shelter. Indirect wildfire effects can be catastrophic. In addition to stripping the land of vegetation and destroying forest resources, large, intense fires can harm the soil, waterways, and the land itself. Soil exposed to intense heat may lose its capability to absorb moisture and support life. Exposed soils erode quickly and exacerbate river and stream siltation; thereby increasing flood potential, harming aquatic life, and degrading water quality. Vegetation-stripped lands are more susceptible to increased debris flow hazards.
Location	Public Resources Code 4201 4204 and Government Code 51175 89 directed the California Department of Forestry and Fire Protection (Cal FIRE) to map areas of significant fire hazards based on fuels, terrain, weather, and other relevant factors. These FHSZ are represented as very high, high, or moderate. Specifically, the maps were created using data and models describing development patterns, potential fuels over a 30- to 50-year time horizon, expected fire behavior, and expected burn probabilities. The maps are divided into local responsibility areas (LRAs) and state responsibility areas (SRAs). LRAs generally include cities, cultivated agriculture lands, and portions of the desert. LRA fire protection is typically provided by city fire departments, fire protection districts, counties, and by Cal FIRE under contract to the local government. SRA is a

Table 4-34. Wildfire Identification Profile

Profile	Description
	legal term defining the area where the state has financial responsibility for wildfire protection. The Los Angeles County Fire Department is one of six contract counties, which has executed a contract with the State of California to provide wildland fire protection on SRA. **Figure 4-11** displays the areas of Los Angeles County most susceptible to wildfires and indicates areas of local or state responsibility. Very high FHSZs are generally located in mountainous or hillside areas, including the Santa Monica Mountains, San Gabriel Mountains, Palos Verdes Hills, and Puente Hills.
History	As shown in **Figure 4-12**, wildfires are a common occurrence in Los Angeles County. Some of the county's most destructive fires have occurred since 2000, including: • The Grand Prix Fire started on October 21, 2003 and burned a total of 50,618 acres between Claremont and Lytle Creek. The fire destroyed 136 homes and was ruled "accidental but human-initiated." • The Simi Fire started on October 25, 2003 and burned a total of 107,570 acres between Simi Hills and southeastern Simi Valley, in eastern Ventura County and western Los Angeles County, California. It destroyed 37 homes and 278 out buildings. The cause of the fire remains unknown. • The Day Fire started on October 30, 2006 and burned a total of 161,816 acres. The fire primarily burned the Los Padres National Forest. The cause of the fire was human-ignited debris. • The Ranch Fire started on October 20, 2007 and burned a total of 58,410 acres near Townsend Peak in the Angeles National Forest. The cause of the fire was equipment. • The Station Fire started on September 22, 2009 and burned a total of 160,883 acres in the Angeles National Forest. The Station Fire is the largest recorded fire in Los Angeles County. It destroyed 89 residences and another 120 buildings of significance. Two firefighters were killed. The cause of the fire was arson. • The Woolsey Fire started November 8, 2018 and burned a total of 96,949 acres in Los Angeles and Ventura counties including Thousand Oaks, Agoura Hills, Calabasas, the Santa Monica Mountains, Malibu, and West Hills. A total of 1,643 structures were destroyed and 3 people were killed.
Extent / Severity	As shown on the Cal FIRE FHSZ maps, in Los Angeles County, there are 386.06 square miles (8.11%) located in the very high LRA FHSZ, 625.01 square miles (13.13%) in the very high SRA FHSZ, and 132.77 square miles (2.79%) in the high SRA FHSZ. In the Unincorporated Los Angeles County, this includes: 23.53 square miles (0.77%) of very high LRA FHSZ; 610.94 square miles (20.09%) of very high SRA FHSZ; and 132.06 square miles (4.34%) of high SRA FHSZ.
Recurrence Probability	The climate in Los Angeles County is characterized as Mediterranean dry-summer featuring cool, wet winters and warm, dry summers. High moisture levels during the winter rainy season significantly increase the growth of plants. However, the vegetation is dried during the long, hot summers, decreasing plant moisture content and increasing the ratio of dead fuel to living fuel. As a result, fire susceptibility increases dramatically, particularly in late summer and early autumn. In addition, the presence of chaparral, a drought-resistant variety of vegetation that is dependent on occasional wildfires, is expected in Mediterranean dry-summer climates. The history of plant succession in Los Angeles County is important in predicting fire susceptibility. For several years after a fire has occurred, easily flammable herbaceous species thrive and increase the likelihood of new fires. When woody species become re-established, they contribute to a lower overall level of fire susceptibility for approximately 10 years. However, after this period, the slow aging plant

Table 4-34. Wildfire Identification Profile

Profile	Description
	community becomes ever more likely to burn because of increased levels of dead plant material and lowered plant moisture levels. Additionally, a local meteorological phenomenon, known as the Santa Ana winds, contributes to the high incidence of wildfires in Los Angeles County. These winds originate during the autumn months in the hot, dry interior deserts to the north and east of Los Angeles County. They often sweep west into the county, bringing extremely dry air and high wind speeds that further desiccate plant communities during the period of the year when the constituent species have very low moisture content. The effect of these winds on existing fires is particularly dangerous; the winds can greatly increase the rate at which fires spread. Based on the conditions described above and the history of occurrence in the past, future events are very likely to occur. In the past, fires burning more than 1,000 acres have occurred about every 1 to 3 years. The extent of future events will depend on specific conditions at the time of the fire.

Table 4-35. Wildfire Impact on Land Area

Entity	Very High LRA FHSZ		High SRA FHSZ		Very High SRA FHSZ	
	# of Sq. Miles	% of Sq. Miles	# of Sq. Miles	% of Sq. Miles	# of Sq. Miles	% of Sq. Miles
Los Angeles County	386.06	8.11	132.77	2.79	625.01	13.13
Unincorporated Los Angeles County	23.54	0.77	132.06	4.34	610.94	20.09
Supervisorial District 1	31.42	12.76	0.00	0.00	1.13	0.46
Supervisorial District 2	3.25	2.01	0.00	0.00	0.00	0.00
Supervisorial District 3	140.58	32.60	0.01	0.00	92.18	21.38
Supervisorial District 4	45.78	10.41	1.11	0.25	86.61	19.69
Supervisorial District 5	164.90	5.87	131.65	4.69	444.99	15.85

Table 4-36. Wildfire Impact on Vulnerable Populations – People Experiencing Homelessness

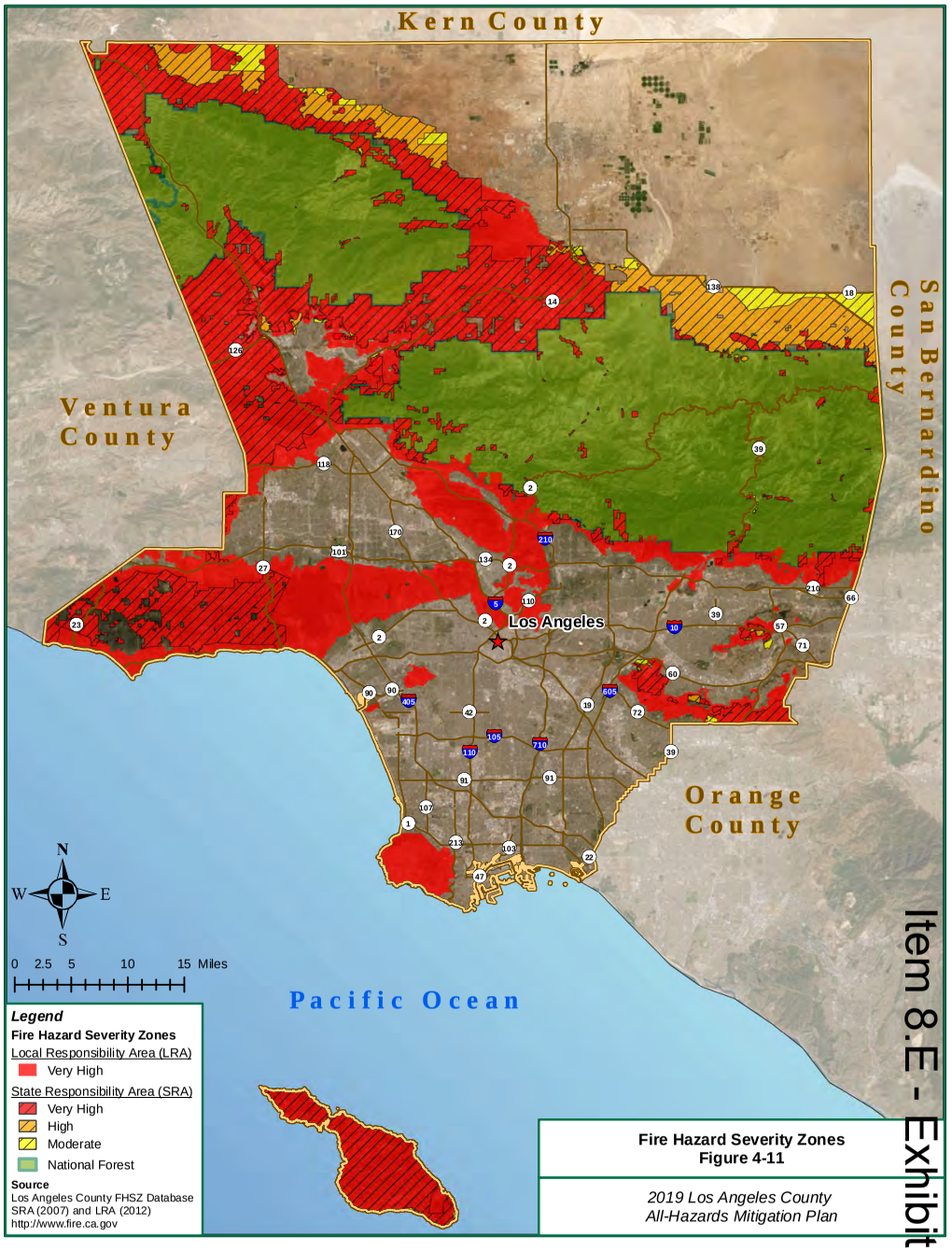
Entity	Very High LRA FHSZ		High SRA FHSZ		Very High SRA FHSZ	
	# of Homeless	% of Homeless	# of Homeless	% of Homeless	# of Homeless	% of Homeless
City of Los Angeles	1,291	3.92	0	0.00	0	0.00
Unincorporated Los Angeles County	88	1.49	58	0.99	465	7.91

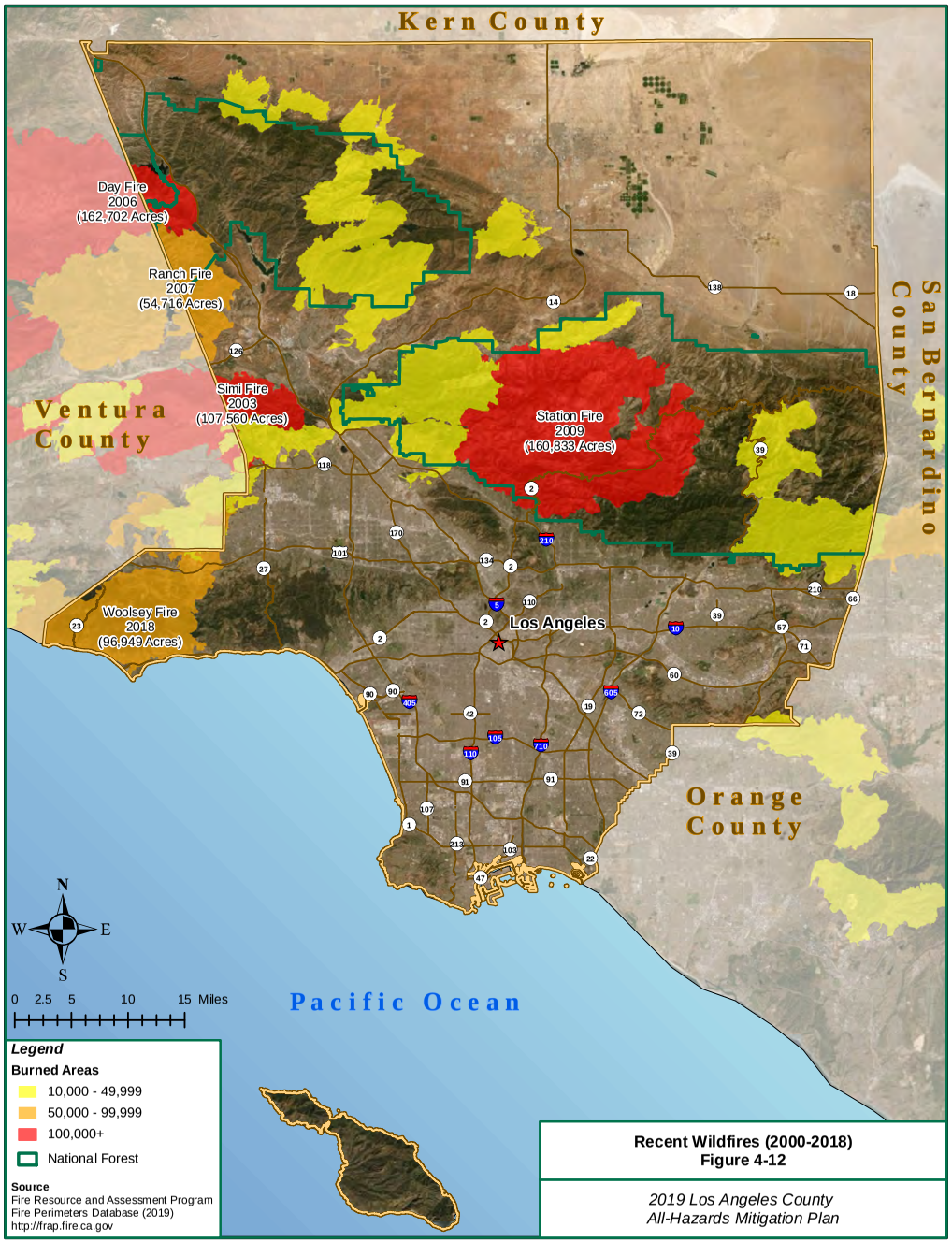
Table 4-37. Wildfire Impact on County Critical Facilities

Department / Agency	Very High LRA FHSZ		High SRA FHSZ		Very High SRA FHSZ	
	# of Facilities	% of Facilities	# of Facilities	% of Facilities	# of Facilities	% of Facilities
Los Angeles County Animal Care & Control	1	14.29	0	0.00	1	14.29
Los Angeles County Fire Department	39	11.57	1	0.30	14	4.15
Los Angeles County Health Services	1	3.45	0	0.00	0	0.00
Los Angeles County Library	7	8.24	1	1.18	2	2.35
LACMA & NHM	1	25.00	0	0.00	0	0.00
Los Angeles County Office of Education	3	8.11	0	0.00	3	8.11
Los Angeles County - Other (offices)	0	0.00	0	0.00	0	0.00
Los Angeles County Parks & Recreation	13	11.11	1	0.85	12	10.26
Los Angeles County Public Health	52	22.61	4	1.74	41	17.83
Los Angeles County Public Works	0	0.00	0	0.00	0	0.00
Los Angeles County Sheriff's Department	3	9.68	1	3.23	3	9.68

Table 4-38. Overall Summary of Vulnerability to Wildfires

	Wildfire
Summary	Wildfires are not only capable of burning down vegetation, homes, critical facilities, and infrastructure, but they can also cause loss of life to humans and animals, soil erosion, debris flows, air pollution, serious health problems, and restriction of access to recreational areas. The areas in Los Angeles County that are most susceptible to wildfires are generally located in mountainous or hillside areas, including the Santa Monica Mountains, San Gabriel Mountains, Palos Verdes Hills, and Puente Hills. However, the areas that pose greatest risk to people are generally along the wildland-urban interface (WUI) or intermix. These areas are the transition zones between wildlands and human development and often where areas of housing and vegetation commingle. According to researchers at the United States Forest Service, fires in the WUI areas have not deterred redevelopment. In fact, according to the same researchers, there is a push to return the area to "normal" as soon as possible. California has the strictest fire regulations in the country, which supersede any type of local regulations. However, the rules do not apply to existing homes built before 1991, with the average home in California built decades prior. And unlike earthquakes and floods, there is not a retrofit type of program to encourage homeowners to bring their homes up to current fire requirements.





5 MITIGATION STRATEGY

Section 5 – Mitigation Strategy addresses Element C of the Local Mitigation Plan Regulation Checklist.

Regulation Checklist – 44 CFR 201.6 Local Mitigation Plans
Element C: Mitigation Strategy
C1. Does the Plan document each jurisdiction's existing authorities, policies, programs and resources and its ability to expand on and improve these existing policies and programs? (Requirement § 201.6(c)(3))
C2. Does the Plan address each jurisdiction's participation in the NFIP and continued compliance with NFIP requirements, as appropriate? (Requirement § 201.6(c)(3)(i))
C3. Does the Plan include goals to reduce/avoid long-term vulnerabilities to the identified hazards? (Requirement §201.6(c)(3)(i))
C4. Does the Plan identify and analyze a comprehensive range of specific mitigation actions and projects for each jurisdiction being considered to reduce the effects of hazards, with emphasis on new and existing buildings and infrastructure? (Requirement §201.6(c)(3)(ii))
C5. Does the Plan contain an action plan that describes how the actions identified will be prioritized (including cost benefit review), implemented, and administered by each jurisdiction? (Requirement §201.6(c)(3)(iv)); (Requirement §201.6(c)(3)(iii))
C6. Does the Plan describe a process by which local governments will integrate the requirements of the mitigation plan into other planning mechanisms, such as comprehensive or capital improvement plans, when appropriate? (Requirement §201.6(c)(4)(ii))

5.1 AUTHORITIES, POLICIES, PROGRAMS, AND RESOURCES

Los Angeles County's existing authorities, policies, programs and resources available for hazard mitigation are listed in **Table 5-1** through **Table 5-3**. These tables have been updated since the 2014 AHMP to reflect any changes in human, technical, financial, legal, and regulatory resources.

Table 5-1 Human and Technical Resources for Hazard Mitigation

Staff/Personnel	Department / Agency	Principal Activities Related to Hazard Mitigation
Planner(s), engineer(s) and technical staff with knowledge of land development, land management practices, and human-caused and natural hazards.	Los Angeles County Department of Regional Planning	Develops and maintains the Los Angeles County 2035 General Plan, including the safety element. Develops area plans based on the Los Angeles County 2035 General Plan, to provide more specific guidance for the development of more specific areas. Reviews private development projects and proposed capital improvements projects and other physical projects involving property for consistency and conformity with the Los Angeles County 2035 General Plan. Anticipates and acts on the need for new plans, policies, and code changes. Applies the approved plans, policies, code provisions, and other regulations to proposed land uses.
Engineer(s), Building Inspectors/Code Enforcement Officers or other professional(s), and technical staff trained in construction requirements	Los Angeles County Public Works	Oversees the effective, efficient, fair, and safe enforcement of the 2017 County of Los Angeles Building Code.
Engineers, construction project managers, and supporting technical staff	Los Angeles County Public Works	Provides direct or contract civil, structural, and mechanical engineering services, including contract, project, and construction management.
Engineer(s), project manager(s), technical staff, equipment operators, and maintenance and construction staff	Los Angeles County Public Works	Maintains and operates of a wide range of local equipment and facilities and assists members of the public. This includes providing sufficient clean fresh water, reliable sewer services, street maintenance, storm drainage systems, street cleaning, street lights and traffic signals.
Floodplain Administrator	Los Angeles County Public Works	Enforces the floodplain management ordinance, ensures that new development proposals do not increase flood risk, and that new developments are not located below the 100-year flood level. In addition, the floodplain administrator is responsible for planning and managing flood risk reduction projects throughout the county.
Emergency Manager	Los Angeles County Chief Executive Office – Office of Emergency Management	Maintains and updates the Los Angeles County Operational Area Emergency Response Plan for the unincorporated areas of the county. In addition, coordinates local response and relief activities in the Emergency Operation Center, and works closely with local, state, and federal partners to support planning and training and to provide information and coordinate assistance.

Table 5-1 Human and Technical Resources for Hazard Mitigation

Staff/Personnel	Department / Agency	Principal Activities Related to Hazard Mitigation
Procurement Services Manager	Internal Services Department	Provides a full range of municipal financial services, administers several licensing measures, and functions as the county's procurement services manager.
Comptroller	Los Angeles County Auditor - Controller	Provides financial services including grant financial services.
District Attorney	Los Angeles County District Attorney	Provides legal services for the county.
Fire Chief	Los Angeles County Fire Department	Provides fire protection services including response, fire prevention, and mitigation activities for the county.
Sheriff	Los Angeles County Sheriff Department	Provides law enforcement services in the county.

Table 5-2. Financial Resources for Hazard Mitigation

Type	Administrator	Purpose	Amount
General Fund	Chief Executive Office	Program operations and specific projects.	Variable.
General Obligation Bonds	Los Angeles County Auditor-Controller	General obligation bonds are appropriately used for the construction and/or acquisition of improvements to real property broadly available to residents and visitors. Such facilities include but are not limited to: libraries, hospitals, parks, public safety facilities, and cultural and educational facilities.	Variable.
Special Tax and Revenue Bonds	Comptroller	Revenue bonds are used to finance capital projects that: 1) have an identified budgetary stream for repayment (e.g., specified fees, tax receipts); 2) generate project revenue but rely on a broader pledge of general fund revenues to reduce borrowing costs; or 3) finance the acquisition and installation of equipment for the local jurisdiction's general governmental purposes.	Variable.
Vegetation Management Program	Cal FIRE	Cost-sharing program between Cal FIRE and private land owners, which focuses on the use of prescribed fire, mechanical, biological, and chemical means addressing wildland fire fuel hazards and other resource management issues on SRA and LRA lands	Project-specific.
Wildfire Emergency and Mitigation Funds	Cal FIRE	Administers funding from the FEMA, Bureau of Land Management, and U.S. Forest Service for certain types of wildfire emergency and mitigation funding	Project-specific.
California Residential Mitigation Program	California Earthquake Authority	Created by the California Earthquake Authority and the Governor's Office of Emergency Services, Earthquake Brace + Bolt: Funds to Strengthen Your Foundation is the first incentive program offered by the California Residential Mitigation Program.	Project-specific.
Public Health Emergency Preparedness Cooperative Agreement.	Center for Disease Control	Funds are intended to upgrade state and local public health jurisdictions' preparedness and response to bioterrorism, outbreaks of infectious diseases, and other public health threats and emergencies.	Grant award based on specific projects as they are identified.

Table 5-2. Financial Resources for Hazard Mitigation

Type	Administrator	Purpose	Amount
Hazard Mitigation Grant Program	FEMA	Supports pre- and post-disaster mitigation plans and projects. Available to California communities after a presidentially declared disaster has occurred in California, administered by Cal OES.	Grant award based on specific projects as they are identified.
Pre-Disaster Mitigation grant program	FEMA	Supports pre-disaster mitigation plans and projects. Available on an annual basis as a nationally competitive grant, administered by Cal OES.	Grant award based on specific projects as they are identified.
Flood Mitigation Assistance grant program	FEMA	Mitigates repetitively flooded structures and infrastructure. Available on an annual basis, distributed to California communities, administered by Cal OES.	Grant award based on specific projects as they are identified.
Homeland Security Preparedness Technical Assistance Program	FEMA/DHS	Build and sustain preparedness technical assistance activities in support of the four homeland security mission areas (i.e., prevention, protection, response, recovery) and homeland security program management.	Grant award based on specific projects as they are identified.
Assistance to Firefighters Grant Program	FEMA/U.S. Fire Administration	Provides equipment, protective gear, emergency vehicles, training, and other resources needed to protect the public and emergency personnel from fire and related hazards. Available to fire departments and nonaffiliated emergency medical services providers.	Grant awards based on specific projects as they are identified.
Land and Water Conservation Funds	U.S. Department of the Interior	Supports the protection of federal public lands and waters and voluntary conservation on private land.	Project-specific.
Community Action for a Renewed Environment	U.S. Environmental Protection Agency (EPA)	Through financial and technical assistance offers an innovative way for a community to organize and take action to reduce toxic pollution (e.g., stormwater) in its local environment. Through this program, a community creates a partnership that implements solutions to reduce releases of toxic pollutants and minimize people's exposure to them.	Grant award based on specific projects as they are identified.
Clean Water State Revolving Fund	U.S. EPA	A loan program that provides low-cost financing to eligible entities on state and tribal lands for water quality projects, including all types of non-point source, watershed protection or restoration, estuary management projects, and more traditional municipal wastewater treatment projects.	Variable.

Table 5-2. Financial Resources for Hazard Mitigation

Type	Administrator	Purpose	Amount
Community Block Grant Program Entitlement Communities Grants	U.S. Department of Housing and Urban Development	Acquisition of real property, relocation and demolition, rehabilitation of residential and non-residential structures, construction of public facilities and improvements, such as water and sewer facilities, streets, neighborhood centers, and the conversion of school buildings for eligible purposes.	Grant award based on specific projects as they are identified.

Table 5-3. Legal and Regulatory Resources for Hazard Mitigation

Name	Description	Hazards Addressed	Emergency Management	Potential to Affect Development
Los Angeles County 2035 General Plan (2015)	Describes hazard areas and lists goals and policies to reduce the potential risk of death, injuries, and economic damage resulting from natural and human-caused hazards.	Seismic and geotechnical, flood and inundation hazards, and fire hazards.	Mitigation, Preparedness, Response	Yes
Comprehensive Floodplain Management Plan (2016)	Reviews existing floodplain management programs in the county and recommends enhancements to them through 35 mitigation actions.	Flood	Mitigation	Yes
Los Angeles County Fire Department 2018 Strategic Fire Plan	Identifies and prioritizes pre-fire and post-fire management strategies and tactics meant to reduce the loss of values at risk in Los Angeles County.	Wildfire	Preparedness, Mitigation	Yes
Greater Los Angeles County Region Integrated Regional Water Management Plan (2014)	Identifies a comprehensive set of solutions to achieve the several objectives over the 25-year planning horizon including reducing flood risk in flood prone areas by either increasing protection or decreasing needs using integrated flood management approaches and adapting to and mitigate against climate change vulnerabilities.	Flood, Climate Change	Mitigation	Yes
Unincorporated County Community Climate Action Plan 2020 (2015)	Provides a roadmap for successfully implementing greenhouse gas reduction measures in the County. It is a component of the General Plan Air Quality Element, the Community Climate Action Plan actions are closely tied to many of the goals, policies, and programs of the General Plan, as well as to several other existing programs in the County.	Climate Change	Mitigation	Yes
County of Los Angeles Local Coastal Programs	Requires coastal cities and counties to establish coastal resource conservation and development programs.	Climate change, flood	Prevention, Mitigation	Yes
Los Angeles County Floodplain Management Ordinance	Promotes the public health, safety, and general welfare. Additionally, aims to minimize public and private losses due to flood conditions in specific areas by legally enforceable regulations applied uniformly throughout the community to all publicly and privately owned land in flood prone, mudslide (i.e., mudflow) or flood related erosion areas.	Flood	Mitigation	Yes

Table 5-3. Legal and Regulatory Resources for Hazard Mitigation

Name	Description	Hazards Addressed	Emergency Management	Potential to Affect Development
Hillside Management Area Ordinance & Hillside Design Guidelines	Required for development in Hillside Management Areas, which are defined as areas with 25% or greater natural slopes. The guidelines include specific and measurable design techniques that can be applied to residential, commercial, industrial, and other types of projects.	Landslide	Mitigation	Yes
Los Angeles County Fuel Modification Code	Requires the review aspects such as structure location and type of construction, topography, slope, amount and arrangement of vegetation, and overall site settings for a new structure or an addition that is equal to or greater than 50% of the existing square footage. The objective of this approval plan process is to create defensible space necessary for effective fire protection of homes in the FHSZs.	Wildfire	Preparedness, Mitigation	Yes
California Fire Plan	Requires the County of Los Angeles Fire Plan Unit to implement the California Fire Plan, a statewide framework for minimizing costs and losses from wildland fires. The Fire Plan Unit uses a GIS platform to identify high hazard\high value areas and communities at risk in the wildland-urban interface.	Wildfire	Preparedness, Mitigation	Yes
Los Angeles County Brush Clearance Program	Legally declares both improved and unimproved properties a public nuisance, and where necessary, requires the clearance of hazardous vegetation. These measures create "Defensible Space" for effective fire protection of property, life, and the environment. The Brush Clearance Program is a joint effort between the County of Los Angeles Fire Department and the County of Los Angeles Department of Agricultural Commissioner/Weights and Measures, Weed Hazard, and Pest Abatement Bureau (Weed Abatement Division).	Wildfire	Mitigation	No

5.2 NFIP PARTICIPATION

The NFIP aims to reduce the impact of flooding to residential and non-residential buildings. It does so by providing insurance to property owners and by encouraging communities to adopt and enforce floodplain management regulations. Los Angeles County entered the NFIP in 1980, and the first Los Angeles County DFIRM was issued on December 2, 1980. The Los Angeles County Public Works enforces the county's floodplain management ordinance and participate in FEMA's Community Assisted Visits, which occur on a 3- to 5-year cycle. According to Los Angeles County Public Works, as of September 30, 2018, there are 1,553 floodplain policies in force in the unincorporated areas of Los Angeles County.

Los Angeles County also participates in the CRS program. The CRS program is a voluntary program for communities that engage in community floodplain management activities, which exceed the minimum NFIP standards. CRS communities benefit from reduced insurance rates and improved floodplain management programs. Los Angeles County is currently a Class 7 CRS community; therefore, homeowners who live in the SFHA can receive a 5 to 15 percent discount on their flood insurance policy.

5.3 MITIGATION GOALS

Mitigation goals are defined as general guidelines that explain what a community wants to achieve in terms of hazard and loss prevention. Goal statements are typically long-range, policy-oriented statements representing community-wide vision. For the 2019 AHMP, the overarching goal is for Los Angeles County to be a disaster resilient community. A disaster resilient community is able to prepare for, respond to, and recover from adverse hazards and disasters. According to laresilience.org, "in the resilience framework, less emphasis is placed on traditional, individually-focused preparedness efforts… building community resilience is really about making communities stronger."

5.4 POTENTIAL MITIGATION ACTIONS AND PROJECTS

Mitigation actions and projects help achieve the goals of the AHMP. For the 2019 AHMP, potential mitigation actions to be considered are listed below in **Table 5-4** and include the following hazard mitigation categories: education and awareness; natural systems protection; structure and infrastructure projects; preparedness and response; and local plans and regulations. This list addresses every hazard profiled in this plan and is based on the plan's risk assessment as well as lessons learned from recent disasters. It was developed using: FEMA success stories and best management practices; FEMA job aids; local and regional plans and reports; and input from subject matter experts and pertinent Los Angeles County departments and agencies.

Table 5-4. Potential Mitigation Actions and Projects

Red Flag Warning Public Outreach	
Project Description	Create an online and offline public outreach campaign for Red Flag Warnings. Include information about: what is a Red Flag Warning; what land may be closed; and what individuals should do to be prepared as well as what activities should be avoided. Tailor outreach material to various target groups, including people experiencing homelessness, the elderly, the young, and non-English speaking residents.

Table 5-4. Potential Mitigation Actions and Projects

Type of Project	Education and Awareness Programs
Hazard(s) Mitigated	Wildfire
Project Source	Red Flag Working Group, LA County Homeless Initiatives
Pros	Education can help reduce the risk of human-caused fires Public outreach is generally low-cost Public outreach to homeless individuals can help built rapport with county agencies
Cons	Maybe difficult to reach some target groups
Vegetation Management Program	
Project Description	Continue to implement the County's Vegetation Management Program. The Los Angeles County Fire Department Vegetation Management Unit works closely with the Fire Plan Unit and the Air and Wildland Division's Prescribed Fire Office to implement projects. The Vegetation Management Unit provides the State and County with required paperwork for prescribed burning, mechanical, biological and chemical treatment methods used in project areas.
Type of Project	Natural Systems Protection
Hazard(s) Mitigated	Wildfire
Project Source	Los Angeles County Fire Department
Pros	Program has been implemented in Los Angeles County for the last 40 years and are generally cost effective Can be used selectively to treat the most vulnerable areas
Cons	Often requires ongoing maintenance Can cause soil disturbance and increase sedimentation and erosion Prescribed fire and chemical application methods require close supervision
Fireproof Coating of Critical Assets	
Project Description	Fireproof coat critical facilities in Very High FHSZs which will allow structures to extend their strength in the event of a fire.
Type of Project	Structure and Infrastructure Projects
Hazard(s) Mitigated	Wildfire
Project Source	Los Angeles County Public Works
Pros	Generally cost-effective and non-toxic
Cons	None
Auxiliary Power for Critical Facilities	
Project Description	Determine which critical facilities need and do not have auxiliary power in order to remain functional during de-energization or "Public Safety Power Shut-Offs" and/or general loss of power and install auxiliary power systems. Auxiliary power systems may include back-up generators, local Solar Photovoltaic plus storage, and microgrids.
Type of Project	Structure and Infrastructure Projects
Hazard(s) Mitigated	Wildfire specifically, but also applies to all hazards

Table 5-4. Potential Mitigation Actions and Projects

Project Source	Los Angeles County Public Works
Pros	Provides emergency power to keep critical facilities operational and functional
Cons	Diesel generators can be expensive to operate and contribute to air pollution
Earthquake-Resistant Ductile Iron Pipes Replacement	
Project Description	Continue to replace aging critical pipes in extreme or violent shaking hazard areas and Class IX and X landslide hazard areas to improve seismic reliability/safeguard critical water distribution lines against the potential destructive impacts of large-scale earthquakes and accompanying landslides. Los Angeles County Public Works completed its' first earthquake-resistant ductile iron pipe replacement pilot program in 2013.
Type of Project	Structural and Infrastructure Projects
Hazard(s) Mitigated	Landslides, Earthquakes
Project Source	Los Angeles County Public Works
Pros	Improves water reliability Restores those without service more rapidly
Cons	None
Watershed Ecosystem Restoration	
Project Description	Modernize existing flood control retention facilities to improve flood protection, water quality and ecological health. Potential projects include: Arroyo Seco and Compton Creek.
Type of Project	Natural Systems Protection
Hazard(s) Mitigated	Climate Change, Flood, Tsunami
Project Source	County of Loss Angeles Repetitive Property Loss Area Analysis Progress Report (2017 – 2018), OurWaterLA
Pros	Reduces the risk of flooding to the surrounding neighborhoods Provides new recreational space and safety amenities
Cons	Additional studies needed to determine best approaches
Green Streets	
Project Description	Implement the Green Street Master Plan with the goal of identifying 110 feasible sites. A green street is a stormwater management approach that incorporates vegetation, soil, and engineered systems (e.g., permeable pavements) to slow, filter, and cleanse stormwater runoff from impervious surfaces. In addition to the traditional green street approach, incorporate "complete streets" design strategies to provide more room for emergency response vehicles and create defensible space in plaza areas and around buildings.
Type of Project	Natural Systems Protection, Preparedness and Response
Hazard(s) Mitigated	Stormwater/Flood, Climate Change
Project Source	Los Angeles County Public Works, U.S. EPA
Pros	Protects water quality in rivers and streams by removing pollutants

Table 5-4. Potential Mitigation Actions and Projects

	Replenishes groundwater supplies Absorbs carbon Improves air quality and neighborhood aesthetics Improves pedestrian and bicycle safety
Cons	Requires selected site suitability to do utility conflicts, and geotechnical and environmental characteristics
Coordinated Data Collection and Database Systems	
Project Description	Create coordinated data collection and database system in which intake and assessment information can be entered in real time and can support multiple users at the same time. Components can include critical facilities and vulnerable populations.
Type of Project	Preparedness and Response
Hazard(s) Mitigated	All hazards
Project Source	Los Angeles County OEM
Pros	Coordinated systems
Cons	Different data collection needs may require parallel databases
Brush Clearance Program	
Project Description	Expand the County's Brush Clearance Program to include a grant fundable mitigation component for qualified low-income and/or elderly homeowners that have properties that are found to be non-compliant. Instead of warning property owners and imposing infractions for inadequate fire hazard reduction, Los Angeles County will work with the homeowner to develop and implement a fire reduction plan.
Type of Project	Natural Systems Protection, Preparedness and Response
Hazard(s) Mitigated	Wildfire
Project Source	Los Angeles County Fire Department
Pros	Proactive, not reactive approach to working with homeowners to reducing wildfire fuel hazards
Cons	Often requires ongoing maintenance
Wildland Urban-Interface Ordinance	
Project Description	Codifying development standards to guide development in the WUI areas that face a severe threat of wildfires.
Type of Project	Local Plans and Regulations
Hazard(s) Mitigated	Wildfire
Project Source	Draft Safety Element Update for Los Angeles County 2035 General Plan, Los Angeles County Sustainability Plan
Pros	Additional review of development in WUIs will enable best practices are incorporated in the project design.
Cons	Additional regulations may be perceived as too burdensome by property owners.

Table 5-4. Potential Mitigation Actions and Projects

Urban Forest Management Plan	
Project Description	Create Urban Forest Management Plan for Los Angeles County with a well-defined scope that includes s comprehensive tree inventory, assessment of tree health, identification of shade-poor neighborhoods, cost-benefit analysis of tree vs shade-structure interventions, urban forest financing plan, and a plan for sustainable management.
Type of Project	Local Plans and Regulations
Hazard(s) Mitigated	Climate Change, Drought
Project Source	Los Angeles County Sustainability Plan (Los Angeles County Chief Sustainability Office), A Greater L.A. Climate Action Framework (L.A. Regional Collaborative for Climate Action and Sustainability, and Los Angeles County 2035 General Plan
Pros	Extreme heat is the greatest health threat to Los Angeles County residents. Providing shade will help mitigate the effects of extreme heat in disadvantaged neighborhoods. Residents from these communities may not have private vehicles and encounter problems traveling to cooling centers; they may also have limited access to air conditioning.
Cons	The inability of residents to pay for water to establish newly planted trees may hinder the establishment of an urban forest. County-wide water conservation measures during times of drought may also conflict with efforts to establish and maintain an urban forest. In such situations, shade structures may fulfill the same needs.
Community Wildfire Protection Plans	
Project Description	Continue to work with communities to develop Community Wildfire Protection Plans (CWPP). CWPPs enable communities to plan how they will reduce the risk of wildfire by identifying strategic sites and methods for fuel reduction projects across the landscape and jurisdictional boundaries.
Type of Project	Local Plans and Regulations
Hazard(s) Mitigated	Wildfire
Project Source	Los Angeles County Fire Department 2018 Strategic Fire Plan
Pros	Opportunity to establish a localized definition and boundary for the WUI. Priority funding is often given to projects and treatment areas identified in a CWPP.
Cons	May be difficult to get collaboration from stakeholders.

5.5 MITIGATION ACTION PLANS

A mitigation action plan is a prioritized list of proposed mitigation projects and actions that a community hopes to implement to reduce its' risks and vulnerabilities. The 2019 AHMP mitigation action plan, as shown in **Table 5-5 and Table 5-6**, is prioritized into Tier 1 and Tier 2 activities:

- Tier 1 activities are essential to remedy or prevent a major health/safety hazard. They meet FEMA HMA grant criteria, including project eligibility, benefit-cost, and performance period.
- Tier 2 activities are important in building a culture and practice of disaster resilience that will prevent new risks. They do not necessarily require and/or meet FEMA HMA grant criteria (but may qualify for other state and federal funds).

Table 5-5. Tier 1 Mitigation Action Plan

Project Name	Implementation Details
Red Flag Warning Public Outreach	Department/Agency: LAHSA, Los Angeles County OEM, Los Angeles County Fire Department, and Los Angeles County Sheriff's Department Potential Funding Source: FEMA grants Performance Period: 6 months development, implementation prior to every summer/fall
Vegetation Management Program	Department/Agency: Los Angeles County Fire Department Potential Funding Source: Cal FIRE, FEMA grants Performance Period: Ongoing
Fireproof Coating of Critical Facilities	Department/Agency: Los Angeles County Public Works, Los Angeles County Fire Department Potential Funding Source: Cal FIRE, FEMA grants Performance Period: 1-3 years
Auxiliary Power for Critical Facilities	Department/Agency: Los Angeles County Public Works Potential Funding Source: FEMA grants Performance Period: Ongoing
Earthquake-Resistant Ductile Iron Pipes Replacement	Department/Agency: Los Angeles County Public Works Potential Funding Source: FEMA grants Performance Period: Ongoing
Brush Clearance Program	Department/Agency: Los Angeles County Fire Department Potential Funding Source: Cal FIRE, FEMA grants Performance Period: Ongoing
Community Wildfire Protection Plans	Department / Agency: Los Angeles County Fire Department Potential Funding Source: Cal FIRE, FEMA grants Performance Period: Ongoing

Table 5-6. Tier 2 Mitigation Action Plan

Project Name	Implementation Details
Watershed Ecosystem Restoration	Department/Agency: Los Angeles County Public Works Potential Funding Source: U.S. EPA, U.S. Department of Interior grants Performance Period: 3-5 years
Green Streets	Department/Agency: Los Angeles County Public Works Potential Funding Source: U.S. EPA grants Performance Period: 3-5 years
Coordinated Data Collection & Database Systems	Department/Agency: Los Angeles County OEM Potential Funding Source: County funds Performance Period: 1-2years, Ongoing
Wildland Urban-Interface Ordinance	Department/Agency: Los Angeles County Department of Regional Planning, Los Angeles County Fire Department Potential Funding Source: County funds Performance Period: 6 months – 1 year
Urban Forest Management Plan	Department/Agency: Los Angeles County Department of Regional Planning, Los Angeles County Fire Department Potential Funding Source: County funds Performance Period: 1-2 years

5.6 PLAN INTEGRATION

The AHMP project manager will be the lead in working with Los Angeles County departments and agencies to ensure that elements of the 2019 AHMP are incorporated into other relevant county planning documents as they are created or updated.

As such, the AHMP project manager will work with:

- The Los Angeles County Public Works to incorporate the flood risk assessment and flood mitigation actions into the county's Comprehensive Floodplain Management Plan. The Comprehensive Floodplain Management Plan is currently being updated and is expected to be completed in 2021.
- The Los Angeles County Department of Regional Planning to ensure that the 2019 AHMP's hazard profiles and mitigation projects and actions align with those addressed in the General Plan's Safety Element. The Safety Element is currently being updated and is expected to be completed in 2021.
- The Los Angeles County OEM to ensure that the hazard profiles are included in the Los Angeles County Threat and Hazard Identification Risk Assessment and the Los Angeles County Operational Area Emergency Response Plans and Annexes as they are updated.

6 PLAN REVIEW, EVALUATION, AND IMPLEMENTATION

Section 4 – Plan Review, Evaluation, and Implementation addresses Element D of the Local Mitigation Plan Regulation Checklist.

Regulation Checklist – 44 CFR 201.6 Local Mitigation Plans
Element D: Plan Review, Evaluation, and Implementation
D1. Was the plan revised to reflect changes in development? (Requirement § 201.6(d)(3))
D2. Was the plan revised to reflect progress in local mitigation efforts? (Requirement § 201.6(d)(3))
D3. Was the plan revised to reflect changes in priorities? Requirement §201.6(d)(3))

6.1 CHANGES IN DEVELOPMENT

As noted in **Section 3.2**, the slowing population growth is in part due to the lack of housing. Most economists agree that building new housing is key to addressing the state's housing crisis. During the drafting of the 2019 AHMP, nearly 28,000 units were under construction in Los Angeles County. In the city of Los Angeles, developers have targeted properties in older neighborhoods, rather than undeveloped land in the city's outskirts. However, as the State of California pushes for greater growth in order to meet the governor's goal of 3.5 million new units by 2025, there is growing concern that without land-use restrictions, new development will occur in fire-prone and other hazard areas of the county. These concerns are addressed within the 2019 AHMP mitigation strategy.

6.2 PROGESS IN LOCAL MITIGATION EFFORTS

The 2014 AHMP Mitigation Actions Matrix was reviewed by each of the coordinating agencies identified on the matrix in order to determine mitigation action status. Mitigation actions that were identified as not having been implemented or deferred were considered for **Table 5-4**. Mitigation actions that were identified as completed are shown in **Table 6-1.**

In addition, the consultant reviewed the County of Los Angeles Floodplain Management Plan 2018 Progress Report to determine mitigation action status. Flood mitigation actions that were listed as "no progress" were considered for **Table 5-4**. Relevant flood mitigation actions that were listed as "project complete" are shown in **Table 6-1**.

Table 6-1. Completed Local Mitigation Efforts

Coordinating Agency	Project Description
Los Angeles County Department of Coroner	Purchased equipment to set up an off-site mobile morgue. This equipment was incorporated into the business continuity plan in case the main facility is unusable and would help to avoid unnecessary exposure of employees or the public to biological, radiological, or chemical agents.
Los Angeles County Department of Regional Planning	Updated building codes on January 1, 2017.

Table 6-1. Completed Local Mitigation Efforts

Coordinating Agency	Project Description
Los Angeles County Public Works	Continue the seismic upgrade to improve water reliability through earthquake-resistant pipe installation. The work took place on Reseda Boulevard from Roscoe to Strathern; Etiwanda Avenue from Roscoe to Strathern; Cantara Street from Reseda to Etiwanda; and Strathern Street from Reseda to Etiwanda.
Los Angeles County Public Works	In October 2017, the Los Angeles County Public Works mailed 3,551 copies of "Are You Prepared for A Flood?" brochure to property owners and residents in Special Flood Hazard Areas, County Floodways, and possible gaps in floodplain mapping (i.e., areas with possible flood hazards that are not on FEMA or County maps). The County of Los Angeles' National Flood Insurance Program (NFIP) website links were checked and updated. Previously, brochures were distributed to the Malibu, Rosemead, and Castaic Public Libraries. Brochures were distributed to additional public libraries closer to the floodplains including Topanga, Altadena, Duarte, and San Dimas.
Los Angeles County Public Works	In addition to the outreach efforts mentioned in Initiative No. 1 above, the Los Angeles County Public Works mailed 226 copies of CDs containing County of Los Angeles and FEMA publications to all property owners and residents in RL properties and properties in the RL areas.
Los Angeles County Public Works	In December 2017, the Los Angeles County Public Works mailed a letter and outreach materials to owners of critical facilities located in FEMA's-designated Special Flood Hazard Areas. Critical facilities that received outreach materials include schools, hospitals, fire stations, and health care facilities.
Los Angeles County Public Works	County of Los Angeles Office of Emergency Management, Fire Department, Sheriff's Department, and Public Works' Disaster Service Group participated in emergency preparedness events such as Los Angeles County's Preparation throughout this reporting period. Participants at the fair provided attendees with information and resources for preparation, such as the "Are You Prepared for a Flood?", "ALERT LA COUNTY" brochure, "Homeowner's Guide for Flood, Debris, and Erosion Control," and the "Emergency Survival Guide."

6.3 CHANGES IN PRIORITIES

The 2014 AHMP's Mitigation Action Matrix was prioritized using a number ranking system to determine a project's priority. For the 2019 AHMP, mitigation actions were prioritized into two separate groups, which both helped achieve meeting the goal of disaster resiliency. As noted in **Section 5.3**, resilient communities are able to minimize any disaster, making the return to normal life as soon and as effortless as possible. As such, the first part (i.e., first priority) of this goal is to ensure that life-safety needs are addressed as soon as possible. The second part (i.e., second priority) is to implement plans, policies, and programs to reduce current risks and prevent new/future ones.

7 PLAN ADOPTION

Section 6 – Plan Adoption addresses Element E of the Local Mitigation Plan Regulation Checklist.

Regulation Checklist – 44 CFR 201.6 Local Mitigation Plans
Element E: Plan Adoption
E1. Does the Plan include documentation that the plan has been formally adopted by the governing body of the jurisdiction requesting approval? (Requirement §201.6(c)(5)) E2. For multi-jurisdictional plans, has each jurisdiction requesting approval of the plan documented formal plan adoption? (Requirement §201.6(c)(5))

7.1 FORMAL ADOPTION

[To be completed] The 2019 AHMP was formally adopted by the Los Angeles County Board of Supervisors via resolution on [To be completed]. A scanned copy of the resolution is included as **Figure 7-2**. It will also be kept on file with Los Angeles County OEM and additional be sent to Cal OES and FEMA.

ADOPTION RESOLUTION

APPENDIX A – PLANNING PROCESS

From: Stephanie Kim
Sent: Tuesday, August 20, 2019 2:44 PM
To: XXX@monosheriff.org; XXX@ocsd.org; XXX@rivco.org; XXX@ontarioca.gov; XXX@inyocounty.us; XXX@co.imperial.ca.us; XXX@laquintaca.gov; XXX@sbcoem.org; XXX@mono.ca.gov; XXX@lcf.ca.gov; XXX@sa.ocgov.com; XXX@rivco.org; XXX@cbcity.org; XXX@inyocounty.us; XXX@cityofbishop.com; XXX@sandiego.gov; XXX@rivco.org; XXX@octa.net; XXX@sbcsd.org; XXX@sandiego.gov; XXX@octa.net; XXX@rcoe.us; XXX@dgs.ca.gov; XXX@sbcsd.org; XXX@lawa.org; XXX@rivco.org; XXX@lausd.net; XXX@inyocounty.us; XXX@octa.net; XXX@ranchomirageca.gov; XXX@rivco.org; XXX@inyocounty.us; XXX@sbccd.edu; XXX@morongo-nsn.gov; XXX@noaa.gov; XXX@cityofredlands.org; XXX@morongo-nsn.gov; XXX@coachella.org; XXX@ocsd.org; XXX@sbcsd.org; XXX@cityoftemecula.org; XXX@santabarbaraca.gov; XXX@mwdh2o.com; XXX@sbcsd.org; XXX@kerncountyfire.org
Cc: XXX@ceooem.lacounty.gov
Subject: Los Angeles County Hazard Mitigation Plan Update

Dear Stakeholders,

We are reaching out to let you know that the Los Angeles County Office of Emergency Management is in the process of updating its' All-Hazards Mitigation Plan. I'm attaching our public outreach flyer for your information. We will send out an additional email when our draft plan goes out to public comment later this fall. If you have any questions or would like to be part of the plan update process, please contact me!

Emily Montanez

emontanez@ceooem.lacounty.gov

(323) 980-2813

Stephanie Kim
Academic Intern
LA County CEO Office of Emergency Management

2019 County of Los Angeles All-Hazards Mitigation Plan

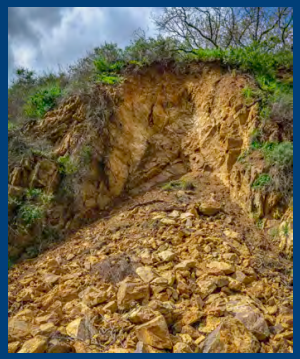
The Los Angeles County Office of Emergency Management is updating the County's All-Hazards Mitigation Plan! Over the next few months, we will re-assess risks posed by natural disasters and review and revise existing strategies as well as develop new ones to protect life and property future events.

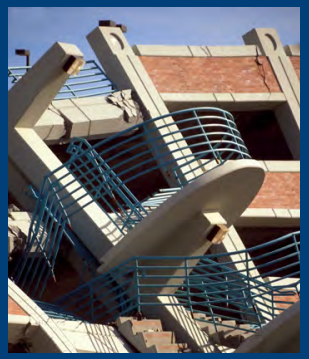
Natural disasters addressed in our plan include: climate change, dam failure, drought, flood, earthquake, landslide, tsunami, and wildfire.

Once our plan is completed and approved by FEMA, the County will be re-eligible to apply for and receive certain types of non-emergency disaster assistance, including funding for mitigation projects identified in our plan.

To learn more about hazard mitigation planning, please visit: **https://www.fema.gov/hazard-mitigation-planning**.

To learn more about our plan and/or participate in our planning process, please visit our website **lacounty.gov/emergency** or our Twitter account **@ReadyLACounty**.





Plan de Mitigación para Todos los Peligros del Condado de Los Ángeles 2019

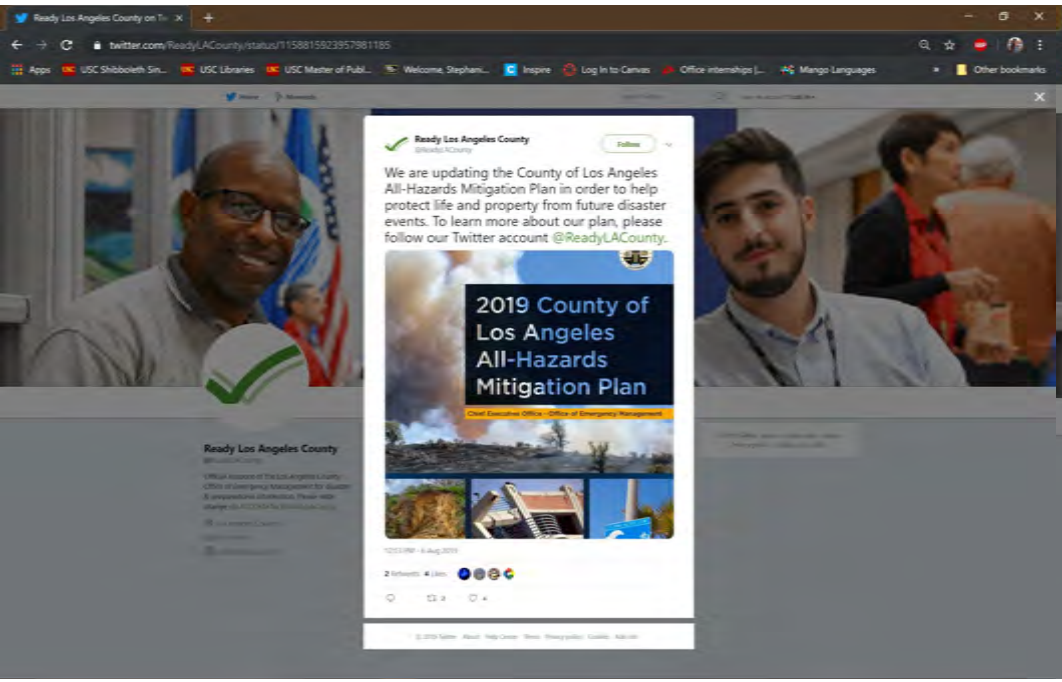
¡La Oficina de Manejo de Emergencias del Condado de Los Ángeles está actualizando el Plan de Mitigación para Todos los Peligros del Condado! En los próximos meses, reevaluaremos los riesgos debidos a los desastres naturales y repasaremos y revisaremos las estrategias existentes, y también desarrollaremos otras nuevas para proteger vidas y propiedades antes de que ocurran incidentes futuros.

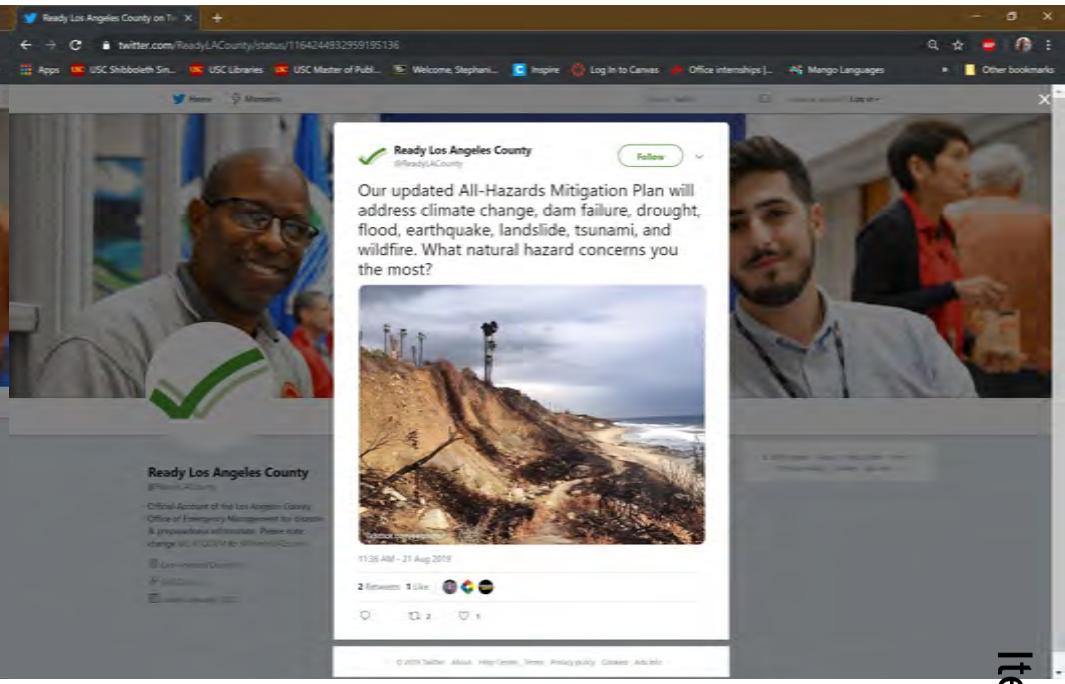
Los riesgos discutidos en nuestro plan incluyen: cambios climáticos, falla de presas, sequías, inundaciones, terremotos, deslizamientos de tierra, tsunami e incendios forestales.

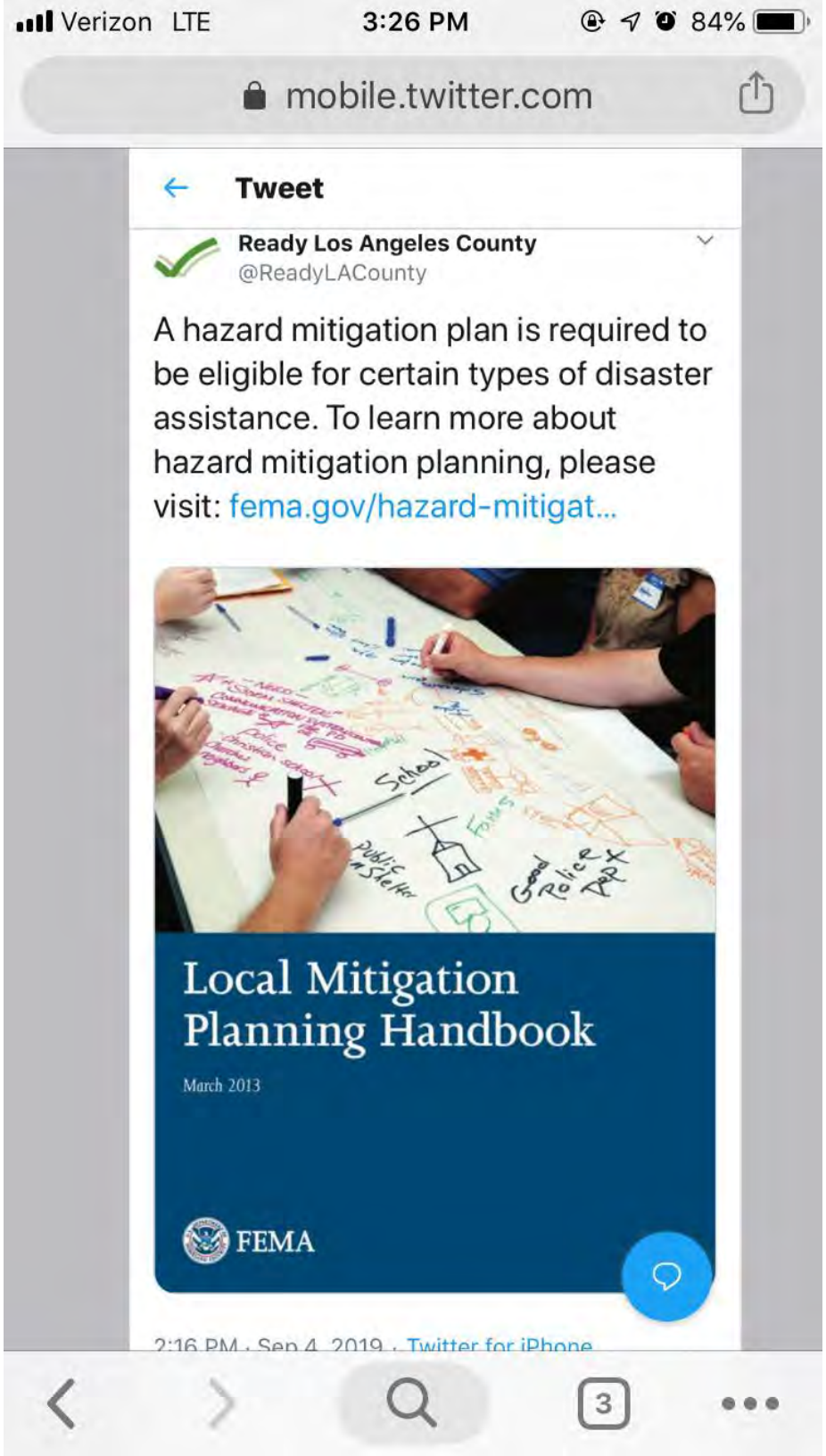
Una vez que FEMA complete y apruebe nuestro plan, el Condado volverá a ser elegible para solicitar y recibir ciertos tipos de asistencia por desastre que no sea de emergencia, incluyendo la financiación para proyectos de mitigación identificados en nuestro plan.

Para obtener más información sobre la planificación de mitigación de riesgos, por favor visite: **https://www.fema.gov/hazard-mitigation-planning**.

Para obtener más información sobre nuestro plan y / o participar en nuestro proceso de planificación, visite nuestro sitio web **lacounty.gov/emergency** o nuestra cuenta de Twitter **@ReadyLACounty**.


Ready Los Angeles County
We are updating the County of Los Angeles All-Hazards Mitigation Plan in order to help protect life and property from future disaster events. To learn more about our plan, please follow our Twitter account @ReadyLACounty.
2019 County of Los Angeles All-Hazards Mitigation Plan


Ready Los Angeles County
Our updated All-Hazards Mitigation Plan will address climate change, dam failure, drought, flood, earthquake, landslide, tsunami, and wildfire. What natural hazard concerns you the most?



2019 AHMP - Annual Review Worksheet				
HMP Section	**Questions**	**Yes**	**No**	**Comments**
PLANNING PROCESS	Has your County department/agency (or other type of organization) done any public outreach activities regarding the AHMP or a mitigation project? If yes, please describe.			
	Has your County department/agency (or other type of organization) integrated any of the AHMP's elements into other plans or policies? If yes, please describe.			
HAZARD IDENTIFICATION	Has a disaster occurred in this reporting period that affected your department/agency (or other type of organization)?			
	Do you know of new hazard studies, reports and/or mapping available for Los Angeles County? If so, what are they?			
RISK ASSESSMENT	Does your County department/agency have any new critical assets that should be included in the 2024 AHMP risk assessment?			
	Have there been changes in development trends that could create additional risks?			
MITIGATION STRATEGY	Are there different or additional resources (financial, technical, and human) that are now available for mitigation planning?			
	Should new mitigation actions be added?			

2019 AHMP - Annual Review Worksheet				
HMP Section	**Questions**	**Yes**	**No**	**Comments**
PLANNING PROCESS	Has your County department/agency (or other type of organization) done any public outreach activities regarding the AHMP or a mitigation project? If yes, please describe.			
	Has your County department/agency (or other type of organization) integrated any of the AHMP's elements into other plans or policies? If yes, please describe.			
HAZARD IDENTIFICATION	Has a disaster occurred in this reporting period that affected your department/agency (or other type of organization)?			
	Do you know of new hazard studies, reports and/or mapping available for Los Angeles County? If so, what are they?			
RISK ASSESSMENT	Does your County department/agency have any new critical assets that should be included in the 2024 AHMP risk assessment?			
	Have there been changes in development trends that could create additional risks?			
MITIGATION STRATEGY	Are there different or additional resources (financial, technical, and human) that are now available for mitigation planning?			
	Should new mitigation actions be added?			

2019 AHMP - Mitigation Project Progress Report			
Progress Report Period From (date):		**To (date):**	
Project Title:			
Project ID:			
Description of Project:			
Implementing Department/Agency:			
Supporting Department/Agencies:			
Contact Name:			
Contact E-mail:			
Contact Number:			
Grant/Finance Administrator:			
Total Project Cost:			
Anticipated Cost Overrun/Underrun:			
Date of Project Approval:			
Project Start Date:			
Anticipated Completion Date:			
Summary of Progress of Project for this Reporting Period			
1. What was accomplished during this reporting period?			
2. What obstacles, problems, or delays did the project encounter, if any?			
3. How were the problems resolved?			

APPENDIX B – COMMUNITY PROFILE

Table B-1. County Critical Facilities

Department / Agency	Facility Name
Animal Care & Control	Agoura Animal Care Center
Animal Care & Control	Baldwin Park Animal Care Center
Animal Care & Control	Carson Animal Care Center
Animal Care & Control	Castaic Animal Care Center (Castaic)
Animal Care & Control	Downey Animal Care Center
Animal Care & Control	Lancaster County Animal Care Center
Animal Care & Control	Palmdale Animal Care Center
Fire Department	Bob Hope Airport Fire Department
Fire Department	City of Alhambra Fire Department - Training Facility
Fire Department	City of Alhambra Fire Department Station 71 - Headquarters
Fire Department	City of Alhambra Fire Department Station 72 - Southeast District
Fire Department	City of Alhambra Fire Department Station 73 - Northwest
Fire Department	City of Alhambra Fire Department Station 74 - Southwest
Fire Department	City of Arcadia Fire Department Station 105
Fire Department	City of Arcadia Fire Department Station 106 - Headquarters
Fire Department	City of Arcadia Fire Department Station 107
Fire Department	City of Avalon Fire Department
Fire Department	City of Beverly Hills Fire Department Station 1 - Headquarters
Fire Department	City of Beverly Hills Fire Department Station 2
Fire Department	City of Beverly Hills Fire Department Station 3
Fire Department	City of Burbank Fire Department Station 11 - Headquarters
Fire Department	City of Burbank Fire Department Station 12
Fire Department	City of Burbank Fire Department Station 13
Fire Department	City of Burbank Fire Department Station 14
Fire Department	City of Burbank Fire Department Station 15
Fire Department	City of Burbank Fire Department Station 16
Fire Department	City of Compton Fire Department Station 1 - Headquarters
Fire Department	City of Compton Fire Department Station 2
Fire Department	City of Compton Fire Department Station 3
Fire Department	City of Compton Fire Department Station 4
Fire Department	City of Downey Fire Department Station 1 - Headquarters
Fire Department	City of Downey Fire Department Station 2
Fire Department	City of Downey Fire Department Station 3
Fire Department	City of Downey Fire Department Station 4
Fire Department	City of Glendale Fire Department Station 21
Fire Department	City of Glendale Fire Department Station 22
Fire Department	City of Glendale Fire Department Station 23
Fire Department	City of Glendale Fire Department Station 24
Fire Department	City of Glendale Fire Department Station 25
Fire Department	City of Glendale Fire Department Station 26
Fire Department	City of Glendale Fire Department Station 27
Fire Department	City of Glendale Fire Department Station 28
Fire Department	City of Long Beach Fire Department - Beach Operations
Fire Department	City of Long Beach Fire Department - Headquarters
Fire Department	City of Long Beach Fire Department Station 1
Fire Department	City of Long Beach Fire Department Station 10
Fire Department	City of Long Beach Fire Department Station 11
Fire Department	City of Long Beach Fire Department Station 12
Fire Department	City of Long Beach Fire Department Station 13
Fire Department	City of Long Beach Fire Department Station 14
Fire Department	City of Long Beach Fire Department Station 15
Fire Department	City of Long Beach Fire Department Station 16
Fire Department	City of Long Beach Fire Department Station 17
Fire Department	City of Long Beach Fire Department Station 18
Fire Department	City of Long Beach Fire Department Station 19

Table B-1. County Critical Facilities

Department / Agency	Facility Name
Fire Department	City of Long Beach Fire Department Station 2
Fire Department	City of Long Beach Fire Department Station 20
Fire Department	City of Long Beach Fire Department Station 21
Fire Department	City of Long Beach Fire Department Station 22
Fire Department	City of Long Beach Fire Department Station 24
Fire Department	City of Long Beach Fire Department Station 3
Fire Department	City of Long Beach Fire Department Station 4
Fire Department	City of Long Beach Fire Department Station 5
Fire Department	City of Long Beach Fire Department Station 6
Fire Department	City of Long Beach Fire Department Station 7
Fire Department	City of Long Beach Fire Department Station 8
Fire Department	City of Long Beach Fire Department Station 9
Fire Department	City of Los Angeles Fire Department Station 1
Fire Department	City of Los Angeles Fire Department Station 10
Fire Department	City of Los Angeles Fire Department Station 108
Fire Department	City of Los Angeles Fire Department Station 109
Fire Department	City of Los Angeles Fire Department Station 11
Fire Department	City of Los Angeles Fire Department Station 12
Fire Department	City of Los Angeles Fire Department Station 13
Fire Department	City of Los Angeles Fire Department Station 14
Fire Department	City of Los Angeles Fire Department Station 15
Fire Department	City of Los Angeles Fire Department Station 16
Fire Department	City of Los Angeles Fire Department Station 17
Fire Department	City of Los Angeles Fire Department Station 19
Fire Department	City of Los Angeles Fire Department Station 2
Fire Department	City of Los Angeles Fire Department Station 20
Fire Department	City of Los Angeles Fire Department Station 21
Fire Department	City of Los Angeles Fire Department Station 25
Fire Department	City of Los Angeles Fire Department Station 26
Fire Department	City of Los Angeles Fire Department Station 27
Fire Department	City of Los Angeles Fire Department Station 29
Fire Department	City of Los Angeles Fire Department Station 3
Fire Department	City of Los Angeles Fire Department Station 33
Fire Department	City of Los Angeles Fire Department Station 34
Fire Department	City of Los Angeles Fire Department Station 35
Fire Department	City of Los Angeles Fire Department Station 37
Fire Department	City of Los Angeles Fire Department Station 4
Fire Department	City of Los Angeles Fire Department Station 41
Fire Department	City of Los Angeles Fire Department Station 42
Fire Department	City of Los Angeles Fire Department Station 43
Fire Department	City of Los Angeles Fire Department Station 44
Fire Department	City of Los Angeles Fire Department Station 46
Fire Department	City of Los Angeles Fire Department Station 47
Fire Department	City of Los Angeles Fire Department Station 5
Fire Department	City of Los Angeles Fire Department Station 50
Fire Department	City of Los Angeles Fire Department Station 51
Fire Department	City of Los Angeles Fire Department Station 52
Fire Department	City of Los Angeles Fire Department Station 56
Fire Department	City of Los Angeles Fire Department Station 57
Fire Department	City of Los Angeles Fire Department Station 58
Fire Department	City of Los Angeles Fire Department Station 59
Fire Department	City of Los Angeles Fire Department Station 6
Fire Department	City of Los Angeles Fire Department Station 61
Fire Department	City of Los Angeles Fire Department Station 62
Fire Department	City of Los Angeles Fire Department Station 64

Table B-1. County Critical Facilities

Department / Agency	Facility Name
Fire Department	City of Los Angeles Fire Department Station 65
Fire Department	City of Los Angeles Fire Department Station 66
Fire Department	City of Los Angeles Fire Department Station 67
Fire Department	City of Los Angeles Fire Department Station 68
Fire Department	City of Los Angeles Fire Department Station 7
Fire Department	City of Los Angeles Fire Department Station 71
Fire Department	City of Los Angeles Fire Department Station 76
Fire Department	City of Los Angeles Fire Department Station 80
Fire Department	City of Los Angeles Fire Department Station 82
Fire Department	City of Los Angeles Fire Department Station 9
Fire Department	City of Los Angeles Fire Department Station 92
Fire Department	City of Los Angeles Fire Department Station 94
Fire Department	City of Los Angeles Fire Department Station 95
Fire Department	City of Los Angeles Fire Department Station 97
Fire Department	City of Los Angeles Fire Department Station 99
Fire Department	City of Monterey Park Fire Department Station 61 - Headquarters
Fire Department	City of Monterey Park Fire Department Station 62
Fire Department	City of Monterey Park Fire Department Station 63
Fire Department	City of Santa Fe Springs Fire Department Station 1 - Headquarters
Fire Department	City of Santa Fe Springs Fire Department Station 2
Fire Department	City of Santa Fe Springs Fire Department Station 3
Fire Department	City of Santa Fe Springs Fire Department Station 4
Fire Department	City of Santa Monica Fire Department - Training Facility
Fire Department	City of Santa Monica Fire Department Station 1 - Headquarters
Fire Department	City of Santa Monica Fire Department Station 2
Fire Department	City of Santa Monica Fire Department Station 3
Fire Department	City of Santa Monica Fire Department Station 5
Fire Department	City of Vernon Fire Department Station 2
Fire Department	City of Vernon Fire Department Station 3
Fire Department	City of Vernon Fire Department Station 4
Fire Department	City of West Covina Fire Department Station 1
Fire Department	City of West Covina Fire Department Station 2
Fire Department	City of West Covina Fire Department Station 3
Fire Department	City of West Covina Fire Department Station 4
Fire Department	City of West Covina Fire Department Station 5
Fire Department	Culver City Fire Department Station 1 - Headquarters
Fire Department	Culver City Fire Department Station 2
Fire Department	Culver City Fire Department Station 3
Fire Department	La Verne Fire Department Station 1 - Headquarters
Fire Department	La Verne Fire Department Station 2
Fire Department	Los Angeles County Fire Department - HQ/Heliport/Training Facility
Fire Department	Los Angeles County Fire Department Station 1
Fire Department	Los Angeles County Fire Department Station 10
Fire Department	Los Angeles County Fire Department Station 101
Fire Department	Los Angeles County Fire Department Station 102
Fire Department	Los Angeles County Fire Department Station 103
Fire Department	Los Angeles County Fire Department Station 104
Fire Department	Los Angeles County Fire Department Station 105
Fire Department	Los Angeles County Fire Department Station 106
Fire Department	Los Angeles County Fire Department Station 107
Fire Department	Los Angeles County Fire Department Station 11
Fire Department	Los Angeles County Fire Department Station 110
Fire Department	Los Angeles County Fire Department Station 111
Fire Department	Los Angeles County Fire Department Station 112
Fire Department	Los Angeles County Fire Department Station 114

Table B-1. County Critical Facilities

Department / Agency	Facility Name
Fire Department	Los Angeles County Fire Department Station 115
Fire Department	Los Angeles County Fire Department Station 116
Fire Department	Los Angeles County Fire Department Station 117
Fire Department	Los Angeles County Fire Department Station 118
Fire Department	Los Angeles County Fire Department Station 119
Fire Department	Los Angeles County Fire Department Station 12
Fire Department	Los Angeles County Fire Department Station 120
Fire Department	Los Angeles County Fire Department Station 121
Fire Department	Los Angeles County Fire Department Station 122
Fire Department	Los Angeles County Fire Department Station 123
Fire Department	Los Angeles County Fire Department Station 124
Fire Department	Los Angeles County Fire Department Station 125
Fire Department	Los Angeles County Fire Department Station 126
Fire Department	Los Angeles County Fire Department Station 127
Fire Department	Los Angeles County Fire Department Station 129
Fire Department	Los Angeles County Fire Department Station 130
Fire Department	Los Angeles County Fire Department Station 131
Fire Department	Los Angeles County Fire Department Station 132
Fire Department	Los Angeles County Fire Department Station 134
Fire Department	Los Angeles County Fire Department Station 135
Fire Department	Los Angeles County Fire Department Station 14
Fire Department	Los Angeles County Fire Department Station 140
Fire Department	Los Angeles County Fire Department Station 141
Fire Department	Los Angeles County Fire Department Station 144
Fire Department	Los Angeles County Fire Department Station 145
Fire Department	Los Angeles County Fire Department Station 146
Fire Department	Los Angeles County Fire Department Station 147
Fire Department	Los Angeles County Fire Department Station 148
Fire Department	Los Angeles County Fire Department Station 149
Fire Department	Los Angeles County Fire Department Station 15
Fire Department	Los Angeles County Fire Department Station 151
Fire Department	Los Angeles County Fire Department Station 152
Fire Department	Los Angeles County Fire Department Station 153
Fire Department	Los Angeles County Fire Department Station 154
Fire Department	Los Angeles County Fire Department Station 155
Fire Department	Los Angeles County Fire Department Station 156
Fire Department	Los Angeles County Fire Department Station 157
Fire Department	Los Angeles County Fire Department Station 158
Fire Department	Los Angeles County Fire Department Station 159
Fire Department	Los Angeles County Fire Department Station 16
Fire Department	Los Angeles County Fire Department Station 160
Fire Department	Los Angeles County Fire Department Station 161
Fire Department	Los Angeles County Fire Department Station 162
Fire Department	Los Angeles County Fire Department Station 163
Fire Department	Los Angeles County Fire Department Station 164
Fire Department	Los Angeles County Fire Department Station 165
Fire Department	Los Angeles County Fire Department Station 166
Fire Department	Los Angeles County Fire Department Station 167
Fire Department	Los Angeles County Fire Department Station 168
Fire Department	Los Angeles County Fire Department Station 169
Fire Department	Los Angeles County Fire Department Station 17
Fire Department	Los Angeles County Fire Department Station 170
Fire Department	Los Angeles County Fire Department Station 171
Fire Department	Los Angeles County Fire Department Station 172
Fire Department	Los Angeles County Fire Department Station 173

Table B-1. County Critical Facilities

Department / Agency	Facility Name
Fire Department	Los Angeles County Fire Department Station 18
Fire Department	Los Angeles County Fire Department Station 181
Fire Department	Los Angeles County Fire Department Station 182
Fire Department	Los Angeles County Fire Department Station 183
Fire Department	Los Angeles County Fire Department Station 184
Fire Department	Los Angeles County Fire Department Station 185
Fire Department	Los Angeles County Fire Department Station 186
Fire Department	Los Angeles County Fire Department Station 187
Fire Department	Los Angeles County Fire Department Station 188
Fire Department	Los Angeles County Fire Department Station 19
Fire Department	Los Angeles County Fire Department Station 2
Fire Department	Los Angeles County Fire Department Station 20
Fire Department	Los Angeles County Fire Department Station 21
Fire Department	Los Angeles County Fire Department Station 22
Fire Department	Los Angeles County Fire Department Station 23
Fire Department	Los Angeles County Fire Department Station 24
Fire Department	Los Angeles County Fire Department Station 25
Fire Department	Los Angeles County Fire Department Station 26
Fire Department	Los Angeles County Fire Department Station 27
Fire Department	Los Angeles County Fire Department Station 28
Fire Department	Los Angeles County Fire Department Station 29
Fire Department	Los Angeles County Fire Department Station 3
Fire Department	Los Angeles County Fire Department Station 30
Fire Department	Los Angeles County Fire Department Station 31
Fire Department	Los Angeles County Fire Department Station 32
Fire Department	Los Angeles County Fire Department Station 33
Fire Department	Los Angeles County Fire Department Station 34
Fire Department	Los Angeles County Fire Department Station 35
Fire Department	Los Angeles County Fire Department Station 36
Fire Department	Los Angeles County Fire Department Station 37
Fire Department	Los Angeles County Fire Department Station 38
Fire Department	Los Angeles County Fire Department Station 39
Fire Department	Los Angeles County Fire Department Station 4
Fire Department	Los Angeles County Fire Department Station 40
Fire Department	Los Angeles County Fire Department Station 41
Fire Department	Los Angeles County Fire Department Station 42
Fire Department	Los Angeles County Fire Department Station 43
Fire Department	Los Angeles County Fire Department Station 44
Fire Department	Los Angeles County Fire Department Station 45
Fire Department	Los Angeles County Fire Department Station 47
Fire Department	Los Angeles County Fire Department Station 48
Fire Department	Los Angeles County Fire Department Station 49
Fire Department	Los Angeles County Fire Department Station 5
Fire Department	Los Angeles County Fire Department Station 50
Fire Department	Los Angeles County Fire Department Station 51
Fire Department	Los Angeles County Fire Department Station 53
Fire Department	Los Angeles County Fire Department Station 54
Fire Department	Los Angeles County Fire Department Station 55
Fire Department	Los Angeles County Fire Department Station 56
Fire Department	Los Angeles County Fire Department Station 57
Fire Department	Los Angeles County Fire Department Station 58
Fire Department	Los Angeles County Fire Department Station 59
Fire Department	Los Angeles County Fire Department Station 6
Fire Department	Los Angeles County Fire Department Station 60
Fire Department	Los Angeles County Fire Department Station 61

Table B-1. County Critical Facilities

Department / Agency	Facility Name
Fire Department	Los Angeles County Fire Department Station 62
Fire Department	Los Angeles County Fire Department Station 63
Fire Department	Los Angeles County Fire Department Station 64
Fire Department	Los Angeles County Fire Department Station 65
Fire Department	Los Angeles County Fire Department Station 66
Fire Department	Los Angeles County Fire Department Station 67
Fire Department	Los Angeles County Fire Department Station 68
Fire Department	Los Angeles County Fire Department Station 69
Fire Department	Los Angeles County Fire Department Station 7
Fire Department	Los Angeles County Fire Department Station 70
Fire Department	Los Angeles County Fire Department Station 71
Fire Department	Los Angeles County Fire Department Station 72
Fire Department	Los Angeles County Fire Department Station 73
Fire Department	Los Angeles County Fire Department Station 74
Fire Department	Los Angeles County Fire Department Station 75
Fire Department	Los Angeles County Fire Department Station 76
Fire Department	Los Angeles County Fire Department Station 77
Fire Department	Los Angeles County Fire Department Station 78
Fire Department	Los Angeles County Fire Department Station 79
Fire Department	Los Angeles County Fire Department Station 8
Fire Department	Los Angeles County Fire Department Station 80
Fire Department	Los Angeles County Fire Department Station 81
Fire Department	Los Angeles County Fire Department Station 82
Fire Department	Los Angeles County Fire Department Station 83
Fire Department	Los Angeles County Fire Department Station 84
Fire Department	Los Angeles County Fire Department Station 85
Fire Department	Los Angeles County Fire Department Station 86
Fire Department	Los Angeles County Fire Department Station 87
Fire Department	Los Angeles County Fire Department Station 88
Fire Department	Los Angeles County Fire Department Station 89
Fire Department	Los Angeles County Fire Department Station 90
Fire Department	Los Angeles County Fire Department Station 91
Fire Department	Los Angeles County Fire Department Station 92
Fire Department	Los Angeles County Fire Department Station 94
Fire Department	Los Angeles County Fire Department Station 95
Fire Department	Los Angeles County Fire Department Station 96
Fire Department	Los Angeles County Fire Department Station 97
Fire Department	Los Angeles County Fire Department Station 98
Fire Department	Los Angeles County Fire Department Station 99
Fire Department	Manhattan Beach Fire Department Station 1 - Headquarters
Fire Department	Manhattan Beach Fire Department Station 2
Fire Department	Montebello Fire Department Station 1 - Headquarters
Fire Department	Montebello Fire Department Station 2
Fire Department	Montebello Fire Department Station 3
Fire Department	Pasadena Fire Department Station 31
Fire Department	Pasadena Fire Department Station 32
Fire Department	Pasadena Fire Department Station 33
Fire Department	Pasadena Fire Department Station 34
Fire Department	Pasadena Fire Department Station 36
Fire Department	Pasadena Fire Department Station 37
Fire Department	Pasadena Fire Department Station 38
Fire Department	Pasadena Fire Department Station 39
Fire Department	Redondo Beach Fire Department Station 1 - Headquarters
Fire Department	Redondo Beach Fire Department Station 2
Fire Department	Redondo Beach Fire Department Station 3

Table B-1. County Critical Facilities

Department / Agency	Facility Name
Fire Department	San Gabriel Fire Department Station 1 - Headquarters
Fire Department	San Gabriel Fire Department Station 2
Fire Department	San Marino Fire Department
Fire Department	Sierra Madre Volunteer Fire Department
Fire Department	South Pasadena Fire Department
Fire Department	The City of El Segundo Fire Department Station 1 - Headquarters
Fire Department	The City of El Segundo Fire Department Station 2
Fire Department	Torrance Fire Department Fire Station 1 - Headquarters
Fire Department	Torrance Fire Department Fire Station 2
Fire Department	Torrance Fire Department Fire Station 3
Fire Department	Torrance Fire Department Fire Station 4
Fire Department	Torrance Fire Department Fire Station 5
Fire Department	Torrance Fire Department Fire Station 6
Fire Department	Vernon Fire Department
Health Services	Antelope Valley Health Center
Health Services	Bellflower Health Center
Health Services	Central Public Health Center
Health Services	Curtis R. Tucker Health Center
Health Services	Dollarhide Health Center
Health Services	East Los Angeles Health Center
Health Services	East San Gabriel Valley Health Center
Health Services	Edward R. Roybal Comprehensive Helath Center
Health Services	El Monte Comprehensive Health Center
Health Services	Glendale Health Center
Health Services	H. Claude Hudson Comprehensive Health Center
Health Services	Harbor-UCLA Medical Center
Health Services	High Desert Regional Health Center
Health Services	Hubert H. Humphrey Comprehensive Health Center
Health Services	La Puente Health Center
Health Services	LAC + USC Medical Center
Health Services	Lake Los Angeles Community Clinic
Health Services	Littlerock Community Clinic
Health Services	Long Beach Comprehensive Health Center
Health Services	Martin Luther King, Jr. Outpatient Center
Health Services	Mid Valley Comprehensive Health Center
Health Services	Olive View-UCLA Medical Center
Health Services	Rancho Los Amigos National Rehabilitation Center
Health Services	San Fernando Health Center
Health Services	South Valley Health Center
Health Services	Torrance Health Center
Health Services	Vaughn School Based Health Center
Health Services	West Valley Health Center
Health Services	Wilmington Health Center
Library	A C Bilbrew Library
Library	Acton Agua Dulce Library
Library	Agoura Hills Library
Library	Alondra Library
Library	Angelo M. Iacoboni Library
Library	Anthony Quinn Library
Library	Artesia Library
Library	Avalon Library
Library	Baldwin Park Library
Library	Bell Gardens Library
Library	Bell Library
Library	Carson Library

Table B-1. County Critical Facilities

Department / Agency	Facility Name
Library	Castaic Library
Library	Charter Oak Library
Library	Chet Holifield Library
Library	City Terrace Library
Library	Claremont Helen Renwick Library
Library	Clifton M. Brakensiek Library
Library	Compton Library
Library	Cudahy Library
Library	Culver City Julian Dixon Library
Library	Diamond Bar Library
Library	Dr. Martin Luther King, Jr. Library
Library	Duarte Library
Library	East Los Angeles Library
Library	East Rancho Dominguez Library
Library	El Camino Real Library
Library	El Monte Library
Library	Florence Express Library
Library	Gardena Mayme Dear Library
Library	George Nye Jr. Library
Library	Graham Library
Library	Hacienda Heights Library
Library	Hawaiian Gardens Library
Library	Hawthorne Library
Library	Hermosa Beach Library
Library	Hollydale Library
Library	Huntington Park Library
Library	La Canada Flintridge Library
Library	La Crescenta Library
Library	La Mirada Library
Library	La Puente Library
Library	La Verne Library
Library	Lake Los Angeles Library
Library	Lancaster Library
Library	Lawndale Library
Library	Leland R. Weaver Library
Library	Lennox Library
Library	Littlerock Library
Library	Live Oak Library
Library	Lloyd Taber-Marina del Rey Library
Library	Lomita Library
Library	Los Nietos Library
Library	Lynwood Library
Library	Malibu Library
Library	Manhattan Beach Library
Library	Masao W. Satow Library
Library	Maywood Cesar Chavez Library
Library	Montebello Library
Library	Norwalk Library
Library	Norwood Library
Library	Paramount Library
Library	Pico Rivera Library
Library	Quartz Hill Library
Library	Rivera Library
Library	Rosemead Library
Library	Rowland Heights Library

Table B-1. County Critical Facilities

Department / Agency	Facility Name
Library	San Dimas Library
Library	San Fernando Library
Library	San Gabriel Library
Library	Sorensen Library
Library	South El Monte Library
Library	South Whittier Library
Library	Stevenson Ranch Library
Library	Sunkist Library
Library	Temple City Library
Library	Topanga Library
Library	View Park Bebe Moore Campbell Library
Library	Walnut Library
Library	West Covina Library
Library	West Hollywood Library
Library	Westlake Village Library
Library	Willowbrook Library
Library	Wiseburn Library
Library	Woodcrest Library
Los Angeles County Museum of Arts & Museum of Natural History	La Brea Tarpits
Los Angeles County Museum of Arts & Museum of Natural History	Los Angeles County Museum of Art
Los Angeles County Museum of Arts & Museum of Natural History	Natural History Museum
Los Angeles County Museum of Arts & Museum of Natural History	William S. Hart Museum
Office of Education	Afflerbaugh-Paige Camp
Office of Education	Alma Fuerte Public
Office of Education	Animo City of Champions Charter High
Office of Education	Aspire Antonio Maria Lugo Academy
Office of Education	Aspire Ollin University Preparatory Academy
Office of Education	Central Juvenile Hall
Office of Education	Da Vinci RISE High
Office of Education	Environmental Charter Middle
Office of Education	Environmental Charter Middle - Inglewood
Office of Education	Intellectual Virtues Academy
Office of Education	International Polytechnic High
Office of Education	Jardin de la Infancia
Office of Education	Kirby, Dorothy Camp
Office of Education	L.A. County High School for the Arts
Office of Education	LA's Promise Charter High #1
Office of Education	LA's Promise Charter Middle #1
Office of Education	Lashon Academy
Office of Education	Los Angeles County Special Education
Office of Education	Los Angeles International Charter High
Office of Education	Los Padrinos Juvenile Hall
Office of Education	Magnolia Science Academy
Office of Education	Magnolia Science Academy 2
Office of Education	Magnolia Science Academy 3
Office of Education	Magnolia Science Academy 5
Office of Education	McNair Camp
Office of Education	Nidorf, Barry J.
Office of Education	North Valley Military Institute College Preparatory Academy
Office of Education	Odyssey Charter
Office of Education	Onizuka Camp

Table B-1. County Critical Facilities

Department / Agency	Facility Name
Office of Education	Optimist Charter
Office of Education	Phoenix Academy Residential Education Center
Office of Education	Renaissance County Community
Office of Education	Road to Success Academy at Campus Kilpatrick
Office of Education	Rockey, Glenn Camp
Office of Education	Scott, Joseph Camp
Office of Education	Soleil Academy Charter
Office of Education	Valiente College Preparatory Charter
Other (Office)	1000 S. Fremont Ave.
Other (Office)	1055 Wilshire Blvd.
Other (Office)	1100 North Eastern Ave.
Other (Office)	1104 N. Mission Rd.
Other (Office)	12300 Lower Azusa Rd.
Other (Office)	12400 Imperial Highway
Other (Office)	12860 Crossroads Parkway South
Other (Office)	1320 North Eastern Ave.
Other (Office)	13837 Fiji Way
Other (Office)	1816 S. Figueroa
Other (Office)	210 W. Temple St.
Other (Office)	211 W. Temple St.
Other (Office)	313 N Figueroa St.
Other (Office)	3175 West Sixth St.
Other (Office)	320 West Temple St.
Other (Office)	425 Shatto Place
Other (Office)	550 South Vermont Ave.
Other (Office)	5770 S. Eastern Ave.
Other (Office)	5898 Cherry Ave.
Other (Office)	5905 Wilshire Blvd.
Other (Office)	700 W. Main St.
Other (Office)	7400 East Imperial Highway
Other (Office)	900 South Fremont Ave.
Other (Office)	Kenneth Hahn Hall of Administration
Parks & Recreation	Acton Park
Parks & Recreation	Adventure Park
Parks & Recreation	Adventure Park
Parks & Recreation	Allen J. Martin Park
Parks & Recreation	Alondra Community Regional Park
Parks & Recreation	Alondra Community Regional Park
Parks & Recreation	Amelia Mayberry Park
Parks & Recreation	Amelia Mayberry Park
Parks & Recreation	Amigo Park
Parks & Recreation	Arcadia Community Regional Park
Parks & Recreation	Arcadia Community Regional Park
Parks & Recreation	Athens Park
Parks & Recreation	Athens Park
Parks & Recreation	Bassett Park
Parks & Recreation	Bassett Park
Parks & Recreation	Bassett Park
Parks & Recreation	Belvedere Community Regional Park
Parks & Recreation	Belvedere Community Regional Park
Parks & Recreation	Bodger Park
Parks & Recreation	Carolyn Rosas Park
Parks & Recreation	Castaic Regional Sports Complex
Parks & Recreation	Castaic Regional Sports Complex
Parks & Recreation	Charles S. Farnsworth Park

Table B-1. County Critical Facilities

Department / Agency	Facility Name
Parks & Recreation	Charles S. Farnsworth Park
Parks & Recreation	Charles S. Farnsworth Park
Parks & Recreation	Charles S. Farnsworth Park
Parks & Recreation	Charter Oak Park
Parks & Recreation	City Terrace Park
Parks & Recreation	City Terrace Park
Parks & Recreation	Col. Leon H. Washington Park
Parks & Recreation	Col. Leon H. Washington Park
Parks & Recreation	Crescenta Valley Community Regional Park
Parks & Recreation	Crescenta Valley Community Regional Park
Parks & Recreation	Dalton Park
Parks & Recreation	Del Aire Park
Parks & Recreation	Del Aire Park
Parks & Recreation	Devil's Punchbowl Natural Area and Nature Center
Parks & Recreation	Dexter Park
Parks & Recreation	Dexter Park
Parks & Recreation	Don Knabe Community Regional Park
Parks & Recreation	Don Knabe Community Regional Park
Parks & Recreation	Don Knabe Community Regional Park
Parks & Recreation	East Rancho Dominguez Park
Parks & Recreation	East Rancho Dominguez Park
Parks & Recreation	East Rancho Dominguez Park
Parks & Recreation	El Cariso Community Regional Park
Parks & Recreation	El Cariso Community Regional Park
Parks & Recreation	El Cariso Community Regional Park
Parks & Recreation	Enterprise Park
Parks & Recreation	Eugene A. Obregon Park
Parks & Recreation	Eugene A. Obregon Park
Parks & Recreation	Franklin D. Roosevelt Park
Parks & Recreation	Franklin D. Roosevelt Park
Parks & Recreation	George Lane Park
Parks & Recreation	George Lane Park
Parks & Recreation	George Washington Carver Park
Parks & Recreation	Hacienda Heights Community and Rec Center
Parks & Recreation	Hacienda Heights Community and Rec Center
Parks & Recreation	Hacienda Heights Community and Rec Center
Parks & Recreation	Helen Keller Park
Parks & Recreation	Hollywood Bowl
Parks & Recreation	Jackie Robinson Park
Parks & Recreation	Jackie Robinson Park
Parks & Recreation	Jesse Owens Community Regional Park
Parks & Recreation	Jesse Owens Community Regional Park
Parks & Recreation	John Anson Ford Amphitheatre
Parks & Recreation	John Anson Ford Amphitheatre
Parks & Recreation	Kenneth Hahn State Recreation Area
Parks & Recreation	Ladera Park
Parks & Recreation	Ladera Park
Parks & Recreation	Ladera Park
Parks & Recreation	Lennox Park
Parks & Recreation	Lennox Park
Parks & Recreation	Lennox Park
Parks & Recreation	Loma Alta Park
Parks & Recreation	Loma Alta Park
Parks & Recreation	Los Angeles County Arboretum and Botanic Garden
Parks & Recreation	Manzanita Park

Table B-1. County Critical Facilities

Department / Agency	Facility Name
Parks & Recreation	Mary M. Bethune Park
Parks & Recreation	Mary M. Bethune Park
Parks & Recreation	Mona Park
Parks & Recreation	Mona Park
Parks & Recreation	Pamela County Park
Parks & Recreation	Pamela County Park
Parks & Recreation	Pathfinder Community Regional Park
Parks & Recreation	Pearblossom County Park
Parks & Recreation	Peter F Schabarum Regional County Park
Parks & Recreation	Rimgrove Park
Parks & Recreation	Rowland Heights Park
Parks & Recreation	Roy Campanella Park
Parks & Recreation	Ruben F Salazar Park
Parks & Recreation	Ruben F Salazar Park
Parks & Recreation	Ruben F Salazar Park
Parks & Recreation	San Angelo Park
Parks & Recreation	San Fernando Recreation Park and Aquatic Center
Parks & Recreation	Saybrook Park
Parks & Recreation	Sorensen Park
Parks & Recreation	South Coast Botanic Garden
Parks & Recreation	Stephen Sorensen Park
Parks & Recreation	Sunshine Park
Parks & Recreation	Ted Watkins Memorial Park
Parks & Recreation	Ted Watkins Memorial Park
Parks & Recreation	Tesoro Adobe Historic Park
Parks & Recreation	Val Verde Community Regional Park
Parks & Recreation	Val Verde Community Regional Park
Parks & Recreation	Valleydale Park
Parks & Recreation	Valleydale Park
Parks & Recreation	Vasquez Rocks Natural Area and Nature Center
Parks & Recreation	Veterans Memorial Community Regional Park
Parks & Recreation	Victoria Community Regional Park
Parks & Recreation	Victoria Community Regional Park
Parks & Recreation	Walnut Nature Park
Parks & Recreation	Whittier Narrows Recreation Area
Parks & Recreation	William S. Hart Regional Park
Parks & Recreation	William Steinmetz Park
Parks & Recreation	William Steinmetz Park
Parks & Recreation	William Steinmetz Park
Public Health	Antelope Valley Health Center
Public Health	Central Public Health Center
Public Health	Curtis R. Tucker Health Center
Public Health	Glendale Health Center
Public Health	Hollywood/Wilshire Public Health Center
Public Health	Martin Luther King, Jr. Center for Public Health
Public Health	Monrovia Public Health Center
Public Health	North Hollywood Public Health Center
Public Health	Pacoima Public Health Center
Public Health	Pomona Public Health Center
Public Health	Ruth-Temple Public Health Center
Public Health	Simms/Mann Health and Wellness Center
Public Health	Torrance Public Health Center
Public Health	Whittier Public Health Center
Public Works	Big Dalton Dam
Public Works	Big Tujunga Dam

Table B-1. County Critical Facilities

Department / Agency	Facility Name
Public Works	Brackett Field Airport
Public Works	Cogswell Dam
Public Works	Compton/Woodley Airport
Public Works	Devil's Gate Dam
Public Works	Eaton Wash Dam
Public Works	General Wm. J. Fox Airfield
Public Works	Live Oak Dam
Public Works	Morris Dam
Public Works	Pacoima Dam
Public Works	Puddingstone Dam
Public Works	Puddingstone Diversion Dam
Public Works	PW Headquarters Building
Public Works	PW ITD – Mount Wilson Radio Antenna Tower
Public Works	PW ITD – Mount Wilson Radio Facility Bldg.
Public Works	PW OSD - Eaton Yard – Maintenance Office
Public Works	PW RMD – 518-B Maintenance Yard
Public Works	PW RMD – Baldwin Park Maintenance Yard
Public Works	PW RMD - Div 446 Maintenance Yard
Public Works	PW RMD – Div. #116 Maintenance Yard
Public Works	PW RMD – Div. #141/241 Maintenance Yard
Public Works	PW RMD – Div. #142 Maintenance Yard
Public Works	PW RMD – Div. #232 Maintenance Yard
Public Works	PW RMD – Div. #336 Maint. Yd.
Public Works	PW RMD – Div. #339/539 Agoura Maintenance Yard
Public Works	PW RMD – Div. #417 Maintenance Yard
Public Works	PW RMD – Div. #446 Sub Maintenance Yard
Public Works	PW RMD – Div. #518 Maintenance Yard
Public Works	PW RMD – Div. #519 Maintenance Yard
Public Works	PW RMD – Div. #523 Maintenance Yard
Public Works	PW RMD – Div. #524 Maintenance Yard
Public Works	PW RMD – Div. #526 Maint. Yd.
Public Works	PW RMD – Div. #551 Maintenance Yard
Public Works	PW RMD – Div. #555 Maintenance Yard
Public Works	PW RMD – Div. #558 Maint. Yard
Public Works	PW RMD – Div. #558a Jackson Lake Maintenance Yd.
Public Works	PW RMD – Div. #559b Maintenance Yard
Public Works	PW RMD - Lower Central Yard – Division Administration
Public Works	PW RMD – Maint. District 3 Yard
Public Works	PW RMD – Maintenance District No.4 Yard
Public Works	PW RMD – Palmdale Maintenance Dist. No. 5 Bldg. Yard
Public Works	PW RMD - Upper Central Yard
Public Works	PW RMD – Van Pelt Bridge Maintenance Yard
Public Works	PW SMD - 132ND Street
Public Works	PW SMD - 213TH Street
Public Works	PW SMD - AGAVE
Public Works	PW SMD - Balfour
Public Works	PW SMD - Bradhurst
Public Works	PW SMD - Broadway
Public Works	PW SMD - CAPALLERO
Public Works	PW SMD - Centinela
Public Works	PW SMD – Central Yard
Public Works	PW SMD - Commerce Center Drive
Public Works	PW SMD - Davids Road
Public Works	PW SMD – East Yard
Public Works	PW SMD - Heatherfield

Table B-1. County Critical Facilities

Department / Agency	Facility Name
Public Works	PW SMD – Lake Hughes
Public Works	PW SMD - Lake Hughes - Newvale
Public Works	PW SMD - Lake Hughes - Trail K
Public Works	PW SMD - Lawndale
Public Works	PW SMD - LOWRIDGE
Public Works	PW SMD – Malibu Mesa WWTP
Public Works	PW SMD – Malibu TP
Public Works	PW SMD - Marina Del Rey
Public Works	PW SMD - Maybrook
Public Works	PW SMD - Muscatel
Public Works	PW SMD – North Yard
Public Works	PW SMD - Painter
Public Works	PW SMD – South Yard
Public Works	PW SMD - Surrey Drive
Public Works	PW SMD - Trancas WWTP
Public Works	PW SMD - TYLER
Public Works	PW SMD - Ulmus
Public Works	PW SMD - Viewridge
Public Works	PW SWMD - 120th St. Pump Station
Public Works	PW SWMD - 17th St Pump Station
Public Works	PW SWMD – 83rd St. Maintenance Yard
Public Works	PW SWMD - Alameda Street 3B Pump Station
Public Works	PW SWMD - Alameda Street 3C Pump Station
Public Works	PW SWMD - Alamitos Bay Pump Station
Public Works	PW SWMD – Alamitos Maintenance Yard
Public Works	PW SWMD - Alondra Pump Station
Public Works	PW SWMD - Anaheim St. Pump Station
Public Works	PW SWMD - Appian Way Pump Station
Public Works	PW SWMD - Arena Pump Station
Public Works	PW SWMD - Avalon Pump Station
Public Works	PW SWMD - Belmont Pump Station
Public Works	PW SWMD - Boone Olive Pump Station
Public Works	PW SWMD - Century Frwy Pump Station
Public Works	PW SWMD - Cerritos Pump Station
Public Works	PW SWMD - Claretta Pump Station
Public Works	PW SWMD - Compton Creek Pump Station #1
Public Works	PW SWMD - Compton Creek Pump Station #2
Public Works	PW SWMD - Cordova Walk Pump Station
Public Works	PW SWMD - Dominger Pump Station
Public Works	PW SWMD - Dominguez Pump Station
Public Works	PW SWMD - Doris Pump Station
Public Works	PW SWMD - East Toledo Pump Station
Public Works	PW SWMD – Eaton Maintenance Yard
Public Works	PW SWMD - El Dorado Pump Station
Public Works	PW SWMD - El Segundo Pump Station
Public Works	PW SWMD – El Segundo Yard
Public Works	PW SWMD - Electric Ave Pump Station
Public Works	PW SWMD - Garnet Avenue Pump Station
Public Works	PW SWMD - Hamilton Bowl South Pump Station
Public Works	PW SWMD - Hamilton Bowl West Pump Station
Public Works	PW SWMD - Hill St. Pump Station
Public Works	PW SWMD – Imperial Yard
Public Works	PW SWMD - Johnson Pump Station
Public Works	PW SWMD - Lakewood Pump Station
Public Works	PW SWMD - Lennox Blvd Pump Station

Table B-1. County Critical Facilities

Department / Agency	Facility Name
Public Works	PW SWMD – Longden Yard
Public Works	PW SWMD - Los Altos Pump Station
Public Works	PW SWMD - Lynwood Pump Station
Public Works	PW SWMD - Manhattan Beach Pump Station
Public Works	PW SWMD - Market St. Pump Station
Public Works	PW SWMD - Naples Pump Station
Public Works	PW SWMD - Oxford Pump Station
Public Works	PW SWMD - Paramount Pump Station
Public Works	PW SWMD – Pickens Yard
Public Works	PW SWMD - Redondo Beach Blvd Pump Station
Public Works	PW SWMD – Redondo Yard Office
Public Works	PW SWMD – Rio Hondo Yard
Public Works	PW SWMD – Riverview Maintenance Yard
Public Works	PW SWMD – Rubio Yard
Public Works	PW SWMD – San Dimas Maintenance Yard
Public Works	PW SWMD – Santa Clara Flood Maintenance Yard
Public Works	PW SWMD – Saticoy Yard
Public Works	PW SWMD - Seaside Pump Station
Public Works	PW SWMD - Walteria Lake Pump Station
Public Works	PW SWMD - West Long Beach Pump Station
Public Works	PW SWMD - West Neapolitan Pump Station
Public Works	PW SWMD - West Toledo Pump Station
Public Works	PW SWMD - Wilmington Unit 2 Pump Station
Public Works	PW WWD - 116th street pump station
Public Works	PW WWD - 116th street Tank
Public Works	PW WWD - 168th and G Pump station
Public Works	PW WWD - 27 Tank
Public Works	PW WWD - 37-1 Well
Public Works	PW WWD - 37-3 Well
Public Works	PW WWD - 37-4 Well
Public Works	PW WWD - 39 Tank
Public Works	PW WWD - Adobe Tank
Public Works	PW WWD - Anaverde Tanks and pump station
Public Works	PW WWD - Bev martin tank and Pump Station
Public Works	PW WWD - Blue Rock Tank
Public Works	PW WWD - Butte's Tank
Public Works	PW WWD - City Ranch Tanks
Public Works	PW WWD - Crown Valley Pump station
Public Works	PW WWD - Cuyama Tank
Public Works	PW WWD - Ft. Tejon Tank
Public Works	PW WWD - Hasley Pump Station
Public Works	PW WWD - Hasley Tank
Public Works	PW WWD - Joshua Ranch Tank
Public Works	PW WWD - Kohl's tank
Public Works	PW WWD - Los Valles Pump station and Well
Public Works	PW WWD - M & 7th west Tank site
Public Works	PW WWD - McCennery Tank
Public Works	PW WWD - North Tank
Public Works	PW WWD - Old timers tank and pump station
Public Works	PW WWD - P-10 Pump station
Public Works	PW WWD - Q-9 Tanks
Public Works	PW WWD - Rancho Vista tanks
Public Works	PW WWD - South Tank
Public Works	PW WWD - Tierra Subida Pump Station
Public Works	PW WWD - Tierra Subida Tanks

Table B-1. County Critical Facilities

Department / Agency	Facility Name
Public Works	PW WWD - Vincent Pump station
Public Works	PW WWD #04 – M/5e Water Tank
Public Works	PW WWD #04 – North Administration Building
Public Works	PW WWD #04-M8/75w Water Tank
Public Works	PW WWD #29 - 20858 Regulating Station
Public Works	PW WWD #29 - Big Rock 1010 Tank
Public Works	PW WWD #29 - Big Rock 1200 Tank
Public Works	PW WWD #29 - Big Rock 900 Pump Station
Public Works	PW WWD #29 - Broad Beach Regulating Station
Public Works	PW WWD #29 - Carbon Mesa Tank
Public Works	PW WWD #29 - Entrada Pump Station
Public Works	PW WWD #29 - Entrada Tank
Public Works	PW WWD #29 - Fernwood Tank
Public Works	PW WWD #29 - Guernsey Regulating Station
Public Works	PW WWD #29 - Heather Cliff Regulating Station
Public Works	PW WWD #29 - Horizon Tank
Public Works	PW WWD #29 - Hume Tank
Public Works	PW WWD #29 - La Chusa Feeder Regulating Station
Public Works	PW WWD #29 - La Costa
Public Works	PW WWD #29 - La Costa Regulating Station
Public Works	PW WWD #29 – LADWP Emergency Mindanao Connection
Public Works	PW WWD #29 - Las Flores Pump Station
Public Works	PW WWD #29 - Las Flores Tank
Public Works	PW WWD #29 - Latigo Tank
Public Works	PW WWD #29 - Lower Big Rock 195 Pump Station
Public Works	PW WWD #29 - Lower Busch Pump Station
Public Works	PW WWD #29 - LVMWD , Saddle Peak Interconnection
Public Works	PW WWD #29 - LVMWD, Hume Connection
Public Works	PW WWD #29 - LVMWD, Latigo Connection
Public Works	PW WWD #29 - Malibu Beach Pump Station
Public Works	PW WWD #29 - Malibu Knolls Tank
Public Works	PW WWD #29 - New Summit Tank
Public Works	PW WWD #29 - Nicholas Beach Tank
Public Works	PW WWD #29 - Old Summit Tank
Public Works	PW WWD #29 - Owen Pump Station
Public Works	PW WWD #29 - Pepperdine 545 Pump Station
Public Works	PW WWD #29 - Pepperdine 812 Tank
Public Works	PW WWD #29 - Pepperdine 907 Tank
Public Works	PW WWD #29 - Philip Tank
Public Works	PW WWD #29 - Point Dume Pump Station and Tank
Public Works	PW WWD #29 - Portshead Tank
Public Works	PW WWD #29 - Saddle Peak Tank
Public Works	PW WWD #29 - Santa Maria Tank
Public Works	PW WWD #29 - Serra Pump Station
Public Works	PW WWD #29 - Sumac Ridge Tank
Public Works	PW WWD #29 - Sweetwater Hydro Pump Station
Public Works	PW WWD #29 - Sweetwater Mesa Tank
Public Works	PW WWD #29 - Topanga Beach Pump Station
Public Works	PW WWD #29 - Topanga Beach Tank
Public Works	PW WWD #29 - Topanga Forks Tank
Public Works	PW WWD #29 - Topanga Oaks Tank
Public Works	PW WWD #29 - Topanga Park Pump Station
Public Works	PW WWD #29 - Trancas Tank
Public Works	PW WWD #29 - Upper Big Rock 730 Pump Station
Public Works	PW WWD #29 - Upper Encinal Tank

Table B-1. County Critical Facilities

Department / Agency	Facility Name
Public Works	PW WWD #29 - Winding Wy Tank
Public Works	PW WWD #29 LADWP Emergency Via Dolce Connection
Public Works	San Dimas Dam
Public Works	San Gabriel Dam
Public Works	San Gabriel Valley Airport
Public Works	Santa Anita Dam
Public Works	Thompson Creek Dam
Public Works	Whiteman Airport
Sheriff's Department	Altadena Sheriff's Station
Sheriff's Department	Avalon Sheriff's Station
Sheriff's Department	Carson Sheriff's Station
Sheriff's Department	Century Regional Detention Facility
Sheriff's Department	Century Sheriff's Station
Sheriff's Department	Cerritos Sheriff's Station
Sheriff's Department	Compton Sheriff's Station
Sheriff's Department	Crescenta Valley Sheriff's Station
Sheriff's Department	East Los Angeles Sheriff's Station
Sheriff's Department	Industry Sheriff's Station
Sheriff's Department	Inmate Reception Center
Sheriff's Department	Lakewood Sheriff's Station
Sheriff's Department	Lancaster Sheriff's Station
Sheriff's Department	Lomita Sheriff's Station
Sheriff's Department	Malibu/Lost Hills Sheriff's Station
Sheriff's Department	Marina Del Rey Sheriff's Station
Sheriff's Department	Men's Central Jail
Sheriff's Department	North County Correctional Facility
Sheriff's Department	Norwalk Sheriff's Station
Sheriff's Department	Palmdale Sheriff's Station
Sheriff's Department	Pico Rivera Sheriff's Station
Sheriff's Department	Pitchess Detention Center East Facility
Sheriff's Department	Pitchess Detention Center North Facility
Sheriff's Department	Pitchess Detention Center South Facility
Sheriff's Department	San Dimas Sheriff's Station
Sheriff's Department	Santa Clarita Valley Sheriff's Station
Sheriff's Department	South Los Angeles Sheriff's Station
Sheriff's Department	Temple Sheriff's Station
Sheriff's Department	Twin Towers Correctional Facility
Sheriff's Department	Walnut/Diamond Bar Sheriff's Station
Sheriff's Department	West Hollywood Sheriff's Station

APPENDIX C – RISK ASSESSMENT

Table C-1: County-wide Statistical Area Hazard Impacts

CSA	S.D.	3 Ft Sea Level Rise	6 Ft Sea Level Rise	Dam Failure	Violent EQ Shaking	Extreme EQ Shaking	0.2% Annual Chance Flooding	1% Annual Chance Flood	Deep Seated Landslide Class IX & X	Max Tsunami Inundation	Very High Wildfire LRA	High Wildfire SRA	Very High Wildfire SRA
Avocado Heights	1				1				1				
Bandini Islands	1				1				1				
Bassett	1				1		1		1				
Charter Oak	1				1		1		1		1		
East Los Angeles	1				1				1				
El Monte	1				1								
North Whittier	1				1				1				
Padua Hills	1				1				1		1		
Pellissier Village	1				1				1				
San Jose Hills	1				1		1		1				
South El Monte	1				1								
South San Gabriel	1				1				1				
Valinda	1				1		1		1				
Walnut	1				1				1				
West Puente Valley	1				1		1						
Whittier Narrows	1				1		1		1				
Athens Village	2				1				1				
Athens-Westmont	2				1				1				
Del Rey	2	1	1		1			1	1				
Hawthorne	2				1								
Ladera Heights	2				1		1		1		1		
Rosewood	2				1								
Rosewood/East Gardena	2				1								
Rosewood/West Rancho Dominguez	2				1								

Table C-1: County-wide Statistical Area Hazard Impacts

CSA	S.D.	3 Ft Sea Level Rise	6 Ft Sea Level Rise	Dam Failure	Violent EQ Shaking	Extreme EQ Shaking	0.2% Annual Chance Flooding	1% Annual Chance Flood	Deep Seated Landslide Class IX & X	Max Tsunami Inundation	Very High Wildfire LRA	High Wildfire SRA	Very High Wildfire SRA
View Park/Windsor Hills	2				1				1		1		
West Rancho Dominguez	2				1								
Willowbrook	2				1		1		1				
Wiseburn	2				1								
Franklin Canyon	3				1		1		1		1		
Miracle Mile	3				1		1						
Santa Monica Mountains	3	1	1	1	1		1	1	1	1	1	1	1
Universal City	3				1				1		1		
West LA	3				1				1				
Westhills	3				1				1		1		1
Cerritos	4				1		1						
East La Mirada	4				1		1		1				
East Whittier	4				1								
Harbor Gateway	4				1								
La Habra Heights	4				1				1				
La Rambla	4				1				1				
Lakewood	4				1		1		1				
Long Beach	4				1		1						
Palos Verdes Peninsula	4				1				1		1		
San Clemente Island	4								1				
Santa Catalina Island	4								1	1	1	1	1
South Whittier	4				1		1		1				
Westfield/Academy Hills	4				1				1		1		
Acton	5				1	1			1		1		1

Table C-1: County-wide Statistical Area Hazard Impacts

CSA	S.D.	3 Ft Sea Level Rise	6 Ft Sea Level Rise	Dam Failure	Violent EQ Shaking	Extreme EQ Shaking	0.2% Annual Chance Flooding	1% Annual Chance Flood	Deep Seated Landslide Class IX & X	Max Tsunami Inundation	Very High Wildfire LRA	High Wildfire SRA	Very High Wildfire SRA
Agua Dulce	5				1	1			1		1	1	1
Altadena	5				1		1		1		1	1	1
Anaverde	5			1	1	1			1			1	1
Bouquet Canyon	5				1	1	1		1		1		1
Bradbury	5				1				1		1		
Canyon Country	5				1				1		1	1	1
Castaic	5			1	1	1	1	1	1		1	1	1
Del Sur	5				1	1	1		1				
Desert View Highlands	5					1							
East Covina	5				1				1				
East Lancaster	5			1	1		1						
East Pasadena	5				1				1		1		1
Elizabeth Lake	5				1	1			1			1	1
Hi Vista	5				1				1				
La Crescenta-Montrose	5				1				1		1		1
Lake Hughes	5				1	1			1				1
Lake Los Angeles	5				1	1			1				
Lake Manor	5				1				1		1		1
Leona Valley	5				1	1	1		1		1	1	1
Littlerock	5			1		1	1		1			1	
Littlerock/Juniper Hills	5			1	1	1	1		1			1	1
Littlerock/Pearblossom	5			1	1	1	1		1			1	
Llano	5				1	1			1			1	1
Monrovia	5				1								
Newhall	5					1			1		1		1
North Lancaster	5				1		1		1				
Northeast San Gabriel	5				1				1				

Table C-1: County-wide Statistical Area Hazard Impacts

CSA	S.D.	3 Ft Sea Level Rise	6 Ft Sea Level Rise	Dam Failure	Violent EQ Shaking	Extreme EQ Shaking	0.2% Annual Chance Flooding	1% Annual Chance Flood	Deep Seated Landslide Class IX & X	Max Tsunami Inundation	Very High Wildfire LRA	High Wildfire SRA	Very High Wildfire SRA
Palmdale	5			1	1	1	1						
Pearblossom/Llano	5				1	1	1		1			1	
Placerita Canyon	5				1	1			1		1		1
Quartz Hill	5				1	1	1		1				
Roosevelt	5				1		1						
San Francisquito Canyon/Bouquet Canyon	5				1	1			1		1		1
San Pasqual	5				1								
Sand Canyon	5				1	1			1		1		1
Saugus	5				1				1		1		1
Saugus/Canyon Country	5				1				1				1
South Antelope Valley	5			1	1	1			1			1	1
South Edwards	5				1		1	1	1				
Southeast Antelope Valley	5			1	1	1			1			1	1
Stevenson Ranch	5			1	1	1			1		1	1	1
Sun Village	5			1	1	1	1		1				
Twin Lakes/Oat Mountain	5				1	1			1		1		1
Val Verde	5			1	1	1			1		1	1	1
Valencia	5				1				1		1	1	1
West Antelope Valley	5				1	1	1	1	1		1	1	1
West Chatsworth	5				1				1		1		1
White Fence Farms	5					1	1						
Florence-Firestone	1 and 2				1								
Walnut Park	1 and 2				1								
Hacienda Heights	1 and 4				1		1		1		1	1	1

Table C-1: County-wide Statistical Area Hazard Impacts

CSA	S.D.	3 Ft Sea Level Rise	6 Ft Sea Level Rise	Dam Failure	Violent EQ Shaking	Extreme EQ Shaking	0.2% Annual Chance Flooding	1% Annual Chance Flood	Deep Seated Landslide Class IX & X	Max Tsunami Inundation	Very High Wildfire LRA	High Wildfire SRA	Very High Wildfire SRA
Rowland Heights	1 and 4				1				1		1	1	1
Sunrise Village	1 and 4				1		1		1				
West Whittier/Los Nietos	1 and 4				1		1		1				
Whittier	1 and 4				1		1		1		1	1	1
Arcadia	1 and 5				1				1				
Azusa	1 and 5				1				1		1		1
Claremont	1 and 5				1				1		1		1
Covina	1 and 5				1		1		1		1	1	1
Covina (Charter Oak)	1 and 5				1				1				
Duarte	1 and 5				1				1				
Glendora	1 and 5				1		1		1		1		1
La Verne	1 and 5				1				1		1		1
Pomona	1 and 5				1				1		1	1	1
Lynwood	1, 2, and 4				1		1		1				
Angeles National Forest	1, 3, and 5			1	1	1	1	1	1		1	1	1
Del Aire	2 and 4				1				1				
East Rancho Dominguez	2 and 4				1		1		1				
El Camino Village	2 and 4				1				1				
Lennox	2 and 4				1				1				
Rancho Dominguez	2 and 4				1		1		1				
West Carson	2 and 4				1		1		1				
Marina del Rey	2, 3, and 4	1	1		1		1	1	1	1			
Kagel/Lopez Canyons	3 and 5				1	1	1		1		1		1

Table C-2: Animal Care & Control Facility Hazard Impacts

Facility Name	3 Ft Sea Level Rise	6 Ft Sea Level Rise	Dam Failure Inundation	Violent EQ Shaking	Extreme EQ Shaking	0.2% Annual Chance Flooding	1% Annual Chance Flooding	Deep Seated Landslide Class IX & X	Max Tsunami Inundation	Very High Wildfire LRA	High Wildfire SRA	Very High Wildfire SRA
Agoura Animal Care Center				1						1		
Baldwin Park Animal Care Center				1								
Carson Animal Care Center				1								
Castaic Animal Care Center (Castaic)			1	1								1
Downey Animal Care Center				1		1						
Lancaster County Animal Care Center				1								
Palmdale Animal Care Center					1	1						

Table C-3: Fire Department Facility Hazard Impacts

Facility Name	3 Ft Sea Level Rise	6 Ft Sea Level Rise	Dam Failure Inundation	Violent EQ Shaking	Extreme EQ Shaking	0.2% Annual Chance Flooding	1% Annual Chance Flooding	Deep Seated Landslide Class IX & X	Max Tsunami Inundation	Very High Wildfire LRA	High Wildfire SRA	Very High Wildfire SRA
Bob Hope Airport Fire Department				1								
City of Alhambra Fire Department - Training Facility				1								
City of Alhambra Fire Department Station 71 - Headquarters				1								
City of Alhambra Fire Department Station 72 - Southeast District				1								
City of Alhambra Fire Department Station 73 - Northwest				1								
City of Alhambra Fire Department Station 74 - Southwest				1								
City of Arcadia Fire Department Station 105				1								
City of Arcadia Fire Department Station 106 - Headquarters				1								
City of Arcadia Fire Department Station 107				1								
City of Avalon Fire Department										1		
City of Beverly Hills Fire Department Station 1 - Headquarters				1								
City of Beverly Hills Fire Department Station 2				1						1		
City of Beverly Hills Fire Department Station 3				1								

Table C-3: Fire Department Facility Hazard Impacts

Facility Name	3 Ft Sea Level Rise	6 Ft Sea Level Rise	Dam Failure Inundation	Violent EQ Shaking	Extreme EQ Shaking	0.2% Annual Chance Flooding	1% Annual Chance Flooding	Deep Seated Landslide Class IX & X	Max Tsunami Inundation	Very High Wildfire LRA	High Wildfire SRA	Very High Wildfire SRA
City of Burbank Fire Department Station 11 - Headquarters				1								
City of Burbank Fire Department Station 12				1								
City of Burbank Fire Department Station 13				1								
City of Burbank Fire Department Station 14				1								
City of Burbank Fire Department Station 15				1								
City of Burbank Fire Department Station 16				1						1		
City of Compton Fire Department Station 1 - Headquarters				1		1						
City of Compton Fire Department Station 2				1		1						
City of Compton Fire Department Station 3				1								
City of Compton Fire Department Station 4				1								
City of Downey Fire Department Station 1 - Headquarters				1		1						
City of Downey Fire Department Station 2				1		1						
City of Downey Fire Department Station 3				1		1						
City of Downey Fire Department Station 4				1		1						

Table C-3: Fire Department Facility Hazard Impacts

Facility Name	3 Ft Sea Level Rise	6 Ft Sea Level Rise	Dam Failure Inundation	Violent EQ Shaking	Extreme EQ Shaking	0.2% Annual Chance Flooding	1% Annual Chance Flooding	Deep Seated Landslide Class IX & X	Max Tsunami Inundation	Very High Wildfire LRA	High Wildfire SRA	Very High Wildfire SRA
City of Glendale Fire Department Station 21				1								
City of Glendale Fire Department Station 22				1								
City of Glendale Fire Department Station 23				1						1		
City of Glendale Fire Department Station 24				1						1		
City of Glendale Fire Department Station 25				1								
City of Glendale Fire Department Station 26				1								
City of Glendale Fire Department Station 27				1								
City of Glendale Fire Department Station 28				1								
City of Long Beach Fire Department - Beach Operations				1					1			
City of Long Beach Fire Department - Headquarters				1								
City of Long Beach Fire Department Station 1				1								
City of Long Beach Fire Department Station 10				1								
City of Long Beach Fire Department Station 11				1		1						
City of Long Beach Fire Department Station 12				1		1						

Table C-3: Fire Department Facility Hazard Impacts

Facility Name	3 Ft Sea Level Rise	6 Ft Sea Level Rise	Dam Failure Inundation	Violent EQ Shaking	Extreme EQ Shaking	0.2% Annual Chance Flooding	1% Annual Chance Flooding	Deep Seated Landslide Class IX & X	Max Tsunami Inundation	Very High Wildfire LRA	High Wildfire SRA	Very High Wildfire SRA
City of Long Beach Fire Department Station 13				1		1						
City of Long Beach Fire Department Station 14		1		1					1			
City of Long Beach Fire Department Station 15				1					1			
City of Long Beach Fire Department Station 16				1								
City of Long Beach Fire Department Station 17				1								
City of Long Beach Fire Department Station 18				1		1						
City of Long Beach Fire Department Station 19				1		1						
City of Long Beach Fire Department Station 2				1								
City of Long Beach Fire Department Station 20		1		1					1			
City of Long Beach Fire Department Station 21		1		1		1			1			
City of Long Beach Fire Department Station 22				1		1						
City of Long Beach Fire Department Station 24				1					1			
City of Long Beach Fire Department Station 3				1								
City of Long Beach Fire Department Station 4				1								
City of Long Beach Fire Department Station 5				1		1						

Table C-3: Fire Department Facility Hazard Impacts

Facility Name	3 Ft Sea Level Rise	6 Ft Sea Level Rise	Dam Failure Inundation	Violent EQ Shaking	Extreme EQ Shaking	0.2% Annual Chance Flooding	1% Annual Chance Flooding	Deep Seated Landslide Class IX & X	Max Tsunami Inundation	Very High Wildfire LRA	High Wildfire SRA	Very High Wildfire SRA
City of Long Beach Fire Department Station 6				1					1			
City of Long Beach Fire Department Station 7				1		1						
City of Long Beach Fire Department Station 8	1	1		1					1			
City of Long Beach Fire Department Station 9				1								
City of Los Angeles Fire Department Station 1				1								
City of Los Angeles Fire Department Station 10				1								
City of Los Angeles Fire Department Station 108				1						1		
City of Los Angeles Fire Department Station 109				1						1		
City of Los Angeles Fire Department Station 11				1								
City of Los Angeles Fire Department Station 12				1								
City of Los Angeles Fire Department Station 13				1								
City of Los Angeles Fire Department Station 14				1								
City of Los Angeles Fire Department Station 15				1								
City of Los Angeles Fire Department Station 16				1								
City of Los Angeles Fire Department Station 17				1								

Table C-3: Fire Department Facility Hazard Impacts

Facility Name	3 Ft Sea Level Rise	6 Ft Sea Level Rise	Dam Failure Inundation	Violent EQ Shaking	Extreme EQ Shaking	0.2% Annual Chance Flooding	1% Annual Chance Flooding	Deep Seated Landslide Class IX & X	Max Tsunami Inundation	Very High Wildfire LRA	High Wildfire SRA	Very High Wildfire SRA
City of Los Angeles Fire Department Station 19				1						1		
City of Los Angeles Fire Department Station 2				1								
City of Los Angeles Fire Department Station 20				1								
City of Los Angeles Fire Department Station 21				1								
City of Los Angeles Fire Department Station 25				1								
City of Los Angeles Fire Department Station 26				1								
City of Los Angeles Fire Department Station 27				1								
City of Los Angeles Fire Department Station 29				1		1						
City of Los Angeles Fire Department Station 3				1								
City of Los Angeles Fire Department Station 33				1								
City of Los Angeles Fire Department Station 34				1								
City of Los Angeles Fire Department Station 35				1								
City of Los Angeles Fire Department Station 37				1								
City of Los Angeles Fire Department Station 4				1								
City of Los Angeles Fire Department Station 41				1								

Table C-3: Fire Department Facility Hazard Impacts

Facility Name	3 Ft Sea Level Rise	6 Ft Sea Level Rise	Dam Failure Inundation	Violent EQ Shaking	Extreme EQ Shaking	0.2% Annual Chance Flooding	1% Annual Chance Flooding	Deep Seated Landslide Class IX & X	Max Tsunami Inundation	Very High Wildfire LRA	High Wildfire SRA	Very High Wildfire SRA
City of Los Angeles Fire Department Station 42				1								
City of Los Angeles Fire Department Station 43				1								
City of Los Angeles Fire Department Station 44				1								
City of Los Angeles Fire Department Station 46				1								
City of Los Angeles Fire Department Station 47				1						1		
City of Los Angeles Fire Department Station 5				1								
City of Los Angeles Fire Department Station 50				1								
City of Los Angeles Fire Department Station 51				1								
City of Los Angeles Fire Department Station 52				1								
City of Los Angeles Fire Department Station 56				1						1		
City of Los Angeles Fire Department Station 57				1								
City of Los Angeles Fire Department Station 58				1								
City of Los Angeles Fire Department Station 59				1								
City of Los Angeles Fire Department Station 6				1								
City of Los Angeles Fire Department Station 61				1								

Table C-3: Fire Department Facility Hazard Impacts

Facility Name	3 Ft Sea Level Rise	6 Ft Sea Level Rise	Dam Failure Inundation	Violent EQ Shaking	Extreme EQ Shaking	0.2% Annual Chance Flooding	1% Annual Chance Flooding	Deep Seated Landslide Class IX & X	Max Tsunami Inundation	Very High Wildfire LRA	High Wildfire SRA	Very High Wildfire SRA
City of Los Angeles Fire Department Station 62				1								
City of Los Angeles Fire Department Station 64				1								
City of Los Angeles Fire Department Station 65				1								
City of Los Angeles Fire Department Station 66				1								
City of Los Angeles Fire Department Station 67				1								
City of Los Angeles Fire Department Station 68				1								
City of Los Angeles Fire Department Station 7					1							
City of Los Angeles Fire Department Station 71				1								
City of Los Angeles Fire Department Station 76				1						1		
City of Los Angeles Fire Department Station 80				1								
City of Los Angeles Fire Department Station 82				1								
City of Los Angeles Fire Department Station 9				1								
City of Los Angeles Fire Department Station 92				1								
City of Los Angeles Fire Department Station 94				1								
City of Los Angeles Fire Department Station 95				1								

Table C-3: Fire Department Facility Hazard Impacts

Facility Name	3 Ft Sea Level Rise	6 Ft Sea Level Rise	Dam Failure Inundation	Violent EQ Shaking	Extreme EQ Shaking	0.2% Annual Chance Flooding	1% Annual Chance Flooding	Deep Seated Landslide Class IX & X	Max Tsunami Inundation	Very High Wildfire LRA	High Wildfire SRA	Very High Wildfire SRA
City of Los Angeles Fire Department Station 97				1						1		
City of Los Angeles Fire Department Station 99				1						1		
City of Monterey Park Fire Department Station 61 - Headquarters				1								
City of Monterey Park Fire Department Station 62				1								
City of Monterey Park Fire Department Station 63				1								
City of Santa Fe Springs Fire Department Station 1 - Headquarters				1								
City of Santa Fe Springs Fire Department Station 2				1								
City of Santa Fe Springs Fire Department Station 3				1								
City of Santa Fe Springs Fire Department Station 4				1		1						
City of Santa Monica Fire Department - Training Facility				1								
City of Santa Monica Fire Department Station 1 - Headquarters				1								
City of Santa Monica Fire Department Station 2				1								

Table C-3: Fire Department Facility Hazard Impacts

Facility Name	3 Ft Sea Level Rise	6 Ft Sea Level Rise	Dam Failure Inundation	Violent EQ Shaking	Extreme EQ Shaking	0.2% Annual Chance Flooding	1% Annual Chance Flooding	Deep Seated Landslide Class IX & X	Max Tsunami Inundation	Very High Wildfire LRA	High Wildfire SRA	Very High Wildfire SRA
City of Santa Monica Fire Department Station 3				1								
City of Santa Monica Fire Department Station 5				1								
City of Vernon Fire Department Station 2				1								
City of Vernon Fire Department Station 3				1								
City of Vernon Fire Department Station 4				1								
City of West Covina Fire Department Station 1				1		1						
City of West Covina Fire Department Station 2				1		1						
City of West Covina Fire Department Station 3				1		1						
City of West Covina Fire Department Station 4				1		1				1		
City of West Covina Fire Department Station 5				1								
Culver City Fire Department Station 1 - Headquarters				1								
Culver City Fire Department Station 2				1								
Culver City Fire Department Station 3				1								
La Verne Fire Department Station 1 - Headquarters				1								

Table C-3: Fire Department Facility Hazard Impacts

Facility Name	3 Ft Sea Level Rise	6 Ft Sea Level Rise	Dam Failure Inundation	Violent EQ Shaking	Extreme EQ Shaking	0.2% Annual Chance Flooding	1% Annual Chance Flooding	Deep Seated Landslide Class IX & X	Max Tsunami Inundation	Very High Wildfire LRA	High Wildfire SRA	Very High Wildfire SRA
La Verne Fire Department Station 2				1								
Los Angeles County Fire Department - Hq/Heliport/Training Facility				1								
Los Angeles County Fire Department Station 1				1								
Los Angeles County Fire Department Station 10				1		1						
Los Angeles County Fire Department Station 101				1								
Los Angeles County Fire Department Station 102				1								
Los Angeles County Fire Department Station 103				1		1						
Los Angeles County Fire Department Station 104				1						1		
Los Angeles County Fire Department Station 105				1		1						
Los Angeles County Fire Department Station 106				1				1		1		
Los Angeles County Fire Department Station 107					1							
Los Angeles County Fire Department Station 11				1								
Los Angeles County Fire Department Station 110				1					1			
Los Angeles County Fire Department Station 111				1								

Table C-3: Fire Department Facility Hazard Impacts

Facility Name	3 Ft Sea Level Rise	6 Ft Sea Level Rise	Dam Failure Inundation	Violent EQ Shaking	Extreme EQ Shaking	0.2% Annual Chance Flooding	1% Annual Chance Flooding	Deep Seated Landslide Class IX & X	Max Tsunami Inundation	Very High Wildfire LRA	High Wildfire SRA	Very High Wildfire SRA
Los Angeles County Fire Department Station 112				1		1						
Los Angeles County Fire Department Station 114												
Los Angeles County Fire Department Station 115				1		1						
Los Angeles County Fire Department Station 116				1								
Los Angeles County Fire Department Station 117				1		1						
Los Angeles County Fire Department Station 118				1								
Los Angeles County Fire Department Station 119				1				1				
Los Angeles County Fire Department Station 12				1								
Los Angeles County Fire Department Station 120				1								
Los Angeles County Fire Department Station 121				1				1				
Los Angeles County Fire Department Station 122				1								
Los Angeles County Fire Department Station 123					1					1		
Los Angeles County Fire Department Station 124				1				1				
Los Angeles County Fire Department Station 125				1						1		
Los Angeles County Fire Department Station 126					1							

Table C-3: Fire Department Facility Hazard Impacts

Facility Name	3 Ft Sea Level Rise	6 Ft Sea Level Rise	Dam Failure Inundation	Violent EQ Shaking	Extreme EQ Shaking	0.2% Annual Chance Flooding	1% Annual Chance Flooding	Deep Seated Landslide Class IX & X	Max Tsunami Inundation	Very High Wildfire LRA	High Wildfire SRA	Very High Wildfire SRA
Los Angeles County Fire Department Station 127				1		1						
Los Angeles County Fire Department Station 129					1							
Los Angeles County Fire Department Station 130				1		1						
Los Angeles County Fire Department Station 131					1							
Los Angeles County Fire Department Station 132				1				1		1		
Los Angeles County Fire Department Station 134					1							
Los Angeles County Fire Department Station 135				1		1						
Los Angeles County Fire Department Station 14				1								
Los Angeles County Fire Department Station 140					1							1
Los Angeles County Fire Department Station 141				1				1				
Los Angeles County Fire Department Station 144			1	1						1		
Los Angeles County Fire Department Station 145				1								
Los Angeles County Fire Department Station 146				1								
Los Angeles County Fire Department Station 147				1								
Los Angeles County Fire Department Station 148				1		1						

Table C-3: Fire Department Facility Hazard Impacts

Facility Name	3 Ft Sea Level Rise	6 Ft Sea Level Rise	Dam Failure Inundation	Violent EQ Shaking	Extreme EQ Shaking	0.2% Annual Chance Flooding	1% Annual Chance Flooding	Deep Seated Landslide Class IX & X	Max Tsunami Inundation	Very High Wildfire LRA	High Wildfire SRA	Very High Wildfire SRA
Los Angeles County Fire Department Station 149			1	1						1		
Los Angeles County Fire Department Station 15				1								
Los Angeles County Fire Department Station 151				1								
Los Angeles County Fire Department Station 152				1								
Los Angeles County Fire Department Station 153				1								
Los Angeles County Fire Department Station 154				1								
Los Angeles County Fire Department Station 155												1
Los Angeles County Fire Department Station 156				1				1				1
Los Angeles County Fire Department Station 157					1	1						1
Los Angeles County Fire Department Station 158				1								
Los Angeles County Fire Department Station 159				1								
Los Angeles County Fire Department Station 16				1								
Los Angeles County Fire Department Station 160				1								
Los Angeles County Fire Department Station 161				1								
Los Angeles County Fire Department Station 162				1								

Table C-3: Fire Department Facility Hazard Impacts

Facility Name	3 Ft Sea Level Rise	6 Ft Sea Level Rise	Dam Failure Inundation	Violent EQ Shaking	Extreme EQ Shaking	0.2% Annual Chance Flooding	1% Annual Chance Flooding	Deep Seated Landslide Class IX & X	Max Tsunami Inundation	Very High Wildfire LRA	High Wildfire SRA	Very High Wildfire SRA
Los Angeles County Fire Department Station 163				1								
Los Angeles County Fire Department Station 164				1								
Los Angeles County Fire Department Station 165				1								
Los Angeles County Fire Department Station 166				1								
Los Angeles County Fire Department Station 167				1								
Los Angeles County Fire Department Station 168				1								
Los Angeles County Fire Department Station 169				1								
Los Angeles County Fire Department Station 17				1								
Los Angeles County Fire Department Station 170				1								
Los Angeles County Fire Department Station 171				1								
Los Angeles County Fire Department Station 172				1								
Los Angeles County Fire Department Station 173				1								
Los Angeles County Fire Department Station 18				1								
Los Angeles County Fire Department Station 181				1								
Los Angeles County Fire Department Station 182				1								

Table C-3: Fire Department Facility Hazard Impacts

Facility Name	3 Ft Sea Level Rise	6 Ft Sea Level Rise	Dam Failure Inundation	Violent EQ Shaking	Extreme EQ Shaking	0.2% Annual Chance Flooding	1% Annual Chance Flooding	Deep Seated Landslide Class IX & X	Max Tsunami Inundation	Very High Wildfire LRA	High Wildfire SRA	Very High Wildfire SRA
Los Angeles County Fire Department Station 183				1								
Los Angeles County Fire Department Station 184				1								
Los Angeles County Fire Department Station 185				1								
Los Angeles County Fire Department Station 186				1								
Los Angeles County Fire Department Station 187				1								
Los Angeles County Fire Department Station 188				1								
Los Angeles County Fire Department Station 19				1						1		
Los Angeles County Fire Department Station 2				1						1		
Los Angeles County Fire Department Station 20				1								
Los Angeles County Fire Department Station 21				1								
Los Angeles County Fire Department Station 22				1								
Los Angeles County Fire Department Station 23				1		1						
Los Angeles County Fire Department Station 24					1							
Los Angeles County Fire Department Station 25				1		1						
Los Angeles County Fire Department Station 26				1								

Table C-3: Fire Department Facility Hazard Impacts

Facility Name	3 Ft Sea Level Rise	6 Ft Sea Level Rise	Dam Failure Inundation	Violent EQ Shaking	Extreme EQ Shaking	0.2% Annual Chance Flooding	1% Annual Chance Flooding	Deep Seated Landslide Class IX & X	Max Tsunami Inundation	Very High Wildfire LRA	High Wildfire SRA	Very High Wildfire SRA
Los Angeles County Fire Department Station 27				1								
Los Angeles County Fire Department Station 28				1								
Los Angeles County Fire Department Station 29				1								
Los Angeles County Fire Department Station 3				1								
Los Angeles County Fire Department Station 30				1		1						
Los Angeles County Fire Department Station 31				1		1						
Los Angeles County Fire Department Station 32				1								
Los Angeles County Fire Department Station 33				1		1						
Los Angeles County Fire Department Station 34				1		1						
Los Angeles County Fire Department Station 35				1								
Los Angeles County Fire Department Station 36				1								
Los Angeles County Fire Department Station 37					1	1						
Los Angeles County Fire Department Station 38				1								
Los Angeles County Fire Department Station 39				1								
Los Angeles County Fire Department Station 4				1								

Table C-3: Fire Department Facility Hazard Impacts

Facility Name	3 Ft Sea Level Rise	6 Ft Sea Level Rise	Dam Failure Inundation	Violent EQ Shaking	Extreme EQ Shaking	0.2% Annual Chance Flooding	1% Annual Chance Flooding	Deep Seated Landslide Class IX & X	Max Tsunami Inundation	Very High Wildfire LRA	High Wildfire SRA	Very High Wildfire SRA
Los Angeles County Fire Department Station 40				1		1						
Los Angeles County Fire Department Station 41				1								
Los Angeles County Fire Department Station 42				1								
Los Angeles County Fire Department Station 43				1								
Los Angeles County Fire Department Station 44				1								
Los Angeles County Fire Department Station 45				1		1						
Los Angeles County Fire Department Station 47				1								
Los Angeles County Fire Department Station 48				1								
Los Angeles County Fire Department Station 49				1								
Los Angeles County Fire Department Station 5				1								
Los Angeles County Fire Department Station 50				1								
Los Angeles County Fire Department Station 51				1						1		
Los Angeles County Fire Department Station 53				1						1		
Los Angeles County Fire Department Station 54				1		1						
Los Angeles County Fire Department Station 55										1		

Table C-3: Fire Department Facility Hazard Impacts

Facility Name	3 Ft Sea Level Rise	6 Ft Sea Level Rise	Dam Failure Inundation	Violent EQ Shaking	Extreme EQ Shaking	0.2% Annual Chance Flooding	1% Annual Chance Flooding	Deep Seated Landslide Class IX & X	Max Tsunami Inundation	Very High Wildfire LRA	High Wildfire SRA	Very High Wildfire SRA
Los Angeles County Fire Department Station 56				1						1		
Los Angeles County Fire Department Station 57				1		1						
Los Angeles County Fire Department Station 58				1								
Los Angeles County Fire Department Station 59				1								
Los Angeles County Fire Department Station 6				1								
Los Angeles County Fire Department Station 60				1								
Los Angeles County Fire Department Station 61				1								
Los Angeles County Fire Department Station 62				1						1		
Los Angeles County Fire Department Station 63				1								
Los Angeles County Fire Department Station 64				1								
Los Angeles County Fire Department Station 65				1								1
Los Angeles County Fire Department Station 66				1								
Los Angeles County Fire Department Station 67				1								1
Los Angeles County Fire Department Station 68				1						1		
Los Angeles County Fire Department Station 69				1								1

Table C-3: Fire Department Facility Hazard Impacts

Facility Name	3 Ft Sea Level Rise	6 Ft Sea Level Rise	Dam Failure Inundation	Violent EQ Shaking	Extreme EQ Shaking	0.2% Annual Chance Flooding	1% Annual Chance Flooding	Deep Seated Landslide Class IX & X	Max Tsunami Inundation	Very High Wildfire LRA	High Wildfire SRA	Very High Wildfire SRA
Los Angeles County Fire Department Station 7				1								
Los Angeles County Fire Department Station 70				1						1		
Los Angeles County Fire Department Station 71				1						1		
Los Angeles County Fire Department Station 72				1								1
Los Angeles County Fire Department Station 73					1							
Los Angeles County Fire Department Station 74					1							1
Los Angeles County Fire Department Station 75				1						1		
Los Angeles County Fire Department Station 76			1	1							1	
Los Angeles County Fire Department Station 77					1							1
Los Angeles County Fire Department Station 78					1							1
Los Angeles County Fire Department Station 79					1							
Los Angeles County Fire Department Station 8				1								
Los Angeles County Fire Department Station 80					1							1
Los Angeles County Fire Department Station 81				1								1
Los Angeles County Fire Department Station 82				1						1		

Table C-3: Fire Department Facility Hazard Impacts

Facility Name	3 Ft Sea Level Rise	6 Ft Sea Level Rise	Dam Failure Inundation	Violent EQ Shaking	Extreme EQ Shaking	0.2% Annual Chance Flooding	1% Annual Chance Flooding	Deep Seated Landslide Class IX & X	Max Tsunami Inundation	Very High Wildfire LRA	High Wildfire SRA	Very High Wildfire SRA
Los Angeles County Fire Department Station 83				1						1		
Los Angeles County Fire Department Station 84					1	1						
Los Angeles County Fire Department Station 85				1								
Los Angeles County Fire Department Station 86				1								
Los Angeles County Fire Department Station 87				1								
Los Angeles County Fire Department Station 88				1					1	1		
Los Angeles County Fire Department Station 89				1								
Los Angeles County Fire Department Station 90				1								
Los Angeles County Fire Department Station 91				1								1
Los Angeles County Fire Department Station 92					1							
Los Angeles County Fire Department Station 94				1		1						
Los Angeles County Fire Department Station 95				1								
Los Angeles County Fire Department Station 96				1								
Los Angeles County Fire Department Station 97				1						1		
Los Angeles County Fire Department Station 98				1		1						

Table C-3: Fire Department Facility Hazard Impacts

Facility Name	3 Ft Sea Level Rise	6 Ft Sea Level Rise	Dam Failure Inundation	Violent EQ Shaking	Extreme EQ Shaking	0.2% Annual Chance Flooding	1% Annual Chance Flooding	Deep Seated Landslide Class IX & X	Max Tsunami Inundation	Very High Wildfire LRA	High Wildfire SRA	Very High Wildfire SRA
Los Angeles County Fire Department Station 99				1						1		
Manhattan Beach Fire Department Station 1 - Headquarters				1								
Manhattan Beach Fire Department Station 2				1								
Montebello Fire Department Station 1 - Headquarters				1								
Montebello Fire Department Station 2				1								
Montebello Fire Department Station 3				1								
Pasadena Fire Department Station 31				1								
Pasadena Fire Department Station 32				1								
Pasadena Fire Department Station 33				1								
Pasadena Fire Department Station 34				1								
Pasadena Fire Department Station 36				1								
Pasadena Fire Department Station 37				1								
Pasadena Fire Department Station 38				1						1		
Pasadena Fire Department Station 39				1						1		

Table C-3: Fire Department Facility Hazard Impacts

Facility Name	3 Ft Sea Level Rise	6 Ft Sea Level Rise	Dam Failure Inundation	Violent EQ Shaking	Extreme EQ Shaking	0.2% Annual Chance Flooding	1% Annual Chance Flooding	Deep Seated Landslide Class IX & X	Max Tsunami Inundation	Very High Wildfire LRA	High Wildfire SRA	Very High Wildfire SRA
Redondo Beach Fire Department Station 1 - Headquarters				1								
Redondo Beach Fire Department Station 2				1								
Redondo Beach Fire Department Station 3		1		1					1			
San Gabriel Fire Department Station 1 - Headquarters				1								
San Gabriel Fire Department Station 2				1								
San Marino Fire Department				1								
Sierra Madre Volunteer Fire Department				1								
South Pasadena Fire Department				1								
The City of El Segundo Fire Department Station 1 - Headquarters				1								
The City of El Segundo Fire Department Station 2				1								
Torrance Fire Department Fire Station 1 - Headquarters				1								
Torrance Fire Department Fire Station 2				1								
Torrance Fire Department Fire Station 3				1								

Table C-3: Fire Department Facility Hazard Impacts

Facility Name	3 Ft Sea Level Rise	6 Ft Sea Level Rise	Dam Failure Inundation	Violent EQ Shaking	Extreme EQ Shaking	0.2% Annual Chance Flooding	1% Annual Chance Flooding	Deep Seated Landslide Class IX & X	Max Tsunami Inundation	Very High Wildfire LRA	High Wildfire SRA	Very High Wildfire SRA
Torrance Fire Department Fire Station 4				1								
Torrance Fire Department Fire Station 5				1								
Torrance Fire Department Fire Station 6				1								
Vernon Fire Department				1								

Table C-4: Health Services Facility Hazard Impacts

Facility Name	3 Ft Sea Level Rise	6 Ft Sea Level Rise	Dam Failure Inundation	Violent EQ Shaking	Extreme EQ Shaking	0.2% Annual Chance Flooding	1% Annual Chance Flooding	Deep Seated Landslide Class IX & X	Max Tsunami Inundation	Very High Wildfire LRA	High Wildfire SRA	Very High Wildfire SRA
Antelope Valley Health Center				1								
Bellflower Health Center				1		1						
Central Public Health Center				1								
Curtis R. Tucker Health Center				1								
Dollarhide Health Center				1		1						
East Los Angeles Health Center				1								
East San Gabriel Valley Health Center				1								
Edward R. Roybal Comprehensive Helath Center				1								
El Monte Comprehensive Health Center				1								
Glendale Health Center				1								
H. Claude Hudson Comprehensive Health Center				1								
Harbor-UCLA Medical Center				1								
High Desert Regional Health Center				1								
Hubert H. Humphrey Comprehensive Health Center				1								
La Puente Health Center				1								
LAC + USC Medical Center				1								

Table C-4: Health Services Facility Hazard Impacts

Facility Name	3 Ft Sea Level Rise	6 Ft Sea Level Rise	Dam Failure Inundation	Violent EQ Shaking	Extreme EQ Shaking	0.2% Annual Chance Flooding	1% Annual Chance Flooding	Deep Seated Landslide Class IX & X	Max Tsunami Inundation	Very High Wildfire LRA	High Wildfire SRA	Very High Wildfire SRA
Lake Los Angeles Community Clinic				1								
Littlerock Community Clinic					1	1						
Long Beach Comphrehensive Health Center				1								
Martin Luther King, Jr. Outpatient Center				1								
Mid Valley Comprehensive Health Center			1	1								
Olive View-UCLA Medical Center					1					1		
Rancho Los Amigos National Rehabilitation Center				1		1						
San Fernando Health Center					1							
South Valley Health Center			1		1	1						
Torrance Health Center				1								
Vaughn School Based Health Center					1							
West Valley Health Center				1								
Wilmington Health Center				1								

Table C-5: Library Hazard Impacts

Facility Name	3 Ft Sea Level Rise	6 Ft Sea Level Rise	Dam Failure Inundation	Violent EQ Shaking	Extreme EQ Shaking	0.2% Annual Chance Flooding	1% Annual Chance Flooding	Deep Seated Landslide Class IX & X	Max Tsunami Inundation	Very High Wildfire LRA	High Wildfire SRA	Very High Wildfire SRA
A C Bilbrew Library				1								
Acton Agua Dulce Library					1							1
Agoura Hills Library				1						1		
Alondra Library				1		1						
Angelo M. Iacoboni Library				1		1						
Anthony Quinn Library				1								
Artesia Library				1		1						
Avalon Library										1		
Baldwin Park Library				1								
Bell Gardens Library				1								
Bell Library				1								
Carson Library				1								
Castaic Library				1						1		
Charter Oak Library				1								
Chet Holifield Library				1								
City Terrace Library				1								
Claremont Helen Renwick Library				1								
Clifton M. Brakensiek Library				1		1						
Compton Library				1		1						
Cudahy Library				1		1						

Table C-5: Library Hazard Impacts

Facility Name	3 Ft Sea Level Rise	6 Ft Sea Level Rise	Dam Failure Inundation	Violent EQ Shaking	Extreme EQ Shaking	0.2% Annual Chance Flooding	1% Annual Chance Flooding	Deep Seated Landslide Class IX & X	Max Tsunami Inundation	Very High Wildfire LRA	High Wildfire SRA	Very High Wildfire SRA
Culver City Julian Dixon Library				1								
Diamond Bar Library				1								
Dr. Martin Luther King, Jr. Library				1								
Duarte Library				1								
East Los Angeles Library				1								
East Rancho Dominguez Library				1		1						
El Camino Real Library				1								
El Monte Library				1								
Florence Express Library				1								
Gardena Mayme Dear Library				1								
George Nye Jr. Library				1		1						
Graham Library				1								
Hacienda Heights Library				1								
Hawaiian Gardens Library				1		1						
Hawthorne Library				1								
Hermosa Beach Library				1								
Hollydale Library				1		1						
Huntington Park Library				1								

Table C-5: Library Hazard Impacts

Facility Name	3 Ft Sea Level Rise	6 Ft Sea Level Rise	Dam Failure Inundation	Violent EQ Shaking	Extreme EQ Shaking	0.2% Annual Chance Flooding	1% Annual Chance Flooding	Deep Seated Landslide Class IX & X	Max Tsunami Inundation	Very High Wildfire LRA	High Wildfire SRA	Very High Wildfire SRA
La Canada Flintridge Library				1						1		
La Crescenta Library				1								
La Mirada Library				1								
La Puente Library				1								
La Verne Library				1								
Lake Los Angeles Library				1								
Lancaster Library				1		1						
Lawndale Library				1								
Leland R. Weaver Library				1								
Lennox Library				1								
Littlerock Library					1						1	
Live Oak Library				1								
Lloyd Taber-Marina del Rey Library				1					1			
Lomita Library				1								
Los Nietos Library				1								
Lynwood Library				1								
Malibu Library			1	1						1		
Manhattan Beach Library				1								
Masao W. Satow Library				1								
Maywood Cesar Chavez Library				1								
Montebello Library				1								

Table C-5: Library Hazard Impacts

Facility Name	3 Ft Sea Level Rise	6 Ft Sea Level Rise	Dam Failure Inundation	Violent EQ Shaking	Extreme EQ Shaking	0.2% Annual Chance Flooding	1% Annual Chance Flooding	Deep Seated Landslide Class IX & X	Max Tsunami Inundation	Very High Wildfire LRA	High Wildfire SRA	Very High Wildfire SRA
Norwalk Library				1								
Norwood Library				1								
Paramount Library				1		1						
Pico Rivera Library				1		1						
Quartz Hill Library					1							
Rivera Library				1		1						
Rosemead Library				1								
Rowland Heights Library				1								
San Dimas Library				1								
San Fernando Library					1							
San Gabriel Library				1								
Sorensen Library				1								
South El Monte Library				1								
South Whittier Library				1								
Stevenson Ranch Library					1					1		
Sunkist Library				1								
Temple City Library				1								
Topanga Library				1								1
View Park Bebe Moore Campbell Library				1								
Walnut Library				1								
West Covina Library				1		1						

Table C-5: Library Hazard Impacts

Facility Name	3 Ft Sea Level Rise	6 Ft Sea Level Rise	Dam Failure Inundation	Violent EQ Shaking	Extreme EQ Shaking	0.2% Annual Chance Flooding	1% Annual Chance Flooding	Deep Seated Landslide Class IX & X	Max Tsunami Inundation	Very High Wildfire LRA	High Wildfire SRA	Very High Wildfire SRA
West Hollywood Library				1								
Westlake Village Library				1						1		
Willowbrook Library				1								
Wiseburn Library				1								
Woodcrest Library				1								

Table C-6: LACMA+MNH Hazard Impacts

Facility Name	3 Ft Sea Level Rise	6 Ft Sea Level Rise	Dam Failure Inundation	Violent EQ Shaking	Extreme EQ Shaking	0.2% Annual Chance Flooding	1% Annual Chance Flooding	Deep Seated Landslide Class IX & X	Max Tsunami Inundation	Very High Wildfire LRA	High Wildfire SRA	Very High Wildfire SRA
La Brea Tarpits				1								
Los Angeles County Museum of Art				1								
Natural History Museum				1								
William S. Hart Museum					1					1		

Table C-7: Office of Education Hazard Impacts

Facility Name	3 Ft Sea Level Rise	6 Ft Sea Level Rise	Dam Failure Inundation	Violent EQ Shaking	Extreme EQ Shaking	0.2% Annual Chance Flooding	1% Annual Chance Flooding	Deep Seated Landslide Class IX & X	Max Tsunami Inundation	Very High Wildfire LRA	High Wildfire SRA	Very High Wildfire SRA
Afflerbaugh-Paige Camp				1								1
Alma Fuerte Public				1								
Animo City of Champions Charter High				1								
Aspire Antonio Maria Lugo Academy				1								
Aspire Ollin University Preparatory Academy				1								
Central Juvenile Hall				1								
Da Vinci RISE High				1								
Environmental Charter Middle				1								
Environmental Charter Middle - Inglewood				1								
Intellectual Virtues Academy				1								
International Polytechnic High				1								
Jardin de la Infancia				1								
Kirby, Dorothy Camp				1								
L.A. County High School for the Arts				1								
LA's Promise Charter High #1				1								
LA's Promise Charter Middle #1				1		1						
Lashon Academy			1	1								
Los Angeles County Special Education				1		1						

Table C-7: Office of Education Hazard Impacts

Facility Name	3 Ft Sea Level Rise	6 Ft Sea Level Rise	Dam Failure Inundation	Violent EQ Shaking	Extreme EQ Shaking	0.2% Annual Chance Flooding	1% Annual Chance Flooding	Deep Seated Landslide Class IX & X	Max Tsunami Inundation	Very High Wildfire LRA	High Wildfire SRA	Very High Wildfire SRA
Los Angeles International Charter High				1						1		
Los Padrinos Juvenile Hall				1		1						
Magnolia Science Academy			1	1								
Magnolia Science Academy 2				1								
Magnolia Science Academy 3				1		1						
Magnolia Science Academy 5				1								
McNair Camp					1							
Nidorf, Barry J.					1							
North Valley Military Institute College Preparatory Academy					1							
Odyssey Charter				1								
Onizuka Camp					1							
Optimist Charter				1						1		
Phoenix Academy Residential Education Center					1							
Renaissance County Community				1								
Road to Success Academy at Campus Kilpatrick				1								1
Rockey, Glenn Camp				1				1		1		
Scott, Joseph Camp				1								1
Soleil Academy Charter				1		1						
Valiente College				1								

Table C-7: Office of Education Hazard Impacts

Facility Name	3 Ft Sea Level Rise	6 Ft Sea Level Rise	Dam Failure Inundation	Violent EQ Shaking	Extreme EQ Shaking	0.2% Annual Chance Flooding	1% Annual Chance Flooding	Deep Seated Landslide Class IX & X	Max Tsunami Inundation	Very High Wildfire LRA	High Wildfire SRA	Very High Wildfire SRA
Preparatory Charter												

Table C-7: Other (Office) Facility Hazard Impacts

Facility Name	3 Ft Sea Level Rise	6 Ft Sea Level Rise	Dam Failure Inundation	Violent EQ Shaking	Extreme EQ Shaking	0.2% Annual Chance Flooding	1% Annual Chance Flooding	Deep Seated Landslide Class IX & X	Max Tsunami Inundation	Very High Wildfire LRA	High Wildfire SRA	Very High Wildfire SRA
1000 S. Fremont Ave.				1								
1055 Wilshire Blvd.				1								
1100 North Eastern Ave.				1								
1104 N. Mission Rd.				1								
12300 Lower Azusa Rd.				1								
12400 Imperial Highway				1								
12860 Crossroads Parkway South				1								
1320 North Eastern Ave.				1								
13837 Fiji Way				1					1			
1816 S. Figueroa				1								
210 W. Temple St.				1								
211 W. Temple St.				1								
313 N Figueroa St.				1								
3175 West Sixth St.				1								
320 West Temple St.				1								
425 Shatto Place				1								
550 South Vermont Ave.				1								
5770 S. Eastern Ave.				1								

Table C-7: Other (Office) Facility Hazard Impacts

Facility Name	3 Ft Sea Level Rise	6 Ft Sea Level Rise	Dam Failure Inundation	Violent EQ Shaking	Extreme EQ Shaking	0.2% Annual Chance Flooding	1% Annual Chance Flooding	Deep Seated Landslide Class IX & X	Max Tsunami Inundation	Very High Wildfire LRA	High Wildfire SRA	Very High Wildfire SRA
5898 Cherry Ave.				1		1						
5905 Wilshire Blvd.				1								
700 W. Main St.				1								
7400 East Imperial Highway				1		1						
900 South Fremont Ave.				1								
Kenneth Hahn Hall of Administration				1								

Table C-8: Parks & Recreation Facility Hazard Impacts

Facility Name	3 Ft Sea Level Rise	6 Ft Sea Level Rise	Dam Failure Inundation	Violent EQ Shaking	Extreme EQ Shaking	0.2% Annual Chance Flooding	1% Annual Chance Flooding	Deep Seated Landslide Class IX & X	Max Tsunami Inundation	Very High Wildfire LRA	High Wildfire SRA	Very High Wildfire SRA
Acton Park				1								1
Adventure Park				1								
Adventure Park				1								
Allen J. Martin Park				1								
Alondra Community Regional Park				1								
Alondra Community Regional Park				1								
Amelia Mayberry Park				1								
Amelia Mayberry Park				1								
Amigo Park				1		1						
Arcadia Community Regional Park				1								
Arcadia Community Regional Park				1								
Athens Park				1								
Athens Park				1								
Bassett Park				1								
Bassett Park				1								
Bassett Park				1								
Belvedere Community Regional Park				1								
Belvedere Community Regional Park				1								
Bodger Park				1								
Carolyn Rosas Park				1								
Castaic Regional Sports Complex			1	1								1
Castaic Regional Sports Complex			1	1								1

Table C-8: Parks & Recreation Facility Hazard Impacts

Facility Name	3 Ft Sea Level Rise	6 Ft Sea Level Rise	Dam Failure Inundation	Violent EQ Shaking	Extreme EQ Shaking	0.2% Annual Chance Flooding	1% Annual Chance Flooding	Deep Seated Landslide Class IX & X	Max Tsunami Inundation	Very High Wildfire LRA	High Wildfire SRA	Very High Wildfire SRA
Charles S. Farnsworth Park				1						1		
Charles S. Farnsworth Park				1								
Charles S. Farnsworth Park				1								
Charles S. Farnsworth Park				1								
Charter Oak Park				1								
City Terrace Park				1								
City Terrace Park				1								
Col. Leon H. Washington Park				1								
Col. Leon H. Washington Park				1								
Crescenta Valley Community Regional Park				1						1		
Crescenta Valley Community Regional Park				1						1		
Dalton Park				1								
Del Aire Park				1								
Del Aire Park				1								
Devil's Punchbowl Natural Area and Nature Center					1						1	
Dexter Park					1			1				1
Dexter Park					1			1				1
Don Knabe Community Regional Park				1								

Table C-8: Parks & Recreation Facility Hazard Impacts

Facility Name	3 Ft Sea Level Rise	6 Ft Sea Level Rise	Dam Failure Inundation	Violent EQ Shaking	Extreme EQ Shaking	0.2% Annual Chance Flooding	1% Annual Chance Flooding	Deep Seated Landslide Class IX & X	Max Tsunami Inundation	Very High Wildfire LRA	High Wildfire SRA	Very High Wildfire SRA
Don Knabe Community Regional Park				1								
Don Knabe Community Regional Park				1								
East Rancho Dominguez Park				1		1						
East Rancho Dominguez Park				1		1						
East Rancho Dominguez Park				1		1						
El Cariso Community Regional Park					1							
El Cariso Community Regional Park					1							
El Cariso Community Regional Park					1							
Enterprise Park				1								
Eugene A. Obregon Park				1								
Eugene A. Obregon Park				1								
Franklin D. Roosevelt Park				1								
Franklin D. Roosevelt Park				1								
George Lane Park					1	1						
George Lane Park					1	1						
George Washington Carver Park				1								

Table C-8: Parks & Recreation Facility Hazard Impacts

Facility Name	3 Ft Sea Level Rise	6 Ft Sea Level Rise	Dam Failure Inundation	Violent EQ Shaking	Extreme EQ Shaking	0.2% Annual Chance Flooding	1% Annual Chance Flooding	Deep Seated Landslide Class IX & X	Max Tsunami Inundation	Very High Wildfire LRA	High Wildfire SRA	Very High Wildfire SRA
Hacienda Heights Community and Rec Center				1								
Hacienda Heights Community and Rec Center				1								
Hacienda Heights Community and Rec Center				1								
Helen Keller Park				1								
Hollywood Bowl				1						1		
Jackie Robinson Park					1	1						
Jackie Robinson Park					1	1						
Jesse Owens Community Regional Park				1								
Jesse Owens Community Regional Park				1								
John Anson Ford Amphitheatre				1						1		
John Anson Ford Amphitheatre				1						1		
Kenneth Hahn State Recreation Area				1						1		
Ladera Park				1								
Ladera Park				1								
Ladera Park				1								
Lennox Park				1								
Lennox Park				1								
Lennox Park				1								

Table C-8: Parks & Recreation Facility Hazard Impacts

Facility Name	3 Ft Sea Level Rise	6 Ft Sea Level Rise	Dam Failure Inundation	Violent EQ Shaking	Extreme EQ Shaking	0.2% Annual Chance Flooding	1% Annual Chance Flooding	Deep Seated Landslide Class IX & X	Max Tsunami Inundation	Very High Wildfire LRA	High Wildfire SRA	Very High Wildfire SRA
Loma Alta Park				1								1
Loma Alta Park				1								1
Los Angeles County Arboretum and Botanic Garden				1								
Manzanita Park				1								
Mary M. Bethune Park				1								
Mary M. Bethune Park				1								
Mona Park				1								
Mona Park				1								
Pamela County Park				1								
Pamela County Park				1								
Pathfinder Community Regional Park				1						1		1
Pearblossom County Park					1							
Peter F Schabarum Regional County Park				1						1		
Rimgrove Park				1								
Rowland Heights Park				1								
Roy Campanella Park				1								
Ruben F Salazar Park				1								
Ruben F Salazar Park				1								
Ruben F Salazar Park				1								
San Angelo Park				1								
San Fernando Recreation Park and Aquatic Center					1							
Saybrook Park				1								
Sorensen Park				1								

Table C-8: Parks & Recreation Facility Hazard Impacts

Facility Name	3 Ft Sea Level Rise	6 Ft Sea Level Rise	Dam Failure Inundation	Violent EQ Shaking	Extreme EQ Shaking	0.2% Annual Chance Flooding	1% Annual Chance Flooding	Deep Seated Landslide Class IX & X	Max Tsunami Inundation	Very High Wildfire LRA	High Wildfire SRA	Very High Wildfire SRA
South Coast Botanic Garden				1						1		
Stephen Sorensen Park				1								
Sunshine Park				1								
Ted Watkins Memorial Park				1								
Ted Watkins Memorial Park				1								
Tesoro Adobe Historic Park				1						1		1
Val Verde Community Regional Park				1								1
Val Verde Community Regional Park				1								1
Valleydale Park				1								
Valleydale Park				1								
Vasquez Rocks Natural Area and Nature Center				1								1
Veterans Memorial Community Regional Park					1					1		
Victoria Community Regional Park				1								
Victoria Community Regional Park				1								
Walnut Nature Park				1								
Whittier Narrows Recreation Area				1								
William S. Hart Regional Park					1					1		
William Steinmetz Park				1								

Table C-8: Parks & Recreation Facility Hazard Impacts

Facility Name	3 Ft Sea Level Rise	6 Ft Sea Level Rise	Dam Failure Inundation	Violent EQ Shaking	Extreme EQ Shaking	0.2% Annual Chance Flooding	1% Annual Chance Flooding	Deep Seated Landslide Class IX & X	Max Tsunami Inundation	Very High Wildfire LRA	High Wildfire SRA	Very High Wildfire SRA
William Steinmetz Park				1								
William Steinmetz Park				1								

Table C-9: Public Health Facility Hazard Impacts

Facility Name	3 Ft Sea Level Rise	6 Ft Sea Level Rise	Dam Failure Inundation	Violent EQ Shaking	Extreme EQ Shaking	0.2% Annual Chance Flooding	1% Annual Chance Flooding	Deep Seated Landslide Class IX & X	Max Tsunami Inundation	Very High Wildfire LRA	High Wildfire SRA	Very High Wildfire SRA
Antelope Valley Health Center				1								
Central Public Health Center				1								
Curtis R. Tucker Health Center				1								
Glendale Health Center				1								
Hollywood/Wilshire Public Health Center				1								
Martin Luther King, Jr. Center for Public Health				1								
Monrovia Public Health Center				1								
North Hollywood Public Health Center				1								
Pacoima Public Helath Center					1							
Pomona Public Health Center				1								
Ruth-Temple Public Health Center				1								
Simms/Mann Health and Wellness Center				1								
Torrance Public Helath Center				1								
Whittier Public Health Center				1								

Table C-10: Public Works Facility Hazard Impacts

Facility Name	3 Ft Sea Level Rise	6 Ft Sea Level Rise	Dam Failure Inundation	Violent EQ Shaking	Extreme EQ Shaking	0.2% Annual Chance Flooding	1% Annual Chance Flooding	Deep Seated Landslide Class IX & X	Max Tsunami Inundation	Very High Wildfire LRA	High Wildfire SRA	Very High Wildfire SRA
Brackett Field Airport				1								
Compton/Woodley Airport				1								
San Gabriel Valley Airport				1								
General Wm. J. Fox Airfield				1								
Whiteman Airport					1							
Big Dalton Dam								1		1		
Big Tujunga Dam				1				1				
Cogswell Dam				1				1				
Devil's Gate Dam				1						1		
Eaton Wash Dam				1								
Live Oak Dam				1								1
Morris Dam				1				1				1
Pacoima Dam								1				1
Puddingstone Dam				1								
Puddingstone Diversion Dam				1								
San Dimas Dam				1								1
San Gabriel Dam				1								
Santa Anita Dam				1				1				
Thompson Creek Dam				1						1		
PW ITD – Mount Wilson Radio Antenna Tower				1								
PW ITD – Mount Wilson Radio Facility Bldg.				1								
PW WWD - 37-1 Well				1								1
PW WWD - 37-3 Well				1								1

Table C-10: Public Works Facility Hazard Impacts

Facility Name	3 Ft Sea Level Rise	6 Ft Sea Level Rise	Dam Failure Inundation	Violent EQ Shaking	Extreme EQ Shaking	0.2% Annual Chance Flooding	1% Annual Chance Flooding	Deep Seated Landslide Class IX & X	Max Tsunami Inundation	Very High Wildfire LRA	High Wildfire SRA	Very High Wildfire SRA
PW WWD - 37-4 Well				1								1
PW Headquarters Building				1								
PW RMD – Div. #116 Maintenance Yard				1								
PW RMD – Div. #142 Maintenance Yard				1								
PW RMD – Div. #417 Maintenance Yard				1								
PW RMD – Baldwin Park Maintenance Yard				1								
PW RMD - Lower Central Yard – Division Administration				1								
PW RMD - Upper Central Yard				1								
PW RMD – Van Pelt Bridge Maintenance Yard				1								
PW SWMD – Imperial Yard				1		1						
PW SWMD – Longden Yard				1								
PW SWMD – Rio Hondo Yard				1								
PW SWMD – Riverview Maintenance Yard				1		1						
PW RMD – Div. #141/241 Maintenance Yard				1								

Table C-10: Public Works Facility Hazard Impacts

Facility Name	3 Ft Sea Level Rise	6 Ft Sea Level Rise	Dam Failure Inundation	Violent EQ Shaking	Extreme EQ Shaking	0.2% Annual Chance Flooding	1% Annual Chance Flooding	Deep Seated Landslide Class IX & X	Max Tsunami Inundation	Very High Wildfire LRA	High Wildfire SRA	Very High Wildfire SRA
PW RMD – Div. #232 Maintenance Yard				1								
PW RMD – Maint. District 3 Yard				1								
PW SWMD – 83rd St. Maintenance Yard				1								
PW RMD – Div. #336 Maint. Yd.				1						1		
PW RMD – Div. #339/539 Agoura Maintenance Yard				1								1
PW SWMD – Saticoy Yard				1			1					
PW WWD #29 - 20858 Regulating Station				1		1				1		
PW WWD #29 - Big Rock 900 Pump Station				1				1				1
PW WWD #29 - Big Rock 1010 Tank				1				1				1
PW WWD #29 - Big Rock 1200 Tank				1				1				1
PW WWD #29 - Broad Beach Regulating Station				1				1		1		
PW WWD #29 - Carbon Mesa Tank				1						1		
PW WWD #29 - Entrada Pump Station				1				1				1
PW WWD #29 - Entrada Tank				1				1				1

Table C-10: Public Works Facility Hazard Impacts

Facility Name	3 Ft Sea Level Rise	6 Ft Sea Level Rise	Dam Failure Inundation	Violent EQ Shaking	Extreme EQ Shaking	0.2% Annual Chance Flooding	1% Annual Chance Flooding	Deep Seated Landslide Class IX & X	Max Tsunami Inundation	Very High Wildfire LRA	High Wildfire SRA	Very High Wildfire SRA
PW WWD #29 - Fernwood Tank				1				1				1
PW WWD #29 - Guernsey Regulating Station				1						1		
PW WWD #29 - Heather Cliff Regulating Station				1						1		
PW WWD #29 - Horizon Tank				1						1		
PW WWD #29 - Hume Tank				1								1
PW WWD #29 - La Chusa Feeder Regulating Station				1						1		
PW WWD #29 - La Costa				1						1		
PW WWD #29 - La Costa Regulating Station				1				1		1		
PW WWD #29 - Las Flores Pump Station				1						1		
PW WWD #29 - Las Flores Tank				1						1		
PW WWD #29 - Latigo Tank				1				1				1
PW WWD #29 - Lower Big Rock 195 Pump Station				1				1		1		
PW WWD #29 - LVMWD, Hume Connection				1				1				1

Table C-10: Public Works Facility Hazard Impacts

Facility Name	3 Ft Sea Level Rise	6 Ft Sea Level Rise	Dam Failure Inundation	Violent EQ Shaking	Extreme EQ Shaking	0.2% Annual Chance Flooding	1% Annual Chance Flooding	Deep Seated Landslide Class IX & X	Max Tsunami Inundation	Very High Wildfire LRA	High Wildfire SRA	Very High Wildfire SRA
PW WWD #29 - LVMWD, Latigo Connection				1				1				1
PW WWD #29 - LVMWD , Saddle Peak Interconnection				1								1
PW WWD #29 - Lower Busch Pump Station				1						1		
PW WWD #29 - Malibu Beach Pump Station				1						1		
PW WWD #29 - Malibu Knolls Tank				1						1		
PW WWD #29 - New Summit Tank				1								1
PW WWD #29 - Nicholas Beach Tank				1				1		1		
PW WWD #29 - Old Summit Tank				1						1		
PW WWD #29 - Owen Pump Station				1								1
PW WWD #29 - Pepperdine 545 Pump Station				1						1		
PW WWD #29 - Pepperdine 812 Tank				1								1
PW WWD #29 - Pepperdine 907 Tank				1				1				1
PW WWD #29 - Philip Tank				1						1		

Table C-10: Public Works Facility Hazard Impacts

Facility Name	3 Ft Sea Level Rise	6 Ft Sea Level Rise	Dam Failure Inundation	Violent EQ Shaking	Extreme EQ Shaking	0.2% Annual Chance Flooding	1% Annual Chance Flooding	Deep Seated Landslide Class IX & X	Max Tsunami Inundation	Very High Wildfire LRA	High Wildfire SRA	Very High Wildfire SRA
PW WWD #29 - Point Dume Pump Station and Tank				1						1		
PW WWD #29 - Portshead Tank				1								
PW WWD #29 - Saddle Peak Tank				1				1				1
PW WWD #29 - Santa Maria Tank				1						1		
PW WWD #29 - Serra Pump Station				1						1		
PW WWD #29 - Sumac Ridge Tank				1						1		
PW WWD #29 - Sweetwater Hydro Pump Station				1						1		
PW WWD #29 - Sweetwater Mesa Tank				1				1		1		
PW WWD #29 - Topanga Beach Pump Station				1				1				1
PW WWD #29 - Topanga Beach Tank				1						1		
PW WWD #29 - Topanga Forks Tank				1				1				1
PW WWD #29 - Topanga Oaks Tank				1				1				1
PW WWD #29 - Topanga Park Pump Station				1								1

Table C-10: Public Works Facility Hazard Impacts

Facility Name	3 Ft Sea Level Rise	6 Ft Sea Level Rise	Dam Failure Inundation	Violent EQ Shaking	Extreme EQ Shaking	0.2% Annual Chance Flooding	1% Annual Chance Flooding	Deep Seated Landslide Class IX & X	Max Tsunami Inundation	Very High Wildfire LRA	High Wildfire SRA	Very High Wildfire SRA
PW WWD #29 - Trancas Tank				1						1		
PW WWD #29 - Upper Big Rock 730 Pump Station				1				1		1		
PW WWD #29 - Upper Encinal Tank				1				1		1		
PW WWD #29 - Winding Wy Tank				1				1				1
PW RMD - Div 446 Maintenance Yard				1		1						
PW RMD – Div. #446 Sub Maintenance Yard				1								
PW RMD – Maintenance District No.4 Yard				1		1						
PW SWMD – Alamitos Maintenance Yard				1		1						
PW SWMD – El Segundo Yard				1								
PW SWMD – Redondo Yard Office				1								
PW WWD #29 LADWP Emergency Via Dolce Connection				1		1			1			
PW WWD #29 – LADWP Emergency Mindanao Connection				1								
PW OSD - Eaton Yard – Maintenance Office				1				1				

Table C-10: Public Works Facility Hazard Impacts

Facility Name	3 Ft Sea Level Rise	6 Ft Sea Level Rise	Dam Failure Inundation	Violent EQ Shaking	Extreme EQ Shaking	0.2% Annual Chance Flooding	1% Annual Chance Flooding	Deep Seated Landslide Class IX & X	Max Tsunami Inundation	Very High Wildfire LRA	High Wildfire SRA	Very High Wildfire SRA
PW RMD – 518-B Maintenance Yard				1						1		
PW RMD – Div. #523 Maintenance Yard				1						1		
PW RMD – Div. #524 Maintenance Yard				1						1		
PW RMD – Div. #518 Maintenance Yard				1								
PW RMD – Div. #519 Maintenance Yard				1								
PW RMD – Div. #526 Maint. Yd.			1	1		1				1		
PW RMD – Div. #551 Maintenance Yard					1	1						
PW RMD – Div. #555 Maintenance Yard				1								
PW RMD – Div. #558 Maint. Yard					1							
PW RMD – Div. #558a Jackson Lake Maintenance Yd.					1							
PW RMD – Div. #559b Maintenance Yard				1								
PW RMD – Palmdale Maintenance Dist. No. 5 Bldg. Yard					1	1						
PW SWMD – Eaton Maintenance Yard				1								
PW SWMD – Pickens Yard				1						1		

Table C-10: Public Works Facility Hazard Impacts

Facility Name	3 Ft Sea Level Rise	6 Ft Sea Level Rise	Dam Failure Inundation	Violent EQ Shaking	Extreme EQ Shaking	0.2% Annual Chance Flooding	1% Annual Chance Flooding	Deep Seated Landslide Class IX & X	Max Tsunami Inundation	Very High Wildfire LRA	High Wildfire SRA	Very High Wildfire SRA
PW SWMD – Rubio Yard				1						1		
PW SWMD – Santa Clara Flood Maintenance Yard				1						1		
PW WWD #04 – North Administration Building				1		1						
PW SWMD – San Dimas Maintenance Yard				1								
PW SMD - Balfour				1		1						
PW SMD - Bradhurst				1		1						
PW SMD - Broadway				1								
PW SMD - Muscatel				1								
PW SMD - Painter				1								
PW SMD - Surrey Drive				1				1		1		
PW SMD - 132ND STREET				1								
PW SMD - Centinela				1								
PW SMD - Davids Road				1						1		
PW SMD - Ulmus				1				1		1		
PW SMD - Viewridge				1				1		1		
PW SMD - 213TH STREET				1								
PW SMD - AGAVE				1								
PW SMD - HEATHERFIELD				1				1		1		
PW SMD - MAYBROOK				1								

Table C-10: Public Works Facility Hazard Impacts

Facility Name	3 Ft Sea Level Rise	6 Ft Sea Level Rise	Dam Failure Inundation	Violent EQ Shaking	Extreme EQ Shaking	0.2% Annual Chance Flooding	1% Annual Chance Flooding	Deep Seated Landslide Class IX & X	Max Tsunami Inundation	Very High Wildfire LRA	High Wildfire SRA	Very High Wildfire SRA
PW WWD - 116th street pump station					1							
PW WWD - P-10 Pump station					1							
PW WWD - Tierra Subida Pump Station				1								
PW SMD - CAPALLERO				1								1
PW SMD - COMMERCE CENTER DRIVE				1				1				
PW SMD - LAKE HUGHES - NEWVALE					1							1
PW SMD - LAKE HUGHES - TRAILK					1							1
PW SMD - LOWRIDGE				1						1		
PW SMD - MARINA DEL REY				1					1			
PW SMD - TYLER				1								
PW WWD - Crown Valley Pump station				1								1
PW WWD - Hasley Pump Station				1								1
PW SWMD - 120th St. Pump Station				1								
PW SWMD - Alameda Street 3B Pump Station				1		1						
PW SWMD - Alameda Street 3C Pump Station				1		1						

Table C-10: Public Works Facility Hazard Impacts

Facility Name	3 Ft Sea Level Rise	6 Ft Sea Level Rise	Dam Failure Inundation	Violent EQ Shaking	Extreme EQ Shaking	0.2% Annual Chance Flooding	1% Annual Chance Flooding	Deep Seated Landslide Class IX & X	Max Tsunami Inundation	Very High Wildfire LRA	High Wildfire SRA	Very High Wildfire SRA
PW SWMD - Avalon Pump Station				1		1						
PW SWMD - Compton Creek Pump Station #1				1		1						
PW SWMD - Compton Creek Pump Station #2				1		1						
PW SWMD - Dominger Pump Station				1		1						
PW SWMD - Lennox Blvd Pump Station				1								
PW SWMD - Oxford Pump Station				1					1			
PW SWMD - Redondo Beach Blvd Pump Station				1								
PW SWMD - Boone Olive Pump Station				1		1			1			
PW SWMD - Electric Ave Pump Station				1								
PW SWMD - 17th St Pump Station				1								
PW SWMD - Alamitos Bay Pump Station		1		1					1			
PW SWMD - Alondra Pump Station				1		1						
PW SWMD - Anaheim St. Pump Station		1		1		1			1			

Table C-10: Public Works Facility Hazard Impacts

Facility Name	3 Ft Sea Level Rise	6 Ft Sea Level Rise	Dam Failure Inundation	Violent EQ Shaking	Extreme EQ Shaking	0.2% Annual Chance Flooding	1% Annual Chance Flooding	Deep Seated Landslide Class IX & X	Max Tsunami Inundation	Very High Wildfire LRA	High Wildfire SRA	Very High Wildfire SRA
PW SWMD - Appian Way Pump Station		1		1		1			1			
PW SWMD - Arena Pump Station				1								
PW SWMD - Belmont Pump Station	1	1		1					1			
PW SWMD - Century Frwy Pump Station				1		1						
PW SWMD - Cerritos Pump Station				1		1						
PW SWMD - Claretta Pump Station				1		1						
PW SWMD - Cordova Walk Pump Station									1			
PW SWMD - Dominguez Pump Station				1		1						
PW SWMD - Doris Pump Station				1								
PW SWMD - East Toledo Pump Station									1			
PW SWMD - El Dorado Pump Station				1		1						
PW SWMD - El Segundo Pump Station				1								
PW SWMD - Garnet Avenue Pump Station				1		1						
PW SWMD - Hamilton Bowl South Pump Station				1		1						
PW SWMD - Hamilton Bowl West				1		1						

Table C-10: Public Works Facility Hazard Impacts

Facility Name	3 Ft Sea Level Rise	6 Ft Sea Level Rise	Dam Failure Inundation	Violent EQ Shaking	Extreme EQ Shaking	0.2% Annual Chance Flooding	1% Annual Chance Flooding	Deep Seated Landslide Class IX & X	Max Tsunami Inundation	Very High Wildfire LRA	High Wildfire SRA	Very High Wildfire SRA
Pump Station												
PW SWMD - Hill St. Pump Station				1		1						
PW SWMD - Johnson Pump Station				1								
PW SWMD - Lakewood Pump Station				1		1						
PW SWMD - Los Altos Pump Station				1								
PW SWMD - Lynwood Pump Station				1		1						
PW SWMD - Manhattan Beach Pump Station				1								
PW SWMD - Market St. Pump Station				1		1						
PW SWMD - Naples Pump Station									1			
PW SWMD - Paramount Pump Station				1		1						
PW SWMD - Seaside Pump Station				1		1			1			
PW SWMD - Walteria Lake Pump Station				1								
PW SWMD - West Long Beach Pump Station	1	1		1					1			
PW SWMD - West Neapolitan Pump Station	1	1		1					1			

Table C-10: Public Works Facility Hazard Impacts

Facility Name	3 Ft Sea Level Rise	6 Ft Sea Level Rise	Dam Failure Inundation	Violent EQ Shaking	Extreme EQ Shaking	0.2% Annual Chance Flooding	1% Annual Chance Flooding	Deep Seated Landslide Class IX & X	Max Tsunami Inundation	Very High Wildfire LRA	High Wildfire SRA	Very High Wildfire SRA
PW SWMD - West Toledo Pump Station									1			
PW SWMD - Wilmington Unit 2 Pump Station				1								
PW SMD – Malibu Mesa WWTP				1						1		
PW SMD – Malibu TP				1						1		
PW SMD - Trancas WWTP				1		1				1		
PW SMD – LAKE HUGHES					1							
PW WWD - 27 Tank					1						1	
PW WWD - 39 Tank					1						1	
PW WWD - 116th street Tank				1							1	
PW WWD - Adobe Tank												
PW WWD - Blue Rock Tank				1								
PW WWD - Butte's Tank												
PW WWD - City Ranch Tanks					1							
PW WWD - Ft. Tejon Tank					1						1	
PW WWD - Joshua Ranch Tank				1						1		
PW WWD - Kohl's tank					1	1						
PW WWD - M & 7th west Tank site					1							

Table C-10: Public Works Facility Hazard Impacts

Facility Name	3 Ft Sea Level Rise	6 Ft Sea Level Rise	Dam Failure Inundation	Violent EQ Shaking	Extreme EQ Shaking	0.2% Annual Chance Flooding	1% Annual Chance Flooding	Deep Seated Landslide Class IX & X	Max Tsunami Inundation	Very High Wildfire LRA	High Wildfire SRA	Very High Wildfire SRA
PW WWD - Q-9 Tanks					1							
PW WWD - Rancho Vista tanks				1				1		1		
PW WWD - Tierra Subida Tanks				1								
PW WWD #04 – M/5e Water Tank					1							
PW WWD #04-M8/75w Water Tank					1							
PW WWD - Cuyama Tank				1				1				1
PW WWD - Hasley Tank				1								1
PW WWD - North Tank				1								1
PW WWD - McCennery Tank					1			1				1
PW WWD - South Tank				1								1
PW WWD - 168th and G Pump station				1								
PW WWD - Anaverde Tanks and pump station				1						1		
PW WWD - Old timers tank and pump station				1								
PW WWD - Los Valles Pump station and Well				1								1
PW WWD - Vincent Pump station					1							1

Table C-10: Public Works Facility Hazard Impacts

Facility Name	3 Ft Sea Level Rise	6 Ft Sea Level Rise	Dam Failure Inundation	Violent EQ Shaking	Extreme EQ Shaking	0.2% Annual Chance Flooding	1% Annual Chance Flooding	Deep Seated Landslide Class IX & X	Max Tsunami Inundation	Very High Wildfire LRA	High Wildfire SRA	Very High Wildfire SRA
PW WWD - Bev martin tank and Pump Station				1		1						
PW SMD – East Yard				1								
PW SMD - Lawndale				1								
PW SMD – South Yard				1								
PW SMD – Central Yard				1								
PW SMD – North Yard				1		1						

Table C-11: Sheriff's Department Facility Hazard Impacts

Facility Name	3 Ft Sea Level Rise	6 Ft Sea Level Rise	Dam Failure Inundation	Violent EQ Shaking	Extreme EQ Shaking	0.2% Annual Chance Flooding	1% Annual Chance Flooding	Deep Seated Landslide Class IX & X	Max Tsunami Inundation	Very High Wildfire LRA	High Wildfire SRA	Very High Wildfire SRA
Altadena Sheriff's Station				1								
Avalon Sheriff's Station										1		
Carson Sheriff's Station				1		1						
Century Regional Detention Facility				1								
Century Sheriff's Station				1								
Cerritos Sheriff's Station				1								
Compton Sheriff's Station				1		1						
Crescenta Valley Sheriff's Station				1						1		
East Los Angeles Sheriff's Station				1								
Industry Sheriff's Station				1								
Inmate Reception Center				1								
Lakewood Sheriff's Station				1		1						
Lancaster Sheriff's Station				1		1						
Lomita Sheriff's Station				1								
Malibu/Lost Hills Sheriff's Station				1						1		
Marina Del Rey Sheriff's Station				1					1			
Men's Central Jail				1								
North County Correctional Facility			1	1							1	
Norwalk Sheriff's Station				1								
Palmdale Sheriff's Station					1							
Pico Rivera Sheriff's Station				1		1						
Pitchess Detention Center East Facility				1				1				1

Table C-11: Sheriff's Department Facility Hazard Impacts

Facility Name	3 Ft Sea Level Rise	6 Ft Sea Level Rise	Dam Failure Inundation	Violent EQ Shaking	Extreme EQ Shaking	0.2% Annual Chance Flooding	1% Annual Chance Flooding	Deep Seated Landslide Class IX & X	Max Tsunami Inundation	Very High Wildfire LRA	High Wildfire SRA	Very High Wildfire SRA
Pitchess Detention Center North Facility			1	1								1
Pitchess Detention Center South Facility			1	1								1
San Dimas Sheriff's Station				1								
Santa Clarita Valley Sheriff's Station					1							
South Los Angeles Sheriff's Station				1								
Temple Sheriff's Station				1								
Twin Towers Correctional Facility				1								
Walnut/Diamond Bar Sheriff's Station				1								
West Hollywood Sheriff's Station				1								

APPENDIX I

WATER CONSERVATION AND WATER SHORTAGE PROGRAM AND REGULATIONS

ORDINANCE NO. 09-06-16

AN ORDINANCE OF THE BOARD OF DIRECTORS OF THE THREE VALLEYS MUNICIPAL WATER DISTRICT ESTABLISHING A WATER CONSERVATION AND WATER SUPPLY SHORTAGE PROGRAM AND REGULATIONS FOR ITS DIRECT END SERVICE

WHEREAS, the Board of Directors of the Three Valleys Municipal Water District finds as follows:

A. The Three Valleys Municipal Water District ("District") is a Municipal Water District organized and operating pursuant to California Water Code Section 71000 et seq., and is also a member agency of the Metropolitan Water District of Southern California.

B. The District provides wholesale water service to various retail water purveyors within its jurisdictional boundaries located in the eastern portion of the County of Los Angeles, State of California, and also currently furnishes direct end water service to California State Polytechnic University at Pomona, Mt. San Antonio College, and the Boy Scouts – Firestone Reservation.

C. A reliable minimum supply of potable water is essential to the public health, safety and welfare of the people and economy of the Southern California region.

D. Southern California is a semi-arid region and largely dependent upon imported water supplies. A growing population, climate change, environmental concerns, and other factors in within the State and western United States, make the region highly susceptible to water supply reliability issues.

E. Careful water management that includes active water conservation measures not only in times of drought, but at all times, is essential to ensure a reliable minimum supply of water to meet current and future water supply needs.

F. Article X, Section 2 of the California Constitution declares that the general welfare requires that water resources be put to beneficial use, waste or unreasonable use or unreasonable method of use of water be prevented, and conservation of water be fully exercised with a view to the reasonable and beneficial use thereof.

G. California Water Code Section 374 authorizes water suppliers to adopt and enforce a comprehensive water conservation program to reduce water consumption and conserve supplies.

H. California Water Code Section 71610.5 authorizes the District to undertake a water conservation program to reduce water use.

I. On September 18, 2008, the District's Board of Directors adopted Resolution No. 08-09-609 declaring the existence of drought conditions in the San Gabriel Valley and urging greater water conservation and water efficiency by the retail water providers served by the District.

J. The adoption and enforcement of a water conservation and supply shortage program for the District's direct end water service is necessary to manage the District's potable water supply in the short and long-term and to avoid or minimize the effects of drought and shortage within the

District's service area. Such a program is essential to ensure a reliable and sustainable minimum supply of water for the public health, safety and welfare.

NOW, THEREFORE, BE IT ORDAINED by the Board of Directors of the Three Valleys Municipal Water District as follows:

Section I. Declaration of Purpose and Intent.

a. The purpose of this Ordinance is to establish a water conservation and supply shortage program for the District's direct end water use that will reduce water consumption within the District's service area through conservation, enable effective water supply planning, assure reasonable and beneficial use of water, prevent waste of water, and maximize the efficient use of water within the District's service area to avoid and minimize the effect and hardship of water shortage to the greatest extent possible.

b. This Ordinance establishes water conservation standards intended to maximize direct end water use efficiency at all times and further establishes three levels of water supply shortage response actions to be implemented during times of declared water shortage or declared water shortage emergency, with increasing restrictions on water use in response to worsening drought or emergency conditions and decreasing supplies.

Section II. Definitions.

The following words and phrases whenever used in this Ordinance have the meaning defined in this section:

a. **"Direct end user"** means any corporation, public or private entity, governmental agency or institution, or any other recipient of water directly from the District that is not primarily in the business of reselling such water and/or providing retail water service to any customer.

b. **"Landscape irrigation system"** means an irrigation system with pipes, hoses, spray heads, or sprinkling devices that are operated by hand or through an automated system.

c. **"Large landscape areas"** means a lawn, landscape, or other vegetated area, or combination thereof, equal to more than one (1) acre of irrigable land.

d. **"Single pass cooling systems"** means equipment where water is circulated only once to cool equipment before being disposed.

e. **"Potable water"** means water which is suitable for drinking.

f. **"Recycled water"** means the reclamation and reuse of non-potable water for beneficial use as defined in Title 22 of the California Code of Regulations.

g. **"Billing unit"** means the unit of water used to apply the water rates for purposes of calculating water charges to a direct end user. In this case billing units are equal to acre-feet, or 325,851 gallons.

Section III. Application

a. The provisions of this Ordinance apply only to a direct end user of any potable water provided by the District.

b. The provisions of this Ordinance do not apply to uses of water necessary to protect public health and safety or for essential government services, such as police, fire and other similar emergency services.

c. The provisions of this Ordinance do not apply to the use of recycled water, with the exception of Section IV(a).

d. The provisions of this Ordinance do not apply to the use of water by commercial nurseries and commercial growers to sustain plants, trees, shrubs, crops or other vegetation intended for commercial sale.

e. This Ordinance is intended solely to further the conservation of water. It is not intended to implement any provision of federal, State, or local statutes, ordinances, or regulations relating to protection of water quality or control of drainage or runoff. Refer to the local jurisdiction or Regional Water Quality Control Board for information on any stormwater ordinances and stormwater management plans.

Section IV. Permanent Water Conservation Requirements – Prohibition Against Waste

The following water conservation requirements are effective and apply to a direct end user at all times during the existence of this Ordinance. Violations of this section will be considered waste and an unreasonable use of water.

a. **Limits on Watering Hours**: Watering or irrigating of lawn, landscape or other vegetated area with potable water by a direct end user is prohibited between the hours of 9:00 a.m. and 6:00 p.m. Pacific Standard Time on any day, except by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or for very short periods of time for the express purpose of adjusting or repairing an irrigation system.

b. **Limit on Watering Duration**: Watering or irrigating of lawn, landscape or other vegetated area with potable water by a direct end user using a landscape irrigation system or a watering device that is not continuously attended is limited to no more than fifteen (15) minutes watering per day per station. This subsection does not apply to landscape irrigation systems that exclusively use very low-flow drip type irrigation systems.

c. **No Excessive Water Flow or Runoff:** Watering or irrigating of any lawn, landscape or other vegetated area by a direct end user in a manner that causes or allows excessive water flow or runoff onto an adjoining sidewalk, driveway, street, alley, gutter or ditch is prohibited.

d. **No Washing Down Hard or Paved Surfaces:** Washing down hard or paved surfaces, including but not limited to sidewalks, walkways, driveways, parking areas, tennis courts, patios or alleys, by a direct end user is prohibited except when necessary to alleviate safety or sanitary hazards, and then only by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off device, a low-volume, high-pressure cleaning machine equipped to recycle any water used, or a low-volume high-pressure water broom.

e. **Obligation to Fix Leaks, Breaks or Malfunctions:** Excessive use, loss or escape of water through breaks, leaks or other malfunctions in the direct end user's plumbing or distribution system for any period of time after such escape of water should have reasonably been

discovered and corrected and in no event more than seven (7) days of receiving notice from the District is prohibited.

f. **Re-circulating Water Required for Water Fountains and Decorative Water Features**: Operating a water fountain or other decorative water feature that does not use re-circulated water by a direct end user is prohibited.

g. **Limits on Washing Vehicles:** Using water to wash or clean a vehicle, including but not limited to any automobile, truck, van, bus, motorcycle, boat or trailer, whether motorized or not, by a direct end user is prohibited, except by use of a hand-held bucket or similar container or a hand-held hose equipped with a positive self-closing water shut-off nozzle or device.

h. **Drinking Water Served Upon Request Only:** Eating or drinking establishments of a direct end user, including but not limited to a restaurant, hotel, cafe, cafeteria, bar, or other public place where food or drinks are sold, served, or offered for sale, are prohibited from providing drinking water to any person unless expressly requested.

i. **Commercial Lodging Establishments Must Provide Guests Option to Decline Daily Linen Services**: Hotels, motels, and other commercial lodging establishments and similar facilities of a direct end user must provide customers the option of not having towels and linen laundered daily. Commercial lodging establishments must prominently display notice of this option in each bathroom using clear and easily understood language.

j. **No Installation of Single Pass Cooling Systems**: Installation of single pass cooling systems by a direct end user is prohibited in buildings requesting new water service.

k. **Restaurants Required to Use Water Conserving Dish Wash Spray Valves**: Food preparation establishments of a direct end user, such as restaurants or cafes, are prohibited from using non-water conserving dish wash spray valves.

l. **Reporting Mechanism - Hotline**: The District will encourage visitors, students, staff, and faculty of a direct end user to call the District's main telephone number to report violations of this Ordinance.

Section V. Level 1 Water Supply Shortage

a. A Level 1 Water Supply Shortage exists when the District determines, in its sole discretion, that due to drought or other water supply conditions, a water supply shortage or threatened shortage exists and a direct end user consumer demand reduction is necessary to make more efficient use of water and appropriately respond to existing water conditions. Upon the declaration by the District of a Level 1 Water Supply Shortage condition, the District will implement the mandatory Level 1 conservation measures identified in this section.

b. **Additional Water Conservation Measures:** In addition to the prohibited uses of water identified in Section IV of this Ordinance, the following water conservation requirements apply to a direct end user during a declared Level 1 Water Supply Shortage:

1. **Limits on Watering Days:** Watering or irrigating of lawn, landscape or other vegetated area with potable water by a direct end user is limited to three days per week. During the months of November through March, watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to no more than one day per week. This provision does not apply to landscape irrigation zones that exclusively use very low flow drip type irrigation systems. This provision also does not apply to

watering or irrigating by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or for very short periods of time for the express purpose of adjusting or repairing an irrigation system.

2. **Obligation to Fix Leaks, Breaks or Malfunctions**: All leaks, breaks, or other malfunctions in the direct end user's plumbing or distribution system must be repaired within seventy-two (72) hours of notification by the District unless other arrangements are made which will include a written plan to address the repairs.

Section VI. Level 2 Water Supply Shortage

a. A Level 2 Water Supply Shortage exists when the District determines, in its sole discretion, that due to drought or other water supply conditions, a water supply shortage or threatened shortage exists and a direct end user consumer demand reduction is necessary to make more efficient use of water and appropriately respond to existing water conditions. Upon the declaration by the District of a Level 2 Water Supply Shortage condition, the District will implement the mandatory Level 2 conservation measures identified in this section.

b. **Additional Conservation Measures:** In addition to the prohibited uses of water identified in Sections IV and V of this Ordinance, the following additional water conservation requirements apply to a direct end user during a declared Level 2 Water Supply Shortage:

1. **Watering Days:** Watering or irrigating of lawn, landscape or other vegetated area with potable water by a direct end user is limited to two days per week. During the months of November through March, watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to no more than one day per week. This provision does not apply to landscape irrigation zones that exclusively use very low flow drip type irrigation systems. This provision also does not apply to watering or irrigating by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or for very short periods of time for the express purpose of adjusting or repairing an irrigation system.

2. **Obligation to Fix Leaks, Breaks or Malfunctions**: All leaks, breaks, or other malfunctions in the direct end user's plumbing or distribution system must be repaired within forty-eight (48) hours of notification by the District unless other arrangements are made with the District which will include a written notification by the direct end user of a timeline of repairs.

3. **Limits on Filling Ornamental Lakes or Ponds**: Filling or re-filling ornamental lakes or ponds by a direct end user is prohibited, except to the extent needed to sustain aquatic life, provided that such animals are of significant value and have been actively managed within the water feature prior to declaration of a supply shortage level under this Ordinance.

4. **Limits on Washing Vehicles:** Using water to wash or clean a vehicle, including but not limited to, any automobile, truck, van, bus, motorcycle, boat or trailer, whether motorized or not, by a direct end user is prohibited except by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, by high pressure/low volume wash systems, or at a commercial car washing facility that utilizes a re-circulating water system to capture or reuse water.

5. **Limits on Filling Residential Swimming Pools & Spas:** Re-filling of more than one foot and initial filling of residential swimming pools or outdoor spas with potable water by a direct end user is prohibited.

Section VII. Level 3 Water Supply Shortage – Emergency Condition

a. A Level 3 Water Supply Shortage condition is also referred to as an "Emergency" condition. A Level 3 condition exists when the District declares a water shortage emergency pursuant to the requirements of California Water Code Sections 71640-71644 and notifies its member agencies, including a direct end user, that a significant reduction in consumer demand is necessary to maintain sufficient water supplies for public health and safety. Upon the declaration of a Level 3 Water Supply Shortage condition, the District will implement the mandatory Level 3 conservation measures identified in this section, in addition to any other restrictions, prohibitions, and/or exclusions adopted by the District's Board of Directors in any separate ordinance declaring such emergency.

b. **Additional Conservation Measures:** In addition to the prohibited uses of water identified in Sections IV, V, and VI of this Ordinance, the following water conservation requirements apply to a direct end user during a declared Level 3 Water Supply Shortage Emergency:

1. **No Watering or Irrigating:** Watering or irrigating of lawn, landscape or other vegetated area with potable water by a direct end user is prohibited. This restriction does not apply to the following categories of use, unless recycled water is available and may be applied to the use:

   i. Maintenance of vegetation, including trees and shrubs, that are watered using a hand-held bucket or similar container, hand-held hose equipped with a positive self–closing water shut-off nozzle or device;

   ii. Maintenance of existing landscape necessary for fire protection;

   iii. Maintenance of existing landscape for soil erosion control;

   iv. Maintenance of plant materials identified to be rare or essential to the well-being of protected species;

   v. Maintenance of landscape within active public parks and playing fields, day care centers, and golf course greens, provided that such irrigation does not exceed two (2) days per week according to the schedule established in Section VI(b)(1) and time restrictions in Section IV(a) and (b)(1);

   vi. Actively irrigated environmental mitigation projects.

2. **Obligation to Fix Leaks, Breaks or Malfunctions**: All leaks, breaks, or other malfunctions in the direct end user's plumbing or distribution system must be repaired within twenty four (24) hours of notification by the District unless other arrangements are made with the District which will include written plans that include a timeline of repairs.

3. **No New Potable Water Service**: Upon declaration of a Level 3 Water Supply Shortage Emergency condition, no new potable water service will be provided, no new temporary meters or permanent meters will be provided, and no statements of immediate ability to serve or provide potable water service (such as, will-serve letters,

certificates, or letters of availability) will be issued to a direct end user, except under the following circumstances:

i. A valid, unexpired building permit has been issued for the project; or

ii. The project is necessary to protect the public health, safety, and welfare; or

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

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

4. **Water Allocations and Mandatory Reductions**: The District will activate a water allocation process using a method that does not in effect penalize direct end users for prior implementation of conservation methods or installation of water-saving devices. The District will provide notice of activation of the allocation process to a direct end user pursuant to Section VIII of this Ordinance. Following the effective date of the water allocation, any direct end user using water in excess of the allocation will be subject to a penalty in the amount of double the Tier 2 rate should the water use as allocated for such direct end user fall between 101% to 115% of its individual allocations; and if the water use falls between 116% or higher, the rate will be four (4) times the Tier 2 rate for each billing unit of water in excess of the allocation.

5. **Large Landscape Areas – Rain Sensors**: Large landscape areas of a direct end user, such as parks, cemeteries, golf course, school grounds, and playing fields, that use landscape irrigation systems to water or irrigate, must use landscape irrigation systems with rain sensors that automatically shut off such systems during periods of rain or irrigation timers which automatically use information such as evapotranspiration sensors to set an efficient water use schedule.

Section VIII. Procedures for Determination / Notification of Water Supply Shortage

The existence of Level 1, Level 2, or Level 3 Water Supply Shortage conditions may be declared by resolution of the District's Board of Directors, adopted at a regular or special public meeting held in accordance with State law. The mandatory conservation requirements applicable to Level 1, Level 2, or Level 3 conditions will take effect on the tenth day after the date the shortage level is declared. Within five (5) days following the declaration of the shortage level, the District must publish a notice of the adoption of the resolution in a newspaper used for publication of official notices that serves the District's area. If the District activates a water allocation process, the District will provide notice of the activation by including it in the regular billing statement or by any other mailing to the address to which the District customarily mails the billing statement for fees or charges for on-going water service. A water allocation will be effective on the fifth day following the date of mailing or at such later date as specified in the notice.

Section IX. Hardship Waiver

a. **Undue and Disproportionate Hardship:** If, due to unique circumstances, a specific requirement of this Ordinance would result in undue hardship to a direct end user that is disproportionate to the impacts to other direct end users generally, then the direct end user may apply for a waiver to the requirements as provided in this section.

b. **Written Finding:** The waiver may be granted or conditionally granted only upon a written finding of the existence of facts demonstrating an undue hardship to property upon which water is used, that is disproportionate to the impacts to other direct end users generally.

1. **Application**: Application for a waiver must be on a form prescribed by the District and accompanied by statement describing all of the potential, irreversible impacts limiting water use will create.

2. **Supporting Documentation**: The application must be accompanied by photographs, maps, drawings, and other information, including a signed statement of the applicant.

3. **Required Findings for Waiver:** An application for a waiver will be denied unless the information provided in the application, supporting documents, or such additional information as may be requested, and on water use information for the property as shown by the records of the District, all of the following:

i. That the waiver does not constitute a grant of special privilege inconsistent with the limitations upon other similar direct end users;

ii. That because of special circumstances applicable to the property or its use, the strict application of this Ordinance would have a disproportionate impact on the direct end user that exceeds the impacts to other direct end users generally;

iii. That the authorizing of such waiver will not be of substantial detriment to adjacent properties, and will not materially affect the ability of the District to effectuate the purpose of this Ordinance and will not be detrimental to the public interest; and

iv. That the condition or situation of the subject property or the intended use of the property for which the waiver is sought is not common, recurrent or general in nature.

4. **Approval Authority**: The General Manager of the District must act upon any completed application no later than fifteen (15) working days after submittal and may approve, conditionally approve, or deny the waiver. The applicant requesting the waiver must be promptly notified in writing of any action taken. Unless specified otherwise at the time a waiver is approved, the waiver will apply to the subject property during the period of the mandatory water supply shortage condition. The decision of the District's General Manager will be final.

Section X. Penalties and Violations

a. **Enforcement**: In order to enforce the provisions of this Ordinance, the District may exercise any and all of the rights and remedies available under the law, including but not limited to those expressly authorized under California Water Code Section 71601.

b. **Penalties:** In addition to all of the means of District enforcement of this Ordinance authorized herein, the penalties for failure to comply with any provisions of the Ordinance are as follows:

1. **First Violation:** The District will issue a written warning and deliver a copy of this Ordinance by mail.

2. **Second Violation:** A second violation within the preceding twelve (12) calendar months will be subject to prosecution. Every person convicted of an infraction for a violation of this Ordinance shall be punished upon a first conviction by a fine not exceeding fifty dollars ($50).

3. **Third Violation:** A third violation within the preceding twelve (12) calendar months will be subject to prosecution. Every person convicted of an infraction for a violation of this Ordinance shall be punished upon a second conviction within a period of one year by a fine not exceeding one hundred dollars ($100).

4. **Fourth Violation:** A fourth and any subsequent violation will be subject to prosecution. Every person convicted of an infraction for a violation of this Ordinance shall be punished upon a third or any subsequent conviction within a period of one year by a fine not exceeding two hundred fifty dollars ($250).

c. **Separate Offenses**: Each day that a violation of this Ordinance occurs is a separate offense.

Section XI. Severability

If any section, subsection, sentence, clause or phrase in this Ordinance is for any reason held invalid, the validity of the remainder of the Ordinance will not be affected. The District's Board of Directors hereby declares it would have passed this chapter and each section, subsection, sentence, clause or phrase thereof, irrespective of the fact that one or more sections, subsections, sentences, clauses, or phrases or is declared invalid.

ADOPTED this 24th day of June, 2009.

ROLL CALL
Ayes: Bowcock, De Jesus, Horan, Kuhn, Mendoza, Ruzicka
Noes: Alvarez
Abstain:
Absent:

_____
Bob G. Kuhn
President, Board of Directors

ATTEST:

_____
Brian Bowcock
Secretary, Board of Directors

APPENDIX J

WATER SUPPLY WATCH

RESOLUTION NO. 17-06-801

A RESOLUTION OF THE BOARD OF DIRECTORS OF THREE VALLEYS MUNICIPAL WATER DISTRICT DECLARING A WATER SUPPLY WATCH

WHEREAS, the state of California is experiencing record wet conditions, with snowpack at approximately 160% of normal in Northern California, and water year 2017 is the wettest year on record over the past several years; and

WHEREAS, the California Department of Water Resources current State Water Project allocation is 85% of contract amounts; and

WHEREAS, despite precipitation, the state of California has endured a severe multi-year drought that continues to impact storage levels of major supplies; and

WHEREAS, Three Valleys Municipal Water District has relied on the guidelines provided through its Resolution No. 14-04-729 in support of a Water Supply Alert; and

WHEREAS, Governor Edmund G. Brown, Jr. declared the drought over on April 4, 2017, and signed Executive Order B-37-16 encouraging water use efficiency and conservation as a way of life in California; and

WHEREAS, Three Valleys MWD relies on the actions of its 14 member agencies to enact and implement local water use efficiency measures;

NOW THEREFORE BE IT RESOLVED, the Board of Directors of Three Valleys Municipal Water District, declares that its service area is in a Water Supply Watch condition;

BE IT FURTHER RESOLVED, that Three Valleys MWD encourages its member agencies to implement water use efficiency measures to preserve regional storage reserves; and

BE IT FURTHER RESOLVED, that Three Valleys MWD will work with its member agencies to identify mechanisms that will encourage and facilitate the adoption of rate structures to promote water use efficiency; and

BE IT FURTHER RESOLVED, that Three Valleys MWD will coordinate with its member agencies in the development of a unified regional message to communicate the need for continued water use efficiency to the public, businesses, stakeholder industries and public officials; and

BE IT FURTHER RESOLVED, that Three Valleys MWD will work with and assist its member agencies to help ensure a reliable near-term and long-term water supply, and to inform its retail water users of the Water Supply Watch conditions, and the need for sustained water use efficiency practices.

BE IT FURTHER RESOLVED, that adoption of this resolution will supersede Resolution No. 14-04-729 in support of a Water Supply Alert.

ADOPTED and **PASSED** at a meeting of the Three Valleys Municipal Water District's Board of Directors, on this 21st day of June 2017 by the following vote:

AYES:
NOES:
ABSTAIN:
ABSENT:

_____
Bob G. Kuhn, President

ATTEST:

_____
Brian Bowcock, Secretary

SEAL:

APPENDIX K

WATER SUPPLY ALLOCATION PLAN

Three Valleys MWD

Water Supply Allocation Plan

July 2015

Introduction

The State of California and the Southern California Region is in the midst of a fourth consecutive year of drought. The average runoff in eight out of the last ten years has been below average and water levels in all of the state's major reservoirs are well below normal. On April 1, 2015, Governor Brown announced the signing of an Executive Order that will establish mandatory water use reductions throughout the state. The executive order directs the State Water Resources Control Board to impose a 25-percent reduction on water use by local water supply agencies.

Critically dry conditions are affecting all of the Metropolitan Water District of Southern California (MWD) water supply sources, and continued legal and regulatory limits further impact the water supplies from the State Water Project. In addition to voluntary efforts already instituted, MWD seeks to manage its current allocations and water reserves to maximize supply reliability for its entire service area. To do this, MWD is instituting an allocation of water to its member agencies, including Three Valleys Municipal Water District (TVMWD).

In 2008, MWD developed the Water Supply Allocation Plan (WSAP) to establish a method of allocating water to its member agencies during periods of supply shortage. The WSAP was implemented during FY 2009-10 and subsequently lifted in the latter part of FY 2010-11. With input from MWD's member agencies, MWD refined the WSAP over the ensuing period, and in December 2014, the MWD Board of Directors adopted a revised WSAP. In April 2015, MWD has again decided to implement the WSAP effective July 1, 2015.

In response to this action by MWD, the TVMWD Water Supply Allocation Plan ("The Plan") was developed for the purpose of implementing the MWD-WSAP within the TVMWD service area in a manner that is fair and equitable to TVMWD's member agencies. The original Plan was adopted in 2009 and its implementation coincided with the implementation of the MWD-WSAP.

The Plan is an extension of the current MWD-WSAP. All WSAP definitions, policies, principles and program provisions are incorporated herein by reference and are considered to be a part of this Plan. A complete copy of the MWD-adopted WSAP is available for reference from TVMWD.

The Plan is consistent with and contributes to the existing TVMWD policies and programs. For example, the Plan's principles encourage development and full utilization of local water resources and extraordinary conservation measures.

Water Supply Allocation Plan Preparation

The process to prepare this Plan has involved the TVMWD member agencies. TVWMD used a consensus-based approach which included monthly member agency manager meetings to discuss the development of a plan as well as several presentations by MWD and industry consultants related to conservation efforts and water supply conditions. The following principles were used to provide guidance for the development and implementation of the TVMWD Plan.

Overall Plan - The Plan was developed in cooperation with the TVMWD member agencies and includes all aspects of drought planning such as allocation planning and methodology, pricing and a conservation communications strategy.

Drought Response – The Plan is consistent with the MWD-adopted WSAP. TVMWD will continue to work with its member agencies in an effort to coordinate the administration of the WSAP to minimize its impact on the member agencies.

Allocation Methodology – The allocation methodology is equitable and contains financial and pricing signals to ensure that member agencies are informed and understand the need to conserve and utilize local water supplies when possible.

Communication Strategy

The preparation of a regional communication strategy is included as a part of the Plan. TVMWD has been coordinating with MWD and its member agencies to develop a unified message to strengthen communication with the public about the serious nature of the ongoing drought and the actions that are needed to manage water demands and ensure a safe and reliable water supply during drought conditions.

The continuance of an ongoing, coordinated and regional public outreach program will serve to provide a clear and consistent message to the public regarding water supplies and specific conservation measures. An outreach program will recognize and support member agency communication efforts that address specific retail level allocations.

Along with the member agencies, TVMWD seeks to establish and coordinate the information that will be provided to the media, public officials and the general public. The communication message should include clear solutions – including easy and inexpensive ways to conserve. It is essential that local print and news media are fully committed to covering the current drought situation.

The communication strategy includes the following components:

- Regular meetings with member agencies and conservation partners to develop and coordinate a regional conservation message.
- Feature advertising on water conservation and conservation tips in the local newspapers.
- Utilization of MWD-funded outreach efforts and coordination of the use of graphics and outreach media buys.
- Participation in forums providing an education of the drought and what lies ahead at the State and local levels.

MWD / TVMWD Water Supply Allocation Quantities

TVWMD is a MWD member agency and will receive a reduced allocation of its normal water supply based on the regional shortage level implemented by the MWD Board in accordance with its adopted WSAP. The allocation methodology is based on the guiding principles and considerations described in MWD's Drought Plan.

MWD uses a two-year (FY 2012-13 and FY 2013-14) average from actual water demand data as the baseline for its calculation of the water supply allocation for its member agencies. TVMWD's Plan uses the same two-year base period for its retail member agencies' allocations. The following table shows the allocation for each corresponding Regional Shortage Level.

TABLE 1
MEMER AGENCY SUPPLY ALLOCATIONS SHOWN AS PERCENTAGE OF TVMWD ALLOCATION FROM MWD

REGIONAL SHORTAGE LEVEL	Boy Scouts	Cal Poly	Covina	Glendora	GSWC (Clrmnt)	GSWC (SD)	LaVerne	Mt. SAC	Pomona	RWD	SWS	VHWC	WVWD
1	0.05%	0.33%	1.52%	3.45%	6.42%	13.07%	9.71%	0.54%	8.34%	17.92%	5.89%	0.07%	32.69%
2	0.05%	0.32%	1.51%	3.39%	6.34%	13.03%	9.70%	0.54%	8.21%	18.04%	5.88%	0.07%	32.91%
3	0.06%	0.32%	1.49%	3.31%	6.26%	12.99%	9.70%	0.55%	8.05%	18.18%	5.87%	0.06%	33.17%
4	0.06%	0.31%	1.47%	3.23%	6.15%	12.94%	9.69%	0.55%	7.88%	18.34%	5.86%	0.06%	33.46%
5	0.06%	0.30%	1.45%	3.14%	6.03%	12.88%	9.68%	0.56%	7.68%	18.52%	5.84%	0.06%	33.79%
6	0.06%	0.29%	1.42%	3.03%	5.90%	12.82%	9.67%	0.56%	7.44%	18.74%	5.82%	0.06%	34.18%
7	0.06%	0.28%	1.39%	2.90%	5.73%	12.74%	9.66%	0.57%	7.17%	18.99%	5.80%	0.05%	34.65%
8	0.06%	0.27%	1.36%	2.75%	5.54%	12.65%	9.65%	0.58%	6.83%	19.30%	5.77%	0.05%	35.20%
9	0.06%	0.25%	1.31%	2.56%	5.30%	12.54%	9.63%	0.59%	6.43%	19.67%	5.74%	0.05%	35.88%
10	0.06%	0.23%	1.25%	2.32%	4.99%	12.40%	9.61%	0.61%	5.91%	20.14%	5.70%	0.04%	36.74%

In its currently-adopted WSAP, MWD includes a methodology to calculate a Conservation Demand Hardening Credit for each member agency. The credit's concept suggests that "member agencies whose customers have implemented conservation savings devices and programs have 'harder' demands than those that have not." Accordingly, an additional supply allocation to such agencies that have conserved may be provided to account for hardened demands resulting from conservation savings. TVMWD's Plan will utilize the methodology within the MWD-WSAP to calculate the Conservation Demand Hardening Credit for each of its retail member agencies that request such credit. This reconciliation is performed at the end of the allocation (fiscal) year. Therefore, an agency will not know if an additional allocation (credit) is due until the allocation year is completed. The Conservation Demand Hardening Credits will be allocated using the same percentages shown in Table 1 above. If TVMWD does not qualify for any Conservation Demand Hardening Credit for the allocation period, no additional allocation will be given to any retail member agency even if it can be shown that they would qualify for the credit.

The MWD-WSAP also provides the ability for certain member agencies to increase its allocation of water based on a justified need to sustain a groundwater basin adversely impacted by drought conditions. If TVMWD is able to secure an additional allocation under this provision of the MWD-WSAP, the total additional amount will be allocated in a manner to be determined later by consensus of the retail member agencies.

Table 2 below shows the estimated quantities of TVMWD's allocation from MWD for each regional shortage level. The values in Table 2 are subject to change based on final calculations established by MWD.

TABLE 2
TVMWD ALLOCATION FROM MWD
BASED ON REGIONAL SHORTAGE LEVEL
(in Acre-Feet)

REGIONAL SHORTAGE LEVEL	ALLOCATION	DEMAND HARDENING CREDIT	REPLENISH ALLOCATION	**TOTAL**
1	60,708	1,159	4,845	**66,712**
2	56,796	1,545	4,590	**62,931**
3	52,884	1,932	4,335	**59,151**
4	48,972	2,318	4,080	**55,370**
5	45,060	2,704	3,825	**51,589**
6	41,148	3,090	3,570	**47,809**
7	37,236	3,477	3,315	**44,028**
8	33,324	3,863	3,060	**40,247**
9	29,412	4,249	2,805	**36,467**
10	25,500	4,636	2,550	**32,686**

The quantities shown are preliminary and subject to change based on final calculations by MWD.

Allocation Penalty Rates

TVMWD will pass through MWD's penalty rates for usage in excess of the shortage allocation at each level. These penalty rates are shown in Table 3 below:

TABLE 3
TVMWD PENALTY RATES ($/AF)

Water Demand		Base Water Rate	Penalty Rate	**Total Rate**
Demand ≤ 100% of Allocation	Tier 1	$918	None	**$918**
	Tier 2	$1,052		**$1,052**
100% Alloc < **Demand** ≤ 115% Alloc	Tier 1	$918	$1,480	**$2,398**
	Tier 2	$1,052		**$2,532**
115% Alloc < **Demand**	Tier 1	$918	$2,960	**$3,878**
	Tier 2	$1,052		**$4,012**

Once the WSAP is implemented by MWD, TVMWD's billing process is expected to remain the same. At the end of any 12-month allocation period (June 30th), TVMWD will receive an invoice from MWD that includes an assessment of penalties if TVMWD's allocation has been exceeded. TVMWD will then look at the total imported water purchases based upon the monthly MWD invoices to TVMWD and determine which agencies have exceeded their individually assigned allocation. Based upon this determination, TVMWD will assess penalties in accordance with its policy on penalty rates and charges. If penalties are incurred, penalty charges will be reflected during the following monthly billing period. Conversely, if no penalties are assessed to TVMWD from MWD after a 12-month allocation period, no penalties will be assessed to any individual retail member agency even if that agency exceeded its individual allocation.

Consistent with current TVMWD practice and the requirements of the WSAP, imported water purchases will be summarized and reported to the retail member agencies and the TVMWD Board on a monthly basis. This information will help TVMWD and its retail member agencies monitor and evaluate water use demands, project annual usage and avoid WSAP penalties where possible. TVMWD will rely on the full cooperation of its retail member agencies to collect monthly water demand and supply information in a timely manner.

Water Supply Allocation Plan Conclusion

The principal objectives in the development of this Plan were to ensure equity and fairness throughout the TVMWD service area. However, due to the complexity of these issues and the possibility that unforeseen circumstances may occur at the MWD and/or local level, TVWMD reserves the right to review and revise the components of this Plan as appropriate.

TVMWD and its member agencies will continue to meet monthly to monitor WSAP performance. After each 12-month period of Plan implementation, TVMWD and its member agencies shall have the opportunity to review and revise the Plan, as needed, in order to correct any merited inequities or to refine any administrative procedures.

APPENDIX L

RESOLUTION ADOPTING 2020 UWMP AND WSCP